



May 21, 2021

**VIA ELECTRONIC FILING**

The Honorable Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street, NE  
Washington, DC 20426

**Re: Revisions to ISO New England Inc. Transmission, Markets and Services Tariff to Establish Operational and Meteorological Data Requirements for Solar Facilities and Relocate Data Requirements for Wind Facilities; Docket No. ER21-\_\_\_\_-000**

Dear Secretary Bose:

Pursuant to Section 205 of the Federal Power Act (“FPA”),<sup>1</sup> ISO New England Inc. (the “ISO” or “ISO-NE”),<sup>2</sup> joined by the New England Power Pool (“NEPOOL”) Participants Committee and the PTO Administrative Committee (“PTO AC”) on behalf of the New England Participating Transmission Owners (“PTOs”) (together, the “Filing Parties”),<sup>3</sup> hereby electronically submits this transmittal letter and revisions to the Tariff (“Tariff Revisions”) to establish operational and meteorological data requirements for solar facilities and relocate and streamline already-existing data requirements for wind facilities.

As more fully explained below and in the Testimony of Stephen George (the “George Testimony,” which is solely sponsored by the ISO), the Tariff Revisions will allow the ISO to obtain the operational and meteorological data it needs to develop and deploy power production forecasting

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<sup>1</sup> 16 U.S.C. § 824d (2006 and Supp. II 2009).

<sup>2</sup> Capitalized terms used but not otherwise defined in this filing have the meanings ascribed to them in ISO-NE’s Transmission, Markets and Services Tariff (the “Tariff”) or the *pro forma* Open Access Transmission Tariff (“OATT”). Section II of the ISO-NE Tariff contains the Open Access Transmission Tariff (the “ISO-NE OATT”).

<sup>3</sup> Under New England’s Regional Transmission Organization (“RTO”) arrangements, the rights to make this filing of changes to Schedule 22 the ISO-NE OATT under Section 205 of the FPA are shared by ISO-NE and the PTOs in the manner specified in the Transmission Operating Agreement between ISO-NE and the PTOs (the “TOA”). The rights to make this filing of changes to Market Rule 1 and Section I.2.2 of the Tariff are ISO-NE’s. NEPOOL, which pursuant to the Participants Agreement provides the sole Participant Processes for advisory voting on ISO-NE matters, supported the changes reflected in this filing and, accordingly, joins in this Section 205 of filing.

for solar facilities, and continue to do so for wind facilities, which is necessary to enable wind and solar facilities to be dispatched under the Do Not Exceed (“DNE”) dispatch construct.<sup>4</sup>

The parties respectfully request that the Tariff Revisions become effective on July 20, 2021, 60 days after the date of this filing.

## **I. DESCRIPTION OF THE FILING PARTIES AND COMMUNICATIONS**

ISO-NE is the private, non-profit entity that serves as the RTO for New England. ISO-NE plans and operates the New England bulk power system and administers New England’s organized wholesale electricity markets pursuant to the Tariff and the TOA with the PTOs. In its capacity as an RTO, ISO-NE has the responsibility to protect the short-term reliability of the New England Control Area and to operate the system according to reliability standards established by the Northeast Power Coordinating Council and the North American Electric Reliability Corporation (“NERC”).

NEPOOL is a voluntary association organized in 1971 pursuant to the New England Power Pool Agreement, and it has grown to include more than 500 members. The Participants include all of the electric utilities rendering or receiving service under the ISO-NE Tariff, as well as independent power generators, marketers, load aggregators, brokers, consumer-owned utility systems, end users, developers, demand resource providers, and a merchant transmission provider. Pursuant to revised governance provisions accepted by the Commission,<sup>5</sup> the Participants act through the NEPOOL Participants Committee. The Participants Committee is authorized by Section 6.1 of the Second Restated NEPOOL Agreement and Section 8.1.3(c) of the Participants Agreement to represent NEPOOL in proceedings before the Commission. Pursuant to Section 2.2 of the Participants Agreement, “NEPOOL provide[s] the sole Participant Processes for advisory voting on [ISO-NE] matters and the selection of [ISO-NE] Board members, except for input from state regulatory authorities and as otherwise may be provided in the [ISO-NE] Tariff, TOA and the Market Participant Services Agreement included in the [ISO-NE] Tariff.”

Pursuant to the terms of the TOA among the PTOs<sup>6</sup> and ISO-NE, the PTOs own, physically operate and maintain Transmission Facilities in New England and ISO-NE has

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<sup>4</sup> Wind resources are currently subject to DNE dispatch. Solar resources will be subject to DNE dispatch in the 2022-2023 timeframe. Before solar resources can be subject to DNE dispatch, the ISO will need to revise Section III.1.11.3 (e) of Market Rule 1. That Tariff change will serve as notice to solar resources that they will be subject to DNE dispatch once that Tariff change becomes effective.

<sup>5</sup> *ISO New England Inc.*, 109 FERC ¶ 61,147 (2004).

<sup>6</sup> The PTOs include: Town of Braintree Electric Light Department; Central Maine Power Company; Maine Electric Power Company; Chicopee Electric Light Department; Connecticut Municipal Electric Energy Cooperative; Connecticut Transmission Municipal Electric Energy Cooperative; Versant Power (f/k/a Emera Maine) (Bangor Hydro District); The City of Holyoke Gas and Electric Department; Green Mountain Power Corporation; Town of Hudson Light and Power Department; Massachusetts Municipal Wholesale Electric Company; Town of Middleborough Gas & Electric Department; New England Power Company d/b/a National Grid; New Hampshire

Operating Authority (as defined in Schedule 3.02 of the TOA) over all of the Transmission Facilities of the PTOs, including those used to provide Local Service over non-Pool Transmission Facilities under Schedule 21 of the ISO-NE OATT. Section 3.04 of the TOA also grants the PTOs authority under Section 205 of the FPA to submit filings to the Commission in matters affecting the rates, terms and conditions of Local Service under Schedule 21 and rates and charges, including cost allocation, for Regional Transmission Service under the ISO-NE OATT.

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## II. STANDARD OF REVIEW

The Tariff Revisions are submitted pursuant to Section 205 of the FPA, which “gives a utility the right to file rates and terms for services rendered with its assets.”<sup>8</sup> Under Section 205, the Commission “plays ‘an essentially passive and reactive’ role”<sup>9</sup> whereby it “can reject [a filing] only if it finds that the changes proposed by the public utility are not ‘just and reasonable.’”<sup>10</sup> The Commission limits this inquiry “into whether the rates proposed by a utility are reasonable – and [this inquiry does not] extend to determining whether a proposed rate schedule is more or less reasonable than alternative rate designs.”<sup>11</sup> The revisions filed herein “need not be the only reasonable methodology, or even the

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<sup>7</sup> The Filing Parties respectfully request a waiver of Section 385.203(b)(3) of the Commission’s regulations to allow the inclusion of more than two persons on the service list in this proceeding.

<sup>8</sup> *Atlantic City Elec. Co. v. FERC*, 295 F.3d 1, 9 (D.C. Cir. 2002).

<sup>9</sup> *Id.* at 10 (quoting *City of Winnfield v. FERC*, 744 F.2d 871, 876 (D.C. Cir. 1984)).

<sup>10</sup> *Id.* at 9.

<sup>11</sup> *Cities of Bethany, Bushnell et al. v. FERC*, 727 F.2d 1131, 1136 (D.C. Cir.), *cert. denied*, 469 U.S. 917 (1984) (“*Cities of Bethany*”); *see also ISO New England Inc.*, 114 FERC ¶ 61,315 at P 33 and n.35 (2005) (citing *Pub. Serv. Co. of New Mexico v. FERC*, 832 F.2d 1201, 1211 (10th Cir. 1987) and *Cities of Bethany* at 1136.).

most accurate.”<sup>12</sup> As a result, even if an intervenor or the Commission develops an alternate proposal, the Commission must accept this Section 205 filing if it is just and reasonable.<sup>13</sup>

The Tariff Revisions proposed herein are being submitted under the “independent entity variation standard” of review established in Order No. 2003.<sup>14</sup> In accordance with Order No. 2003, an ISO or an RTO proposing variations from the *pro forma* interconnection procedures and agreement established in that Final Rule must demonstrate that the variations are just and reasonable and not unduly discriminatory, and would accomplish the purposes of Order No. 2003 and any other applicable final interconnection rules.<sup>15</sup> To evaluate the variations sought by RTOs and ISOs, the Commission applies the “independent entity variation standard” of review.<sup>16</sup> This standard reflects the Commission’s recognition that “an RTO or ISO has different operating characteristics depending on its size and location and is less likely to act in an unduly discriminatory manner than a Transmission Provider that is a market participant.”<sup>17</sup> This standard also provides RTOs and ISOs greater flexibility to customize their interconnection procedures and agreements to the particular needs and market designs of the region.<sup>18</sup>

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<sup>12</sup> *Oxy USA, Inc. v. FERC*, 64 F.3d 679, 692 (D.C. Cir. 199b5) (citing *Cities of Bethany* at 1136).

<sup>13</sup> *Cf. Southern California Edison Co., et al.*, 73 FERC ¶ 61,219 at 61,608 n.73 (1995) (“Having found the Plan to be just and reasonable, there is no need to consider in any detail the alternative plans proposed by the Joint Protesters.”) (citing *Cities of Bethany* at 1136.).

<sup>14</sup> *Standardization of Generator Interconnection Agreements and Procedures*, Order No. 2003, FERC Stats. & Regs. ¶ 31,146 (2003), *order on reh’g*, Order No. 2003-A, FERC Stats. & Regs. ¶ 31,160, *order on reh’g*, Order No. 2003-B, FERC Stats. & Regs. ¶ 31,171 (2004), *order on reh’g*, Order No. 2003-C, FERC Stats. & Regs. ¶ 31,190 (2005), *aff’d sub nom. Nat’l Ass’n of Regulatory Util. Comm’rs v. FERC*, 475 F.3d 1277 (D.C. Cir. 2007), *cert. denied*, 552 U.S. 1230, (Feb. 25, 2008). *See also Standardization of Small Generator Interconnection Agreements and Procedures*, Order No. 2006, FERC Stats. & Regs. ¶ 31,180, *order on reh’g*, Order No. 2006-A, FERC Stats. & Regs. ¶ 31,196 (2005), *order on clarification*, Order No. 2006-B, FERC Stats. & Regs. ¶ 31,221 (2006).

<sup>15</sup> *See* Order No. 2003 at PP 822-27. In Order No. 2006, the Commission also provided that an ISO/RTO may seek an “independent entity variation” from the final rule, which permits an ISO/RTO to adopt interconnection procedures that are responsive to specific regional needs. The Commission reviews variations proposed by an ISO/RTO “to ensure that they do not provide unwarranted opportunity for undue discrimination or produce an interconnection process that is unjust and unreasonable.” *See ISO New England Inc.*, 115 FERC ¶ 61,050 at P 12 (2006) (citing *PJM Interconnection, L.L.C.*, 108 FERC ¶ 61,025 at P 7 (2004); *Midwest Independent Transmission Sys. Operator, Inc.*, 114 FERC ¶ 61,270 at P 29 (2006)).

<sup>16</sup> *See* Order No. 2003 at P 827.

<sup>17</sup> *Id.* *See also Interconnection Queuing Practices*, 122 FERC ¶ 61,252 at P 13 (2008) (Because RTOs and ISOs do not own generation and thus do not have an incentive to unduly discriminate, variations sought by an RTO or ISO are reviewed under the “independent entity variation standard.”).

<sup>18</sup> *See* Order No. 2003 at P 147; *see id.* at PP 26 (allowing RTOs and ISOs “more flexibility to customize” interconnection procedures and agreements), 34 (affording RTOs and ISOs “more flexibility to propose different procedures and a different agreement”), 822 (providing “an RTO or ISO greater flexibility than that allowed under the regional differences rationale to propose variations from the Final Rule provisions”).

### III. BACKGROUND

#### A. Requirements for Operational and Meteorological Data

Starting around 2010, the New England region experienced an increase in the amount of renewable resources, especially wind facilities, being interconnected to the bulk power system. In order to support the operation of a centralized regional wind power forecasting system as well as the reliable and efficient integration of wind power into the ISO New England Balancing Authority Area, in September of 2011, the ISO established data requirements for wind facilities in Appendix F to ISO New England Operating Procedure No. 14 – Wind Plant Operator Guide (“OP-14F”).

Subsequently, on June 22, 2012, as part of Order No. 764,<sup>19</sup> the Commission directed each public utility transmission provider to incorporate provisions into the *pro forma* Large Generator Interconnection Agreement (“LGIA”) to require interconnection customers whose generating facilities are variable energy resources (“VERs”)<sup>20</sup> to provide meteorological and forced outage data to the public utility transmission provider where necessary for that public utility transmission provider to develop and deploy power production forecasting.<sup>21</sup> As the Commission stated, power production forecasts can provide public utility transmission providers with advanced knowledge of system conditions needed to manage the variability of VER generation through the unit commitment and dispatch process, rather than through the deployment of reserve service, such as regulation reserves, which can be more costly.<sup>22</sup>

In Order No. 764, although the Commission allowed public utility transmission providers flexibility in identifying the specific meteorological and forced outage data to be reported,<sup>23</sup> it determined that an interconnection customer with a VER having wind as the energy source must provide, at a minimum, site-specific meteorological data including: temperature, wind speed, wind direction and atmospheric pressure, and an interconnection customer with a VER having solar as the energy source must provide, at a minimum, site specific meteorological data including: temperature, atmospheric pressure, and irradiance.

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<sup>19</sup> *Integration of Variable Energy Resources*, Order No. 764, 139 FERC ¶ 61,246 (2012), *order on reh’g*, *Order on Rehearing and Clarification and Granting Motion for Extension of Time*, Order No. 764-A, 141 FERC ¶ 61,232 (2012) (“Order No. 764”).

<sup>20</sup> A VER is a device for the production of electricity that is characterized by an energy source that: (1) is renewable; (2) cannot be stored by the facility owner or operator; and (3) has variability that is beyond the control of the facility owner or operator. This includes, for example, wind, solar thermal and photovoltaic, and hydrokinetic generating facilities. See Order No. 764 at note 1, citing *Integration of Variable Energy Resources Notice of Proposed Rulemaking*, FERC Stats. & Regs. ¶ 32,664, at P 64 (2010).

<sup>21</sup> See Order No. 764 at P 3.

<sup>22</sup> *Id.*

<sup>23</sup> *Id.* at P 175.

In addition, while the Commission directed that the requirements be incorporated in the *pro forma* LGIA, the Commission recognized that providers in some regions, including RTOs and ISOs, had already implemented meteorological or forced outage reporting under business practices and market rules. For that reason, the Commission allowed such public utility transmission providers to seek to demonstrate in their compliance filings how continued use of the then-existing business practices and market rules would be adequate to satisfy the requirements of Order No. 764 under the independent entity variation standard set forth in Order No. 2003, if relevant, or by demonstrating that variations from the *pro forma* OATT were consistent with or superior to the requirements of Order No. 764.<sup>24</sup>

On November 12, 2013, the ISO submitted an initial compliance filing with Order Nos. 764 and 764-A.<sup>25</sup> In that compliance filing, the ISO revised the *pro forma* LGIA contained in Schedule 22 of the ISO OATT to add a new Article 8.4 setting forth the reporting requirement regarding meteorological and forced outage data (while the ISO included in Article 8.4 language referencing meteorological data for solar interconnection customers, the ISO noted that, at that time, it did not engage in power production forecasting for solar resources, and therefore it did not require solar interconnection customers to provide such data). In addition, in its compliance filing, the ISO explained that it believed it was appropriate to maintain the details of its meteorological and forced outage reporting requirements for wind resources in its Operating Documents (specifically, in OP-14F).

On March 20, 2014, the Commission issued an order on the ISO's initial compliance filing with Order Nos. 764 and 764-A. In that order, the Commission reiterated the explanation in Order No. 764-A that "it would be unfair to allow public utility transmission providers to unilaterally impose unexpected costs associated with data reporting provisions on existing interconnection customers without being required to make at least some showing that specific data sought by the transmission provider (and associated costs) are just and reasonable."<sup>26</sup> In addition, the Commission reasoned that, while it was satisfied that the specific requirements in the ISO's Operating Documents satisfied the substantive reporting requirements, the ISO could unilaterally change those requirements without having to make at least some showing that the change is just and reasonable. Accordingly, the Commission rejected the ISO's proposal to include the details of the reporting requirements in its Operating Documents, and directed the ISO submit an additional compliance filing to place the details of VERs' meteorological and forced outage data reporting requirements in the Tariff (specifically, in Appendix C of the LGIA).

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<sup>24</sup> Order No. 764 at P 194.

<sup>25</sup> Amendments to the ISO New England Inc. Transmission, Markets and Services Tariff in Compliance with Order Nos. 764 and 764-A 14, *ISO New England Inc.*, Docket No. ER14-375, (November 12, 2013), as accepted by *Order Accepting in Part and Rejecting in Part Compliance Filing*, 146 FERC ¶ 61,190 (2014 (Order No. 764 Compliance Order)).

<sup>26</sup> Order No. 764 Compliance Order, at P 31

In compliance with the Commission's March 20, 2014 order, on April 21, 2014, the ISO submitted a second compliance filing in which it revised Article 8.4 of the LGIA to match the language adopted in Order No. 764.<sup>27</sup> Specifically, the cross-reference to the ISO's Operating Documents was replaced with a reference to Appendix C of the LGIA. In addition, a new subsection was added to Appendix C of the LGIA to incorporate the specific meteorological and forced outage data reporting requirements for wind facilities that had been set out in OP-14F. The ISO explained that new Appendix C.3 of the LGIA was limited to wind facilities because, at the time, the ISO did not engage in power production forecasting for solar facilities, and therefore did not require solar interconnection customers to provide the data at that time. The ISO further explained that the mechanism as to how the Interconnection Customer provides the meteorological and forced outage data and implementation details would continue to reside in OP-14F, consistent with the Commission's "rule of reason" precedent with respect to protocols and operating procedures of ISOs and RTOs.<sup>28</sup> The Commission accepted the ISO's compliance filing in a letter order dated July 9, 2014.

## **B. The DNE Dispatch Construct**

On April 15, 2015, the ISO, joined by NEPOOL, submitted revisions to the Tariff to provide for the dispatch of wind and hydro facilities classified as Intermittent Power Resources using DNE Dispatch Points. In its filing, the ISO explained that the increase in the amount of Intermittent Power Resources, and particularly wind facilities, and the location of many of those resources in relatively remote areas of the transmission system had led to more frequent localized congestion in parts of the system.<sup>29</sup> Up to that point, that congestion had been managed through manual curtailment instructions that were not reflected in Real-Time Prices, which resulted in a mismatch of economic signals and reliability requirements as the energy prices indicated that low cost resources should continue operating at the same time that manual curtailment instructions were being issued to ensure reliable operation.<sup>30</sup> The ISO explained that the DNE construct significantly improved price formation in local areas that have a high penetration of renewable resources and limited transmission capacity. The ISO further explained that the improved dispatch method ensures both reliable

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<sup>27</sup> Amendments to the ISO New England Inc. Transmission, Markets and Services Tariff Related to Order Nos. 764 and 764-A in Compliance with Order Issued on March 20, 2014, ISO New England Inc., Docket No. ER14-375-001 (April 21, 2014), as accepted by *Order on Further Compliance*, Docket No. ER14-375-001 (July 9, 2014) (delegated letter order).

<sup>28</sup> See Order No. 890 at PP 1649-1661.

<sup>29</sup> See Do Not Exceed Dispatch Changes, *ISO New England Inc.*, Docket No. ER15-1509-000, (April 15, 2015) ("DNE Dispatch Filing") at 4, accepted by *Order Conditionally Accepting, in Part and Rejecting, in Part, and Directing Compliance Filing*, 152 FERC ¶61,189 (2016), *Order on Further Compliance*, Docket No. ER15-1509-002 (October 1, 2015) (delegated letter order).

<sup>30</sup> *Id.*



operation of the system and that dispatch signals sent to DNE Dispatchable Generators are consistent with Real-Time Prices.<sup>31</sup> The ISO implemented the DNE rules in May 2016.

On October 12, 2016, the ISO, joined by NEPOOL, submitted revisions to Market Rule 1 to broaden the range of resources subject to economic dispatch in the Real-Time Energy Market as well as other ancillary changes to improve overall price formation in the that market.<sup>32</sup> Pursuant to those revisions, the following resources were required to have electronic dispatch capability and be fully dispatchable by the ISO in accordance with the terms of the resource's energy market Supply Offer: (1) Intermittent Power Resources that were that are not already subject to the DNE Dispatch rules (at the time those rules applied to wind and hydro); (2) Intermittent Power Resources that were not solar resources or Settlement Only Resources (less than 5 MW); and (3) hydro, biomass and other facilities that were not classified as Intermittent Power Resources but were registered in the ISO market systems as non-dispatchable. The ISO noted in the October 12, 2016 filing that it intended "to pursue Tariff changes to permit larger solar resources to become DNE Dispatchable in the future once the ISO has developed a sufficiently accurate and reliable means of forecasting near term, site-specific solar generation at a facility, similar to the Short Term Wind Forecast system that supports wind generation in the DNE Dispatch..."<sup>33</sup> The instant filing represents a further step towards this objective.

#### IV. REASONS FOR THE PROPOSED TARIFF REVISIONS

Presently, the ISO intends to engage in power production forecasting for solar resources and, for that reason, under the proposed Tariff Revisions, the ISO will require meteorological and forced outage data from certain solar facilities as detailed in the George Testimony.<sup>34</sup> As Mr. George explains, meteorological and forced outage data will facilitate an accurate, resource-specific forecast of power production, which will help to minimize the likelihood of the need for manual dispatch of solar facilities in congested areas, or during times of minimum generation emergencies. In addition, in the future, an accurate solar forecast will enable the ISO to dispatch solar facilities under the DNE Dispatch construct, which in turn will help maximize the use of low cost renewable energy, improve congestion management in constrained areas, and set appropriate energy price signals for the Real-Time Energy Market.<sup>35</sup> Although currently there are no significant operational challenges associated with grid-level solar resources, as described in the George Testimony, the ISO anticipates that expected increases in solar penetration could lead to future challenges, similar to those experienced

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<sup>31</sup> *Id.*

<sup>32</sup> Market Rule 1 Revisions to Increase Resource Dispatchability, *ISO New England Inc.*, Docket No. ER17-68 (October 12, 2016), accepted by *Order Accepting Proposed Tariff Revisions*, 157 FERC ¶ 61,189 (2016)

<sup>33</sup> *Id.*, p. 10

<sup>34</sup> *See* George Testimony at p. 8.

<sup>35</sup> Note that the ISO separately forecasts the impact of distributed solar facilities (e.g. rooftop solar), which is treated as a reduction in the load forecast.

with wind facilities. Those challenges include accurately understanding the forecasted output of solar resources, the overall system capacity, and second contingency coverage in local reserve zones.<sup>36</sup>

In order to support unit-specific, short-term power production forecasts, the ISO needs data from all solar facilities participating in the Real-Time Energy Market, regardless of their size or whether they were interconnected pursuant to the ISO's interconnection procedures or state processes. For this reason, adding the requirements for solar facilities to provide meteorological and forced outage data to the LGIA would not provide the ISO with all the data it needs to develop and deploy power production forecasting for solar resources. Accordingly, the data requirements for solar facilities are being added in Market Rule 1. In order to have all the data requirements for VERs together, and to ensure that the ISO can also obtain data from large and small wind facilities that interconnect through the ISO's generator interconnection process, as well as wind facilities that may interconnect through state interconnection processes,<sup>37</sup> the data requirements for wind facilities are being relocated from the LGIA to Market Rule 1.

Including the wind and solar operational and meteorological data requirements in Market Rule 1 meets the independent entity variation standard set forth in Order No. 2003.<sup>38</sup> In addition, adding the requirements in Market Rule 1 addresses the Commission's concerns that the ISO make a showing that the provisions are just and reasonable before imposing the data requirements. As accepted by the Commission's July 9, 2014 letter order on the ISO's second compliance filing with Order Nos. 764 and 764-A, the details regarding the manner in which the data will be provided by wind facilities will remain in OP-14F. Following the same approach, the details regarding the manner in which the data will be provided by solar facilities will be included in new Appendix H to ISO New England Operating Procedure No. 14 ("OP-14H"),<sup>39</sup> which will be substantially similar to OP-14F.

## **V. DESCRIPTION OF THE TARIFF REVISIONS**

First, as described above, the requirements for wind facilities to provide forced outage and meteorological data are being moved from the LGIA to Section III.1.11.3 of Market Rule 1. This has the effect of extending the requirements to all wind facilities that interconnect through the ISO's

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<sup>36</sup> See George Testimony at pp. 6-7.

<sup>37</sup> As explained in this filing letter, large wind facilities have been and currently are required to provide operational and meteorological data pursuant to the LGIA requirements. Small wind facilities interconnected through the ISO's generator interconnection process and wind facilities interconnected through state processes have been voluntarily providing the data, thus allowing the ISO to produce and deploy power production forecasting for wind resources.

<sup>38</sup> As explained in Section III of this filing letter, in Order No. 764 allowed public RTOs and ISOs to seek to demonstrate how using market rules would be adequate to satisfy the requirements of Order No. 764 under the independent entity variation standard.

<sup>39</sup> The ISO plans to present OP-14H to the NEPOOL Reliability Committee in October of 2019. However, OP-14H will not become effective until the Commission has accepted the Tariff Revisions and those revisions become effective.

generator interconnection process, as well as any wind facilities that may interconnect through state interconnection processes.

Notably, the requirements for wind facilities that are being placed in Market Rule 1 have been streamlined.<sup>40</sup> Hence, the language being removed from the LGIA is not exactly the same as the language being added in Section III.1.11.3 of Market Rule 1. Rather, as more fully explained in the George Testimony,<sup>41</sup> the requirements that will be contained in Market Rule 1 better define the forced outage and meteorological data that the ISO needs to produce the wind power production forecast. Specifically, Wind Generator Assets that are not Settlement Only Resources<sup>42</sup> must provide the ISO with the following site-specific meteorological and forced outage data: (i) at least once every 30 seconds: wind speed and wind direction; (ii) at least once every 5 minutes: ambient air temperature, standard deviation of ambient air temperature, ambient air pressure, standard deviation of ambient air pressure, ambient air relative humidity, and standard deviation of ambient air relative humidity; (iii) at least once every 5 minutes: Real-Time High Operating Limit, Wind High Limit, wind turbine counts; and (iv) at least once every hour at the top of the hour for the next 48 hours and by 1000 each day for the next 49 to 168 hours: Wind Plant Future Availability. These streamlined requirements continue to meet the minimum requirements of Order No. 764 and, unlike the requirements currently included in the LGIA, clearly establish the time periods for each requirement.

In addition, as Mr. George explains, the LGIA contained requirements for static data that are not subject to the requirements of Order No. 764 and therefore do not need to be included in the Tariff.<sup>43</sup> The static plant data requirements will be removed from the LGIA but are not included in the language that is being added in Market Rule 1. Rather, static plant data will be required under OP-14F, which will ensure their application to all wind generators registered with the ISO regardless of interconnection location.

Second, requirements for solar facilities to provide forced outage and meteorological data are being added in Section III.1.11.3 of Market Rule 1. These requirements are similar to the requirements for wind facilities and, as also described in the George Testimony, will provide the ISO with the data it needs to produce the solar power production forecast.<sup>44</sup> Specifically, solar Generator

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<sup>40</sup> This is consistent with the flexibility to identify the specific meteorological and forced outage data to be reported allowed by the Commission in Order No. 764.

<sup>41</sup> See George Testimony at pp. 9-10.

<sup>42</sup> “Wind Generator Assets that are not Settlement Only Resources” covers large and small wind resources interconnected through the ISO’s generator interconnection process as well as wind resources interconnected through state interconnection processes.

<sup>43</sup> See George Testimony at p. 16.

<sup>44</sup> Id., p. 9.

Assets that are not Settlement Only Resources<sup>45</sup> must provide the ISO with the following site-specific meteorological and forced outage data: (i) at least once every 5 minutes: ambient air temperature, standard deviation of ambient air temperature, ambient air pressure, standard deviation of ambient air pressure, ambient air relative humidity, standard deviation of ambient air relative humidity, irradiance, wind speed, and wind direction; (ii) at least once every 5 minutes: Real-Time High Operating Limit, and Solar High Limit; and (iii) at least once every hour at the top of the hour for the next 48 hours and by 1000 each day for the next 49 to 168 hours: Solar Plant Future Availability. Like the requirements for wind facilities, the requirements for solar resources meet the minimum requirements of Order No. 764 and clearly provide the time periods for each requirement.<sup>46</sup>

Third, definitions of four new defined terms used in Section III.1.11.3 (Solar High Limit, Solar Plant Future Availability, Wind High Limit, and Wind Plant Future Availability) are being added in Section I.2.2 of the Tariff. Finally, the word “photovoltaic” is being deleted from Section III.1.11.3 so that the Tariff consistently uses the generic term “solar.” Although New England currently does not have any solar thermal facilities, keeping the generic term “solar” in the Tariff will make the provisions applicable to solar thermal facilities if and when they are developed in New England.<sup>47</sup>

## VI. STAKEHOLDER PROCESS

The Tariff Revisions were considered and supported in the NEPOOL stakeholder process. At its June 13, 2019 meeting, the Transmission Committee voted unanimously in favor of recommending the Participants Committee’s support for the revisions to Schedule 22 of OATT. At its July 8-10, 2019 meeting, the Markets Committee unanimously recommended, by a show of hands with one abstention noted, that the Participants Committee support the revisions to Sections I.2.2 and III.1.11.5 of the Tariff.<sup>48</sup> The Participants Committee, at its August 2, 2019 meeting, supported the Tariff Revisions as part of its Consent Agenda.<sup>49</sup> The PTO AC voted unanimously to support the Tariff Revisions at its August 19, 2019 meeting.

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<sup>45</sup> “Solar Generator Assets that are not Settlement Only Resources” covers large and small solar resources interconnected through the ISO’s generator interconnection process as well as solar resources interconnected through state interconnection processes.

<sup>46</sup> See George Testimony at p. 9.

<sup>47</sup> In Section III.1.5.1.2 (h) of the Tariff, the word “photovoltaic” is not being retained because that is an audit provision that applies to solar photovoltaic resources (and would not be applicable to solar thermal resources).

<sup>48</sup> Despite receiving stakeholder support for the Tariff Revisions in summer-2019, the ISO was forced to delay making this filing as a result of difficulties related to the initial procurement and further delayed receipt of the production servers needed to implement the Tariff Revisions and accept data from solar facilities as contemplated by the proposal.

<sup>49</sup> The Consent Agenda for a Participants Committee meeting, similar to the Consent Agenda for a Commission open meeting, is a group of actions (each recommended by a Technical Committee or subgroup established by the Participants Committee) to be taken by the Participants Committee through approval of a single

## **VII. REQUESTED EFFECTIVE DATE**

The Filing Parties respectfully request that the Tariff Revisions become effective on July 20, 2021, 60 days after the date of this filing.

## **VIII. ADDITIONAL SUPPORTING INFORMATION**

Section 35.13 of the Commission's regulations generally requires public utilities to file certain cost and other information related to an examination of traditional cost-of-service rates.<sup>50</sup> However, the Study Revisions filed herein are not traditional "rates." Further, ISO-NE is not a traditional investor-owned utility. Therefore, to the extent necessary, the Filing Parties request waiver of Section 35.13 of the Commission's regulations. Notwithstanding their request for waiver, the Filing Parties submit the additional information enumerated below in substantial compliance with relevant provisions of Section 35.13.

35.13(b)(1) – Materials included herewith are as follows:

- ♦ This transmittal letter;
- ♦ Testimony of Stephen George in support of the Tariff Revisions;
- ♦ Marked Tariff sections reflecting the revisions effected by this filing;
- ♦ Clean Tariff sections incorporating the revisions effected by this filing; and,
- ♦ List of governors, utility regulatory agencies in Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont, and others to whom a copy of this filing has been e-mailed.

35.13(b)(2) – As noted above, the Filing Parties request that the Tariff Revisions become effective on July 20, 2021.

35.13(b)(3) - Pursuant to Section 17.11(e) of the Participants Agreement, Governance Participants are being served electronically rather than by paper copy. The names and addresses of the Governance Participants are posted on the ISO-NE website at <https://www.iso-ne.com/participate/participant-asset-listings/>. A copy of this transmittal letter and the accompanying materials have also been sent electronically to the governors and electric utility regulatory agencies for the six New England states that comprise the New England Control Area, to the New England Conference of Public Utility Commissioners, and to the Executive Director of the New England States

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motion at a meeting. All recommendations voted on as part of the Consent Agenda are deemed to have been voted on individually and independently. In this case, the Participants Committee's approval of the August 2, 2019 Consent Agenda included its support for the Tariff Revisions filed herein.

<sup>50</sup> 18 C.F.R. § 35.13 (2014).

Committee on Electricity. In accordance with Commission rules and practice, there is no need for the Governance Participants or the other entities described above to be included on the Commission's official service list in the captioned proceeding unless such entities become intervenors in this proceeding.

35.13(b)(4) - A description of the materials submitted in this filing is contained in Section VIII of this transmittal letter.

35.13(b)(5) - The reasons for this filing are discussed in Section IV of this transmittal letter.

35.13(b)(6) - ISO-NE's approval of these revisions is evidenced by this filing. These revisions reflect the results of the Participant Processes required by the Participants Agreement and reflect the support of the Participants Committee.

35.13(b)(7) - The Filing Parties have no knowledge of any relevant expenses or costs of service that have been alleged or judged in any administrative or judicial proceeding to be illegal, duplicative, or unnecessary costs that are demonstrably the product of discriminatory employment practices.

## **IX. CONCLUSION**

For the foregoing reasons, the Filing Parties respectfully request that the Commission accept the Tariff Revisions as proposed herein, without modifications or conditions, to become effective on July 20, 2021.

Respectfully submitted,

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## **I.2 Rules of Construction; Definitions**

### **I.2.1 Rules of Construction:**

In this Tariff, unless otherwise provided herein:

- (a) words denoting the singular include the plural and vice versa;
- (b) words denoting a gender include all genders;
- (c) references to a particular part, clause, section, paragraph, article, exhibit, schedule, appendix or other attachment shall be a reference to a part, clause, section, paragraph, or article of, or an exhibit, schedule, appendix or other attachment to, this Tariff;
- (d) the exhibits, schedules and appendices attached hereto are incorporated herein by reference and shall be construed with an as an integral part of this Tariff to the same extent as if they were set forth verbatim herein;
- (e) a reference to any statute, regulation, proclamation, ordinance or law includes all statutes, regulations, proclamations, amendments, ordinances or laws varying, consolidating or replacing the same from time to time, and a reference to a statute includes all regulations, policies, protocols, codes, proclamations and ordinances issued or otherwise applicable under that statute unless, in any such case, otherwise expressly provided in any such statute or in this Tariff;
- (f) a reference to a particular section, paragraph or other part of a particular statute shall be deemed to be a reference to any other section, paragraph or other part substituted therefor from time to time;
- (g) a definition of or reference to any document, instrument or agreement includes any amendment or supplement to, or restatement, replacement, modification or novation of, any such document, instrument or agreement unless otherwise specified in such definition or in the context in which such reference is used;
- (h) a reference to any person (as hereinafter defined) includes such person's successors and permitted assigns in that designated capacity;
- (i) any reference to "days" shall mean calendar days unless "Business Days" (as hereinafter defined) are expressly specified;
- (j) if the date as of which any right, option or election is exercisable, or the date upon which any amount is due and payable, is stated to be on a date or day that is not a Business Day, such right, option or election may be exercised, and such amount shall be deemed due and payable, on the next succeeding Business Day with the same effect as if the same was exercised or made on such date or day (without, in the case of any such payment, the payment or accrual of any interest or



other late payment or charge, provided such payment is made on such next succeeding Business Day);

- (k) words such as “hereunder,” “hereto,” “hereof” and “herein” and other words of similar import shall, unless the context requires otherwise, refer to this Tariff as a whole and not to any particular article, section, subsection, paragraph or clause hereof; and a reference to “include” or “including” means including without limiting the generality of any description preceding such term, and for purposes hereof the rule of *ejusdem generis* shall not be applicable to limit a general statement, followed by or referable to an enumeration of specific matters, to matters similar to those specifically mentioned.

### **I.2.2. Definitions:**

In this Tariff, the terms listed in this section shall be defined as described below:

**Active Demand Capacity Resource** is one or more Demand Response Resources located within the same Dispatch Zone, that is registered with the ISO, assigned a unique resource identification number by the ISO, and participates in the Forward Capacity Market to fulfill a Market Participant’s Capacity Supply Obligation pursuant to Section III.13 of Market Rule 1.

**Actual Capacity Provided** is the measure of capacity provided during a Capacity Scarcity Condition, as described in Section III.13.7.2.2 of Market Rule 1.

**Actual Load** is the consumption at the Retail Delivery Point for the hour.

**Additional Resource Blackstart O&M Payment** is defined and calculated as specified in Section 5.1.2 of Schedule 16 to the OATT.

**Additional Resource Specified-Term Blackstart Capital Payment** is defined and calculated as specified in Section 5.1.2 of Schedule 16 to the OATT.

**Additional Resource Standard Blackstart Capital Payment** is defined and calculated as specified in Section 5.1.2 of Schedule 16 to the OATT.

**Administrative Costs** are those costs incurred in connection with the review of Applications for transmission service and the carrying out of System Impact Studies and Facilities Studies.

**Administrative Export De-List Bid** is a bid that may be submitted in a Forward Capacity Auction by certain Existing Generating Capacity Resources subject to a multi-year contract to sell capacity outside of the New England Control Area during the associated Capacity Commitment Period, as described in Section III.13.1.2.3.1.4 of Market Rule 1.

**Administrative Sanctions** are defined in Section III.B.4.1.2 of Appendix B of Market Rule 1.

**ADR Neutrals** are one or more firms or individuals identified by the ISO with the advice and consent of the Participants Committee that are prepared to act as neutrals in ADR proceedings under Appendix D to Market Rule 1.

**Advance** is defined in Section IV.A.3.2 of the Tariff.

**Affected Party**, for purposes of the ISO New England Billing Policy, is defined in Section 6.3.5 of the ISO New England Billing Policy.

**Affiliate** is any person or entity that controls, is controlled by, or is under common control by another person or entity. For purposes of this definition, "control" means the possession, directly or indirectly, of the authority to direct the management or policies of an entity. A voting interest of ten percent or more shall create a rebuttable presumption of control.

**AGC** is automatic generation control.

**AGC SetPoint** is the desired output signal for a Resource providing Regulation that is produced by the AGC system as frequently as every four seconds.

**AGC SetPoint Deadband** is a deadband expressed in megawatts that is applied to changing values of the AGC SetPoint for generating units.

**Allocated Assessment** is a Covered Entity's right to seek and obtain payment and recovery of its share in any shortfall payments under Section 3.3 or Section 3.4 of the ISO New England Billing Policy.

**Alternative Dispute Resolution (ADR)** is the procedure set forth in Appendix D to Market Rule 1.

**Alternative Technology Regulation Resource (ATRR)** is one or more facilities capable of providing Regulation that have been registered in accordance with the Asset Registration Process. An Alternative Technology Regulation Resource is eligible to participate in the Regulation Market.

**Ancillary Services** are those services that are necessary to support the transmission of electric capacity and energy from resources to loads while maintaining reliable operation of the New England Transmission System in accordance with Good Utility Practice.

**Announced Schedule 1 EA Amount, Announced Schedule 2 EA Amount, Announced Schedule 3 EA Amount** are defined in Section IV.B.2.2 of the Tariff.

**Annual Transmission Revenue Requirements** are the annual revenue requirements of a PTO's PTF or of all PTOs' PTF for purposes of the OATT shall be the amount determined in accordance with Attachment F to the OATT.

**Annual Reconfiguration Transaction** is a bilateral transaction that may be used in accordance with Section III.13.5.4 of Market Rule 1 to specify a price when a Capacity Supply Obligation is transferred using supply offers and demand bids in Annual Reconfiguration Auctions.

**Applicants**, for the purposes of the ISO New England Financial Assurance Policy, are entities applying for Market Participant status or for transmission service from the ISO.

**Application** is a written request by an Eligible Customer for transmission service pursuant to the provisions of the OATT.

**Asset** is a Generator Asset, a Demand Response Asset, a component of an On-Peak Demand Resource or Seasonal Peak Demand Resource, a Load Asset (including an Asset Related Demand), an Alternative Technology Regulation Resource, or a Tie-Line Asset.

**Asset Registration Process** is the ISO business process for registering an Asset.

**Asset Related Demand** is a Load Asset that has been discretely modeled within the ISO's dispatch and settlement systems, settles at a Node, has been registered in accordance with the Asset Registration

Process, and is made up of either: (1) one or more individual end-use metered customers receiving service from the same point or points of electrical supply with an aggregate average hourly load of 1 MW or greater during the 12 months preceding its registration or (2) one or more storage facilities with an aggregate consumption capability of at least 1 MW.

**Asset Related Demand Bid Block-Hours** are Block-Hours assigned to the Lead Market Participant for each Asset Related Demand bid. Blocks of the bid in effect for each hour will be totaled to determine the daily quantity of Asset Related Demand Bid Block-Hours. In the case that a Resource has a Real-Time unit status of “unavailable” for an entire day, that day will not contribute to the quantity of Asset Related Demand Bid Block-Hours. However, if the Resource has at least one hour of the day with a unit status of “available,” the entire day will contribute to the quantity of Asset Related Demand Bid Block-Hours.

**Asset-Specific Going Forward Costs** are the net costs of an asset that is part of an Existing Generating Capacity Resource, calculated for the asset in the same manner as the net costs of Existing Generating Capacity Resources as described in Section III.13.1.2.3.2.1.1.1 (for an asset with a Static De-List Bid or an Export Bid) or Section III.13.1.2.3.2.1.1.2 (for an asset with a Permanent De-List Bid or Retirement De-List Bid).

**Assigned Meter Reader** reports to the ISO the hourly and monthly MWh associated with the Asset. These MWh are used for settlement. The Assigned Meter Reader may designate an agent to help fulfill its Assigned Meter Reader responsibilities; however, the Assigned Meter Reader remains functionally responsible to the ISO.

**Auction Revenue Right (ARR)** is a right to receive FTR Auction Revenues in accordance with Appendix C of Market Rule 1.

**Auction Revenue Right Allocation (ARR Allocation)** is defined in Section 1 of Appendix C of Market Rule 1.

**Auction Revenue Right Holder (ARR Holder)** is an entity which is the record holder of an Auction Revenue Right (excluding an Incremental ARR) in the register maintained by the ISO.

**Authorized Commission** is defined in Section 3.3 of the ISO New England Information Policy.

**Authorized Person** is defined in Section 3.3 of the ISO New England Information Policy.

**Automatic Response Rate** is the response rate, in MW/Minute, at which a Market Participant is willing to have a Regulation Resource change its output or consumption while providing Regulation between the Regulation High Limit and Regulation Low Limit.

**Average Hourly Load Reduction** is either: (i) the sum of the On-Peak Demand Resource's electrical energy reduction during Demand Resource On-Peak Hours in the month divided by the number of Demand Resource On-Peak Hours in the month; or (ii) the sum of the Seasonal Peak Demand Resource's electrical energy reduction during Demand Resource Seasonal Peak Hours in the month divided by the number of Demand Resource Seasonal Peak Hours in the month. The On-Peak Demand Resource's or Seasonal Peak Demand Resource's electrical energy reduction and Average Hourly Load Reduction shall be determined consistent with the resource's Measurement and Verification Plan, which shall be reviewed by the ISO to ensure consistency with the measurement and verification requirements, as described in Section III.13.1.4.3 of Market Rule 1 and the ISO New England Manuals.

**Average Hourly Output** is either: (i) the sum of the On-Peak Demand Resource's electrical energy output during Demand Resource On-Peak Hours in the month divided by the number of Demand Resource On-Peak Hours in the month; or (ii) the sum of the Seasonal Peak Demand Resource's electrical energy output during Demand Resource Seasonal Peak Hours in the month divided by the number of Demand Resource Seasonal Peak Hours in the month. Electrical energy output and Average Hourly Output shall be determined consistent with the resource's Measurement and Verification Plan, which shall be reviewed by the ISO to ensure consistency with the measurement and verification requirements, as described in Section III.13.1.4.3 of Market Rule 1 and the ISO New England Manuals.

**Average Monthly PER** is calculated in accordance with Section III.13.7.1.2.2 of Market Rule 1.

**Backstop Transmission Solution** is a solution proposed: (i) to address a reliability or market efficiency need identified by the ISO in a Needs Assessment reported by the ISO pursuant to Section 4.1(i) of Attachment K to the ISO OATT, (ii) by the PTO or PTOs with an obligation under Schedule 3.09(a) of the TOA to address the identified need; and (iii) in circumstances in which the competitive solution process specified in Section 4.3 of Attachment K to the ISO OATT will be utilized.

**Bankruptcy Code** is the United States Bankruptcy Code.

**Bankruptcy Event** occurs when a Covered Entity files a voluntary or involuntary petition in bankruptcy or commences a proceeding under the United States Bankruptcy Code or any other applicable law concerning insolvency, reorganization or bankruptcy by or against such Covered Entity as debtor.

**Bilateral Contract (BC)** is any of the following types of contracts: Internal Bilateral for Load, Internal Bilateral for Market for Energy, and External Transactions.

**Bilateral Contract Block-Hours** are Block-Hours assigned to the seller and purchaser of an Internal Bilateral for Load, Internal Bilateral for Market for Energy and External Transactions; provided, however, that only those contracts which apply to the Real-Time Energy Market will accrue Block-Hours.

**Binary Storage DARD** is a DARD that participates in the New England Markets as part of a Binary Storage Facility, as described in Section III.1.10.6 of Market Rule 1.

**Binary Storage Facility** is a type of Electric Storage Facility, as described in Section III.1.10.6 of Market Rule 1.

**Blackstart Capability Test** is the test, required by ISO New England Operating Documents, of a resource's capability to provide Blackstart Service.

**Blackstart Capital Payment** is the annual compensation, as calculated pursuant to Section 5.1, or as referred to in Section 5.2, of Schedule 16 to the OATT, for a Designated Blackstart Resource's Blackstart Equipment capital costs associated with the provision of Blackstart Service (excluding the capital costs associated with compliance with NERC Critical Infrastructure Protection Reliability Standards as part of Blackstart Service).

**Blackstart Equipment** is any equipment that is solely necessary to enable the Designated Blackstart Resource to provide Blackstart Service and is not required to provide other products or services under the Tariff.

**Blackstart O&M Payment** is the annual Blackstart O&M compensation calculated under either Section 5.1 or 5.2 of Schedule 16 of the OATT, as applicable.

**Blackstart Owner** is the Market Participant who is authorized on behalf of the Generator Owner(s) to offer or operate the resource as a Designated Blackstart Resource and is authorized to commit the resource to provide Blackstart Service.

**Blackstart Service** is the Ancillary Service described in Section II.47 of the Tariff and Schedule 16 of the OATT.

**Blackstart Service Commitment** is the commitment by a Blackstart Owner for its resource to provide Blackstart Service and the acceptance of that commitment by the ISO, in the manner detailed in ISO New England Operating Procedure No. 11 – Designated Blackstart Resource Administration (OP 11), and which includes a commitment to provide Blackstart Service established under Operating Procedure 11 – Designated Blackstart Resource Administration (OP11).

**Blackstart Service Minimum Criteria** are the minimum criteria that a Blackstart Owner and its resource must meet in order to establish and maintain a resource as a Designated Blackstart Resource.

**Blackstart Standard Rate Payment** is the formulaic rate of monthly compensation, as calculated pursuant to Section 5 of Schedule 16 to the OATT, paid to a Blackstart Owner for the provision of Blackstart Service from a Designated Blackstart Resource.

**Blackstart Station** is comprised of (i) a single Designated Blackstart Resource or (ii) two or more Designated Blackstart Resources that share Blackstart Equipment.

**Blackstart Station-specific Rate Payment** is the Commission-approved compensation, as calculated pursuant to Section 5.2 of Schedule 16 to the OATT, paid to a Blackstart Owner on a monthly basis for the provision of Blackstart Service by Designated Blackstart Resources located at a specific Blackstart Station.

**Blackstart Station-specific Rate Capital Payment** is a component of the Blackstart Station-specific Rate Payment that reflects a Blackstart Station's capital Blackstart Equipment costs associated with the provision of Blackstart Service (excluding the capital costs associated with compliance with NERC Critical Infrastructure Protection Reliability Standards as part of Blackstart Service).

**Block** is defined as follows: (1) With respect to Bilateral Contracts, a Bilateral Contract administered by the ISO for an hour; (2) with respect to Supply Offers administered by the ISO, a quantity with a related price for Energy (Supply Offers for Energy may contain multiple sets of quantity and price pairs for each hour); (3) with respect to Demand Bids administered by the ISO, a quantity with a related price for Energy (Demand Bids for Energy may contain multiple sets of quantity and price pairs for each hour); (4) with respect to Increment Offers administered by the ISO, a quantity with a related price for Energy (Increment Offers for Energy may contain multiple sets of quantity and price pairs for each hour); (5) with respect to Decrement Bids administered by the ISO, a quantity with a related price for Energy (Decrement Bids for Energy may contain multiple sets of quantity and price pairs for each hour); (6) with respect to Asset Related Demand bids administered by the ISO, a quantity with a related price for Energy (Asset Related Demand bids may contain multiple sets of quantity and price pairs for each hour); and (7) with respect to Demand Reduction Offers administered by the ISO, a quantity of reduced demand with a related price (Demand Reduction Offers may contain multiple sets of quantity and price pairs for the day).

**Block-Hours** are the number of Blocks administered for a particular hour.

**Budget and Finance Subcommittee** is a subcommittee of the Participants Committee, the responsibilities of which are specified in Section 8.4 of the Participants Agreement.

**Business Day** is any day other than a Saturday or Sunday or ISO holidays as posted by the ISO on its website.

**Cancelled Start NCPC Credit** is an NCPC Credit calculated pursuant to Appendix F to Market Rule 1.

**Capability Demonstration Year** is the one year period from September 1 through August 31.

**Capacity Acquiring Resource** is a resource that is seeking to acquire a Capacity Supply Obligation through: (1) a Capacity Supply Obligation Bilateral, as described in Section III.13.5.1, or; (2) an annual or monthly reconfiguration auction, as described in Section III.13.4.

**Capacity Balancing Ratio** is a ratio used in calculating the Capacity Performance Payment in the Forward Capacity Market, as described in Section III.13.7.2.3 of Market Rule 1.



**Capacity Base Payment** is the portion of revenue received in the Forward Capacity Market as described in Section III.13.7.1 of Market Rule 1.

**Capacity Capability Interconnection Standard** has the meaning specified in Schedule 22, Schedule 23, and Schedule 25 of the OATT.

**Capacity Clearing Price** is the clearing price for a Capacity Zone for a Capacity Commitment Period resulting from the Forward Capacity Auction conducted for that Capacity Commitment Period, as determined in accordance with Section III.13.2.7 of Market Rule 1.

**Capacity Commitment Period** is the one-year period from June 1 through May 31 for which obligations are assumed and payments are made in the Forward Capacity Market.

**Capacity Cost (CC)** is one of four forms of compensation that may be paid to resources providing VAR Service under Schedule 2 of the OATT.

**Capacity Export Through Import Constrained Zone Transaction** is defined in Section III.1.10.7(f)(i) of Market Rule 1.

**Capacity Load Obligation** is the quantity of capacity for which a Market Participant is financially responsible as described in Section III.13.7.5.2 of Market Rule 1.

**Capacity Load Obligation Acquiring Participant** is a load serving entity or any other Market Participant seeking to acquire a Capacity Load Obligation through a Capacity Load Obligation Bilateral, as described in Section III.13.5.2 of Market Rule 1.

**Capacity Network Import Capability (CNI Capability)** is as defined in Section I of Schedule 25 of the OATT.

**Capacity Network Import Interconnection Service (CNI Interconnection Service)** is as defined in Section I of Schedule 25 of the OATT.

**Capacity Load Obligation Bilateral** is a bilateral contract through which a Market Participant may transfer all or a portion of its Capacity Load Obligation to another entity, as described in Section III.13.5 of Market Rule 1.

**Capacity Load Obligation Transferring Participant** is an entity that has a Capacity Load Obligation and is seeking to shed such obligation through a Capacity Load Obligation Bilateral, as described in Section III.13.5.2 of Market Rule 1.

**Capacity Network Resource (CNR)** is defined in Section I of Schedule 22 and Attachment 1 to Schedule 23 of the OATT.

**Capacity Network Resource Interconnection Service (CNR Interconnection Service)** is defined in Section I of Schedule 22 and Attachment 1 to Schedule 23 of the OATT.

**Capacity Performance Bilateral** is a transaction for transferring Capacity Performance Score, as described in Section III.13.5.3 of Market Rule 1.

**Capacity Performance Payment** is the performance-dependent portion of revenue received in the Forward Capacity Market, as described in Section III.13.7.2 of Market Rule 1.

**Capacity Performance Payment Rate** is a rate used in calculating Capacity Performance Payments, as described in Section III.13.7.2.5 of Market Rule 1.

**Capacity Performance Score** is a figure used in determining Capacity Performance Payments, as described in Section III.13.7.2.4 of Market Rule 1.

**Capacity Rationing Rule** addresses whether offers and bids in a Forward Capacity Auction may be rationed, as described in Section III.13.2.6 of Market Rule 1.

**Capacity Scarcity Condition** is a period during which performance is measured in the Forward Capacity Market, as described in Section III.13.7.2.1 of Market Rule 1.

**Capacity Scarcity Condition** is a period during which performance is measured in the Forward Capacity Market, as described in Section III.13.7.2.1 of Market Rule 1.

**Capacity Supply Obligation** is an obligation to provide capacity from a resource, or a portion thereof, to satisfy a portion of the Installed Capacity Requirement that is acquired through a Forward Capacity Auction in accordance with Section III.13.2, a reconfiguration auction in accordance with Section III.13.4, or a Capacity Supply Obligation Bilateral in accordance with Section III.13.5.1 of Market Rule 1.

**Capacity Supply Obligation Bilateral** is a bilateral contract through which a Market Participant may transfer all or a part of its Capacity Supply Obligation to another entity, as described in Section III.13.5.1 of Market Rule 1.

**Capacity Transfer Rights (CTRs)** are calculated in accordance with Section III.13.7.5.4.

**Capacity Transferring Resource** is a resource that has a Capacity Supply Obligation and is seeking to shed such obligation, or a portion thereof, through: (1) a Capacity Supply Obligation Bilateral, as described in Section III.13.5.1, or; (2) an annual or monthly reconfiguration auction, as described in Section III.13.4.

**Capacity Zone** is a geographic sub-region of the New England Control Area as determined in accordance with Section III.12.4 of Market Rule 1.

**Capacity Zone Demand Curves** are the demand curves used in the Forward Capacity Market for a Capacity Zone as specified in Sections III.13.2.2.2 and III.13.2.2.3.

**Capital Funding Charge (CFC)** is defined in Section IV.B.2 of the Tariff.

**CARL Data** is Control Area reliability data submitted to the ISO to permit an assessment of the ability of an external Control Area to provide energy to the New England Control Area in support of capacity offered to the New England Control Area by that external Control Area.

**Category B Designated Blackstart Resource** has the same meaning as Designated Blackstart Resource.

**Charge** is a sum of money due from a Covered Entity to the ISO, either in its individual capacity or as billing and collection agent for NEPOOL pursuant to the Participants Agreement.

**CLAIM10** is the value, expressed in megawatts, calculated pursuant to Section III.9.5.3 of the Tariff.

**CLAIM30** is the value, expressed in megawatts, calculated pursuant to Section III.9.5.3 of the Tariff.

**Claimed Capability Audit** is performed to determine the real power output capability of a Generator Asset or the demand reduction capability of a Demand Response Resource.

**Cluster Enabling Transmission Upgrade (CETU)** has the meaning specified in Section I of Schedule 22, Attachment 1 to Schedule 23, and Section I of Schedule 25 of the OATT.

**Cluster Enabling Transmission Upgrade Regional Planning Study (CRPS)** has the meaning specified in Section I of Schedule 22, Attachment 1 to Schedule 23, and Section I of Schedule 25 of the OATT.

**Cluster Entry Deadline** has the meaning specified in Section I of Schedule 22, Attachment 1 to Schedule 23, and Section I of Schedule 25 of the OATT.

**Cluster Interconnection System Impact Study (CSIS)** has the meaning specified in Section I of Schedule 22, Attachment 1 to Schedule 23, and Section I of Schedule 25 of the OATT.

**Clustering** has the meaning specified in Section I of Schedule 22, Attachment 1 to Schedule 23, and Section I of Schedule 25 of the OATT.

**CNR Capability** is defined in Section I of Schedule 22 and Attachment 1 to Schedule 23 of the OATT.

**Coincident Peak Contribution** is a Market Participant's share of the New England Control Area coincident peak demand for the prior calendar year as determined prior to the start of each Capacity Commitment Period, which reflects the sum of the prior year's annual coincident peak contributions of the customers served by the Market Participant at each Load Asset. Daily Coincident Peak Contribution values shall be submitted by the Assigned Meter Reader or Host Participant by the meter reading deadline to the ISO.

**Commercial Capacity** is capacity that has achieved FCM Commercial Operation.

**Commission** is the Federal Energy Regulatory Commission.

**Commitment Period** is (i) for a Day-Ahead Energy Market commitment, a period of one or more contiguous hours for which a Resource is cleared in the Day-Ahead Energy Market, and (ii) for a Real-Time Energy Market commitment, the period of time for which the ISO indicates the Resource is being committed when it issues the Dispatch Instruction. If the ISO does not indicate the period of time for which the Resource is being committed in the Real-Time Energy Market, then the Commitment Period is the Minimum Run Time for an offline Resource and one hour for an online Resource.

**Common Costs** are those costs associated with a Station that are avoided only by the clearing of the Static De-List Bids, the Permanent De-List Bids, or the Retirement De-List Bids of all the Existing Generating Capacity Resources comprising the Station.

**Completed Application** is an Application that satisfies all of the information and other requirements of the OATT, including any required deposit.

**Compliance Effective Date** is the date upon which the changes in the predecessor NEPOOL Open Access Transmission Tariff which have been reflected herein to comply with the Commission's Order of April 20, 1998 became effective.

**Composite FCM Transaction** is a transaction for separate resources seeking to participate as a single composite resource in a Forward Capacity Auction in which multiple Designated FCM Participants provide capacity, as described in Section III.13.1.5 of Market Rule 1.

**Conditional Qualified New Resource** is defined in Section III.13.1.1.2.3(f) of Market Rule 1.

**Confidential Information** is defined in Section 2.1 of the ISO New England Information Policy, which is Attachment D to the Tariff.

**Confidentiality Agreement** is Attachment 1 to the ISO New England Billing Policy.

**Congestion** is a condition of the New England Transmission System in which transmission limitations prevent unconstrained regional economic dispatch of the power system. Congestion is the condition that results in the Congestion Component of the Locational Marginal Price at one Location being different

from the Congestion Component of the Locational Marginal Price at another Location during any given hour of the dispatch day in the Day-Ahead Energy Market or Real-Time Energy Market.

**Congestion Component** is the component of the nodal price that reflects the marginal cost of congestion at a given Node or External Node relative to the reference point. When used in connection with Zonal Price and Hub Price, the term Congestion Component refers to the Congestion Components of the nodal prices that comprise the Zonal Price and Hub Price weighted and averaged in the same way that nodal prices are weighted to determine Zonal Price and averaged to determine the Hub Price.

**Congestion Cost** is the cost of congestion as measured by the difference between the Congestion Components of the Locational Marginal Prices at different Locations and/or Reliability Regions on the New England Transmission System.

**Congestion Paying LSE** is, for the purpose of the allocation of FTR Auction Revenues to ARR Holders as provided for in Appendix C of Market Rule 1, a Market Participant or Non-Market Participant Transmission Customer that is responsible for paying for Congestion Costs as a Transmission Customer paying for Regional Network Service under the Transmission, Markets and Services Tariff, unless such Transmission Customer has transferred its obligation to supply load in accordance with ISO New England System Rules, in which case the Congestion Paying LSE shall be the Market Participant supplying the transferred load obligation. The term Congestion Paying LSE shall be deemed to include, but not be limited to, the seller of internal bilateral transactions that transfer Real-Time Load Obligations under the ISO New England System Rules.

**Congestion Revenue Fund** is the amount available for payment of target allocations to FTR Holders from the collection of Congestion Cost.

**Congestion Shortfall** means congestion payments exceed congestion charges during the billing process in any billing period.

**Continuous Storage ATRR** is an ATRR that participates in the New England Markets as part of a Continuous Storage Facility, as described in Section III.1.10.6 of Market Rule 1.

**Continuous Storage DARD** is a DARD that participates in the New England Markets as part of a Continuous Storage Facility, as described in Section III.1.10.6 of Market Rule 1.

**Continuous Storage Generator Asset** is a Generator Asset that participates in the New England Markets as part of a Continuous Storage Facility, as described in Section III.1.10.6 of Market Rule 1.

**Continuous Storage Facility** is a type of Electric Storage Facility, as described in Section III.1.10.6 of Market Rule 1.

**Control Agreement** is the document posted on the ISO website that is required if a Market Participant's cash collateral is to be invested in BlackRock funds.

**Control Area** is an electric power system or combination of electric power systems to which a common automatic generation control scheme is applied in order to:

- (1) match, at all times, the power output of the generators within the electric power system(s) and capacity and energy purchased from entities outside the electric power system(s), with the load within the electric power system(s);
- (2) maintain scheduled interchange with other Control Areas, within the limits of Good Utility Practice;
- (3) maintain the frequency of the electric power system(s) within reasonable limits in accordance with Good Utility Practice and the criteria of the applicable regional reliability council or the North American Electric Reliability Corporation; and
- (4) provide sufficient generating capacity to maintain operating reserves in accordance with Good Utility Practice.

**Controllable Behind-the-Meter Generation** means generation whose output can be controlled located at the same facility as a DARD or a Demand Response Asset, excluding: (1) generators whose output is separately metered and reported and (2) generators that cannot operate electrically synchronized to, and that are operated only when the facility loses its supply of power from, the New England Transmission System, or when undergoing related testing.

**Coordinated External Transaction** is an External Transaction at an external interface for which the enhanced scheduling procedures in Section III.1.10.7.A are implemented. A transaction to wheel energy into, out of or through the New England Control Area is not a Coordinated External Transaction.

**Coordinated Transaction Scheduling** means the enhanced scheduling procedures set forth in Section III.1.10.7.A.

**Correction Limit** means the date that is one hundred and one (101) calendar days from the last Operating Day of the month to which the data applied. As described in Section III.3.6.1 of Market Rule 1, this will be the period during which meter data corrections must be submitted unless they qualify for submission as a Requested Billing Adjustment under Section III.3.7 of Market Rule 1.

**Cost of Energy Consumed (CEC)** is one of four forms of compensation that may be paid to resources providing VAR Service under Schedule 2 of the OATT.

**Cost of Energy Produced (CEP)** is one of four forms of compensation that may be paid to resources providing VAR Service under Schedule 2 of the OATT.

**Cost of New Entry (CONE)** is the estimated cost of new entry (\$/kW-month) for a capacity resource that is determined by the ISO for each Forward Capacity Auction pursuant to Section III.13.2.4.

**Counterparty** means the status in which the ISO acts as the contracting party, in its name and own right and not as an agent, to an agreement or transaction with a Customer (including assignments involving Customers) involving sale to the ISO, and/or purchase from the ISO, of Regional Transmission Service and market and other products and services, and other transactions and assignments involving Customers, all as described in the Tariff.

**Covered Entity** is defined in the ISO New England Billing Policy.

**Credit Coverage** is third-party credit protection obtained by the ISO in the form of credit insurance coverage.

**Credit Qualifying** means a Rated Market Participant that has an Investment Grade Rating and an Unrated Market Participant that satisfies the Credit Threshold.

**Credit Threshold** consists of the conditions for Unrated Market Participants outlined in Section II.B.2 of the ISO New England Financial Assurance Policy.



**Critical Energy Infrastructure Information (CEII)** is defined in Section 3.0(j) of the ISO New England Information Policy, which is Attachment D to the Tariff.

**Current Ratio** is, on any date, all of a Market Participant's or Non-Market Participant Transmission Customer's current assets divided by all of its current liabilities, in each case as shown on the most recent financial statements provided by such Market Participant or Non-Market Participant Transmission Customer to the ISO.

**Curtailed** is a reduction in the dispatch of a transaction that was scheduled, using transmission service, in response to a transfer capability shortage as a result of system reliability conditions.

**Customer** is a Market Participant, a Transmission Customer or another customer of the ISO.

**Data Reconciliation Process** means the process by which meter reconciliation and data corrections that are discovered by Governance Participants after the Invoice has been issued for a particular month or that are discovered prior to the issuance of the Invoice for the relevant month but not included in that Invoice or in the other Invoices for that month and are reconciled by the ISO on an hourly basis based on data submitted to the ISO by the Host Participant Assigned Meter Reader or Assigned Meter Reader.

**Day-Ahead** is the calendar day immediately preceding the Operating Day.

**Day-Ahead Adjusted Load Obligation** is defined in Section III.3.2.1(a) of Market Rule 1.

**Day-Ahead Congestion Revenue** is defined in Section III.3.2.1(i) of Market Rule 1.

**Day-Ahead Demand Reduction Obligation** is defined in Section III.3.2.1(a) of Market Rule 1.

**Day-Ahead Energy Market** means the schedule of commitments for the purchase or sale of energy, purchase of demand reductions, payment of Congestion Costs, payment for losses developed by the ISO as a result of the offers and specifications submitted in accordance with Section III.1.10 of Market Rule 1.

**Day-Ahead Energy Market Congestion Charge/Credit** is defined in Section III.3.2.1(f) of Market Rule 1.

**Day-Ahead Energy Market Energy Charge/Credit** is defined in Section III.3.2.1(f) of Market Rule 1.

**Day-Ahead Energy Market Loss Charge/Credit** is defined in Section III.3.2.1(f) of Market Rule 1.

**Day-Ahead Energy Market NCPC Credit** is an NCPC Credit calculated pursuant to Appendix F to Market Rule 1.

**Day-Ahead External Transaction Export and Decrement Bid NCPC Credit** is an NCPC Credit calculated pursuant to Appendix F to Market Rule 1.

**Day-Ahead External Transaction Import and Increment Offer NCPC Credit** is an NCPC Credit calculated pursuant to Appendix F to Market Rule 1.

**Day-Ahead Generation Obligation** is defined in Section III.3.2.1(a) of Market Rule 1.

**Day-Ahead Load Obligation** is defined in Section III.3.2.1(a) of Market Rule 1.

**Day-Ahead Locational Adjusted Net Interchange** is defined in Section III.3.2.1(a) of Market Rule 1.

**Day-Ahead Loss Charges or Credits** is defined in Section III.3.2.1(k) of Market Rule 1.

**Day-Ahead Loss Revenue** is defined in Section III.3.2.1(j) of Market Rule 1.

**Day-Ahead Prices** means the Locational Marginal Prices resulting from the Day-Ahead Energy Market.

**DDP Dispatchable Resource** is any Dispatchable Resource that the ISO dispatches using Desired Dispatch Points in the Resource's Dispatch Instructions.

**Debt-to-Total Capitalization Ratio** is, on any date, a Market Participant's or Non-Market Participant Transmission Customer's total debt (including all current borrowings) divided by its total shareholders' equity plus total debt, in each case as shown on the most recent financial statements provided by such Market Participant or Non-Market Participant Transmission Customer to the ISO.

**Decrement Bid** means a bid to purchase energy at a specified Location in the Day-Ahead Energy Market which is not associated with a physical load. An accepted Decrement Bid results in scheduled load at the specified Location in the Day-Ahead Energy Market.

**Default Amount** is all or any part of any amount due to be paid by any Covered Entity that the ISO, in its reasonable opinion, believes will not or has not been paid when due (other than in the case of a payment dispute for any amount due for transmission service under the OATT).

**Default Period** is defined in Section 3.3.h(i) of the ISO New England Billing Policy.

**Delivering Party** is the entity supplying capacity and/or energy to be transmitted at Point(s) of Receipt under the OATT.

**Demand Bid** means a request to purchase an amount of energy, at a specified Location, or an amount of energy at a specified price, that is associated with a physical load. A cleared Demand Bid in the Day-Ahead Energy Market results in scheduled load at the specified Location. Demand Bids submitted for use in the Real-Time Energy Market are specific to Dispatchable Asset Related Demands only.

**Demand Bid Block-Hours** are the Block-Hours assigned to the submitting Customer for each Demand Bid.

**Demand Bid Cap** is \$2,000/MWh.

**Demand Capacity Resource** means an Existing Demand Capacity Resource or a New Demand Capacity Resource. There are three Demand Capacity Resource types: Active Demand Capacity Resources, On-Peak Demand Resources, and Seasonal Peak Demand Resources.

**Demand Designated Entity** is the entity designated by a Market Participant to receive Dispatch Instructions for Demand Response Resources in accordance with the provisions set forth in ISO New England Operating Procedure No. 14.

**Demand Reduction Offer** is an offer by a Market Participant with a Demand Response Resource to reduce demand.

**Demand Reduction Offer Block-Hours** are Block-Hours assigned to the Lead Market Participant for each Demand Reduction Offer. Blocks of the Demand Reduction Offer in effect for each hour will be totaled to determine the quantity of Demand Reduction Offer Block-Hours for a given day. In the case that a Resource has a Real-Time unit status of “unavailable” for the entire day, that day will not contribute to the quantity of Demand Reduction Offer Block-Hours. However, if the Resource has at least one hour of the day with a unit status of “available,” the entire day will contribute to the quantity of Demand Reduction Offer Block-Hours.

**Demand Reduction Threshold Price** is a minimum offer price calculated pursuant to Section III.1.10.1A(f).

**Demand Resource On-Peak Hours** are hours ending 1400 through 1700, Monday through Friday on non-Demand Response Holidays during the months of June, July, and August and hours ending 1800 through 1900, Monday through Friday on non-Demand Response Holidays during the months of December and January.

**Demand Resource Seasonal Peak Hours** are those hours in which the actual, real-time hourly load, as measured using real-time telemetry (adjusted for transmission and distribution losses, and excluding load associated with Exports and Storage DARDs) for Monday through Friday on non-Demand Response Holidays, during the months of June, July, August, December, and January, as determined by the ISO, is equal to or greater than 90% of the most recent 50/50 system peak load forecast, as determined by the ISO, for the applicable summer or winter season.

**Demand Response Asset** is an asset comprising the demand reduction capability of an individual end-use customer at a Retail Delivery Point or the aggregated demand reduction capability of multiple end-use customers from multiple delivery points (as described in Section III.8.1.1(f)) that has been registered in accordance with III.8.1.1.

**Demand Response Available** is the capability of the Demand Response Resource, in whole or in part, at any given time, to reduce demand in response to a Dispatch Instruction.

**Demand Response Baseline** is the expected baseline demand of an individual end-use metered customer or group of end-use metered customers as determined pursuant to Section III.8.2.

**Demand Response Holiday** is New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, and Christmas Day. If the holiday falls on a Saturday, the holiday will be observed on the preceding Friday; if the holiday falls on a Sunday, the holiday will be observed on the following Monday.

**Demand Response Resource** is an individual Demand Response Asset or aggregation of Demand Response Assets within a DRR Aggregation Zone that has been registered in accordance with Section III.8.1.2.

**Demand Response Resource Notification Time** is the period of time between the receipt of a startup Dispatch Instruction and the time the Demand Response Resource starts reducing demand.

**Demand Response Resource Ramp Rate** is the average rate, expressed in MW per minute, at which the Demand Response Resource can reduce demand.

**Demand Response Resource Start-Up Time** is the period of time between the time a Demand Response Resource starts reducing demand at the conclusion of the Demand Response Resource Notification Time and the time the resource can reach its Minimum Reduction and be ready for further dispatch by the ISO.

**Designated Agent** is any entity that performs actions or functions required under the OATT on behalf of the ISO, a Transmission Owner, a Schedule 20A Service Provider, an Eligible Customer, or a Transmission Customer.

**Designated Blackstart Resource** is a resource that meets the eligibility requirements specified in Schedule 16 of the OATT, which includes any resource referred to previously as a Category B Designated Blackstart Resource.

**Designated Entity** is the entity designated by a Market Participant to receive Dispatch Instructions for a Generator Asset and/or Dispatchable Asset Related Demand in accordance with the provisions set forth in ISO New England Operating Procedure No. 14.

**Designated FCM Participant** is any Lead Market Participant, including any Provisional Member that is a Lead Market Participant, transacting in any Forward Capacity Auction, reconfiguration auctions or

Capacity Supply Obligation Bilateral for capacity that is otherwise required to provide additional financial assurance under the ISO New England Financial Assurance Policy.

**Designated FTR Participant** is a Market Participant, including FTR-Only Customers, transacting in the FTR Auction that is otherwise required to provide additional financial assurance under the ISO New England Financial Assurance Policy.

**Desired Dispatch Point (DDP)** means the control signal, expressed in megawatts, transmitted to direct the output, consumption, or demand reduction level of each Generator Asset, Dispatchable Asset Related Demand, or Demand Response Resource dispatched by the ISO in accordance with the asset's Offer Data.

**Direct Assignment Facilities** are facilities or portions of facilities that are constructed for the sole use/benefit of a particular Transmission Customer requesting service under the OATT or a Generator Owner requesting an interconnection. Direct Assignment Facilities shall be specified in a separate agreement among the ISO, Interconnection Customer and Transmission Customer, as applicable, and the Transmission Owner whose transmission system is to be modified to include and/or interconnect with the Direct Assignment Facilities, shall be subject to applicable Commission requirements, and shall be paid for by the Customer in accordance with the applicable agreement and the Tariff.

**Directly Metered Assets** are specifically measured by OP-18 compliant metering as currently described in Section IV (Metering and Recording for Settlements) of OP-18. Directly Metered Assets include all Tie-Line Assets, all Generator Assets, as well as some Load Assets. Load Assets for which the Host Participant is not the Assigned Meter Reader are considered Directly Metered Assets. In addition, the Host Participant Assigned Meter Reader determines which additional Load Assets are considered Directly Metered Assets and which ones are considered Profiled Load Assets based upon the Host Participant Assigned Meter Reader reporting systems and process by which the Host Participant Assigned Meter Reader allocates non-PTF losses.

**Disbursement Agreement** is the Rate Design and Funds Disbursement Agreement among the PTOs, as amended and restated from time to time.

**Dispatch Instruction** means directions given by the ISO to Market Participants, which may include instructions to start up, shut down, raise or lower generation, curtail or restore loads from Demand Response Resources, change External Transactions, or change the status or consumption of a

Dispatchable Asset Related Demand in accordance with the Supply Offer, Demand Bid, or Demand Reduction Offer parameters. Such instructions may also require a change to the operation of a Pool Transmission Facility. Such instructions are given through either electronic or verbal means.

**Dispatch Zone** means a subset of Nodes located within a Load Zone established by the ISO for each Capacity Commitment Period pursuant to Section III.12.4A.

**Dispatchable Asset Related Demand (DARD)** is an Asset Related Demand that is capable of having its energy consumption modified in Real-Time in response to Dispatch Instructions. A DARD must be capable of receiving and responding to electronic Dispatch Instructions, must be able to increase or decrease energy consumption between its Minimum Consumption Limit and Maximum Consumption Limit in accordance with Dispatch Instructions, and must meet the technical requirements specified in the ISO New England Operating Procedures and Manuals.

**Dispatchable Resource** is any Generator Asset, Dispatchable Asset Related Demand, Demand Response Resource, or, with respect to the Regulation Market only, Alternative Technology Regulation Resource, that, during the course of normal operation, is capable of receiving and responding to electronic Dispatch Instructions in accordance with the parameters contained in the Resource's Supply Offer, Demand Bid, Demand Reduction Offer or Regulation Service Offer. A Resource that is normally classified as a Dispatchable Resource remains a Dispatchable Resource when it is temporarily not capable of receiving and responding to electronic Dispatch Instructions.

**Dispute Representatives** are defined in 6.5.c of the ISO New England Billing Policy.

**Disputed Amount** is a Covered Entity's disputed amount due on any fully paid monthly Invoice and/or any amount believed to be due or owed on a Remittance Advice, as defined in Section 6 of the ISO New England Billing Policy.

**Disputing Party**, for the purposes of the ISO New England Billing Policy, is any Covered Entity seeking to recover a Disputed Amount.

**Distributed Generation** means generation directly connected to end-use customer load and located behind the end-use customer's Retail Delivery Point that reduces the amount of energy that would otherwise have been produced on the electricity network in the New England Control Area, provided that

the facility's Net Supply Capability is (i) less than 5 MW or (ii) less than or equal to the Maximum Facility Load, whichever is greater.

**DRR Aggregation Zone** is a Dispatch Zone entirely within a single Reserve Zone or Rest of System or, where a Dispatch Zone is not entirely within a single Reserve Zone or Rest of System, each portion of the Dispatch Zone demarcated by the Reserve Zone boundary.

**Do Not Exceed (DNE) Dispatchable Generator** is any Generator Asset that is dispatched using Do Not Exceed Dispatch Points in its Dispatch Instructions and meets the criteria specified in Section III.1.11.3(e). Do Not Exceed Dispatchable Generators are Dispatchable Resources.

**Do Not Exceed Dispatch Point** is a Dispatch Instruction indicating a maximum output level that a DNE Dispatchable Generator must not exceed.

**Dynamic De-List Bid** is a bid that may be submitted by Existing Generating Capacity Resources, Existing Import Capacity Resources, and Existing Demand Capacity Resources in the Forward Capacity Auction below the Dynamic De-List Bid Threshold, as described in Section III.13.2.3.2(d) of Market Rule 1.

**Dynamic De-List Bid Threshold** is the price specified in Section III.13.1.2.3.1.A of Market Rule 1 associated with the submission of Dynamic De-List Bids in the Forward Capacity Auction.

**EA Amount** is defined in Section IV.B.2.2 of the Tariff.

**Early Amortization Charge (EAC)** is defined in Section IV.B.2 of the Tariff.

**Early Amortization Working Capital Charge (EAWCC)** is defined in Section IV.B.2 of the Tariff.

**Early Payment Shortfall Funding Amount (EPSF Amount)** is defined in Section IV.B.2.4 of the Tariff.

**Early Payment Shortfall Funding Charge (EPSFC)** is defined in Section IV.B.2 of the Tariff.

**EAWW Amount** is defined in Section IV.B.2.3 of the Tariff.



**EBITDA-to-Interest Expense Ratio** is, on any date, a Market Participant's or Non-Market Participant Transmission Customer's earnings before interest, taxes, depreciation and amortization in the most recent fiscal quarter divided by that Market Participant's or Non-Market Participant Transmission Customer's expense for interest in that fiscal quarter, in each case as shown on the most recent financial statements provided by such Market Participant or Non-Market Participant Transmission Customer to the ISO.

**Economic Dispatch Point** is the output, reduction, or consumption level to which a Resource would have been dispatched, based on the Resource's Supply Offer, Demand Reduction Offer, or Demand Bid and the Real-Time Price, and taking account of any operating limits, had the ISO not dispatched the Resource to another Desired Dispatch Point.

**Economic Maximum Limit or Economic Max** is the maximum available output, in MW, of a Generator Asset that a Market Participant offers to supply in the Day-Ahead Energy Market or Real-Time Energy Market, as reflected in the Generator Asset's Offer Data. This represents the highest MW output a Market Participant has offered for a Generator Asset for economic dispatch. A Market Participant must maintain an up-to-date Economic Maximum Limit (and where applicable, must provide the ISO with any telemetry required by ISO New England Operating Procedure No. 18 to allow the ISO to maintain an updated Economic Maximum Limit) for all hours in which a Generator Asset has been offered into the Day-Ahead Energy Market or Real-Time Energy Market.

**Economic Minimum Limit or Economic Min** is (a) for a Generator Asset with an incremental heat rate, the maximum of: (i) the lowest sustainable output level as specified by physical design characteristics, environmental regulations or licensing limits; and (ii) the lowest sustainable output level at which a one MW increment increase in the output level would not decrease the incremental cost, calculated based on the incremental heat rate, of providing an additional MW of output, and (b) for a Generator Asset without an incremental heat rate, the lowest sustainable output level that is consistent with the physical design characteristics of the Generator Asset and with meeting all environmental regulations and licensing limits, and (c) for a Generator Asset undergoing Facility and Equipment Testing or auditing, the level to which the Generator Asset requests and is approved to operate or is directed to operate for purposes of completing the Facility and Equipment Testing or auditing, and (d) for Non-Dispatchable Resources the output level at which a Market Participant anticipates its Non-Dispatchable Resource will be available to operate based on fuel limitations, physical design characteristics, environmental regulations or licensing limits.

**Economic Study** is defined in Section 4.1(b) of Attachment K to the OATT.

**Effective Offer** is the Supply Offer, Demand Reduction Offer, or Demand Bid that is used for NCPC calculation purposes as specified in Section III.F.1(a).

**EFT** is electronic funds transfer.

**Elective Transmission Upgrade** is defined in Section I of Schedule 25 of the OATT.

**Elective Transmission Upgrade Interconnection Customer** is defined in Schedule 25 of the OATT.

**Electric Reliability Organization (ERO)** is defined in 18 C.F.R. § 39.1.

**Electric Storage Facility** is a storage facility that participates in the New England Markets as described in Section III.1.10.6 of Market Rule 1.

**Eligible Customer** is: (i) Any entity that is engaged, or proposes to engage, in the wholesale or retail electric power business is an Eligible Customer under the OATT. (ii) Any electric utility (including any power marketer), Federal power marketing agency, or any other entity generating electric energy for sale or for resale is an Eligible Customer under the OATT. Electric energy sold or produced by such entity may be electric energy produced in the United States, Canada or Mexico. However, with respect to transmission service that the Commission is prohibited from ordering by Section 212(h) of the Federal Power Act, such entity is eligible only if the service is provided pursuant to a state requirement that the Transmission Owner with which that entity is directly interconnected or the distribution company having the service territory in which that entity is located (if that entity is a retail customer) offer the unbundled transmission service or Local Delivery Service, or pursuant to a voluntary offer of such service by the Transmission Owner with which that entity is directly interconnected or the distribution company having the service territory in which that entity is located (if that entity is a retail customer). (iii) Any end user taking or eligible to take unbundled transmission service or Local Delivery Service pursuant to a state requirement that the Transmission Owner with which that end user is directly interconnected or the distribution company having the service territory in which that entity is located (if that entity is a retail customer) offer the transmission service or Local Delivery Service, or pursuant to a voluntary offer of such service by the Transmission Owner with which that end user is directly interconnected, or the

distribution company having the service territory in which that entity is located (if that entity is a retail customer) is an Eligible Customer under the OATT.

**Eligible FTR Bidder** is an entity that has satisfied applicable financial assurance criteria, and shall not include the auctioneer, its Affiliates, and their officers, directors, employees, consultants and other representatives.

**Emergency** is an abnormal system condition on the bulk power systems of New England or neighboring Control Areas requiring manual or automatic action to maintain system frequency, or to prevent the involuntary loss of load, equipment damage, or tripping of system elements that could adversely affect the reliability of an electric system or the safety of persons or property; or a fuel shortage requiring departure from normal operating procedures in order to minimize the use of such scarce fuel; or a condition that requires implementation of Emergency procedures as defined in the ISO New England Manuals.

**Emergency Condition** means an Emergency has been declared by the ISO in accordance with the procedures set forth in the ISO New England Manuals and ISO New England Administrative Procedures.

**Emergency Energy** is energy transferred from one control area operator to another in an Emergency.

**Emergency Minimum Limit or Emergency Min** means the minimum output, in MWs, that a Generator Asset can deliver for a limited period of time without exceeding specified limits of equipment stability and operating permits.

**EMS** is energy management system.

**End-of-Round Price** is the lowest price associated with a round of a Forward Capacity Auction, as described in Section III.13.2.3.1 of Market Rule 1.

**End User Participant** is defined in Section 1 of the Participants Agreement.

**Energy** is power produced in the form of electricity, measured in kilowatthours or megawatthours.

**Energy Administration Service (EAS)** is the service provided by the ISO, as described in Schedule 2 of Section IV.A of the Tariff.

**Energy Component** means the Locational Marginal Price at the reference point.

**Energy Efficiency** is installed measures (e.g., products, equipment, systems, services, practices and/or strategies) on end-use customer facilities that reduce the total amount of electrical energy needed, while delivering a comparable or improved level of end-use service. Such measures include, but are not limited to, the installation of more energy efficient lighting, motors, refrigeration, HVAC equipment and control systems, envelope measures, operations and maintenance procedures, and industrial process equipment.

**Energy Imbalance Service** is the form of Ancillary Service described in Schedule 4 of the OATT.

**Energy Market** is, collectively, the Day-Ahead Energy Market and the Real-Time Energy Market.

**Energy Non-Zero Spot Market Settlement Hours** are the sum of the hours for which the Customer has a positive or negative Real-Time System Adjusted Net Interchange or for which the Customer has a positive or negative Real-Time Demand Reduction Obligation as determined by the ISO settlement process for the Energy Market.

**Energy Offer Floor** is negative \$150/MWh.

**Energy Transaction Units (Energy TUs)** are the sum for the month for a Customer of Bilateral Contract Block-Hours, Demand Bid Block-Hours, Asset Related Demand Bid Block-Hours, Supply Offer Block-Hours, Demand Reduction Offer Block-Hours, and Energy Non-Zero Spot Market Settlement Hours.

**Equipment Damage Reimbursement** is the compensation paid to the owner of a Designated Blackstart Resource as specified in Section 5.5 of Schedule 16 to the OATT.

**Equivalent Demand Forced Outage Rate (EFORD)** means the portion of time a unit is in demand, but is unavailable due to forced outages.

**Estimated Capacity Load Obligation** is, for the purposes of the ISO New England Financial Assurance Policy, a Market Participant's share of Zonal Capacity Obligation from the latest available month, adjusted as appropriate to account for any relevant Capacity Load Obligation Bilaterals, HQICCs, and Self-Supplied FCA Resource designations for the applicable month.

**Establish Claimed Capability Audit** is the audit performed pursuant to Section III.1.5.1.2.

**Excepted Transaction** is a transaction specified in Section II.40 of the Tariff for the applicable period specified in that Section.

**Existing Capacity Qualification Deadline** is a deadline, specified in Section III.13.1.10 of Market Rule 1, for submission of certain qualification materials for the Forward Capacity Auction, as discussed in Section III.13.1 of Market Rule 1.

**Existing Capacity Qualification Package** is information submitted for certain existing resources prior to participation in the Forward Capacity Auction, as described in Section III.13.1 of Market Rule 1.

**Existing Capacity Resource** is any resource that does not meet any of the eligibility criteria to participate in the Forward Capacity Auction as a New Capacity Resource.

**Existing Capacity Retirement Deadline** is a deadline, specified in Section III.13.1.10 of Market Rule 1, for submission of certain qualification materials for the Forward Capacity Auction, as discussed in Section III.13.1 of Market Rule 1.

**Existing Capacity Retirement Package** is information submitted for certain existing resources prior to participation in the Forward Capacity Auction, as described in Section III.13.1 of Market Rule 1.

**Existing Demand Capacity Resource** is a type of Demand Capacity Resource participating in the Forward Capacity Market, as defined in Section III.13.1.4.2 of Market Rule 1.

**Existing Generating Capacity Resource** is a type of resource participating in the Forward Capacity Market, as defined in Section III.13.1.2.1 of Market Rule 1.

**Existing Import Capacity Resource** is a type of resource participating in the Forward Capacity Market, as defined in Section III.13.1.3.1 of Market Rule 1.

**Expedited Study Request** is defined in Section II.34.7 of the OATT.

**Export-Adjusted LSR** is as defined in Section III.12.4(b)(ii).

**Export Bid** is a bid that may be submitted by certain resources in the Forward Capacity Auction to export capacity to an external Control Area, as described in Section III.13.1.2.3.1.3 of Market Rule 1.

**Exports** are Real-Time External Transactions, which are limited to sales from the New England Control Area, for exporting energy out of the New England Control Area.

**External Elective Transmission Upgrade (External ETU)** is defined in Section I of Schedule 25 of the OATT.

**External Market Monitor** means the person or entity appointed by the ISO Board of Directors pursuant to Section III.A.1.2 of Appendix A of Market Rule 1 to carry out the market monitoring and mitigation functions specified in Appendix A and elsewhere in Market Rule 1.

**External Node** is a proxy bus or buses used for establishing a Locational Marginal Price for energy received by Market Participants from, or delivered by Market Participants to, a neighboring Control Area or for establishing Locational Marginal Prices associated with energy delivered through the New England Control Area by Non-Market Participants for use in calculating Non-Market Participant Congestion Costs and loss costs.

**External Resource** means a generation resource located outside the metered boundaries of the New England Control Area.

**External Transaction** is the import of external energy into the New England Control Area by a Market Participant or the export of internal energy out of the New England Control Area by a Market Participant in the Day-Ahead Energy Market and/or Real-Time Energy Market, or the wheeling of external energy through the New England Control Area by a Market Participant or a Non-Market Participant in the Real-Time Energy Market.

**External Transaction Cap** is \$2,000/MWh for External Transactions other than Coordinated External Transactions and \$1,000/MWh for Coordinated External Transactions.

**External Transaction Floor** is the Energy Offer Floor for External Transactions other than Coordinated External Transactions and negative \$1,000/MWh for Coordinated External Transactions.

**External Transmission Project** is a transmission project comprising facilities located wholly outside the New England Control Area and regarding which an agreement has been reached whereby New England ratepayers will support all or a portion of the cost of the facilities.

**Facilities Study** is an engineering study conducted pursuant to the OATT by the ISO (or, in the case of Local Service or interconnections to Local Area Facilities as defined in the TOA, by one or more affected PTOs) or some other entity designated by the ISO in consultation with any affected Transmission Owner(s), to determine the required modifications to the PTF and Non-PTF, including the cost and scheduled completion date for such modifications, that will be required to provide a requested transmission service or interconnection on the PTF and Non-PTF.

**Facility and Equipment Testing** means operation of a Resource to evaluate the functionality of the facility or equipment utilized in the operation of the facility.

**Failure to Maintain Blackstart Capability** is a failure of a Blackstart Owner or Designated Blackstart Resource to meet the Blackstart Service Minimum Criteria or Blackstart Service obligations, but does not include a Failure to Perform During a System Restoration event.

**Failure to Perform During a System Restoration** is a failure of a Blackstart Owner or Designated Blackstart Resource to follow ISO or Local Control Center dispatch instructions or perform in accordance with the dispatch instructions or the Blackstart Service Minimum Criteria and Blackstart Service obligations, described within the ISO New England Operating Documents, during a restoration of the New England Transmission System.

**Fast Start Demand Response Resource** is a Demand Response Resource that meets the following criteria: (i) Minimum Reduction Time does not exceed one hour; (ii) Minimum Time Between Reductions does not exceed one hour; (iii) Demand Response Resource Start-Up Time plus Demand Response Resource Notification Time does not exceed 30 minutes; (iv) has personnel available to respond to Dispatch Instructions or has automatic remote response capability; and (v) is capable of receiving and acknowledging a Dispatch Instruction electronically.

**Fast Start Generator** means a Generator Asset that the ISO can dispatch to an on-line or off-line state through electronic dispatch and that meets the following criteria: (i) Minimum Run Time does not exceed one hour; (ii) Minimum Down Time does not exceed one hour; (iii) cold Notification Time plus cold Start-Up Time does not exceed 30 minutes; (iv) available for dispatch (when it is either in an on-line or off-line state) and manned or has automatic remote dispatch capability; and (v) capable of receiving and acknowledging a start-up or shut-down Dispatch Instruction electronically.

**FCA Cleared Export Transaction** is defined in Section III.1.10.7(f)(ii) of Market Rule 1.

**FCA Qualified Capacity** is the Qualified Capacity that is used in a Forward Capacity Auction.

**FCM Capacity Charge Requirements** are calculated in accordance with Section VII.C of the ISO New England Financial Assurance Policy.

**FCM Charge Rate** is calculated in accordance with Section VII.C of the ISO New England Financial Assurance Policy.

**FCM Commercial Operation** is defined in Section III.13.3.8 of Market Rule 1.

**FCM Deposit** is calculated in accordance with Section VII.B.1 of the ISO New England Financial Assurance Policy.

**FCM Financial Assurance Requirements** are described in Section VII of the ISO New England Financial Assurance Policy.

**Final Forward Reserve Obligation** is calculated in accordance with Section III.9.8(a) of Market Rule 1.

**Financial Assurance Default** results from a Market Participant or Non-Market Participant Transmission Customer's failure to comply with the ISO New England Financial Assurance Policy.

**Financial Assurance Obligations** relative to the ISO New England Financial Assurance Policy are determined in accordance with Section III.A(v) of the ISO New England Financial Assurance Policy.



**Financial Transmission Right (FTR)** is a financial instrument that evidences the rights and obligations specified in Sections III.5.2.2 and III.7 of the Tariff.

**Firm Point-To-Point Service** is service which is arranged for and administered between specified Points of Receipt and Delivery in accordance with Part II.C of the OATT.

**Firm Transmission Service** is Regional Network Service, Through or Out Service, service for Excepted Transactions, firm MTF Service, firm OTF Service, and firm Local Service.

**Flexible DNE Dispatchable Generator** is any DNE Dispatchable Generator that meets the following criteria: (i) Minimum Run Time does not exceed one hour; (ii) Minimum Down Time does not exceed one hour; and (iii) cold Notification Time plus cold Start-Up Time does not exceed 30 minutes.

**Force Majeure** - An event of Force Majeure means any act of God, labor disturbance, act of the public enemy or terrorists, war, invasion, insurrection, riot, fire, storm or flood, ice, explosion, breakage or accident to machinery or equipment, any curtailment, order, regulation or restriction imposed by governmental military or lawfully established civilian authorities, or any other cause beyond the control of the ISO, a Transmission Owner, a Schedule 20A Service Provider, or a Customer, including without limitation, in the case of the ISO, any action or inaction by a Customer, a Schedule 20A Service Provider, or a Transmission Owner, in the case of a Transmission Owner, any action or inaction by the ISO, any Customer, a Schedule 20A Service Provider, or any other Transmission Owner, in the case of a Schedule 20A Service Provider, any action or inaction by the ISO, any Customer, a Transmission Owner, or any other Schedule 20A Service Provider, and, in the case of a Transmission Customer, any action or inaction by the ISO, a Schedule 20A Service Provider, or any Transmission Owner.

**Formal Warning** is defined in Section III.B.4.1.1 of Appendix B of Market Rule 1.

**Formula-Based Sanctions** are defined in Section III.B.4.1.3 of Appendix B of Market Rule 1.

**Forward Capacity Auction (FCA)** is the annual Forward Capacity Market auction process described in Section III.13.2 of Market Rule 1.

**Forward Capacity Auction Starting Price** is calculated in accordance with Section III.13.2.4 of Market Rule 1.

**Forward Capacity Market (FCM)** is the forward market for procuring capacity in the New England Control Area, as described in Section III.13 of Market Rule 1.

**Forward Energy Inventory Election** is the total MWh value for which a Market Participant elects to be compensated at the forward rate in the inventoried energy program as described in Section III.K.1(d) of Market Rule 1.

**Forward LNG Inventory Election** is the portion of a Market Participant's Forward Energy Inventory Election attributed to liquefied natural gas in the inventoried energy program as described in Section III.K.1(d) of Market Rule 1.

**Forward Reserve** means TMNSR and TMOR purchased by the ISO on a forward basis on behalf of Market Participants as provided for in Section III.9 of Market Rule 1.

**Forward Reserve Assigned Megawatts** is the amount of Forward Reserve, in megawatts, that a Market Participant assigns to eligible Forward Reserve Resources to meet its Forward Reserve Obligation as defined in Section III.9.4.1 of Market Rule 1.

**Forward Reserve Auction** is the periodic auction conducted by the ISO in accordance with Section III.9 of Market Rule 1 to procure Forward Reserve.

**Forward Reserve Auction Offers** are offers to provide Forward Reserve to meet system and Reserve Zone requirements as submitted by a Market Participant in accordance with Section III.9.3 of Market Rule 1.

**Forward Reserve Charge** is a Market Participant's share of applicable system and Reserve Zone Forward Reserve costs attributable to meeting the Forward Reserve requirement as calculated in accordance with Section III.9.9 of Market Rule 1.

**Forward Reserve Clearing Price** is the clearing price for TMNSR or TMOR, as applicable, for the system and each Reserve Zone resulting from the Forward Reserve Auction as defined in Section III.9.4 of Market Rule 1.

**Forward Reserve Credit** is the credit received by a Market Participant that is associated with that Market Participant's Final Forward Reserve Obligation as calculated in accordance with Section III.9.8 of Market Rule 1.

**Forward Reserve Delivered Megawatts** are calculated in accordance with Section III.9.6.5 of Market Rule 1.

**Forward Reserve Delivery Period** is defined in Section III.9.1 of Market Rule 1.

**Forward Reserve Failure-to-Activate Megawatts** are calculated in accordance with Section III.9.7.2(a) of Market Rule 1.

**Forward Reserve Failure-to-Activate Penalty** is the penalty associated with a Market Participant's failure to activate Forward Reserve when requested to do so by the ISO and is defined in Section III.9.7.2 of Market Rule 1.

**Forward Reserve Failure-to-Activate Penalty Rate** is specified in Section III.9.7.2 of Market Rule 1.

**Forward Reserve Failure-to-Reserve**, as specified in Section III.9.7.1 of Market Rule 1, occurs when a Market Participant's Forward Reserve Delivered Megawatts for a Reserve Zone in an hour is less than that Market Participant's Forward Reserve Obligation for that Reserve Zone in that hour. Under these circumstances the Market Participant pays a penalty based upon the Forward Reserve Failure-to-Reserve Penalty Rate and that Market Participant's Forward Reserve Failure-to-Reserve Megawatts.

**Forward Reserve Failure-to-Reserve Megawatts** are calculated in accordance with Section III.9.7.1(a) of Market Rule 1.

**Forward Reserve Failure-to-Reserve Penalty** is the penalty associated with a Market Participant's failure to reserve Forward Reserve and is defined in Section III.9.7.1 of Market Rule 1.

**Forward Reserve Failure-to-Reserve Penalty Rate** is specified in Section III.9.7.1(b)(ii) of Market Rule 1.

**Forward Reserve Fuel Index** is the index or set of indices used to calculate the Forward Reserve Threshold Price as defined in Section III.9.6.2 of Market Rule 1.

**Forward Reserve Heat Rate** is the heat rate as defined in Section III.9.6.2 of Market Rule 1 that is used to calculate the Forward Reserve Threshold Price.

**Forward Reserve Market** is a market for forward procurement of two reserve products, Ten-Minute Non-Spinning Reserve (TMNSR) and Thirty-Minute Operating Reserve (TMOR).

**Forward Reserve MWs** are those megawatts assigned to specific eligible Forward Reserve Resources which convert a Forward Reserve Obligation into a Resource-specific obligation.

**Forward Reserve Obligation** is a Market Participant's amount, in megawatts, of Forward Reserve that cleared in the Forward Reserve Auction and adjusted, as applicable, to account for bilateral transactions that transfer Forward Reserve Obligations.

**Forward Reserve Obligation Charge** is defined in Section III.10.4 of Market Rule 1.

**Forward Reserve Offer Cap** is \$9,000/megawatt-month.

**Forward Reserve Payment Rate** is defined in Section III.9.8 of Market Rule 1.

**Forward Reserve Procurement Period** is defined in Section III.9.1 of Market Rule 1.

**Forward Reserve Qualifying Megawatts** refer to all or a portion of a Forward Reserve Resource's capability offered into the Real-Time Energy Market at energy offer prices above the applicable Forward Reserve Threshold Price that are calculated in accordance with Section III.9.6.4 of Market Rule 1.

**Forward Reserve Resource** is a Resource that meets the eligibility requirements defined in Section III.9.5.2 of Market Rule 1 that has been assigned Forward Reserve Obligation by a Market Participant.

**Forward Reserve Threshold Price** is the minimum price at which assigned Forward Reserve Megawatts are required to be offered into the Real-Time Energy Market as calculated in Section III.9.6.2 of Market Rule 1.

**FTR Auction** is the periodic auction of FTRs conducted by the ISO in accordance with Section III.7 of Market Rule 1.

**FTR Auction Revenue** is the revenue collected from the sale of FTRs in FTR Auctions. FTR Auction Revenue is payable to FTR Holders who submit their FTRs for sale in the FTR Auction in accordance with Section III.7 of Market Rule 1 and to ARR Holders and Incremental ARR Holders in accordance with Appendix C of Market Rule 1.

**FTR Credit Test Percentage** is calculated in accordance with Section III.B.1(b) of the ISO New England Financial Assurance Policy.

**FTR Financial Assurance Requirements** are described in Section VI of the ISO New England Financial Assurance Policy.

**FTR Holder** is an entity that acquires an FTR through the FTR Auction to Section III.7 of Market Rule 1 and registers with the ISO as the holder of the FTR in accordance with Section III.7 of Market Rule 1 and applicable ISO New England Manuals.

**FTR-Only Customer** is a Market Participant that transacts in the FTR Auction and that does not participate in other markets or programs of the New England Markets. References in this Tariff to a “Non-Market Participant FTR Customers” and similar phrases shall be deemed references to an FTR-Only Customer.

**FTR Settlement Risk Financial Assurance** is an amount of financial assurance required by a Designated FTR Participant for each bid submission into an FTR Auction and for each bid awarded to the individual participant in an FTR Auction. This amount is calculated pursuant to Section VI.A of the ISO New England Financial Assurance Policy.

**GADS Data** means data submitted to the NERC for collection into the NERC’s Generating Availability Data System (GADS).

**Gap Request for Proposals (Gap RFP)** is defined in Section III.11 of Market Rule 1.

**Gas Day** means a period of 24 consecutive hours beginning at 0900 hrs Central Time.

**Generating Capacity Resource** means a New Generating Capacity Resource or an Existing Generating Capacity Resource.

**Generator Asset** is a device (or a collection of devices) that is capable of injecting real power onto the grid that has been registered as a Generator Asset in accordance with the Asset Registration Process.

**Generator Imbalance Service** is the form of Ancillary Service described in Schedule 10 of the OATT.

**Generator Interconnection Related Upgrade** is an addition to or modification of the New England Transmission System (pursuant to Section II.47.1, Schedule 22 or Schedule 23 of the OATT) to effect the interconnection of a new generating unit or an existing generating unit whose energy capability or capacity capability is being materially changed and increased whether or not the interconnection is being effected to meet the Capacity Capability Interconnection Standard or the Network Capability Interconnection Standard. As to Category A Projects (as defined in Schedule 11 of the OATT), a Generator Interconnection Related Upgrade also includes an upgrade beyond that required to satisfy the Network Capability Interconnection Standard (or its predecessor) for which the Generator Owner has committed to pay prior to October 29, 1998.

**Generator Owner** is the owner, in whole or part, of a generating unit whether located within or outside the New England Control Area.

**Good Utility Practice** means any of the practices, methods and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather includes all acceptable practices, methods, or acts generally accepted in the region, including those practices required by Federal Power Act Section 215(a)(4).

**Governance Only Member** is defined in Section 1 of the Participants Agreement.

**Governance Participant** is defined in the Participants Agreement.

**Governing Documents**, for the purposes of the ISO New England Billing Policy, are the Transmission, Markets and Services Tariff and ISO Participants Agreement.

**Governing Rating** is the lowest corporate rating from any Rating Agency for that Market Participant, or, if the Market Participant has no corporate rating, then the lowest rating from any Rating Agency for that Market Participant's senior unsecured debt.

**Grandfathered Agreements (GAs)** is a transaction specified in Section II.45 for the applicable period specified in that Section.

**Grandfathered Intertie Agreement (GIA)** is defined pursuant to the TOA.

**Handy-Whitman Index of Public Utility Construction Costs** is the Total Other Production Plant index shown in the Cost Trends of Electric Utility Construction for the North Atlantic Region as published in the Handy-Whitman Index of Public Utility Construction Costs.

**Highgate Transmission Facilities (HTF)** are existing U. S.-based transmission facilities covered under the Agreement for Joint Ownership, Construction and Operation of the Highgate Transmission Interconnection dated as of August 1, 1984 including (1) the whole of a 200 megawatt high-voltage, back-to-back, direct-current converter facility located in Highgate, Vermont and (2) a 345 kilovolt transmission line within Highgate and Franklin, Vermont (which connects the converter facility at the U.S.-Canadian border to a Hydro-Quebec 120 kilovolt line in Bedford, Quebec). The HTF include any upgrades associated with increasing the capacity or changing the physical characteristics of these facilities as defined in the above stated agreement dated August 1, 1984 until the Operations Date, as defined in the TOA. The current HTF rating is a nominal 225 MW. The HTF are not defined as PTF. Coincident with the Operations Date and except as stipulated in Schedules, 9, 12, and Attachment F to the OATT, HTF shall be treated in the same manner as PTF for purposes of the OATT and all references to PTF in the OATT shall be deemed to apply to HTF as well. The treatment of the HTF is not intended to establish any binding precedent or presumption with regard to the treatment for other transmission facilities within the New England Transmission System (including HVDC, MTF, or Control Area Interties) for purposes of the OATT.

**Host Participant or Host Utility** is a Market Participant or a Governance Participant transmission or distribution provider that reconciles the loads within the metering domain with OP-18 compliant metering.

**Hourly Charges** are defined in Section 1.3 of the ISO New England Billing Policy.

**Hourly PER** is calculated in accordance with Section III.13.7.1.2.1 of Market Rule 1.

**Hourly Requirements** are determined in accordance with Section III.A(i) of the ISO New England Financial Assurance Policy.

**Hourly Shortfall NCPC Credit** is an NCPC Credit calculated pursuant to Appendix F to Market Rule 1.

**Hub** is a specific set of pre-defined Nodes for which a Locational Marginal Price will be calculated for the Day-Ahead Energy Market and Real-Time Energy Market and which can be used to establish a reference price for energy purchases and the transfer of Day-Ahead Adjusted Load Obligations and Real-Time Adjusted Load Obligations and for the designation of FTRs.

**Hub Price** is calculated in accordance with Section III.2.8 of Market Rule 1.

**HQ Interconnection Capability Credit (HQICC)** is a monthly value reflective of the annual installed capacity benefits of the Phase I/II HVDC-TF, as determined by the ISO, using a standard methodology on file with the Commission, in conjunction with the setting of the Installed Capacity Requirement. An appropriate share of the HQICC shall be assigned to an IRH if the Phase I/II HVDC-TF support costs are paid by that IRH and such costs are not included in the calculation of the Regional Network Service rate. The share of HQICC allocated to such an eligible IRH for a month is the sum in kilowatts of (1)(a) the IRH's percentage share, if any, of the Phase I Transfer Capability times (b) the Phase I Transfer Credit, plus (2)(a) the IRH's percentage share, if any, of the Phase II Transfer Capability, times (b) the Phase II Transfer Credit. The ISO shall establish appropriate HQICCs to apply for an IRH which has such a percentage share.

**Import Capacity Resource** means an Existing Import Capacity Resource or a New Import Capacity Resource offered to provide capacity in the New England Control Area from an external Control Area.



**Inadvertent Energy Revenue** is defined in Section III.3.2.1(o) of Market Rule 1.

**Inadvertent Energy Revenue Charges or Credits** is defined in Section III.3.2.1(p) of Market Rule 1.

**Inadvertent Interchange** means the difference between net actual energy flow and net scheduled energy flow into or out of the New England Control Area.

**Increment Offer** means an offer to sell energy at a specified Location in the Day-Ahead Energy Market which is not associated with a physical supply. An accepted Increment Offer results in scheduled supply at the specified Location in the Day-Ahead Energy Market.

**Incremental ARR** is an ARR provided in recognition of a participant-funded transmission system upgrade pursuant to Appendix C of this Market Rule.

**Incremental ARR Holder** is an entity which is the record holder of an Incremental Auction Revenue Right in the register maintained by the ISO.

**Incremental Cost of Reliability Service** is described in Section III.13.2.5.2.5.2 of Market Rule 1.

**Independent Transmission Company (ITC)** is a transmission entity that assumes certain responsibilities in accordance with Section 10.05 of the Transmission Operating Agreement and Attachment M to the OATT, subject to the acceptance or approval of the Commission and a finding of the Commission that the transmission entity satisfies applicable independence requirements.

**Information Request** is a request from a potential Disputing Party submitted in writing to the ISO for access to Confidential Information.

**Initial Market Participant Financial Assurance Requirement** is calculated for new Market Participants and Returning Market Participants, other than an FTR-Only Customer or a Governance Only Member, according to Section IV of the ISO New England Financial Assurance Policy.

**Installed Capacity Requirement** means the level of capacity required to meet the reliability requirements defined for the New England Control Area, as described in Section III.12 of Market Rule 1.

**Interchange Transactions** are transactions deemed to be effected under Market Rule 1.

**Interconnecting Transmission Owner** has the meaning specified in Section I of Schedule 22, Attachment 1 to Schedule 23, and Section I of Schedule 25 of the OATT.

**Interconnection Agreement** is the “Large Generator Interconnection Agreement”, the “Small Generator Interconnection Agreement”, or the “Elective Transmission Upgrade Interconnection Agreement” pursuant to Schedules 22, 23 or 25 of the ISO OATT or an interconnection agreement approved by the Commission prior to the adoption of the Interconnection Procedures.

**Interconnection Customer** has the meaning specified in Section I of Schedule 22, Attachment 1 to Schedule 23, and Section I of Schedule 25 of the OATT.

**Interconnection Feasibility Study Agreement** has the meaning specified in Section I of Schedule 22, Attachment 1 to Schedule 23, or Section I of Schedule 25 of the OATT.

**Interconnection Procedure** is the “Large Generator Interconnection Procedures”, the “Small Generator Interconnection Procedures”, or the “Elective Transmission Upgrade Interconnection Procedures” pursuant to Schedules 22, 23, and 25 of the ISO OATT.

**Interconnection Reliability Operating Limit (IROL)** has the meaning specified in the Glossary of Terms Used in NERC Reliability Standards.

**Interconnection Request** has the meaning specified in Section I of Schedule 22, Attachment 1 to Schedule 23, or Section I of Schedule 25 of the OATT.

**Interconnection Rights Holder(s) (IRH)** has the meaning given to it in Schedule 20A to Section II of this Tariff.

**Interconnection System Impact Study Agreement** has the meaning specified in Section I of Schedule 22, Attachment 1 to Schedule 23 and Section I of Schedule 25 of the OATT.

**Interest** is interest calculated in the manner specified in Section II.8.3.

**Interface Bid** is a unified real-time bid to simultaneously purchase and sell energy on each side of an external interface for which the enhanced scheduling procedures in Section III.1.10.7.A are implemented.

**Intermittent Power Resource** is a wind, solar, run of river hydro or other renewable resource that does not have control over its net power output.

**Internal Bilateral for Load** is an internal bilateral transaction under which the buyer receives a reduction in Real-Time Load Obligation and the seller receives a corresponding increase in Real-Time Load Obligation in the amount of the sale, in MWs. An Internal Bilateral for Load transaction is only applicable in the Real-Time Energy Market.

**Internal Bilateral for Market for Energy** is an internal bilateral transaction for Energy which applies in the Day-Ahead Energy Market and Real-Time Energy Market or just the Real-Time Energy Market under which the buyer receives a reduction in Day-Ahead Adjusted Load Obligation and Real-Time Adjusted Load Obligation and the seller receives a corresponding increase in Day-Ahead Adjusted Load Obligation and Real-Time Adjusted Load Obligation in the amount of the sale, in MWs.

**Internal Elective Transmission Upgrade (Internal ETU)** is defined in Section I of Schedule 25 of the OATT.

**Internal Market Monitor** means the department of the ISO responsible for carrying out the market monitoring and mitigation functions specified in Appendix A and elsewhere in Market Rule 1.

**Interregional Planning Stakeholder Advisory Committee (IPSAC)** is the committee described as such in the Northeast Planning Protocol.

**Interregional Transmission Project** is a transmission project located within the New England Control Area and one or more of the neighboring transmission planning regions.

**Interruption Cost** is the amount, in dollars, that must be paid to a Market Participant each time the Market Participant's Demand Response Resource is scheduled or dispatched in the New England Markets to reduce demand.

**Inventoried Energy Day** is an Operating Day that occurs in the months of December, January, or February during the winters of 2023-2024 and 2024-2025 (inventoried energy program) and for which the average of the high temperature and the low temperature on that Operating Day, as measured and reported by the National Weather Service at Bradley International Airport in Windsor Locks, Connecticut, is less than or equal to 17 degrees Fahrenheit, as described in Section III.K.3.1 of Market Rule 1.

**Investment Grade Rating**, for a Market (other than an FTR-Only Customer) or Non-Market Participant Transmission Customer, is either (a) a corporate investment grade rating from one or more of the Rating Agencies, or (b) if the Market Participant or Non-Market Participant Transmission Customer does not have a corporate rating from one of the Rating Agencies, then an investment grade rating for the Market Participant's or Non-Market Participant Transmission Customer's senior unsecured debt from one or more of the Rating Agencies.

**Invoice** is a statement issued by the ISO for the net Charge owed by a Covered Entity pursuant to the ISO New England Billing Policy.

**Invoice Date** is the day on which the ISO issues an Invoice.

**ISO** means ISO New England Inc.

**ISO Charges**, for the purposes of the ISO New England Billing Policy, are both Non-Hourly Charges and Hourly Charges.

**ISO Control Center** is the primary control center established by the ISO for the exercise of its Operating Authority and the performance of functions as an RTO.

**ISO-Initiated Claimed Capability Audit** is the audit performed pursuant to Section III.1.5.1.4.

**ISO New England Administrative Procedures** means procedures adopted by the ISO to fulfill its responsibilities to apply and implement ISO New England System Rules.

**ISO New England Billing Policy** is Exhibit ID to Section I of the Transmission, Markets and Services Tariff.

**ISO New England Filed Documents** means the Transmission, Markets and Services Tariff, including but not limited to Market Rule 1, the Participants Agreement, the Transmission Operating Agreement or other documents that affect the rates, terms and conditions of service.

**ISO New England Financial Assurance Policy** is Exhibit IA to Section I of the Transmission, Markets and Services Tariff.

**ISO New England Information Policy** is the policy establishing guidelines regarding the information received, created and distributed by Market Participants and the ISO in connection with the settlement, operation and planning of the System, as the same may be amended from time to time in accordance with the provisions of this Tariff. The ISO New England Information Policy is Attachment D to the Transmission, Markets and Services Tariff.

**ISO New England Manuals** are the manuals implementing Market Rule 1, as amended from time to time in accordance with the Participants Agreement. Any elements of the ISO New England Manuals that substantially affect rates, terms, and/or conditions of service shall be filed with the Commission under Section 205 of the Federal Power Act.

**ISO New England Operating Documents** are the Tariff and the ISO New England Operating Procedures.

**ISO New England Operating Procedures (OPs)** are the ISO New England Planning Procedures and the operating guides, manuals, procedures and protocols developed and utilized by the ISO for operating the ISO bulk power system and the New England Markets.

**ISO New England Planning Procedures** are the procedures developed and utilized by the ISO for planning the ISO bulk power system.

**ISO New England System Rules** are Market Rule 1, the ISO New England Information Policy, the ISO New England Administrative Procedures, the ISO New England Manuals and any other system rules, procedures or criteria for the operation of the New England Transmission System and administration of the New England Markets and the Transmission, Markets and Services Tariff.

**ITC Agreement** is defined in Attachment M to the OATT.

**ITC Rate Schedule** is defined in Section 3.1 of Attachment M to the OATT.

**ITC System** is defined in Section 2.2 of Attachment M to the OATT.

**ITC System Planning Procedures** is defined in Section 15.4 of Attachment M to the OATT.

**Joint ISO/RTO Planning Committee (JIPC)** is the committee described as such in the Northeastern Planning Protocol.

**Late Payment Account** is a segregated interest-bearing account into which the ISO deposits Late Payment Charges due from ISO Charges and interest owed from participants for late payments that are collected and not distributed to the Covered Entities, until the Late Payment Account Limit is reached, under the ISO New England Billing Policy and penalties collected under the ISO New England Financial Assurance Policy.

**Late Payment Account Limit** is defined in Section 4.2 of the ISO New England Billing Policy.

**Late Payment Charge** is defined in Section 4.1 of the ISO New England Billing Policy.

**Lead Market Participant**, for purposes other than the Forward Capacity Market, is the entity authorized to submit Supply Offers, Demand Bids or Demand Reduction Offers for a Resource and to whom certain Energy TUs are assessed under Schedule 2 of Section IV.A of the Tariff. For purposes of the Forward Capacity Market, the Lead Market Participant is the entity designated to participate in that market on behalf of an Existing Capacity Resource or a New Capacity Resource.

**Limited Energy Resource** means a Generator Asset that, due to design considerations, environmental restriction on operations, cyclical requirements, such as the need to recharge or refill or manage water flow, or fuel limitations, are unable to operate continuously at full output on a daily basis.

**Load Asset** means a physical load that has been registered in accordance with the Asset Registration Process. A Load Asset can be an Asset Related Demand, including a Dispatchable Asset Related Demand.

**Load Management** means measures (e.g., products, equipment, systems, services, practices and/or strategies) on end-use customer facilities that curtail electrical usage or shift electrical usage while delivering a comparable or acceptable level of end-use service. Such measures include, but are not limited to, energy management systems, load control end-use cycling, load curtailment strategies, and energy storage that curtails or shifts electrical usage by means other than generating electricity.

**Load Shedding** is the systematic reduction of system demand by temporarily decreasing load.

**Load Zone** is a Reliability Region, except as otherwise provided for in Section III.2.7 of Market Rule 1.

**Local Area Facilities** are defined in the TOA.

**Local Benefit Upgrade(s) (LBU)** is an upgrade, modification or addition to the transmission system that is: (i) rated below 115kV or (ii) rated 115kV or above and does not meet all of the non-voltage criteria for PTF classification specified in the OATT.

**Local Control Centers** are those control centers in existence as of the effective date of the OATT (including the CONVEX, REMVEC, Maine and New Hampshire control centers) or established by the PTOs in accordance with the TOA that are separate from the ISO Control Center and perform certain functions in accordance with the OATT and the TOA.

**Local Delivery Service** is the service of delivering electric energy to end users. This service is subject to state jurisdiction regardless of whether such service is provided over local distribution or transmission facilities. An entity that is an Eligible Customer under the OATT is not excused from any requirements of state law, or any order or regulation issued pursuant to state law, to arrange for Local Delivery Service with the Participating Transmission Owner and/or distribution company providing such service and to pay all applicable charges associated with such service, including charges for stranded costs and benefits.

**Local Network** is defined as the transmission facilities constituting a local network as identified in Attachment E, as such Attachment may be modified from time to time in accordance with the Transmission Operating Agreement.

**Local Network Load** is the load that a Network Customer designates for Local Network Service under Schedule 21 to the OATT.

**Local Network RNS Rate** is the rate applicable to Regional Network Service to effect a delivery to load in a particular Local Network, as determined in accordance with Schedule 9 to the OATT.

**Local Network Service (LNS)** is the network service provided under Schedule 21 and the Local Service Schedules to permit the Transmission Customer to efficiently and economically utilize its resources to serve its load.

**Local Point-To-Point Service (LPTP)** is Point-to-Point Service provided under Schedule 21 of the OATT and the Local Service Schedules to permit deliveries to or from an interconnection point on the PTF.

**Local Public Policy Transmission Upgrade** is any addition and/or upgrade to the New England Transmission System with a voltage level below 115kV that is required in connection with the construction of a Public Policy Transmission Upgrade approved for inclusion in the Regional System Plan pursuant to Attachment K to the ISO OATT or included in a Local System Plan in accordance with Appendix 1 to Attachment K.

**Local Resource Adequacy Requirement** is calculated pursuant to Section III.12.2.1.1.

**Local Second Contingency Protection Resources** are those Resources identified by the ISO on a daily basis as necessary for the provision of Operating Reserve requirements and adherence to NERC, NPCC and ISO reliability criteria over and above those Resources required to meet first contingency reliability criteria within a Reliability Region.

**Local Service** is transmission service provided under Schedule 21 and the Local Service Schedules thereto.

**Local Service Schedule** is a PTO-specific schedule to the OATT setting forth the rates, charges, terms and conditions applicable to Local Service.

**Local Sourcing Requirement (LSR)** is a value calculated as described in Section III.12.2.1 of Market Rule 1.



**Local System Planning (LSP)** is the process defined in Appendix 1 of Attachment K to the OATT.

**Localized Costs** are costs that the ISO, with advisory input from the Reliability Committee, determines in accordance with Schedule 12C of the OATT shall not be included in the Pool-Supported PTF costs recoverable under this OATT, or in costs allocated to Regional Network Load according to Section 6 of Schedule 12. If there are any Localized Costs, the ISO shall identify them in the Regional System Plan.

**Location** is a Node, External Node, Load Zone, DRR Aggregation Zone, or Hub.

**Locational Marginal Price (LMP)** is defined in Section III.2 of Market Rule 1. The Locational Marginal Price for a Node is the nodal price at that Node; the Locational Marginal Price for an External Node is the nodal price at that External Node; the Locational Marginal Price for a Load Zone, DRR Aggregation Zone or Reliability Region is the Zonal Price for that Load Zone, DRR Aggregation Zone or Reliability Region, respectively; and the Locational Marginal Price for a Hub is the Hub Price for that Hub.

**Long Lead Time Facility (Long Lead Facility)** has the meaning specified in Section I of Schedule 22 and Schedule 25 of the OATT.

**Long-Term** is a term of one year or more.

**Long-Term Transmission Outage** is a long-term transmission outage scheduled in accordance with ISO New England Operating Procedure No. 3.

**Loss Component** is the component of the nodal LMP at a given Node or External Node on the PTF that reflects the cost of losses at that Node or External Node relative to the reference point. The Loss Component of the nodal LMP at a given Node on the non-PTF system reflects the relative cost of losses at that Node adjusted as required to account for losses on the non-PTF system already accounted for through tariffs associated with the non-PTF. When used in connection with Hub Price or Zonal Price, the term Loss Component refers to the Loss Components of the nodal LMPs that comprise the Hub Price or Zonal Price, which Loss Components are averaged or weighted in the same way that nodal LMPs are averaged to determine Hub Price or weighted to determine Zonal Price.

**Loss of Load Expectation (LOLE)** is the probability of disconnecting non-interruptible customers due to a resource deficiency.

**Lost Opportunity Cost (LOC)** is one of four forms of compensation that may be paid to resources providing VAR Service under Schedule 2 of the OATT.

**LSE** means load serving entity.

**Lump Sum Blackstart Payment** is defined and calculated as specified in Section 5.4 of Schedule 16 to the OATT.

**Lump Sum Blackstart Capital Payment** is defined and calculated as specified in Section 5.4 of Schedule 16 to the OATT.

**Manual Response Rate** is the rate, in MW/Minute, at which the output of a Generator Asset, or the consumption of a Dispatchable Asset Related Demand, is capable of changing.

**Marginal Loss Revenue Load Obligation** is defined in Section III.3.2.1(b) of Market Rule 1.

**Marginal Reliability Impact** is the change, with respect to an increment of capacity supply, in expected unserved energy due to resource deficiency, as measured in hours per year.

**Market Credit Limit** is a credit limit for a Market Participant's Financial Assurance Obligations (except FTR Financial Assurance Requirements) established for each Market Participant in accordance with Section II.C of the ISO New England Financial Assurance Policy.

**Market Credit Test Percentage** is calculated in accordance with Section III.B.1(a) of the ISO New England Financial Assurance Policy.

**Market Efficiency Transmission Upgrade** is defined as those additions and upgrades that are not related to the interconnection of a generator, and, in the ISO's determination, are designed to reduce bulk power system costs to load system-wide, where the net present value of the reduction in bulk power system costs to load system-wide exceeds the net present value of the cost of the transmission addition or upgrade. For purposes of this definition, the term "bulk power system costs to load system-wide"

includes, but is not limited to, the costs of energy, capacity, reserves, losses and impacts on bilateral prices for electricity.

**Market Participant** is a participant in the New England Markets (including a FTR-Only Customer) that has executed a Market Participant Service Agreement, or on whose behalf an unexecuted Market Participant Service Agreement has been filed with the Commission.

**Market Participant Financial Assurance Requirement** is defined in Section III of the ISO New England Financial Assurance Policy.

**Market Participant Obligations** is defined in Section III.B.1.1 of Appendix B of Market Rule 1.

**Market Participant Service Agreement (MPSA)** is an agreement between the ISO and a Market Participant, in the form specified in Attachment A or Attachment A-1 to the Tariff, as applicable.

**Market Rule 1** is ISO Market Rule 1 and appendices set forth in Section III of this ISO New England Inc. Transmission, Markets and Services Tariff, as it may be amended from time to time.

**Market Violation** is a tariff violation, violation of a Commission-approved order, rule or regulation, market manipulation, or inappropriate dispatch that creates substantial concerns regarding unnecessary market inefficiencies.

**Material Adverse Change** is any change in financial status including, but not limited to a downgrade to below an Investment Grade Rating by any Rating Agency, being placed on credit watch with negative implication by any Rating Agency if the Market Participant or Non-Market Participant Transmission Customer does not have an Investment Grade Rating, a bankruptcy filing or other insolvency, a report of a significant quarterly loss or decline of earnings, the resignation of key officer(s), the sanctioning of the Market Participant or Non-Market Participant Transmission Customer or any of its Principles imposed by the Federal Energy Regulatory Commission, the Securities Exchange Commission, any exchange monitored by the National Futures Association, or any state entity responsible for regulating activity in energy markets; the filing of a material lawsuit that could materially adversely impact current or future financial results; a significant change in the Market Participant's or Non-Market Participant Transmission Customer's credit default spreads; or a significant change in market capitalization.

**Material Adverse Impact** is defined, for purposes of review of ITC-proposed plans, as a proposed facility or project will be deemed to cause a “material adverse impact” on facilities outside of the ITC System if: (i) the proposed facility or project causes non-ITC facilities to exceed their capabilities or exceed their thermal, voltage or stability limits, consistent with all applicable reliability criteria, or (ii) the proposed facility or project would not satisfy the standards set forth in Section I.3.9 of the Transmission, Markets and Services Tariff. This standard is intended to assure the continued service of all non-ITC firm load customers and the ability of the non-ITC systems to meet outstanding transmission service obligations.

**Maximum Capacity Limit** is a value calculated as described in Section III.12.2.2 of Market Rule 1.

**Maximum Consumption Limit** is the maximum amount, in MW, available for economic dispatch from a DARD and is based on the physical characteristics as submitted as part of the DARD’s Offer Data. A Market Participant must maintain an up-to-date Maximum Consumption Limit (and where applicable, must provide the ISO with any telemetry required by ISO New England Operating Procedure No. 18 to allow the ISO to maintain an updated Maximum Consumption Limit) for all hours in which a DARD has been offered into the Day-Ahead Energy Market or Real-Time Energy Market.

**Maximum Daily Consumption Limit** is the maximum amount of megawatt-hours that a Storage DARD expects to be able to consume in the next Operating Day.

**Maximum Facility Load** is the highest demand of an end-use customer facility since the start of the prior calendar year (or, if unavailable, an estimate thereof), where the demand evaluated is established by adding metered demand measured at the Retail Delivery Point and the output of all generators located behind the Retail Delivery Point in the same time intervals.

**Maximum Interruptible Capacity** is an estimate of the maximum demand reduction and Net Supply that a Demand Response Asset can deliver, as measured at the Retail Delivery Point.

**Maximum Load** is the highest demand since the start of the prior calendar year (or, if unavailable, an estimate thereof), as measured at the Retail Delivery Point.

**Maximum Number of Daily Starts** is the maximum number of times that a Binary Storage DARD or a Generator Asset can be started or that a Demand Response Resource can be interrupted in the next Operating Day under normal operating conditions.

**Maximum Reduction** is the maximum available demand reduction, in MW, of a Demand Response Resource that a Market Participant offers to deliver in the Day-Ahead Energy Market or Real-Time Energy Market, as reflected in the Demand Response Resource's Demand Reduction Offer.

**Measure Life** is the estimated time an On-Peak Demand Resource or Seasonal Peak Demand Resource measure will remain in place, or the estimated time period over which the facility, structure, equipment or system in which a measure is installed continues to exist, whichever is shorter. Suppliers of On-Peak Demand Resources or Seasonal Peak Demand Resources comprised of an aggregation of measures with varied Measures Lives shall determine and document the Measure Life either: (i) for each type of measure with a different Measure Life and adjust the aggregate performance based on the individual measure life calculation in the portfolio; or (ii) as the average Measure Life for the aggregated measures as long as the demand reduction capability of the resource is greater than or equal to the amount that cleared in the Forward Capacity Auction or reconfiguration auction for the entire Capacity Commitment Period, and the demand reduction capability for an Existing On-Peak Demand Resource or Existing Seasonal Peak Demand Resource is not over-stated in a subsequent Capacity Commitment Period. Measure Life shall be determined consistent with the resource's Measurement and Verification Plan, which shall be reviewed by the ISO to ensure consistency with the measurement and verification requirements of Market Rule 1 and the ISO New England Manuals.

**Measurement and Verification Documents** mean the measurement and verification documents described in Section 13.1.4.3.1 of Market Rule 1 that are submitted by On-Peak Demand Resources and Seasonal Peak Demand Resources, which include Measurement and Verification Plans, Updated Measurement and Verification Plans, Measurement and Verification Summary Reports, and Measurement and Verification Reference Reports.

**Measurement and Verification Plan** means the measurement and verification plan submitted by an On-Peak Demand Resource or Seasonal Peak Demand Resource as part of the qualification process for the Forward Capacity Auction pursuant to the requirements of Section III.13.1.4.3 of Market Rule 1 and the ISO New England Manuals.

**Measurement and Verification Reference Reports** are optional reports submitted by On-Peak Demand Resources or Seasonal Peak Demand Resources during the Capacity Commitment Period subject to the schedule in the Measurement and Verification Plan and consistent with the schedule and reporting standards set forth in the ISO New England Manuals. Measurement and Verification Reference Reports update the prospective demand reduction capability of the On-Peak Demand Resource or Seasonal Peak Demand Resource project based on measurement and verification studies performed during the Capacity Commitment Period.

**Measurement and Verification Summary Report** is the monthly report submitted by an On-Peak Demand Resource or Seasonal Peak Demand Resource with the monthly settlement report for the Forward Capacity Market, which documents the total demand reduction capability for all On-Peak Demand Resources and Seasonal Peak Demand Resources in operation as of the end of the previous month.

**MEPCO Grandfathered Transmission Service Agreement (MG TSA)** is a MEPCO long-term firm point-to-point transmission service agreement with a POR or POD at the New Brunswick border and a start date prior to June 1, 2007 where the holder has elected, by written notice delivered to MEPCO within five (5) days following the filing of the settlement agreement in Docket Nos. ER07-1289 and EL08-56 or by September 1, 2008 (whichever is later), MG TSA treatment as further described in Section II.45.1.

**Merchant Transmission Facilities (MTF)** are the transmission facilities owned by MTOs, defined and classified as MTF pursuant to Schedule 18 of the OATT, over which the ISO shall exercise Operating Authority in accordance with the terms set forth in a MTOA or Attachment K to the OATT, rated 69 kV or above and required to allow energy from significant power sources to move freely on the New England Transmission System.

**Merchant Transmission Facilities Provider (MTF Provider)** is an entity as defined in Schedule 18 of the OATT.

**Merchant Transmission Facilities Service (MTF Service)** is transmission service over MTF as provided for in Schedule 18 of the OATT.

**Merchant Transmission Operating Agreement (MTOA)** is an agreement between the ISO and an MTO with respect to its MTF.

**Merchant Transmission Owner (MTO)** is an owner of MTF.

**Meter Data Error** means an error in meter data, including an error in Coincident Peak Contribution values, on an Invoice issued by the ISO after the completion of the Data Reconciliation Process as described in the ISO New England Manuals and in Section III.3.8 of Market Rule 1.

**Meter Data Error RBA Submission Limit** means the date thirty 30 calendar days after the issuance of the Invoice containing the results of the Data Reconciliation Process as described in the ISO New England Manuals and in Section III.3.6 of Market Rule 1.

**Metered Quantity For Settlement** is defined in Section III.3.2.1.1 of Market Rule 1.

**Minimum Consumption Limit** is (a) the lowest consumption level, in MW, available for economic dispatch from a DARD and is based on the physical characteristics as submitted as part of the DARD's Offer Data, and (b) for a DARD undergoing Facility and Equipment Testing or auditing, the level to which the DARD requests and is approved to operate or is directed to operate for purposes of completing the Facility and Equipment Testing or auditing.

**Minimum Down Time** is the number of hours that must elapse after a Generator Asset or Storage DARD has been released for shutdown at or below its Economic Minimum Limit or Minimum Consumption Limit before the Generator Asset or Storage DARD can be brought online and be released for dispatch at its Economic Minimum Limit or Minimum Consumption Limit.

**Minimum Generation Emergency** means an Emergency declared by the ISO in which the ISO anticipates requesting one or more Generator Assets to operate at or below Economic Minimum Limit in order to manage, alleviate, or end the Emergency.

**Minimum Generation Emergency Credits** are those Real-Time Dispatch NCPC Credits calculated pursuant to Appendix F of Market Rule 1 for resources within a reliability region that are dispatched during a period for which a Minimum Generation Emergency has been declared.

**Minimum Reduction** is the minimum available demand reduction, in MW, of a Demand Response Resource that a Market Participant offers to deliver in the Day-Ahead Energy Market or Real-Time Energy Market, as reflected in the Demand Response Resource's Demand Reduction Offer.

**Minimum Reduction Time** is the minimum number of hours of demand reduction at or above the Minimum Reduction for which the ISO must dispatch a Demand Response Resource to reduce demand.

**Minimum Run Time** is the number of hours that a Generator Asset must remain online after it has been scheduled to reach its Economic Minimum Limit before it can be released for shutdown from its Economic Minimum Limit or the number of hours that must elapse after a Storage DARD has been scheduled to consume at its Minimum Consumption Limit before it can be released for shutdown.

**Minimum Time Between Reductions** is the number of hours that must elapse after a Demand Response Resource has received a Dispatch Instruction to stop reducing demand before the Demand Response Resource can achieve its Minimum Reduction after receiving a Dispatch Instruction to start reducing demand.

**Minimum Total Reserve Requirement**, which does not include Replacement Reserve, is the combined amount of TMSR, TMNSR, and TMOR required system-wide as described in Section III.2.7A and ISO New England Operating Procedure No. 8.

**Monthly Blackstart Service Charge** is the charge made to Transmission Customers pursuant to Section 6 of Schedule 16 to the OATT.

**Monthly Capacity Payment** is the Forward Capacity Market payment described in Section III.13.7.3 of Market Rule 1.

**Monthly Peak** is defined in Section II.21.2 of the OATT.

**Monthly PER** is calculated in accordance with Section III.13.7.1.2.2 of Market Rule 1.

**Monthly Real-Time Demand Reduction Obligation** is the absolute value of a Customer's hourly Real-Time Demand Reduction Obligation summed for all hours in a month, in MWhs.



**Monthly Real-Time Generation Obligation** is the sum, for all hours in a month, at all Locations, of a Customer's Real-Time Generation Obligation, in MWhs.

**Monthly Real-Time Load Obligation** is the absolute value of a Customer's hourly Real-Time Load Obligation summed for all hours in a month, in MWhs.

**Monthly Regional Network Load** is defined in Section II.21.2 of the OATT.

**Monthly Statement** is the first weekly Statement issued on a Monday after the tenth of a calendar month that includes both the Hourly Charges for the relevant billing period and Non-Hourly Charges for the immediately preceding calendar month.

**MRI Transition Period** is the period specified in Section III.13.2.2.1.

**MUI** is the market user interface.

**Municipal Market Participant** is defined in Section II of the ISO New England Financial Assurance Policy.

**MW** is megawatt.

**MWh** is megawatt-hour.

**Native Load Customers** are the wholesale and retail power customers of a Transmission Owner on whose behalf the Transmission Owner, by statute, franchise, regulatory requirement, or contract, has undertaken an obligation to construct and operate its system to meet the reliable electric needs of such customers.

**NCPC Charge** means the charges to Market Participants calculated pursuant to Appendix F to Market Rule 1.

**NCPC Credit** means the credits to Market Participants calculated pursuant to Appendix F to Market Rule 1.

**Needs Assessment** is defined in Section 4.1 of Attachment K to the OATT.

**NEMA**, for purposes of Section III of the Tariff, is the Northeast Massachusetts Reliability Region.

**NEMA Contract** is a contract described in Appendix C of Market Rule 1 and listed in Exhibit 1 of Appendix C of Market Rule 1.

**NEMA Load Serving Entity (NEMA LSE)** is a Transmission Customer or Congestion Paying LSE Entity that serves load within NEMA.

**NEMA or Northeast Massachusetts Upgrade**, for purposes of Section II of the Tariff, is an addition to or modification of the PTF into or within the Northeast Massachusetts Reliability Region that was not, as of December 31, 1999, the subject of a System Impact Study or application filed pursuant to Section I.3.9 of the Transmission, Markets and Services Tariff; that is not related to generation interconnections; and that will be completed and placed in service by June 30, 2004. Such upgrades include, but are not limited to, new transmission facilities and related equipment and/or modifications to existing transmission facilities and related equipment. The list of NEMA Upgrades is contained in Schedule 12A of the OATT.

**NEPOOL** is the New England Power Pool, and the entities that collectively participated in the New England Power Pool.

**NEPOOL Agreement** is the agreement among the participants in NEPOOL.

**NEPOOL GIS** is the generation information system.

**NEPOOL GIS Administrator** is the entity or entities that develop, administer, operate and maintain the NEPOOL GIS.

**NEPOOL GIS API Fees** are the one-time on-boarding fees and annual maintenance fees charged to NEPOOL by the NEPOOL GIS Administrator for each NEPOOL Participant or Market Participant that accesses the NEPOOL GIS through an application programming interface pursuant to Rule 3.9(b) of the operating rules of the NEPOOL GIS.

**NEPOOL Participant** is a party to the NEPOOL Agreement.

**NERC** is the North American Electric Reliability Corporation or its successor organization.

**NESCOE** is the New England States Committee on Electricity, recognized by the Commission as the regional state committee for the New England Control Area.

**Net Commitment Period Compensation (NCPC)** is the compensation methodology for Resources that is described in Appendix F to Market Rule 1.

**Net CONE** is an estimate of the Cost of New Entry, net of non-capacity market revenues, for a reference technology resource type and is intended to equal the amount of capacity revenue the reference technology resource would require to be economically viable given reasonable expectations of the energy and ancillary services revenues under long-term equilibrium conditions.

**Net Regional Clearing Price** is described in Section III.13.7.5 of Market Rule 1.

**Net Supply** is energy injected into the transmission or distribution system at a Retail Delivery Point.

**Net Supply Capability** is the maximum Net Supply a facility is physically and contractually able to inject into the transmission or distribution system at its Retail Delivery Point.

**Network Capability Interconnection Standard** has the meaning specified in Section I of Schedule 22, Attachment 1 to Schedule 23, and Section I of Schedule 25 of the OATT.

**Network Customer** is a Transmission Customer receiving RNS or LNS.

**Network Import Capability (NI Capability)** is defined in Section I of Schedule 25 of the OATT.

**Network Import Interconnection Service (NI Interconnection Service)** is defined in Section I of Schedule 25 of the OATT.

**Network Resource** is defined as follows: (1) With respect to Market Participants, (a) any generating resource located in the New England Control Area which has been placed in service prior to the Compliance Effective Date (including a unit that has lost its capacity value when its capacity value is

restored and a deactivated unit which may be reactivated without satisfying the requirements of Section II.46 of the OATT in accordance with the provisions thereof) until retired; (b) any generating resource located in the New England Control Area which is placed in service after the Compliance Effective Date until retired, provided that (i) the Generator Owner has complied with the requirements of Sections II.46 and II.47 and Schedules 22 and 23 of the OATT, and (ii) the output of the unit shall be limited in accordance with Sections II.46 and II.47 and Schedules 22 and 23, if required; and (c) any generating resource or combination of resources (including bilateral purchases) located outside the New England Control Area for so long as any Market Participant has an Ownership Share in the resource or resources which is being delivered to it in the New England Control Area to serve Regional Network Load located in the New England Control Area or other designated Regional Network Loads contemplated by Section II.18.3 of the OATT taking Regional Network Service. (2) With respect to Non-Market Participant Transmission Customers, any generating resource owned, purchased or leased by the Non-Market Participant Transmission Customer which it designates to serve Regional Network Load.

**New Brunswick Security Energy** is defined in Section III.3.2.6A of Market Rule 1.

**New Capacity Offer** is an offer in the Forward Capacity Auction to provide capacity from a New Generating Capacity Resource, New Import Capacity Resource or New Demand Capacity Resource.

**New Capacity Qualification Deadline** is a deadline, specified in Section III.13.1.10 of Market Rule 1, for submission of certain qualification materials for the Forward Capacity Auction, as discussed in Section III.13.1 of Market Rule 1.

**New Capacity Qualification Package** is information submitted by certain new resources prior to participation in the Forward Capacity Auction, as described in Section III.13.1 of Market Rule 1.

**New Capacity Resource** is a resource (i) that never previously received any payment as a capacity resource including any capacity payment pursuant to the market rules in effect prior to June 1, 2010 and that has not cleared in any previous Forward Capacity Auction; or (ii) that is otherwise eligible to participate in the Forward Capacity Auction as a New Capacity Resource.

**New Capacity Show of Interest Form** is described in Section III.13.1.1.2.1 of Market Rule 1.

**New Capacity Show of Interest Submission Window** is the period of time during which a Project Sponsor may submit a New Capacity Show of Interest Form or a New Demand Capacity Resource Show of Interest Form, as described in Section III.13.1.10 of Market Rule 1.

**New Demand Capacity Resource** is a type of Demand Capacity Resource participating in the Forward Capacity Market, as defined in Section III.13.1.4.1 of Market Rule 1.

**New Demand Capacity Resource Qualification Package** is the information that a Project Sponsor must submit, in accordance with Section III.13.1.4.1.1.2 of Market Rule 1, for each resource that it seeks to offer in the Forward Capacity Auction as a New Demand Capacity Resource.

**New Demand Capacity Resource Show of Interest Form** is described in Section III.13.1.4.1.1.1 of Market Rule 1.

**New England Control Area** is the Control Area for New England, which includes PTF, Non-PTF, MTF and OTF. The New England Control Area covers Connecticut, Rhode Island, Massachusetts, New Hampshire, Vermont, and part of Maine (i.e., excluding the portions of Northern Maine and the northern portion of Eastern Maine which are in the Maritimes Control Area).

**New England Markets** are markets or programs for the purchase of energy, capacity, ancillary services, demand response services or other related products or services (including Financial Transmission Rights) that are delivered through or useful to the operation of the New England Transmission System and that are administered by the ISO pursuant to rules, rates, or agreements on file from time to time with the Federal Energy Regulatory Commission.

**New England System Restoration Plan** is the plan that is developed by ISO, in accordance with NERC Reliability Standards, NPCC regional criteria and standards, ISO New England Operating Documents and ISO operating agreements, to facilitate the restoration of the New England Transmission System following a partial or complete shutdown of the New England Transmission System.

**New England Transmission System** is the system of transmission facilities, including PTF, Non-PTF, OTF and MTF, within the New England Control Area under the ISO's operational jurisdiction.

**New Generating Capacity Resource** is a type of resource participating in the Forward Capacity Market, as described in Section III.13.1.1.1 of Market Rule 1.

**New Import Capacity Resource** is a type of resource participating in the Forward Capacity Market, as defined in Section III.13.1.3.4 of Market Rule 1.

**New Resource Offer Floor Price** is defined in Section III.A.21.2.

**NMPTC** means Non-Market Participant Transmission Customer.

**NMPTC Credit Threshold** is described in Section V.A.2 of the ISO New England Financial Assurance Policy.

**NMPTC Financial Assurance Requirement** is an amount of additional financial assurance for Non-Market Participant Transmission Customers described in Section V.D of the ISO New England Financial Assurance Policy.

**Node** is a point on the New England Transmission System at which LMPs are calculated.

**No-Load Fee** is the amount, in dollars per hour, for a Generator Asset that must be paid to Market Participants with an Ownership Share in the Generator Asset for being scheduled in the New England Markets, in addition to the Start-Up Fee and price offered to supply energy, for each hour that the Generator Asset is scheduled in the New England Markets.

**Nominated Consumption Limit** is the consumption level specified by the Market Participant for a Dispatchable Asset Related Demand as adjusted in accordance with the provisions of Section III.13.7.5.1.3.

**Non-Commercial Capacity** is the capacity of a New Capacity Resource or an Existing Capacity Resource, or portion thereof, that has not achieved FCM Commercial Operation.

**Non-Commercial Capacity Cure Period** is the time period described in Section VII.D of the ISO New England Financial Assurance Policy.

**Non-Commercial Capacity Financial Assurance Amount (Non-Commercial Capacity FA Amount)**

is the financial assurance amount held on Non-Commercial Capacity cleared in a Forward Capacity Auction as calculated in accordance with Section VII.B.2 of the ISO New England Financial Assurance Policy.

**Non-Designated Blackstart Resource Study Cost Payments** are the study costs reimbursed under Section 5.3 of Schedule 16 of the OATT.

**Non-Dispatchable Resource** is any Resource that does not meet the requirements to be a Dispatchable Resource.

**Non-Hourly Charges** are defined in Section 1.3 of the ISO New England Billing Policy.

**Non-Hourly Requirements** are determined in accordance with Section III.A(ii) of the ISO New England Financial Assurance Policy, which is Exhibit 1A of Section I of the Tariff.

**Non-Incumbent Transmission Developer** is a Qualified Transmission Project Sponsor that: (i) is not currently a PTO; (ii) has a transmission project listed in the RSP Project List; and (iii) has executed a Non-Incumbent Transmission Developer Operating Agreement. “Non-Incumbent Transmission Developer” also includes a PTO that proposes the development of a transmission facility not located within or connected to its existing electric system; however, because such a PTO is a party to the TOA, it is not required to enter into a Non-Incumbent Transmission Developer Operating Agreement.

**Non-Incumbent Transmission Developer Operating Agreement (or NTDOA)** is an agreement between the ISO and a Non-Incumbent Transmission Developer in the form specified in Attachment O to the OATT that sets forth their respective rights and responsibilities to each other with regard to proposals for and construction of certain transmission facilities.

**Non-Market Participant** is any entity that is not a Market Participant.

**Non-Market Participant Transmission Customer** is any entity which is not a Market Participant but is a Transmission Customer.

**Non-Municipal Market Participant** is defined in Section II of the ISO New England Financial Assurance Policy.

**Non-PTF Transmission Facilities (Non-PTF)** are the transmission facilities owned by the PTOs that do not constitute PTF, OTF or MTF.

**Non-Qualifying** means a Market Participant that is not a Credit Qualifying Market Participant.

**Notice of RBA** is defined in Section 6.3.2 of the ISO New England Billing Policy.

**Notification Time** is the time required for a Generator Asset to synchronize to the system from the time a startup Dispatch Instruction is received from the ISO.

**Northeastern Planning Protocol** is the Amended and Restated Northeastern ISO/RTO Planning Coordination Protocol on file with the Commission and posted on the ISO website at the following URL: [www.iso-ne.com/static-assets/documents/2015/07/northeastern\\_protocol\\_dmeast.doc](http://www.iso-ne.com/static-assets/documents/2015/07/northeastern_protocol_dmeast.doc).

**NPCC** is the Northeast Power Coordinating Council.

**Obligation Month** means a time period of one calendar month for which capacity payments are issued and the costs associated with capacity payments are allocated.

**Offer Data** means the scheduling, operations planning, dispatch, new Resource, and other data, including Generator Asset, Dispatchable Asset Related Demand, and Demand Response Resource operating limits based on physical characteristics, and information necessary to schedule and dispatch Generator Assets, Dispatchable Asset Related Demands, and Demand Response Resources for the provision or consumption of energy, the provision of other services, and the maintenance of the reliability and security of the transmission system in the New England Control Area, and specified for submission to the New England Markets for such purposes by the ISO.

**Offer Review Trigger Prices** are the prices specified in Section III.A.21.1 of Market Rule 1 associated with the submission of New Capacity Offers in the Forward Capacity Auction.



**Offered CLAIM10** is a Supply Offer value or a Demand Reduction Offer value between 0 and the CLAIM10 of the resource that represents the amount of TMNSR available either from an off-line Fast Start Generator or from a Fast Start Demand Response Resource that has not been dispatched.

**Offered CLAIM30** is a Supply Offer value or a Demand Reduction Offer value between 0 and the CLAIM30 of the resource that represents the amount of TMOR available either from an off-line Fast Start Generator or from a Fast Start Demand Response Resource that has not been dispatched.

**On-Peak Demand Resource** is a type of Demand Capacity Resource and means installed measures (e.g., products, equipment, systems, services, practices and/or strategies) on end-use customer facilities that reduce the total amount of electrical energy consumed during Demand Resource On-Peak Hours, while delivering a comparable or acceptable level of end-use service. Such measures include Energy Efficiency, Load Management, and Distributed Generation.

**Open Access Same-Time Information System (OASIS)** is the ISO information system and standards of conduct responding to requirements of 18 C.F.R. §37 of the Commission's regulations and all additional requirements implemented by subsequent Commission orders dealing with OASIS.

**Open Access Transmission Tariff (OATT)** is Section II of the ISO New England Inc. Transmission, Markets and Services Tariff.

**Operating Authority** is defined pursuant to a MTOA, an OTOA, the TOA or the OATT, as applicable.

**Operating Data** means GADS Data, data equivalent to GADS Data, CARL Data, metered load data, or actual system failure occurrences data, all as described in the ISO New England Operating Procedures.

**Operating Day** means the calendar day period beginning at midnight for which transactions on the New England Markets are scheduled.

**Operating Reserve** means Ten-Minute Spinning Reserve (TMSR), Ten-Minute Non-Spinning Reserve (TMNSR) and Thirty-Minute Operating Reserve (TMOR).

**Operations Date** is February 1, 2005.

**OTF Service** is transmission service over OTF as provided for in Schedule 20.

**Other Transmission Facility (OTF)** are the transmission facilities owned by Transmission Owners, defined and classified as OTF pursuant to Schedule 20, over which the ISO shall exercise Operating Authority in accordance with the terms set forth in the OTOA, rated 69 kV or above, and required to allow energy from significant power sources to move freely on the New England Transmission System. OTF classification shall be limited to the Phase I/II HVDC-TF.

**Other Transmission Operating Agreements (OTOA)** is the agreement(s) between the ISO, an OTO and/or the associated service provider(s) with respect to an OTF, which includes the HVDC Transmission Operating Agreement and the Phase I/II HVDC-TF Transmission Service Administration Agreement. With respect to the Phase I/II HVDC-TF, the HVDC Transmission Operating Agreement covers the rights and responsibilities for the operation of the facility and the Phase I/II HVDC-TF Transmission Service Administration Agreement covers the rights and responsibilities for the administration of transmission service.

**Other Transmission Owner (OTO)** is an owner of OTF.

**Ownership Share** is a right or obligation, for purposes of settlement, to a percentage share of all credits or charges associated with a Generator Asset or a Load Asset, where such facility is interconnected to the New England Transmission System.

**Participant Expenses** are defined in Section 1 of the Participants Agreement.

**Participant Required Balance** is defined in Section 5.3 of the ISO New England Billing Policy.

**Participant Vote** is defined in Section 1 of the Participants Agreement.

**Participants Agreement** is the agreement among the ISO, the New England Power Pool and Individual Participants, as amended from time to time, on file with the Commission.

**Participants Committee** is the principal committee referred to in the Participants Agreement.

**Participating Transmission Owner (PTO)** is a transmission owner that is a party to the TOA.

**Passive DR Audit** is the audit performed pursuant to Section III.13.6.1.5.4.

**Passive DR Auditing Period** is the summer Passive DR Auditing Period (June 1 to August 31) or winter Passive DR Auditing Period (December 1 to January 31) applicable to On-Peak Demand Resources and Seasonal Peak Demand Resources.

**Payment** is a sum of money due to a Covered Entity from the ISO.

**Payment Default Shortfall Fund** is defined in Section 5.1 of the ISO New England Billing Policy.

**Peak Energy Rent (PER)** is described in Section III.13.7.1.2 of Market Rule 1.

**PER Proxy Unit** is described in Section III.13.7.1.2.1 of Market Rule 1.

**Permanent De-list Bid** is a bid that may be submitted by an Existing Generating Capacity Resource, Existing Import Capacity Resource, or Existing Demand Capacity Resource in the Forward Capacity Auction to permanently remove itself from the capacity market, as described in Section III.13.1.2.3.1.5 of Market Rule 1.

**Phase I Transfer Credit** is 40% of the HQICC, or such other fraction of the HQICC as the ISO may establish.

**Phase I/II HVDC-TF** is defined in Schedule 20A to Section II of this Tariff.

**Phase I/II HVDC-TF Transfer Capability** is the transfer capacity of the Phase I/II HVDC-TF under normal operating conditions, as determined in accordance with Good Utility Practice. The “Phase I Transfer Capability” is the transfer capacity under normal operating conditions, as determined in accordance with Good Utility Practice, of the Phase I terminal facilities as determined initially as of the time immediately prior to Phase II of the Phase I/II HVDC-TF first being placed in service, and as adjusted thereafter only to take into account changes in the transfer capacity which are independent of any effect of Phase II on the operation of Phase I. The “Phase II Transfer Capability” is the difference between the Phase I/II HVDC-TF Transfer Capability and the Phase I Transfer Capability.

Determinations of, and any adjustment in, Phase I/II HVDC-TF Transfer Capability shall be made by the ISO, and the basis for any such adjustment shall be explained in writing and posted on the ISO website.

**Phase One Proposal** is a first round submission, as defined in Section 4.3 of Attachment K of the OATT, of a proposal for a Reliability Transmission Upgrade or Market Efficiency Transmission Upgrade, as applicable, by a Qualified Transmission Project Sponsor.

**Phase II Transfer Credit** is 60% of the HQICC, or such other fraction of the HQICC as the ISO may establish.

**Phase Two Solution** is a second round submission, as defined in Section 4.3 of Attachment K of the OATT, of a proposal for a Reliability Transmission Upgrade or Market Efficiency Transmission Upgrade by a Qualified Transmission Project Sponsor.

**Planning Advisory Committee** is the committee described in Attachment K of the OATT.

**Planning and Reliability Criteria** is defined in Section 3.3 of Attachment K to the OATT.

**Planning Authority** is an entity defined as such by the North American Electric Reliability Corporation.

**Point(s) of Delivery (POD)** is point(s) of interconnection where capacity and/or energy transmitted by a Transmission Customer will be made available to the Receiving Party under the OATT.

**Point of Interconnection** shall have the same meaning as that used for purposes of Schedules 22, 23 and 25 of the OATT.

**Point(s) of Receipt (POR)** is point(s) of interconnection where capacity and/or energy transmitted by a Transmission Customer will be made available by the Delivering Party under the OATT.

**Point-To-Point Service** is the transmission of capacity and/or energy on either a firm or non-firm basis from the Point(s) of Receipt to the Point(s) of Delivery under the OATT pursuant to Local Point-To-Point Service or OTF Service or MTF Service; and the transmission of capacity and/or energy from the Point(s) of Receipt to the Point(s) of Delivery under the OATT pursuant to Through or Out Service.

**Pool-Planned Unit** is one of the following units: New Haven Harbor Unit 1 (Coke Works), Mystic Unit 7, Canal Unit 2, Potter Unit 2, Wyman Unit 4, Stony Brook Units 1, 1A, 1B, 1C, 2A and 2B, Millstone Unit 3, Seabrook Unit 1 and Waters River Unit 2 (to the extent of 7 megawatts of its Summer capability and 12 megawatts of its Winter capability).

**Pool PTF Rate** is the transmission rate determined in accordance with Schedule 8 to the OATT.

**Pool RNS Rate** is the transmission rate determined in accordance with paragraph (2) of Schedule 9 of Section II of the Tariff.

**Pool-Scheduled Resources** are described in Section III.1.10.2 of Market Rule 1.

**Pool Supported PTF** is defined as: (i) PTF first placed in service prior to January 1, 2000; (ii) Generator Interconnection Related Upgrades with respect to Category A and B projects (as defined in Schedule 11), but only to the extent not paid for by the interconnecting Generator Owner; and (iii) other PTF upgrades, but only to the extent the costs therefore are determined to be Pool Supported PTF in accordance with Schedule 12.

**Pool Transmission Facility (PTF)** means the transmission facilities owned by PTOs which meet the criteria specified in Section II.49 of the OATT.

**Posting Entity** is any Market Participant or Non-Market Participant Transmission Customer providing financial security under the provisions of the ISO New England Financial Assurance Policy.

**Posture** means an action of the ISO to deviate from the jointly optimized security constrained economic dispatch for Energy and Operating Reserves solution for a Resource produced by the ISO's technical software for the purpose of maintaining sufficient Operating Reserve (both online and off-line) or for the provision of voltage or VAR support.

**Posturing Credits** are the Real-Time Posturing NCPC Credits for Generators (Other Than Limited Energy Resources) Postured for Reliability and the Real-Time Posturing NCPC Credit for Limited Energy Resources Postured for Reliability.

**Power Purchaser** is the entity that is purchasing the capacity and/or energy to be transmitted under the OATT.

**Principal** is (i) the sole proprietor of a sole proprietorship; (ii) a general partner of a partnership; (iii) a president, chief executive officer, chief operating officer or chief financial officer (or equivalent position) of an organization; (iv) a manager, managing member or a member vested with the management authority for a limited liability company or limited liability partnership; (v) any person or entity that has the power to exercise a controlling influence over an organization's activities that are subject to regulation by the Federal Energy Regulatory Commission, the Securities and Exchange Commission, the Commodity Futures Trading Commission, any exchange monitored by the National Futures Association, or any state entity responsible for regulating activity in energy markets; or (vi) any person or entity that: (a) is the direct owner of 10% or more of any class of an organization's equity securities; or (b) has directly contributed 10% or more of an organization's capital.

**Profiled Load Assets** include all Load Assets that are not directly metered by OP-18 compliant metering as currently described in Section IV (Metering and Recording for Settlements) of OP18, and some Load Assets that are measured by OP-18 compliant metering (as currently described in Section IV of OP-18) to which the Host Participant Assigned Meter Reader allocates non-PTF losses.

**Project Sponsor** is an entity seeking to have a New Generating Capacity Resource, New Import Capacity Resource or New Demand Capacity Resource participate in the Forward Capacity Market, as described in Section III.13.

**Proxy De-List Bid** is a type of bid used in the Forward Capacity Market.

**Provisional Member** is defined in Section I.68A of the Restated NEPOOL Agreement.

**PTO Administrative Committee** is the committee referred to in Section 11.04 of the TOA.

**Public Policy Requirement** is a requirement reflected in a statute enacted by, or a regulation promulgated by, the federal government or a state or local (e.g., municipal or county) government.

**Public Policy Transmission Study** is a study conducted by the ISO pursuant to the process set out in Section 4A.3 of Attachment K of the OATT, and consists of two phases: (i) an initial phase to produce a

rough estimate of the costs and benefits of concepts that could meet transmission needs driven by public policy requirements; and (ii) a follow-on phase designed to produce more detailed analysis and engineering work on transmission concepts identified in the first phase.

**Public Policy Local Transmission Study** is a study conducted by a PTO pursuant to the process set out in Section 1.6 of Attachment K Appendix 1 of the OATT, and consists of two phases: (i) an initial phase to produce an estimate of the costs and benefits of concepts that could meet transmission needs driven by public policy requirements; and (ii) a follow-on phase designed to produce more detailed analysis and engineering work on transmission concepts identified in the first phase.

**Public Policy Transmission Upgrade** is an addition and/or upgrade to the New England Transmission System that meets the voltage and non-voltage criteria for Public Policy Transmission Upgrade PTF classification specified in the OATT, and has been included in the Regional System Plan and RSP Project List as a Public Policy Transmission Upgrade pursuant to the procedures described in Section 4A of Attachment K of the OATT.

**Publicly Owned Entity** is defined in Section I of the Restated NEPOOL Agreement.

**Qualification Process Cost Reimbursement Deposit** is described in Section III.13.1.9.3 of Market Rule 1.

**Qualified Capacity** is the amount of capacity a resource may provide in the summer or winter in a Capacity Commitment Period, as determined in the Forward Capacity Market qualification processes.

**Qualified Generator Reactive Resource(s)** is any generator source of dynamic reactive power that meets the criteria specified in Schedule 2 of the OATT.

**Qualified Non-Generator Reactive Resource(s)** is any non-generator source of dynamic reactive power that meets the criteria specified in Schedule 2 of the OATT.

**Qualified Reactive Resource(s)** is any Qualified Generator Reactive Resource and/or Qualified Non-Generator Reactive Resource that meets the criteria specified in Schedule 2 of the OATT.

**Qualified Transmission Project Sponsor** is defined in Sections 4B.2 and 4B.3 of Attachment K of the OATT.

**Queue Position** has the meaning specified in Section I of Schedule 22, Attachment 1 to Schedule 23, and Section I of Schedule 25 of the OATT.

**Rapid Response Pricing Asset** is: (i) a Fast Start Generator; (ii) a Flexible DNE Dispatchable Generator; or (iii) a Binary Storage DARD with Offer Data specifying a Minimum Run Time and a Minimum Down Time not exceeding one hour each. A Rapid Response Pricing Asset shall also include a Fast Start Demand Response Resource for which the Market Participant's Offer Data meets the following criteria: (i) Minimum Reduction Time does not exceed one hour; and (ii) Demand Response Resource Notification Time plus Demand Response Resource Start-Up Time does not exceed 30 minutes.

**Rapid Response Pricing Opportunity Cost** is the NCPC Credit described in Section III.F.2.3.10.

**Rated** means a Market Participant that receives a credit rating from one or more of the Rating Agencies, or, if such Market Participant is not rated by one of the Rating Agencies, then a Market Participant that has outstanding unsecured debt rated by one or more of the Rating Agencies.

**Rating Agencies** are Standard and Poor's (S&P), Moody's, and Fitch.

**Rationing Minimum Limit** is the MW quantity for a New Generating Capacity Resource or Existing Generating Capacity Resource below which an offer or bid may not be rationed in the Forward Capacity Auction, but shall not apply to supply offers or demand bids in a substitution auction as specified in Section III.13.2.8.2 and Section III.13.2.8.3.

**RBA Decision** is a written decision provided by the ISO to a Disputing Party and to the Chair of the NEPOOL Budget and Finance Subcommittee accepting or denying a Requested Billing Adjustment within twenty Business Days of the date the ISO distributes a Notice of RBA, unless some later date is agreed upon by the Disputing Party and the ISO.

**Reactive Capability Audit** is an audit that measures the ability of a Reactive Resource to provide or absorb reactive power to or from the transmission system at a specified real power output or consumption.



**Reactive Resource** is a device that dynamically adjusts reactive power output automatically in Real-Time over a continuous range, taking into account control system response bandwidth, within a specified voltage bandwidth in response to grid voltage changes. These resources operate to maintain a set-point voltage and include, but are not limited to, Generator Assets, Dispatchable Asset Related Demands that are part of an Electric Storage Facility, and dynamic transmission devices.

**Reactive Supply and Voltage Control Service** is the form of Ancillary Service described in Schedule 2 of the OATT.

**Real-Time** is a period in the current Operating Day for which the ISO dispatches Resources for energy and Regulation, designates Resources for Regulation and Operating Reserve and, if necessary, commits additional Resources.

**Real-Time Adjusted Load Obligation** is defined in Section III.3.2.1(b) of Market Rule 1.

**Real-Time Adjusted Load Obligation Deviation** is defined in Section III.3.2.1(d) of Market Rule 1.

**Real-Time Commitment NCPC Credit** is an NCPC Credit calculated pursuant to Appendix F to Market Rule 1.

**Real-Time Congestion Revenue** is defined in Section III.3.2.1(i) of Market Rule 1.

**Real-Time Demand Reduction Obligation** is defined in Section III.3.2.1(c) of Market Rule 1.

**Real-Time Demand Reduction Obligation Deviation** is defined in Section III.3.2.1(e) of Market Rule 1.

**Real-Time Dispatch NCPC Credit** is an NCPC Credit calculated pursuant to Appendix F to Market Rule 1.

**Real-Time Energy Inventory** is a component of the spot payment that a Market Participant may receive through the inventoried energy program, as described in Section III.K.3.2.1 of Market Rule 1.

**Real-Time Energy Market** means the purchase or sale of energy, purchase of demand reductions, payment of Congestion Costs, and payment for losses for quantity deviations from the Day-Ahead Energy Market in the Operating Day and designation of and payment for provision of Operating Reserve in Real-Time.

**Real-Time Energy Market Deviation Congestion Charge/Credit** is defined in Section III.3.2.1(g) of Market Rule 1.

**Real-Time Energy Market Deviation Energy Charge/Credit** is defined in Section III.3.2.1(g) of Market Rule 1.

**Real-Time Energy Market Deviation Loss Charge/Credit** is defined in Section III.3.2.1(g) of Market Rule 1.

**Real-Time Energy Market NCPC Credits** are the Real-Time Commitment NCPC Credit and the Real-Time Dispatch NCPC Credit.

**Real-Time External Transaction NCPC Credit** is an NCPC Credit calculated pursuant to Appendix F to Market Rule 1.

**Real-Time Generation Obligation** is defined in Section III.3.2.1(b) of Market Rule 1.

**Real-Time Generation Obligation Deviation** is defined in Section III.3.2.1(d) of Market Rule 1.

**Real-Time High Operating Limit** is the maximum output, in MW, of a Generator Asset that could be achieved, consistent with Good Utility Practice, in response to an ISO request for Energy (including pursuant to Section III.13.6.4 of Market Rule 1), for each hour of the Operating Day, as reflected in the Generator Asset's Offer Data. This value is based on real-time operating conditions and the physical operating characteristics and operating permits of the facility and must be submitted for all Generator Assets (other than Settlement Only Resources).

**Real-Time Load Obligation** is defined in Section III.3.2.1(b) of Market Rule 1.

**Real-Time Load Obligation Deviation** is defined in Section III.3.2.1(d) of Market Rule 1.

**Real-Time Locational Adjusted Net Interchange** is defined in Section III.3.2.1(b) of Market Rule 1.

**Real-Time Locational Adjusted Net Interchange Deviation** is defined in Section III.3.2.1(d) of Market Rule 1.

**Real-Time Loss Revenue** is defined in Section III.3.2.1(l) of Market Rule 1.

**Real-Time Loss Revenue Charges or Credits** are defined in Section III.3.2.1(m) of Market Rule 1.

**Real-Time NCP Load Obligation** is the maximum hourly value, during a month, of a Market Participant's Real-Time Load Obligation summed over all Locations, excluding exports, in kilowatts.

**Real-Time Offer Change** is a modification to a Supply Offer pursuant to Section III.1.10.9(b).

**Real-Time Posturing NCPC Credit for Generators (Other Than Limited Energy Resources)**

**Postured for Reliability** is an NCPC Credit calculated pursuant to Appendix F to Market Rule 1.

**Real-Time Posturing NCPC Credit for Limited Energy Resources Postured for Reliability** is an NCPC Credit calculated pursuant to Appendix F to Market Rule 1.

**Real-Time Prices** means the Locational Marginal Prices resulting from the ISO's dispatch of the New England Markets in the Operating Day.

**Real-Time Reserve Charge** is a Market Participant's share of applicable system and Reserve Zone Real-Time Operating Reserve costs attributable to meeting the Real-Time Operating Reserve requirement as calculated in accordance with Section III.10 of Market Rule 1.

**Real-Time Reserve Clearing Price** is the Real-Time TMSR, TMNSR or TMOR clearing price, as applicable, for the system and each Reserve Zone that is calculated in accordance with Section III.2.7A of Market Rule 1.

**Real-Time Reserve Credit** is a Market Participant's compensation associated with that Market Participant's Resources' Reserve Quantity For Settlement as calculated in accordance with Section III.10 of Market Rule 1.

**Real-Time Reserve Designation** is the amount, in MW, of Operating Reserve designated to a Resource in Real-Time by the ISO as described in Section III.1.7.19 of Market Rule 1.

**Real-Time Reserve Opportunity Cost** is defined in Section III.2.7A(b) of Market Rule 1.

**Real-Time Synchronous Condensing NCPC Credit** is an NCPC Credit calculated pursuant to Appendix F to Market Rule 1.

**Real-Time System Adjusted Net Interchange** means, for each hour, the sum of Real-Time Locational Adjusted Net Interchange for a Market Participant over all Locations, in kilowatts.

**Receiving Party** is the entity receiving the capacity and/or energy transmitted to Point(s) of Delivery under the OATT.

**Reference Level** is defined in Section III.A.5.7 of Appendix A of Market Rule 1.

**Regional Benefit Upgrade(s) (RBU)** means a Transmission Upgrade that: (i) is rated 115kV or above; (ii) meets all of the non-voltage criteria for PTF classification specified in the OATT; and (iii) is included in the Regional System Plan as either a Reliability Transmission Upgrade or a Market Efficiency Transmission Upgrade identified as needed pursuant to Attachment K of the OATT. The category of RBU shall not include any Transmission Upgrade that has been categorized under any of the other categories specified in Schedule 12 of the OATT (e.g., an Elective Transmission Upgrade shall not also be categorized as an RBU). Any upgrades to transmission facilities rated below 115kV that were PTF prior to January 1, 2004 shall remain classified as PTF and be categorized as an RBU if, and for so long as, such upgrades meet the criteria for PTF specified in the OATT.

**Regional Network Load** is the load that a Network Customer designates for Regional Network Service under Part II.B of the OATT. The Network Customer's Regional Network Load shall include all load designated by the Network Customer (including losses) and shall not be credited or reduced for any behind-the-meter generation. A Network Customer may elect to designate less than its total load as

Regional Network Load but may not designate only part of the load at a discrete Point of Delivery. Where a Transmission Customer has elected not to designate a particular load at discrete Points of Delivery as Regional Network Load, the Transmission Customer is responsible for making separate arrangements under Part II.C of the OATT for any Point-To-Point Service that may be necessary for such non-designated load.

**Regional Network Service (RNS)** is the transmission service over the PTF described in Part II.B of the OATT, including such service which is used with respect to Network Resources or Regional Network Load that is not physically interconnected with the PTF.

**Regional Planning Dispute Resolution Process** is described in Section 12 of Attachment K to the OATT.

**Regional System Plan (RSP)** is the plan developed under the process specified in Attachment K of the OATT.

**Regional Transmission Service (RTS)** is Regional Network Service and Through or Out Service as provided over the PTF in accordance with Section II.B, Section II.C, Schedule 8 and Schedule 9 of the OATT.

**Regulation** is the capability of a specific Resource with appropriate telecommunications, control and response capability to respond to an AGC SetPoint.

**Regulation and Frequency Response Service** is the form of Ancillary Service described in Schedule 3 of the OATT. The capability of performing Regulation and Frequency Response Service is referred to as automatic generation control (AGC).

**Regulation Capacity** is the lesser of five times the Automatic Response Rate and one-half of the difference between the Regulation High Limit and the Regulation Low Limit of a Resource capable of providing Regulation.

**Regulation Capacity Requirement** is the amount of Regulation Capacity required to maintain system control and reliability in the New England Control Area as calculated and posted on the ISO website.

**Regulation Capacity Offer** is an offer by a Market Participant to provide Regulation Capacity.

**Regulation High Limit** is an offer parameter that establishes the upper bound for AGC SetPoints and is used in the determination of a Resource's Regulation Capacity.

**Regulation Low Limit** is an offer parameter that establishes the lower bound for AGC SetPoints and is used in the determination of a Resource's Regulation Capacity.

**Regulation Market** is the market described in Section III.14 of Market Rule 1.

**Regulation Resources** are those Alternative Technology Regulation Resources, Generator Assets, and Dispatchable Asset Related Demands that satisfy the requirements of Section III.14.2. Regulation Resources are eligible to participate in the Regulation Market.

**Regulation Service** is the change in output or consumption made in response to changing AGC SetPoints.

**Regulation Service Requirement** is the estimated amount of Regulation Service required to maintain system control and reliability in the New England Control Area as calculated and posted on the ISO website.

**Regulation Service Offer** is an offer by a Market Participant to provide Regulation Service.

**Related Person** is defined pursuant to Section 1.1 of the Participants Agreement.

**Related Transaction** is defined in Section III.1.4.3 of Market Rule 1.

**Reliability Administration Service (RAS)** is the service provided by the ISO, as described in Schedule 3 of Section IV.A of the Tariff, in order to administer the Reliability Markets and provide other reliability-related and informational functions.

**Reliability Committee** is the committee whose responsibilities are specified in Section 8.2.3 of the Participants Agreement.

**Reliability Markets** are, collectively, the ISO's administration of Regulation, the Forward Capacity Market, and Operating Reserve.

**Reliability Region** means any one of the regions identified on the ISO's website. Reliability Regions are intended to reflect the operating characteristics of, and the major transmission constraints on, the New England Transmission System.

**Reliability Transmission Upgrade** means those additions and upgrades not required by the interconnection of a generator that are nonetheless necessary to ensure the continued reliability of the New England Transmission System, taking into account load growth and known resource changes, and include those upgrades necessary to provide acceptable stability response, short circuit capability and system voltage levels, and those facilities required to provide adequate thermal capability and local voltage levels that cannot otherwise be achieved with reasonable assumptions for certain amounts of generation being unavailable (due to maintenance or forced outages) for purposes of long-term planning studies. Good Utility Practice, applicable reliability principles, guidelines, criteria, rules, procedures and standards of ERO and NPCC and any of their successors, applicable publicly available local reliability criteria, and the ISO System Rules, as they may be amended from time to time, will be used to define the system facilities required to maintain reliability in evaluating proposed Reliability Transmission Upgrades. A Reliability Transmission Upgrade may provide market efficiency benefits as well as reliability benefits to the New England Transmission System.

**Remittance Advice** is an issuance from the ISO for the net Payment owed to a Covered Entity where a Covered Entity's total Payments exceed its total Charges in a billing period.

**Remittance Advice Date** is the day on which the ISO issues a Remittance Advice.

**Renewable Technology Resource** is a Generating Capacity Resource or an On-Peak Demand Resource that satisfies the requirements specified in Section III.13.1.1.1.7.

**Re-Offer Period** is the period that normally occurs between the posting of the of the Day-Ahead Energy Market results and 2:00 p.m. on the day before the Operating Day during which a Market Participant may submit revised Supply Offers, revised External Transactions, or revised Demand Bids associated with Dispatchable Asset Related Demands or, revised Demand Reduction Offers associated with Demand Response Resources.

**Replacement Reserve** is described in Part III, Section VII of ISO New England Operating Procedure No. 8.

**Request for Alternative Proposals (RFAP)** is the request described in Attachment K of the OATT.

**Requested Billing Adjustment (RBA)** is defined in Section 6.1 of the ISO New England Billing Policy.

**Required Balance** is an amount as defined in Section 5.3 of the Billing Policy.

**Reseller** is a MGTSA holder that sells, assigns or transfers its rights under its MGTSA, as described in Section II.45.1(a) of the OATT.

**Reserve Adequacy Analysis** is the analysis performed by the ISO to determine if adequate Resources are committed to meet forecasted load, Operating Reserve, and security constraint requirements for the current and next Operating Day.

**Reserve Constraint Penalty Factors (RCPFs)** are rates, in \$/MWh, that are used within the Real-Time dispatch and pricing algorithm to reflect the value of Operating Reserve shortages and are defined in Section III.2.7A(c) of Market Rule 1.

**Reserve Quantity For Settlement** is defined in Section III.10.1 of Market Rule 1.

**Reserve Zone** is defined in Section III.2.7 of Market Rule 1.

**Reserved Capacity** is the maximum amount of capacity and energy that is committed to the Transmission Customer for transmission over the New England Transmission System between the Point(s) of Receipt and the Point(s) of Delivery under Part II.C or Schedule 18, 20 or 21 of the OATT, as applicable. Reserved Capacity shall be expressed in terms of whole kilowatts on a sixty-minute interval (commencing on the clock hour) basis, or, in the case of Reserved Capacity for Local Point-to-Point Service, in terms of whole megawatts on a sixty-minute interval basis.

**Resource** means a Generator Asset, a Dispatchable Asset Related Demand, an External Resource, an External Transaction, or a Demand Response Resource.



**Restated New England Power Pool Agreement (RNA)** is the Second Restated New England Power Pool Agreement, which restated for a second time by an amendment dated as of August 16, 2004 the New England Power Pool Agreement dated September 1, 1971, as the same may be amended and restated from time to time, governing the relationship among the NEPOOL members.

**Rest-of-Pool Capacity Zone** is a single Capacity Zone made up of the adjacent Load Zones that are neither export-constrained nor import-constrained.

**Rest of System** is an area established under Section III.2.7(d) of Market Rule 1.

**Retail Delivery Point** is the point on the transmission or distribution system at which the load of an end-use facility, which is metered and assigned a unique account number by the Host Participant, is measured to determine the amount of energy delivered to the facility from the transmission and distribution system. If an end-use facility is connected to the transmission or distribution system at more than one location, the Retail Delivery Point shall consist of the metered load at each connection point, summed to measure the net energy delivered to the facility in each interval.

**Retirement De-List Bid** is a bid to retire an Existing Generating Capacity Resource, Existing Import Capacity Resource, or Existing Demand Capacity Resource from all New England Markets, as described in Section III.13.1.2.3.1.5.

**Returning Market Participant** is a Market Participant, other than an FTR-Only Customer or a Governance Only Member, whose previous membership as a Market Participant was involuntarily terminated due to a Financial Assurance Default or a payment default and, since returning, has been a Market Participant for less than six consecutive months.

**Revenue Requirement** is defined in Section IV.A.2.1 of the Tariff.

**Reviewable Action** is defined in Section III.D.1.1 of Appendix D of Market Rule 1.

**Reviewable Determination** is defined in Section 12.4(a) of Attachment K to the OATT.

**RSP Project List** is defined in Section 1 of Attachment K to the OATT.

**RTEP02 Upgrade(s)** means a Transmission Upgrade that was included in the annual NEPOOL Transmission Plan (also known as the “Regional Transmission Expansion Plan” or “RTEP”) for the year 2002, as approved by ISO New England Inc.’s Board of Directors, or the functional equivalent of such Transmission Upgrade, as determined by ISO New England Inc. The RTEP02 Upgrades are listed in Schedule 12B of the OATT.

**RTO** is a regional transmission organization or comparable independent transmission organization that complies with Order No. 2000 and the Commission’s corresponding regulation.

**Same Reserve Zone Export Transaction** is defined in Section III.1.10.7(f)(iii) of Market Rule 1.

**Sanctionable Behavior** is defined in Section III.B.3 of Appendix B of Market Rule 1.

**Schedule, Schedules, Schedule 1, 2, 3, 4 and 5** are references to the individual or collective schedules to Section IV.A. of the Tariff.

**Schedule 20A Service Provider (SSP)** is defined in Schedule 20A to Section II of this Tariff.

**Scheduling Service**, for purposes of Section IV.A and Section IV.B of the Tariff, is the service described in Schedule 1 to Section IV.A of the Tariff.

**Scheduling, System Control and Dispatch Service**, for purposes of Section II of the Tariff, is the form of Ancillary Service described in Schedule 1 of the OATT.

**Seasonal Claimed Capability** is the summer or winter claimed capability of a Generator Asset or Generating Capacity Resource, and represents the maximum dependable load carrying ability of the asset or resource, excluding capacity required for station use.

**Seasonal Claimed Capability Audit** is the Generator Asset audit performed pursuant to Section III.1.5.1.3.

**Seasonal DR Audit** is the Demand Response Resource audit performed pursuant to Section III.1.5.1.3.1.

**Seasonal Peak Demand Resource** is a type of Demand Capacity Resource and shall mean installed measures (e.g., products, equipment, systems, services, practices and/or strategies) on end-use customer facilities that reduce the total amount of electrical energy consumed during Demand Resource Seasonal Peak Hours, while delivering a comparable or acceptable level of end-use service. Such measures include Energy Efficiency, Load Management, and Distributed Generation.

**Section III.1.4 Transactions** are defined in Section III.1.4.2 of Market Rule 1.

**Section III.1.4 Conforming Transactions** are defined in Section III.1.4.2 of Market Rule 1.

**Security Agreement** is Attachment 1 to the ISO New England Financial Assurance Policy.

**Selected Qualified Transmission Project Sponsor** is the Qualified Transmission Project Sponsor that proposed the Phase Two or Stage Two Solution that has been identified by the ISO as the preferred Phase Two or Stage Two Solution.

**Selected Qualified Transmission Project Sponsor Agreement** is the agreement between the ISO and a Selected Qualified Transmission Project Sponsor. The Selected Qualified Transmission Project Sponsor Agreement is provided in Attachment P to the OATT.

**Self-Schedule** is the action of a Market Participant in committing its Generator Asset or DARD, in accordance with applicable ISO New England Manuals, to provide service in an hour, whether or not in the absence of that action the Generator Asset or DARD would have been committed by the ISO to provide the service. For a Generator Asset, Self-Schedule is the action of a Market Participant in committing a Generator Asset to provide Energy in an hour at its Economic Minimum Limit, whether or not in the absence of that action the Generator Asset would have been committed by the ISO to provide the Energy. For a DARD, Self-Schedule is the action of a Market Participant in committing a DARD to consume Energy in an hour at its Minimum Consumption Limit, whether or not in the absence of that action the DARD would have been committed by the ISO to consume Energy. For an External Transaction, a Self-Schedule is a request by a Market Participant for the ISO to select the External Transaction regardless of the LMP. Demand Response Resources are not permitted to Self-Schedule.

**Self-Supplied FCA Resource** is described in Section III.13.1.6 of Market Rule 1.

**Senior Officer** means an officer of the subject entity with the title of vice president (or similar office) or higher, or another officer designated in writing to the ISO by that officer.

**Service Agreement** is a Transmission Service Agreement or an MPSA.

**Service Commencement Date** is the date service is to begin pursuant to the terms of an executed Service Agreement, or the date service begins in accordance with the sections of the OATT addressing the filing of unexecuted Service Agreements.

**Services** means, collectively, the Scheduling Service, EAS and RAS; individually, a Service.

**Settlement Financial Assurance** is an amount of financial assurance required from a Designated FTR Participant awarded a bid in an FTR Auction. This amount is calculated pursuant to Section VI.C of the ISO New England Financial Assurance Policy.

**Settlement Only Resources** are generators of less than 5 MW of maximum net output when operating at any temperature at or above zero degrees Fahrenheit, that meet the metering, interconnection and other requirements in ISO New England Operating Procedure No. 14 and that have elected Settlement Only Resource treatment as described in the ISO New England Manual for Registration and Performance Auditing.

**Shortfall Funding Arrangement**, as specified in Section 5.1 of the ISO New England Billing Policy, is a separate financing arrangement that can be used to make up any non-congestion related differences between amounts received on Invoices and amounts due for ISO Charges in any bill issued.

**Short-Term** is a period of less than one year.

**Significantly Reduced Congestion Costs** are defined in Section III.G.2.2 of Appendix G to Market Rule 1.

**SMD Effective Date** is March 1, 2003.

**Solar High Limit** is the estimated power output (MW) of a solar Generator Asset given the Real-Time solar and weather conditions, taking into account equipment outages, and absent any self-imposed

reductions in power output or any reduction in power output as a result of a Dispatch Instruction, calculated in the manner described in the ISO Operating Documents.

**Solar Plant Future Availability** is the forecasted Real-Time High Operating Limit of a solar Generator Asset, calculated in the manner described in the ISO Operating Documents.

**Solutions Study** is described in Section 4.2(b) of Attachment K to the OATT.

**Special Constraint Resource (SCR)** is a Resource that provides Special Constraint Resource Service under Schedule 19 of the OATT.

**Special Constraint Resource Service** is the form of Ancillary Service described in Schedule 19 of the OATT.

**Specified-Term Blackstart Capital Payment** is the annual compensation level, as calculated pursuant to Section 5.1 of Schedule 16 of the OATT, for a Designated Blackstart Resource's capital Blackstart Equipment costs associated with the provision of Blackstart Service (except for capital costs associated with adhering to NERC Critical Infrastructure Protection Reliability Standards as part of Blackstart Service).

**Sponsored Policy Resource** is a New Capacity Resource that: receives an out-of-market revenue source supported by a government-regulated rate, charge or other regulated cost recovery mechanism, and; qualifies as a renewable, clean or alternative energy resource under a renewable energy portfolio standard, clean energy standard, alternative energy portfolio standard, renewable energy goal, or clean energy goal enacted (either by statute or regulation) in the New England state from which the resource receives the out-of-market revenue source and that is in effect on January 1, 2018.

**Stage One Proposal** is a first round submission, as defined in Sections 4A.5 of Attachment K of the OATT, of a proposal for a Public Policy Transmission Upgrade by a Qualified Transmission Project Sponsor.

**Stage Two Solution** is a second round submission, as defined in Section 4A.5 of Attachment K of the OATT, of a proposal for a Public Policy Transmission Upgrade by a Qualified Transmission Project Sponsor.

**Standard Blackstart Capital Payment** is the annual compensation level, as calculated pursuant to Section 5.1 of Schedule 16 of the OATT, for a Designated Blackstart Resource's capital Blackstart Equipment costs associated with the provision of Blackstart Service (except for capital costs associated with adhering to NERC Critical Infrastructure Protection Reliability Standards as part of Blackstart Service).

**Start-of-Round Price** is the highest price associated with a round of a Forward Capacity Auction as described in Section III.13.2.3.1 of Market Rule 1.

**Start-Up Fee** is the amount, in dollars, that must be paid for a Generator Asset to Market Participants with an Ownership Share in the Generator Asset each time the Generator Asset is scheduled in the New England Markets to start-up.

**Start-Up Time** is the time it takes the Generator Asset, after synchronizing to the system, to reach its Economic Minimum Limit and, for dispatchable Generator Assets, be ready for further dispatch by the ISO.

**State Estimator** means the computer model of power flows specified in Section III.2.3 of Market Rule 1.

**Statements**, for the purpose of the ISO New England Billing Policy, refer to both Invoices and Remittance Advices.

**Static De-List Bid** is a bid that may be submitted by an Existing Generating Capacity Resource, Existing Import Capacity Resource, or Existing Demand Capacity Resource in the Forward Capacity Auction to remove itself from the capacity market for a one year period, as described in Section III.13.1.2.3.1.1 of Market Rule 1.

**Station** is one or more Existing Generating Capacity Resources consisting of one or more assets located within a common property boundary.

**Station Going Forward Common Costs** are the net costs associated with a Station that are avoided only by the clearing of the Static De-List Bids, the Permanent De-List Bids or the Retirement De-List Bids of all the Existing Generating Capacity Resources comprising the Station.

**Station-level Blackstart O&M Payment** is defined and calculated as specified in Section 5.1.2 of Schedule 16 to the OATT.

**Station-level Specified-Term Blackstart Capital Payment** is defined and calculated as specified in Section 5.1.2 of Schedule 16 to the OATT.

**Station-level Standard Blackstart Capital Payment** is defined and calculated as specified in Section 5.1.2 of Schedule 16 to the OATT.

**Storage DARD** is a DARD that participates in the New England Markets as part of an Electric Storage Facility, as described in Section III.1.10.6 of Market Rule 1.

**Summer ARA Qualified Capacity** is described in Section III.13.4.2.1.2.1.1.1 of Market Rule 1.

**Summer Capability Period** means one of two time periods defined by the ISO for the purposes of rating and auditing resources pursuant to Section III.9. The time period associated with the Summer Capability Period is the period of June 1 through September 30.

**Summer Intermittent Reliability Hours** are defined in Section III.13.1.2.2.2.1(c) of Market Rule 1.

**Supply Offer** is a proposal to furnish energy at a Node or Regulation from a Resource that meets the applicable requirements set forth in the ISO New England Manuals submitted to the ISO by a Market Participant with authority to submit a Supply Offer for the Resource. The Supply Offer will be submitted pursuant to Market Rule 1 and applicable ISO New England Manuals, and include a price and information with respect to the quantity proposed to be furnished, technical parameters for the Resource, timing and other matters. A Supply Offer is a subset of the information required in a Market Participant's Offer Data.

**Supply Offer Block-Hours** are Block-Hours assigned to the Lead Market Participant for each Supply Offer. Blocks of the Supply Offer in effect for each hour will be totaled to determine the quantity of Supply Offer Block-Hours for a given day. In the case that a Resource has a Real-Time unit status of "unavailable" for the entire day, that day will not contribute to the quantity of Supply Offer Block-Hours.

However, if the Resource has at least one hour of the day with a unit status of “available,” the entire day will contribute to the quantity of Supply Offer Block-Hours.

**Synchronous Condenser** is a generator that is synchronized to the grid but supplying no energy for the purpose of providing Operating Reserve or VAR or voltage support.

**System Condition** is a specified condition on the New England Transmission System or on a neighboring system, such as a constrained transmission element or flowgate, that may trigger Curtailment of Long-Term Firm MTF or OTF Service on the MTF or the OTF using the curtailment priority pursuant to Section II.44 of the Tariff or Curtailment of Local Long-Term Firm Point-to-Point Transmission Service on the non-PTF using the curtailment priority pursuant to Schedule 21 of the Tariff. Such conditions must be identified in the Transmission Customer’s Service Agreement.

**System Impact Study** is an assessment pursuant to Part II.B, II.C, II.G, Schedule 21, Schedule 22, Schedule 23, or Schedule 25 of the OATT of (i) the adequacy of the PTF or Non-PTF to accommodate a request for the interconnection of a new or materially changed generating unit or a new or materially changed interconnection to another Control Area or new Regional Network Service or new Local Service or an Elective Transmission Upgrade, and (ii) whether any additional costs may be required to be incurred in order to provide the interconnection or transmission service.

**System Operator** shall mean ISO New England Inc. or a successor organization.

**System Operating Limit (SOL)** has the meaning specified in the Glossary of Terms Used in NERC Reliability Standards.

**System-Wide Capacity Demand Curve** is the demand curve used in the Forward Capacity Market as specified in Section III.13.2.2.

**TADO** is the total amount due and owing (not including any amounts due under Section 14.1 of the RNA) at such time to the ISO, NEPOOL, the PTOs, the Market Participants and the Non-Market Participant Transmission Customers, by all PTOs, Market Participants and Non-Market Participant Transmission Customers.



**Tangible Net Worth** is the value, determined in accordance with international accounting standards or generally accepted accounting principles in the United States, of all of that entity's assets less the following: (i) assets the ISO reasonably believes to be restricted or potentially unavailable to settle a claim in the event of a default (e.g., regulatory assets, restricted assets, and Affiliate assets), net of any matching liabilities, to the extent that the result of that netting is a positive value; (ii) derivative assets, net of any matching liabilities, to the extent that the result of that netting is a positive value; (iii) the amount at which the liabilities of the entity would be shown on a balance sheet in accordance with international accounting standards or generally accepted accounting principles in the United States; (iv) preferred stock; (v) non-controlling interest; and (vi) all of that entity's intangible assets (e.g., patents, trademarks, franchises, intellectual property, goodwill and any other assets not having a physical existence), in each case as shown on the most recent financial statements provided by such entity to the ISO.

**Technical Committee** is defined in Section 8.2 of the Participants Agreement.

**Ten-Minute Non-Spinning Reserve (TMNSR)** is a form of ten-minute reserve capability, determined pursuant to Section III.1.7.19.2.

**Ten-Minute Non-Spinning Reserve Service** is the form of Ancillary Service described in Schedule 6 of the OATT.

**Ten-Minute Reserve Requirement** is the combined amount of TMSR and TMNSR required system-wide as described in Section III.2.7A and ISO New England Operating Procedure No. 8.

**Ten-Minute Spinning Reserve (TMSR)** is a form of ten-minute reserve capability, determined pursuant to Section III.1.7.19.2.

**Ten-Minute Spinning Reserve Requirement** is the amount of TMSR required system-wide as described in Section III.2.7A and ISO New England Operating Procedure No. 8.

**Ten-Minute Spinning Reserve Service** is the form of Ancillary Service described in Schedule 5 of the OATT.

**Third-Party Sale** is any sale for resale in interstate commerce to a Power Purchaser that is not designated as part of Regional Network Load or Local Network Load under the Regional Network Service or Local Network Service, as applicable.

**Thirty-Minute Operating Reserve (TMOR)** is a form of thirty-minute reserve capability, determined pursuant to Section III.1.7.19.2.

**Thirty-Minute Operating Reserve Service** is the form of Ancillary Service described in Schedule 7 of the OATT.

**Through or Out Rate (TOUT Rate)** is the rate per hour for Through or Out Service, as defined in Section II.25.2 of the OATT.

**Through or Out Service (TOUT Service)** means Point-To-Point Service over the PTF provided by the ISO with respect to a transaction that goes through the New England Control Area, as, for example, a single transaction where energy or capacity is transmitted into the New England Control Area from New Brunswick and subsequently out of the New England Control Area to New York, or a single transaction where energy or capacity is transmitted into the New England Control Area from New York through one point on the PTF and subsequently flows over the PTF prior to passing out of the New England Control Area to New York, or with respect to a transaction which originates at a point on the PTF and flows over the PTF prior to passing out of the New England Control Area, as, for example, from Boston to New York.

**Tie-Line Asset** is a physical transmission tie-line, or an inter-state or intra-state border arrangement created according to the ISO New England Manuals and registered in accordance with the Asset Registration Process.

**Total Available Amount** is the sum of the available amount of the Shortfall Funding Arrangement and the balance in the Payment Default Shortfall Fund.

**Total Blackstart Capital Payment** is the annual compensation calculated under either Section 5.1 or Section 5.2 of Schedule 16 of the OATT, as applicable.

**Total Blackstart Service Payments** is monthly compensation to Blackstart Owners or Market Participants, as applicable, and as calculated pursuant to Section 5.6 of Schedule 16 to the OATT.

**Total Reserve Requirement**, which includes Replacement Reserve, is the combined amount of TMSR, TMNSR, and TMOR required system-wide as described in Section III.2.7A and ISO New England Operating Procedure No. 8.

**Total System Capacity** is the aggregate capacity supply curve for the New England Control Area as determined in accordance with Section III.13.2.3.3 of Market Rule 1.

**Transaction Unit (TU)** is a type of billing determinant under Schedule 2 of Section IV.A of the Tariff used to assess charges to Customers.

**Transition Period:** The six-year period commencing on March 1, 1997.

**Transmission Charges**, for the purposes of the ISO New England Financial Assurance Policy and the ISO New England Billing Policy, are all charges and payments under Schedules 1, 8 and 9 of the OATT.

**Transmission Congestion Credit** means the allocated share of total Transmission Congestion Revenue credited to each holder of Financial Transmission Rights, calculated and allocated as specified in Section III.5.2 of Market Rule 1.

**Transmission Congestion Revenue** is defined in Section III.5.2.5(a) of Market Rule 1.

**Transmission Constraint Penalty Factors** are described in Section III.1.7.5 of Market Rule 1.

**Transmission Credit Limit** is a credit limit, not to be used to meet FTR Requirements, established for each Market Participant in accordance with Section II.D and each Non-Market Participant Transmission Customer in accordance with Section V.B.2 of the ISO New England Financial Assurance Policy.

**Transmission Credit Test Percentage** is calculated in accordance with Section III.B.1(c) of the ISO New England Financial Assurance Policy.

**Transmission Customer** is any Eligible Customer that (i) executes, on its own behalf or through its Designated Agent, an MPSA or TSA, or (ii) requests in writing, on its own behalf or through its Designated Agent, that the ISO, the Transmission Owner, or the Schedule 20A Service Provider, as applicable, file with the Commission, a proposed unexecuted MPSA or TSA containing terms and conditions deemed appropriate by the ISO (in consultation with the applicable PTO, OTO or Schedule 20A Service Provider) in order that the Eligible Customer may receive transmission service under Section II of this Tariff. A Transmission Customer under Section II of this Tariff includes a Market Participant or a Non-Market Participant taking Regional Network Service, Through or Out Service, MTF Service, OTF Service, Ancillary Services, or Local Service.

**Transmission Default Amount** is all or any part of any amount of Transmission Charges due to be paid by any Covered Entity that the ISO, in its reasonable opinion, believes will not or has not been paid when due.

**Transmission Default Period** is defined in Section 3.4.f of the ISO New England Billing Policy.

**Transmission Late Payment Account** is defined in Section 4.2 of the ISO New England Billing Policy.

**Transmission Late Payment Account Limit** is defined in Section 4.2 of the ISO New England Billing Policy.

**Transmission Late Payment Charge** is defined in Section 4.1 of the ISO New England Billing Policy.

**Transmission, Markets and Services Tariff (Tariff)** is the ISO New England Inc. Transmission, Markets and Services Tariff, as amended from time to time.

**Transmission Obligations** are determined in accordance with Section III.A(vi) of the ISO New England Financial Assurance Policy.

**Transmission Operating Agreement (TOA)** is the Transmission Operating Agreement between and among the ISO and the PTOs, as amended and restated from time to time.

**Transmission Owner** means a PTO, MTO or OTO.

**Transmission Provider** is the ISO for Regional Network Service and Through or Out Service as provided under Section II.B and II.C of the OATT; Cross-Sound Cable, LLC for Merchant Transmission Service as provided under Schedule 18 of the OATT; the Schedule 20A Service Providers for Phase I/II HVDC-TF Service as provided under Schedule 20A of the OATT; and the Participating Transmission Owners for Local Service as provided under Schedule 21 of the OATT.

**Transmission Requirements** are determined in accordance with Section III.A(iii) of the ISO New England Financial Assurance Policy.

**Transmission Security Analysis Requirement** shall be determined pursuant to Section III.12.2.1.2.

**Transmission Service Agreement (TSA)** is the initial agreement and any amendments or supplements thereto: (A) in the form specified in either Attachment A or B to the OATT, entered into by the Transmission Customer and the ISO for Regional Network Service or Through or Out Service; (B) entered into by the Transmission Customer with the ISO and PTO in the form specified in Attachment A to Schedule 21 of the OATT; (C) entered into by the Transmission Customer with an OTO or Schedule 20A Service Provider in the appropriate form specified under Schedule 20 of the OATT; or (D) entered into by the Transmission Customer with a MTO in the appropriate form specified under Schedule 18 of the OATT. A Transmission Service Agreement shall be required for Local Service, MTF Service and OTF Service, and shall be required for Regional Network Service and Through or Out Service if the Transmission Customer has not executed a MPSA.

**Transmission Upgrade(s)** means an upgrade, modification or addition to the PTF that becomes subject to the terms and conditions of the OATT governing rates and service on the PTF on or after January 1, 2004. This categorization and cost allocation of Transmission Upgrades shall be as provided for in Schedule 12 of the OATT.

**UDS** is unit dispatch system software.

**Unconstrained Export Transaction** is defined in Section III.1.10.7(f)(iv) of Market Rule 1.

**Uncovered Default Amount** is defined in Section 3.3(i) of the ISO New England Billing Policy.

**Uncovered Transmission Default Amounts** are defined in Section 3.4.f of the ISO New England Billing Policy.

**Unrated** means a Market Participant that is not a Rated Market Participant.

**Unsecured Covered Entity** is, collectively, an Unsecured Municipal Market Participant and an Unsecured Non-Municipal Covered Entity.

**Unsecured Municipal Default Amount** is defined in Section 3.3(i) of the ISO New England Billing Policy.

**Unsecured Municipal Market Participant** is defined in Section 3.3(h) of the ISO New England Billing Policy.

**Unsecured Municipal Transmission Default Amount** is defined in Section 3.4.f of the ISO New England Billing Policy.

**Unsecured Non-Municipal Covered Entity** is a Covered Entity that is not a Municipal Market Participant or a Non-Market Participant Transmission Customer and has a Market Credit Limit or Transmission Credit Limit of greater than \$0 under the ISO New England Financial Assurance Policy.

**Unsecured Non-Municipal Default Amount** is defined in Section 3.3(i) of the ISO New England Billing Policy.

**Unsecured Non-Municipal Transmission Default Amount** is defined in Section 3.3(i) of the ISO New England Billing Policy.

**Unsecured Transmission Default Amounts** are, collectively, the Unsecured Municipal Transmission Default Amount and the Unsecured Non-Municipal Transmission Default Amount.

**Unsettled FTR Financial Assurance** is an amount of financial assurance required from a Designated FTR Participant as calculated pursuant to Section VI.B of the ISO New England Financial Assurance Policy.

**Updated Measurement and Verification Plan** is an optional Measurement and Verification Plan that may be submitted as part of a subsequent qualification process for a Forward Capacity Auction prior to the beginning of the Capacity Commitment Period of the On-Peak Demand Resource or Seasonal Peak Demand Response project. The Updated Measurement and Verification Plan may include updated project specifications, measurement and verification protocols, and performance data as described in Section III.13.1.4.3.1.2 of Market Rule 1 and the ISO New England Manuals.

**VAR CC Rate** is the CC rate paid to Qualified Reactive Resources for VAR Service capability under Section IV.A of Schedule 2 of the OATT.

**VAR Payment** is the payment made to Qualified Reactive Resources for VAR Service capability under Section IV.A of Schedule 2 of the OATT.

**VAR Service** is the provision of reactive power voltage support to the New England Transmission System by a Qualified Reactive Resource or by other generators that are dispatched by the ISO to provide dynamic reactive power as described in Schedule 2 of the OATT.

**Virtual Cap** is \$2,000/MWh.

**Virtual Requirements** are determined in accordance with Section III.A(iv) of the ISO New England Financial Assurance Policy.

**Volt Ampere Reactive (VAR)** is a measurement of reactive power.

**Volumetric Measure (VM)** is a type of billing determinant under Schedule 2 of Section IV.A of the Tariff used to assess charges to Customers under Section IV.A of the Tariff.

**Wind High Limit** is the estimated power output (MW) of a wind Generator Asset given the Real-Time weather conditions, taking into account equipment outages, and absent any self-imposed reductions in power output or any reduction in power output as a result of a Dispatch Instruction, calculated in the manner described in the ISO Operating Documents.

**Wind Plant Future Availability** is the forecasted Real-Time High Operating Limit of a wind Generator Asset, calculated in the manner described in the ISO Operating Documents.

**Winter ARA Qualified Capacity** is described in Section III.13.4.2.1.2.1.1.2 of Market Rule 1.

**Winter Capability Period** means one of two time periods defined by the ISO for the purposes of rating and auditing resources pursuant to Section III.9. The time period associated with the Winter Capability Period is the period October 1 through May 31.

**Winter Intermittent Reliability Hours** are defined in Section III.13.1.2.2.2.2(c) of Market Rule 1.

**Year** means a period of 365 or 366 days, whichever is appropriate, commencing on, or on the anniversary of March 1, 1997. Year One is the Year commencing on March 1, 1997, and Years Two and higher follow it in sequence.

**Zonal Price** is calculated in accordance with Section III.2.7 of Market Rule 1.

**Zonal Capacity Obligation** is calculated in accordance with Section III.13.7.5.2 of Market Rule 1.

**Zonal Reserve Requirement** is the combined amount of TMSR, TMNSR, and TMOR required for a Reserve Zone as described in Section III.2.7A and ISO New England Operating Procedure No. 8.



## **SCHEDULE 22**

### **LARGE GENERATOR INTERCONNECTION PROCEDURES**

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## **SECTION I. DEFINITIONS**

The definitions contained in this section are intended to apply in the context of the generator interconnection process provided for in this Schedule 22 (and its appendices). To the extent that the definitions herein are different than those contained in Section I.2.2 of the Tariff, the definitions provided below shall control only for purposes of generator interconnections under this Schedule 22. Capitalized terms in Schedule 22 that are not defined in this Section I shall have the meanings specified in Section I.2.2 of the Tariff.

**Administered Transmission System** shall mean the PTF, the Non-PTF, and distribution facilities that are subject to the Tariff.

**Adverse System Impact** shall mean any significant negative effects on the stability, reliability or operating characteristics of the electric system.

**Affected System** shall mean any electric system that is within the Control Area, including, but not limited to, generator owned transmission facilities, or any other electric system that is not within the Control Area that may be affected by the proposed interconnection.

**Affected Party** shall mean the entity that owns, operates or controls an Affected System, or any other entity that otherwise may be a necessary party to the interconnection process.

**Affiliate** shall mean, with respect to a corporation, partnership or other entity, each such other corporation, partnership or other entity that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, such corporation, partnership or other entity.

**Applicable Laws and Regulations** shall mean all duly promulgated applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority.

**Applicable Reliability Council** shall mean the reliability council applicable to the New England Control Area.

**Applicable Reliability Standards** shall mean the requirements and guidelines of NERC, the NPCC and the New England Control Area, including publicly available local reliability requirements of Interconnecting Transmission Owners or other Affected Parties.

**At-Risk Expenditure** shall mean money expended for the development of the Generating Facility that cannot be recouped if the Interconnection Customer were to withdraw the Interconnection Request for the Generating Facility. At-Risk Expenditure may include, but is not limited to, money expended on: (i) costs of federal, state, local, regional and town permits, (ii) Site Control, (iii) site-specific design and surveys, (iv) construction activities, and (v) non-refundable deposits for major equipment components. For purposes of this definition, At-Risk Expenditure shall not include costs associated with the Interconnection Studies.

**Base Case** shall have the meaning specified in Section 2.3.

**Base Case Data** shall mean the Base Case power flow, short circuit, and stability data bases used for the Interconnection Studies by the System Operator, Interconnection Customer, Interconnecting Transmission Owner, or any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements.

**Breach** shall mean the failure of a Party to perform or observe any material term or condition of the Standard Large Generator Interconnection Agreement.

**Breaching Party** shall mean a Party that is in Breach of the Standard Large Generator Interconnection Agreement.

**Calendar Day** shall mean any day including Saturday, Sunday or a Federal Holiday.

**Capacity Capability Interconnection Standard (“CC Interconnection Standard”)** shall mean the criteria required to permit the Interconnection Customer to interconnect a Generating Facility seeking Capacity Network Resource Interconnection Service or an Elective Transmission Upgrade seeking

Capacity Network Import Interconnection Service in a manner that avoids any significant adverse effect on the reliability, stability, and operability of the New England Transmission System, including protecting against the degradation of transfer capability for interfaces affected by the Generating Facility seeking Capacity Network Resource Interconnection Service or an Elective Transmission Upgrade seeking Capacity Network Import Interconnection Service, and in a manner that ensures intra-zonal deliverability by avoidance of the redispatch of other Capacity Network Resources or Elective Transmission Upgrades with Capacity Network Import Interconnection Service, as detailed in the ISO New England Planning Procedures.

**Capacity Network Resource (“CNR”)** shall mean that portion of a Generating Facility that is interconnected to the Administered Transmission System under the Capacity Capability Interconnection Standard.

**Capacity Network Resource Capability (“CNR Capability”)** shall mean the MW quantity associated with CNR Interconnection Service, calculated as described in Section II.48 of the Tariff.

**Capacity Network Resource Group Study (“CNR Group Study”)** shall mean the study performed by the System Operator under Section III.13.1.1.2.3 of the Tariff to determine which resources qualify to participate in a Forward Capacity Auction.

**Capacity Network Resource Interconnection Service (“CNR Interconnection Service”)** shall mean the Interconnection Service selected by the Interconnection Customer to interconnect its Large Generating Facility with the Administered Transmission System in accordance with the Capacity Capability Interconnection Standard. An Interconnection Customer’s CNR Interconnection Service shall be for the megawatt amount of CNR Capability. CNR Interconnection Service does not in and of itself convey transmission service.

**Cluster Enabling Transmission Upgrade (“CETU”)** shall mean new significant transmission line infrastructure that consists of AC transmission lines and related terminal equipment having a nominal voltage rating at or above 115 kV or HVDC transmission lines and HVDC terminal equipment that is identified through the Clustering Enabling Transmission Upgrade Regional Planning Study conducted to



accommodate the Interconnection Requests for which the conditions identified in Section 4.2.1 have been triggered. The CETU shall be considered part of a Generator Interconnection Related Upgrade and be categorized as Interconnection Facilities or Network Upgrades.

**Cluster Enabling Transmission Upgrade Regional Planning Study (“CRPS”)** shall mean a study conducted by the System Operator under Attachment K, Section II of the Tariff to identify the Cluster Enabling Transmission Upgrade and associated system upgrades to enable the interconnection of Interconnection Requests for which the conditions identified in Section 4.2.1 have been triggered.

**Cluster Interconnection Facilities Study (“CFAC”)** shall mean an Interconnection Facilities Study performed using Clustering pursuant to Section 4.2.4.

**Cluster Interconnection System Impact Study (“CSIS”)** shall mean an Interconnection System Impact Study performed using Clustering pursuant to Section 4.2.3.

**Cluster Participation Deposit** shall mean the initial and additional deposit due under Sections 4.2.3.2.2 and 4.2.4.4.

**Cluster Entry Deadline** shall mean the deadline specified in Section 4.2.3.1.

**Clustering** shall mean the process whereby a group of Interconnection Requests is studied together for the purpose of conducting the Interconnection System Impact Study and Interconnection Facilities Study and for the purpose of determining cost responsibility for upgrades identified through the Clustering provisions.

**Commercial Operation** shall mean the status of a Generating Facility that has commenced generating electricity for sale, excluding electricity generated during Trial Operation.

**Commercial Operation Date** of a unit shall mean the date on which the Generating Facility commences Commercial Operation as agreed to by the Parties pursuant to Appendix E to the Standard Large Generator Interconnection Agreement.

**Confidential Information** shall mean any confidential, proprietary or trade secret information of a plan, specification, pattern, procedure, design, device, list, concept, policy or compilation relating to the present or planned business of a Party, which is designated as confidential by the Party supplying the information, whether conveyed orally, electronically, in writing, through inspection, or otherwise. Confidential Information shall include, but not be limited to, information that is confidential pursuant to the ISO New England Information Policy.

**Contingent Facilities** shall mean those unbuilt Interconnection Facilities and Network Upgrades associated with an Interconnection Request with a higher Queue Position or a transmission project that is planned or proposed for the New England Transmission System upon which the Interconnection Request's costs, timing, and study findings are dependent, and if delayed or not built, could cause a need for restudies of the Interconnection Request or a reassessment of the Interconnection Facilities and/or Network Upgrades and/or costs and timing.

**Default** shall mean the failure of a Breaching Party to cure its Breach in accordance with Article 17 of the Standard Large Generator Interconnection Agreement.

**Dispute Resolution** shall mean the procedure for resolution of a dispute between the Parties in which they will first attempt to resolve the dispute on an informal basis.

**Distribution System** shall mean the Interconnecting Transmission Owner's facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries directly from nearby generators or from interchanges with higher voltage transmission networks which transport bulk power over longer distances. The voltage levels at which distribution systems operate differ among areas.

**Distribution Upgrades** shall mean the additions, modifications, and upgrades to the Interconnecting Transmission Owner's Distribution System at or beyond the Point of Interconnection to facilitate interconnection of the Generating Facility and render the transmission service necessary to effect Interconnection Customer's wholesale sale of electricity in interstate commerce. Distribution Upgrades do not include Interconnection Facilities.

**Effective Date** shall mean the date on which the Standard Large Generator Interconnection Agreement becomes effective upon execution by the Parties subject to acceptance by the Commission or if filed unexecuted, upon the date specified by the Commission.

**Emergency Condition** shall mean a condition or situation: (1) that in the judgment of the Party making the claim is likely to endanger life or property; or (2) that, in the case of the Interconnecting Transmission Owner, is likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to the New England Transmission System, Interconnecting Transmission Owner's Interconnection Facilities or any Affected System to which the New England Transmission System is directly connected; or (3) that, in the case of Interconnection Customer, is likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Generating Facility or Interconnection Customer's Interconnection Facilities. System restoration and black start shall be considered Emergency Conditions; provided that Interconnection Customer is not obligated by the Standard Large Generator Interconnection Agreement to possess black start capability.

**Engineering & Procurement ("E&P") Agreement** shall mean an agreement that authorizes the Interconnection Customer, Interconnecting Transmission Owner and any other Affected Party to begin engineering and procurement of long lead-time items necessary for the establishment of the interconnection in order to advance the implementation of the Interconnection Request.

**Environmental Law** shall mean Applicable Laws or Regulations relating to pollution or protection of the environment or natural resources.

**Federal Power Act** shall mean the Federal Power Act, as amended, 16 U.S.C. §§ 791a et seq.

**Force Majeure** shall mean any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. A Force Majeure event does not include acts of negligence or intentional wrongdoing by the Party claiming Force Majeure.

**Generating Facility** shall mean Interconnection Customer's device for the production and/or storage for later injection of electricity identified in the Interconnection Request, but shall not include the Interconnection Customer's Interconnection Facilities.

**Governmental Authority** shall mean any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that such term does not include the System Operator, Interconnection Customer, Interconnecting Transmission Owner, or any Affiliate thereof.

**Hazardous Substances** shall mean any chemicals, materials or substances defined as or included in the definition of "hazardous substances," "hazardous wastes," "hazardous materials," "hazardous constituents," "restricted hazardous materials," "extremely hazardous substances," "toxic substances," "radioactive substances," "contaminants," "pollutants," "toxic pollutants" or words of similar meaning and regulatory effect under any applicable Environmental Law, or any other chemical, material or substance, exposure to which is prohibited, limited or regulated by any applicable Environmental Law.

**Initial Synchronization Date** shall mean the date upon which the Generating Facility is initially synchronized and upon which Trial Operation begins.

**In-Service Date** shall mean the date upon which the Interconnection Customer reasonably expects it will be ready to begin use of the Interconnecting Transmission Owner's Interconnection Facilities to obtain back feed power.

**Interconnecting Transmission Owner** shall mean a Transmission Owner that owns, leases or otherwise possesses an interest, or a Non-Incumbent Transmission Developer that is not a Participating Transmission Owner that is constructing, a portion of the Administered Transmission System at the Point

of Interconnection and shall be a Party to the Standard Large Generator Interconnection Agreement. The term Interconnecting Transmission Owner shall not be read to include the System Operator.

**Interconnecting Transmission Owner's Interconnection Facilities** shall mean all facilities and equipment owned, controlled, or operated by the Interconnecting Transmission Owner from the Point of Change of Ownership to the Point of Interconnection as identified in Appendix A to the Standard Large Generator Interconnection Agreement, including any modifications, additions or upgrades to such facilities and equipment. Interconnecting Transmission Owner's Interconnection Facilities are sole use facilities and shall not include Distribution Upgrades, Stand Alone Network Upgrades or Network Upgrades.

**Interconnection Customer** shall mean any entity, including a transmission owner or its Affiliates or subsidiaries, that interconnects or proposes to interconnect its Generating Facility with the Administered Transmission System under the Standard Large Generator Interconnection Procedures.

**Interconnection Customer's Interconnection Facilities** shall mean all facilities and equipment, as identified in Appendix A of the Standard Large Generator Interconnection Agreement, that are located between the Generating Facility and the Point of Change of Ownership, including any modification, addition, or upgrades to such facilities and equipment necessary to physically and electrically interconnect the Generating Facility to the Administered Transmission System. Interconnection Customer's Interconnection Facilities are sole use facilities.

**Interconnection Facilities** shall mean the Interconnecting Transmission Owner's Interconnection Facilities and the Interconnection Customer's Interconnection Facilities. Collectively, Interconnection Facilities include all facilities and equipment between the Generating Facility and the Point of Interconnection, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the Generating Facility to the Administered Transmission System. Interconnection Facilities are sole use facilities and shall not include Distribution Upgrades, Stand Alone Network Upgrades or Network Upgrades.

**Interconnection Facilities Study** shall mean a study conducted by the System Operator, Interconnecting Transmission Owner, or a third party consultant for the Interconnection Customer to determine a list of facilities (including Interconnecting Transmission Owner's Interconnection Facilities and Network Upgrades as identified in the Interconnection System Impact Study), the cost of those facilities, and the time required to interconnect the Generating Facility with the Administered Transmission System. The scope of the study is defined in Section 8 of the Standard Large Generator Interconnection Procedures.

**Interconnection Facilities Study Agreement** shall mean the form of agreement contained in Appendix 4 of the Standard Large Generator Interconnection Procedures for conducting the Interconnection Facilities Study.

**Interconnection Feasibility Study** shall mean a preliminary evaluation of the system impact and cost of interconnecting the Generating Facility to the Administered Transmission System, the scope of which is described in Section 6 of the Standard Large Generator Interconnection Procedures.

**Interconnection Feasibility Study Agreement** shall mean the form of agreement contained in Appendix 2 of the Standard Large Generator Interconnection Procedures for conducting the Interconnection Feasibility Study.

**Interconnection Request** shall mean an Interconnection Customer's request, in the form of Appendix 1 to the Standard Large Generator Interconnection Procedures, in accordance with the Tariff, to: (i) interconnect a new Generating Facility to the Administered Transmission System as either a CNR or a NR; (ii) make a Material Modification to a proposed Generating Facility with an outstanding Interconnection Request; (iii) increase the energy capability or capacity capability of an existing Generation Facility; (iv) make a Material Modification to the design or operating characteristics of an existing Generating Facility, including its Interconnection Facilities, that is interconnected with the Administered Transmission System; (v) commence participation in the wholesale markets by an existing Generating Facility that is interconnected with the Administered Transmission System; or (vi) change from NR Interconnection Service to CNR Interconnection Service for all or part of a Generating Facility's capability. Interconnection Request shall not include: (i) a retail customer interconnecting a new Generating Facility that will produce electric energy to be consumed only on the retail customer's site; (ii)

a request to interconnect a new Generating Facility to a distribution facility that is subject to the Tariff if the Generating Facility will not be used to make wholesale sales of electricity in interstate commerce; or (iii) a request to interconnect a Qualifying Facility (as defined by the Public Utility Regulatory Policies Act, as amended by the Energy Policy Act of 2005 and the regulations thereto), where the Qualifying Facility's owner intent is to sell 100% of the Qualifying Facility's output to its interconnected electric utility.

**Interconnection Service** shall mean the service provided by the System Operator, and the Interconnecting Transmission Owner, associated with interconnecting the Interconnection Customer's Generating Facility to the Administered Transmission System and enabling the receipt of electric energy capability and/or capacity capability from the Generating Facility at the Point of Interconnection, pursuant to the terms of the Standard Large Generator Interconnection Agreement and, if applicable, the Tariff.

**Interconnection Study** shall mean any of the following studies: the Interconnection Feasibility Study, the Interconnection System Impact Study, the Interconnection Facilities Study and the Optional Interconnection Study described in the Standard Large Generator Interconnection Procedures. Interconnection Study shall not include a CNR Group Study.

**Interconnection Study Agreement** shall mean any of the following agreements: the Interconnection Feasibility Study Agreement, the Interconnection System Impact Study Agreement, the Interconnection Facilities Study Agreement, and the Optional Interconnection Study Agreement attached to the Standard Large Generator Interconnection Procedures.

**Interconnection System Impact Study** shall mean an engineering study that evaluates the impact of the proposed interconnection on the safety and reliability of the Administered Transmission System and any other Affected System, the scope of which is described in Section 7 of the Standard Large Generator Interconnection Procedures. The study shall identify and detail the system impacts that would result if the Generating Facility were interconnected without project modifications or system modifications, focusing on Adverse System Impacts, or to study potential impacts, including but not limited to those identified in the Scoping Meeting as described in the Standard Large Generator Interconnection Procedures.

**Interconnection System Impact Study Agreement** shall mean the form of agreement contained in Appendix 3 of the Standard Large Generator Interconnection Procedures for conducting the Interconnection System Impact Study.

**IRS** shall mean the Internal Revenue Service.

**Large Generating Facility** shall mean a Generating Facility having a maximum gross capability at or above zero degrees F of more than 20 MW.

**Long Lead Time Facility (“Long Lead Facility”)** shall mean a Generating Facility or an Elective Transmission Upgrade with an Interconnection Request for Capacity Network Resource Interconnection Service or Capacity Network Import Interconnection Service, respectively, that has, as applicable, elected or requested long lead time treatment and met the eligibility criteria and requirements specified in Schedule 22 or Schedule 25 of Section II of the Tariff, respectively.

**Loss** shall mean any and all losses relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from another Party’s performance, or non-performance of its obligations under the Standard Large Generator Interconnection Agreement on behalf of the Indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the Indemnifying Party.

**Major Permits** shall be as defined in Section III.13.1.1.2.2.2(a) of the Tariff.

**Material Modification** shall mean: (i) except as expressly provided in Section 4.4.1, those modifications to the Interconnection Request, including any of the technical data provided by the Interconnection Customer in Appendix 1, Attachment A (and Attachment A-1, if applicable) to the Interconnection Request or to the interconnection configuration, requested by the Interconnection Customer, that either require significant additional study of the same Interconnection Request and could substantially change the interconnection design, or have a material impact (*i.e.*, an evaluation of the proposed modification cannot be completed in less than ten (10) Business Days) on the cost or timing of any Interconnection Studies or upgrades associated with an Interconnection Request with a later queue priority date; (ii) a



change to the design or operating characteristics of an existing Generating Facility, including its Interconnection Facilities, that is interconnected with the Administered Transmission System that may have a significant adverse effect on the reliability or operating characteristics of the New England Transmission System; (iii) a delay to the Commercial Operation Date, In-Service Date, or Initial Synchronization Date of greater than three (3) years where the reason for delay is unrelated to construction schedules or permitting which delay is beyond the Interconnection Customer's control; (iv) except as provided in Section 3.2.3.4, a withdrawal of a request for Long Lead Facility treatment; or (v) except as provided in Section 3.2.3.6, an election to participate in an earlier Forward Capacity Auction than originally anticipated.

**Metering Equipment** shall mean all metering equipment installed or to be installed at the Generating Facility pursuant to the Standard Large Generator Interconnection Agreement at the metering points, including but not limited to instrument transformers, MWh-meters, data acquisition equipment, transducers, remote terminal unit, communications equipment, phone lines, and fiber optics.

**Network Capability Interconnection Standard ("NC Interconnection Standard")** shall mean the minimum criteria required to permit the Interconnection Customer to interconnect a Generating Facility seeking Network Resource Interconnection Service or Elective Transmission Upgrade seeking Network Import Interconnection Service in a manner that avoids any significant adverse effect on the reliability, stability, and operability of the New England Transmission System, including protecting against the degradation of transfer capability for interfaces affected by the Generating Facility seeking Network Resource Interconnection Service or Elective Transmission Upgrade seeking Network Import Interconnection Service, as detailed in the ISO New England Planning Procedures.

**Network Resource ("NR")** shall mean the portion of a Generating Facility that is interconnected to the Administered Transmission System under the Network Capability Interconnection Standard.

**Network Resource Capability ("NR Capability")** shall mean the MW quantity associated with NR Interconnection Service, calculated as described in Section II.48 of the Tariff.

**Network Resource Interconnection Service (“NR Interconnection Service”)** shall mean the Interconnection Service selected by the Interconnection Customer to interconnect its Generating Facility to the Administered Transmission System in accordance with the Network Capability Interconnection Standard. An Interconnection Customer’s NR Interconnection Service shall be solely for the megawatt amount of the NR Capability requested pursuant to Section 3.1 of this LGIP. NR Interconnection Service in and of itself does not convey transmission service.

**Network Upgrades** shall mean the additions, modifications, and upgrades to the New England Transmission System required at or beyond the Point of Interconnection to accommodate the interconnection of the Large Generating Facility to the Administered Transmission System.

**Notice of Dispute** shall mean a written notice of a dispute or claim that arises out of or in connection with the Standard Large Generator Interconnection Agreement or its performance.

**Optional Interconnection Study** shall mean a sensitivity analysis based on assumptions specified by the Interconnection Customer in the Optional Interconnection Study Agreement.

**Optional Interconnection Study Agreement** shall mean the form of agreement contained in Appendix 5 of the Standard Large Generator Interconnection Procedures for conducting the Optional Interconnection Study.

**Party** shall mean the System Operator, Interconnection Customer and Interconnecting Transmission Owner or any combination of the above.

**Point of Change of Ownership** shall mean the point, as set forth in Appendix A to the Standard Large Generator Interconnection Agreement, where the Interconnection Customer’s Interconnection Facilities connect to the Interconnecting Transmission Owner’s Interconnection Facilities.

**Point of Interconnection** shall mean the point, as set forth in Appendix A to the Standard Large Generator Interconnection Agreement, where the Interconnection Facilities connect to the Administered Transmission System.

**Provisional Interconnection Service** shall mean Network Resource Interconnection Service provided by the System Operator, and the Interconnecting Transmission Owner, associated with interconnecting the Interconnection Customer's Generating Facility to the Administered Transmission System and enabling the receipt of electric energy capability from the Generating Facility at the Point of Interconnection on a limited and temporary basis, pursuant to the terms of the Provisional Large Generator Interconnection Agreement and, if applicable, the Tariff.

**Provisional Large Generator Interconnection Agreement** shall mean the Interconnection Agreement for Provisional Interconnection Service established between the System Operator, the Interconnecting Transmission Owner, and the Interconnection Customer. This agreement shall take the form of the Standard Large Generator Interconnection Agreement, modified for provisional purposes.

**Queue Position** shall mean the order of a valid request in the New England Control Area, relative to all other pending requests in the New England Control Area, that is established based upon the date and time of receipt of such request by the System Operator. Requests are comprised of interconnection requests for Generating Facilities, Elective Transmission Upgrades, requests for transmission service and notification of requests for interconnection to other electric systems, as notified by the other electric systems, that impact the Administered Transmission System. References to a "higher-queued" Interconnection Request shall mean one that has been received by System Operator (and placed in queue order) earlier than another Interconnection Request, which is referred to as "lower-queued."

**Reasonable Efforts** shall mean, with respect to an action required to be attempted or taken by a Party under the Standard Large Generator Interconnection Agreement, efforts that are timely and consistent with Good Utility Practice and are otherwise substantially equivalent to those a Party would use to protect its own interests.

**Scoping Meeting** shall mean the meeting between representatives of the System Operator, Interconnection Customer, Interconnecting Transmission Owner, or any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality

requirements, conducted for the purpose of discussing alternative interconnection options, to exchange information including any transmission data and earlier study evaluations that would be reasonably expected to impact such interconnection options, to analyze such information, and to determine the potential feasible Points of Interconnection.

**Site Control** shall mean documentation reasonably demonstrating: (a) that the Interconnection Customer is the owner in fee simple of the real property or holds an easement for which new interconnection is sought; (b) that the Interconnection Customer holds a valid written leasehold or other contractual interest in the real property for which new interconnection is sought; (c) that the Interconnection Customer holds a valid written option to purchase or a leasehold interest in the real property for which new interconnection is sought; (d) that the Interconnection Customer holds a duly executed written contract to purchase, acquire an easement, a license or a leasehold interest in the real property for which new interconnection is sought; or (e) that the Interconnection Customer has filed applications for required permits to site on federal or state property.

**Stand Alone Network Upgrades** shall mean Network Upgrades that are not part of an Affected System that an Interconnection Customer may construct without affecting day-to-day operations of the New England Transmission System during their construction. The System Operator, Interconnection Customer, and Interconnecting Transmission Owner must agree as to what constitutes Stand Alone Network Upgrades and identify them in Appendix A to the Standard Large Generator Interconnection Agreement. If the System Operator, Interconnecting Transmission Owner, and Interconnection Customer disagree about whether a particular Network Upgrade is a Stand Alone Network Upgrade, the System Operator must provide the Interconnection Customer a written technical explanation outlining why the System Operator does not consider the Network Upgrade to be a Stand Alone Network Upgrade within 15 days of its determination.

**Standard Large Generator Interconnection Agreement (“LGIA”)** shall mean the form of interconnection agreement applicable to an Interconnection Request pertaining to a Large Generating Facility, that is included in this Schedule 22 to the Tariff.

**Standard Large Generator Interconnection Procedures (“LGIP”)** shall mean the interconnection procedures applicable to an Interconnection Request pertaining to a Large Generating Facility that are included in this Schedule 22 to the Tariff.

**Study Case** shall have the meaning specified in Sections 6.2 and 7.3 of this LGIP.

**Surplus Interconnection Service** shall mean a form of Interconnection Service that allows an Interconnection Customer to use any Unused Capability of Interconnection Service established in an Interconnection Agreement for an existing Generating Facility that has achieved Commercial Operation, such that if Surplus Interconnection Service is utilized the total amount of Interconnection Service at the same Point of Interconnection would remain the same.

**System Protection Facilities** shall mean the equipment, including necessary signal protection communications equipment, required to protect (1) the New England Transmission System from faults or other electrical disturbances occurring at the Generating Facility and (2) the Generating Facility from faults or other electrical system disturbances occurring on the New England Transmission System or on other delivery systems or other generating systems to which the New England Transmission System is directly connected.

**Trial Operation** shall mean the period during which Interconnection Customer is engaged in on-site test operations and commissioning of the Generating Facility prior to Commercial Operation.

**Unused Capability** shall mean: (i) in the case of NR Interconnection Service at an existing, commercial Generating Facility, the MW quantity as determined by the Original Interconnection Customer (as defined in Section 3.3 of the LGIP), not to exceed the existing, commercial Generating Facility’s NR Interconnection Service; and (ii) in the case of CNR Interconnection Service at an existing, commercial Generating Facility, for Summer, the Summer CNR Capability minus the latest Summer Qualified Capacity, and for Winter, the Winter CNR Capability minus the latest Winter Qualified Capacity.

## **SECTION 2. SCOPE, APPLICATION AND TIME REQUIREMENTS.**

## **2.1 Application of Standard Large Generator Interconnection Procedures.**

The LGIP and LGIA shall apply to Interconnection Requests pertaining to Large Generating Facilities. Except as expressly provided in the LGIP and LGIA, nothing in the LGIP or LGIA shall be construed to limit the authority or obligations that the Interconnecting Transmission Owner or System Operator, as applicable, has with regard to ISO New England Operating Documents.

## **2.2 Comparability.**

The System Operator shall receive, process and analyze all Interconnection Requests in a timely manner as set forth in this LGIP. The System Operator and Interconnecting Transmission Owner will use the same Reasonable Efforts in processing and analyzing Interconnection Requests from all Interconnection Customers, whether the Generating Facilities are owned by the Interconnecting Transmission Owner, its subsidiaries or Affiliates, or others.

## **2.3 Base Case Data.**

System Operator shall maintain Base Case power flow, short circuit and stability databases, including all underlying assumptions, and contingency lists on a secured location on the System Operator's website. For the purposes of this provision, Base Case Data may include the electromagnetic transient network model that does not include proprietary electromagnetic transient equipment models. System Operator shall provide access to such information located on a secured location on the System Operator's website, subject to the confidentiality provisions of Section 13.1 and the ISO New England Information Policy as well as any other applicable requirement under Applicable Laws and Regulations regulating disclosure or confidentiality of such information. System Operator shall maintain network models and underlying assumptions on a secured location on the System Operator's website. Such network models and underlying assumptions should reasonably represent those used during the most recent Interconnection Study and be representative of current system conditions as of the most recent Interconnection Study. The databases and lists addressed in this Section 2.3, hereinafter referred to as Base Cases, shall include all generation projects and transmission projects that are proposed for the New England Transmission System and any Affected System and for which a transmission expansion plan has been submitted and approved by the applicable authority and which, in the sole judgment of the System Operator, may have an impact on the Interconnection Request. The Interconnection Customer, where applicable, shall

provide Base Case Data to the Interconnecting Transmission Owner and System Operator to facilitate required Interconnection Studies.

System Operator shall provide a link to the secured location on its website that contains the information required under this Section 2.3 on System Operator's OASIS site. System Operator is permitted to require that Interconnection Customers or their third party consultants, OASIS site users, and users of the secured location on System Operator's website sign a confidentiality agreement before the release of information governed by Section 13.1 or the ISO New England Information Policy, or the release of any other information that is commercially sensitive or Critical Energy Infrastructure Information.

#### **2.4 No Applicability to Transmission Service.**

Nothing in this LGIP shall constitute a request for, nor the provision of, any service except for Interconnection Service, including, but not limited to, transmission delivery service, local delivery service, distribution service, capacity service, energy service or Ancillary Services under any applicable tariff, and does not convey any right to deliver electricity to any specific customer or Point of Delivery.

#### **2.5 Time Requirements.**

Parties that must perform a specific obligation under a provision of the Standard Large Generator Interconnection Procedure or Standard Large Generator Interconnection Agreement within a specified time period shall use Reasonable Efforts to complete such obligation within the applicable time period. A Party may, in the exercise of reasonable discretion and within the time period set forth by the applicable procedure or agreement, request that the relevant Party consent to a mutually agreeable alternative time schedule, such consent not to be unreasonably withheld.

### **SECTION 3. INTERCONNECTION REQUESTS.**

#### **3.1 General.**

To initiate an Interconnection Request, an Interconnection Customer must comply with all of the requirements set forth in Section 3.4.1. The Interconnection Customer shall submit a separate Interconnection Request for each site and may submit multiple Interconnection Requests for a single site.

The Interconnection Customer must comply with the requirements specified in Section 3.4.1 for each Interconnection Request even when more than one request is submitted for a single site.

Within three (3) Business Days after its receipt of a valid Interconnection Request, System Operator shall submit a copy of the Interconnection Request to Interconnecting Transmission Owner.

At Interconnection Customer's option, System Operator, Interconnection Customer, Interconnecting Transmission Owner, and any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements, will identify alternative Point(s) of Interconnection and configurations at the Scoping Meeting to evaluate in this process and attempt to eliminate alternatives in a reasonable fashion given resources and information available. Interconnection Customer will select the definitive Point(s) of Interconnection to be studied no later than the execution of the Interconnection Feasibility Study Agreement, or the Interconnection System Impact Study Agreement if the Interconnection Customer elects not to pursue the Interconnection Feasibility Study.

System Operator shall consider requests for Interconnection Service below the Large Generating Facility capability. An Interconnection Customer that submits an Interconnection Request for Interconnection Service below the Large Generating Facility capability shall include in the Interconnection Request the proposed control technologies to restrict the Large Generating Facility's output to the requested Interconnection Service levels. These requests for Interconnection Service shall be studied at the level of Interconnection Service requested for purposes of determining necessary Interconnection Facilities, Network Upgrades, and associated costs, and the requests shall be studied at the full Generating Facility capability to ensure the acceptability of the proposed control technology to restrict the facility's output and the safety and reliability of the system, with the study costs borne by the Interconnection Customer.

Interconnection Customers may be subject to additional control technologies as well as testing and validation of those technologies consistent with Article 6 of the LGIA. The necessary control technologies and protection systems shall be established in Appendix C of the executed, or requested to be filed unexecuted, LGIA.



All deposits that must be submitted to the System Operator under this LGIP must be delivered to the System Operator's bank account by electronic transfer within the period specified in the respective provision. A deposit will not be considered received until it is in the System Operator's bank account.

### **3.2 Type of Interconnection Services and Long Lead Time Facility Treatment**

At the time the Interconnection Request is submitted, the Interconnection Customer must request either CNR Interconnection Service or NR Interconnection Service, as described in Sections 3.2.1 and 3.2.2 below. An Interconnection Customer that meets the requirements to obtain CNR Interconnection Service shall obtain NR Interconnection Service up to the NR Capability upon completion of all requirements for NR Interconnection Service, including all necessary upgrades. Upon completion of all requirements for the CNR Interconnection Service, the Interconnection Customer shall also receive CNR Interconnection Service for CNR Capability. An Interconnection Customer that meets the requirements to obtain NR Interconnection Service shall receive NR Interconnection Service for the Interconnection Customer's NR Capability. At the time the Interconnection Request is submitted, the Interconnection Customer may also request Long Lead Facility treatment in accordance with Section 3.2.3.

#### **3.2.1 Capacity Network Resource Interconnection Service**

##### **3.2.1.1 The Product.**

The System Operator must conduct the necessary studies in conjunction with the Interconnecting Transmission Owner, and with other Affected Parties as appropriate and in accordance with applicable codes of conduct and confidentiality requirements, and the Interconnecting Transmission Owner and other Affected Parties as appropriate must construct the Network Upgrades needed to interconnect the Large Generating Facility in a manner comparable to that in which CNRs are interconnected under the CC Interconnection Standard. CNR Interconnection Service allows the Interconnection Customer's Large Generating Facility to be designated as a CNR, and to participate in the New England Markets, in accordance with Market Rule 1, Section III of the Tariff, up to the CNR Capability or as otherwise provided in the Tariff, on the same basis as existing CNRs, and to be studied as a CNR on the assumption that such a designation will occur.

##### **3.2.1.2 The Studies.**

All Interconnection Studies for CNR Interconnection Service shall assure that the Interconnection Customer's Large Generating Facility satisfies the minimum characteristics required to interconnect in a manner that avoids any significant adverse effect on the reliability, stability, and operability of the New England Transmission System, including protecting against the degradation of transfer capability for interfaces affected by the unit. The CNR Group Study for CNR Interconnection Service shall assure that the Interconnection Customer's Large Generating Facility can be interconnected in a manner that ensures intra-zonal deliverability by avoidance of the redispatch of other CNRs and Elective Transmission Upgrades with CNI Interconnection Service, in accordance with the CC Interconnection Standard and as detailed in the ISO New England Planning Procedures. The System Operator, in coordination with the Interconnecting Transmission Owner, may also study the New England Transmission System under non-peak load conditions. However, upon request by the Interconnection Customer, the System Operator and as appropriate the Interconnecting Transmission Owner must explain in writing to the Interconnection Customer why the study of non-peak load conditions is required for reliability purposes.

#### **3.2.1.3 Milestones for CNR Interconnection Service.**

In addition to the requirements set forth in this LGIP, an Interconnection Customer with an Interconnection Request for CNR Interconnection Service shall complete the following milestones prior to receiving CNR Interconnection Service for the CNR Capability, such milestones to be specified in Appendix B of the LGIA, as either completed or to be completed: (i) submit the necessary requests for participation in the Forward Capacity Auction associated with the Generating Facility's requested Commercial Operation Date (except as modified pursuant to Sections 3.2.3 or 4.4 of this LGIP), in accordance with the provisions of Section III.13 of the Tariff; (ii) participate in a CNR Group Study for the Forward Capacity Auction associated with the requested Generating Facility's Commercial Operation Date; (iii) qualify and receive a Capacity Supply Obligation in accordance with Section III.13 of the Tariff; and (iv) complete a re-study of the applicable Interconnection Study and CNR Group Study after the Forward Capacity Auction, Reconfiguration Auction, or bilateral transaction through which the Interconnection Customer received a Capacity Supply Obligation to determine the cost responsibility for facilities and upgrades necessary to accommodate the Interconnection Request. The re-study shall include those CNR Interconnection Service or CNI Interconnection Service Interconnection Requests with a higher Queue Position that cleared and shall exclude any upgrades that are no longer necessary as a result of existing capacity that will be retired as of the start of the Capacity Commitment Period for which

the resource has received a Capacity Supply Obligation. With respect to (iv) above, if an Interconnection Study Agreement has been executed, the Interconnection Study associated with the Interconnection Study Agreement shall include the necessary analysis that would otherwise have been performed in a re-study. If the original Interconnection Study is complete and the final invoice has been issued, the re-study shall be performed under a new Interconnection Study Agreement. If an LGIA has been either executed or filed with the Commission in unexecuted form, then the last Interconnection Study completed for the Interconnection Customer under this LGIP shall be subject to re-study. The Appendices to the LGIA shall be amended (pursuant to Article 30 of the LGIA) to reflect CNR Capability and the results of the re-study.

### **3.2.2 Network Resource Interconnection Service**

#### **3.2.2.1 The Product.**

The System Operator must conduct the necessary studies in conjunction with the Interconnecting Transmission Owner, and with other Affected Parties as appropriate and in accordance with applicable codes of conduct and confidentiality requirements, and the Interconnecting Transmission Owner and other Affected Parties as appropriate must construct the Network Upgrades needed to interconnect the Large Generating Facility in a manner comparable to that in which Network Resources are interconnected under the NC Interconnection Standard. NR Interconnection Service allows the Interconnection Customer's Large Generating Facility to participate in the New England Markets, in accordance with the provisions of Market Rule 1, Section III of the Tariff, up to the net NR Capability or as otherwise provided in Market Rule 1, Section III of the Tariff, on the same basis as other Network Resources. Notwithstanding the above, the portion of a Large Generating Facility that has been designated as a Network Resource interconnected under the NC Interconnection Standard cannot be a capacity resource under Section III.13 of the Tariff, except pursuant to a new Interconnection Request for CNR Interconnection Service.

#### **3.2.2.2 The Studies.**

The Interconnection Studies for an Network Resource shall assure that the Interconnection Customer's Large Generating Facility satisfies the minimum characteristics required to interconnect in a manner that avoids any significant adverse effect on reliability, stability, and operability of the New England

Transmission System, including protecting against the degradation of transfer capability for interfaces affected by the unit, in accordance with the NC Interconnection Standard and as detailed in the ISO New England Planning Procedures. The System Operator, in coordination with the Interconnecting Transmission Owner, may also study the New England Transmission System under non-peak load conditions. However, upon request by the Interconnection Customer, the System Operator and as appropriate the Interconnecting Transmission Owner must explain in writing to the Interconnection Customer why the study of non-peak load conditions is required for reliability purposes.

### **3.2.2.3 Milestones for NR Interconnection Service.**

An Interconnection Customer with an Interconnection Request for NR Interconnection Service shall complete the requirements in this LGIP prior to receiving NR Interconnection Service.

## **3.2.3 Long Lead Time Facility Treatment**

### **3.2.3.1 Treatment of Long Lead Facilities.**

Long Lead Facilities receive the treatment described herein in connection with the associated request of the Interconnection Customer for CNR Interconnection Service for its Large Generating Facility or CNI Interconnection Service for its External ETU that is a controllable Merchant Transmission Facility or Other Transmission Facility. Long Lead Facility treatment provides for the Interconnection Customer's Generating Facility or controllable Merchant Transmission Facility or Other Transmission Facility External ETU, after the completion of the Interconnection System Impact Study, to be modeled in the Base Cases for the next CNR Group Study to determine whether the Long Lead Facility would have qualified or enabled the qualification of an Import Capacity Resource to participate in the Forward Capacity Auction associated with that CNR Group Study, in accordance with Section III.13.1.2 of the Tariff, but for the Long Lead Facility's development cycle (which shall include development of required transmission upgrades). If the Long Lead Facility is deemed to qualify or have enabled an associated Import Capacity Resource to qualify, the Long Lead Facility shall be included in the re-study pursuant to Section 3.2.1.3(iv) in order to determine the facilities and upgrades that would be necessary in order to accommodate the Interconnection Request of the Long Lead Facility, and for which costs the Interconnection Customer must be responsible. In order to maintain Long Lead Facility status, the Interconnection Customer must commit to the completion of these facilities and upgrades in time to allow

the Long Lead Facility to achieve its Commercial Operation Date by the start of the associated Capacity Commitment Period. In addition, the Long Lead Facility will be treated as a New Generating Capacity Resource in the case of a Generating Facility or as if an Import Capacity Resource associated with the Long Lead Facility cleared in the case of an External ETU for the sole purpose of inclusion of the Long Lead Facility in the CNR Group Studies for the Forward Capacity Auctions that precede the Forward Capacity Auction for the Capacity Commitment Period by which the Long Lead Facility is expected to have achieved Commercial Operation. If an earlier-queued Generating Facility seeking CNR Interconnection Service or an Import Capacity Resource associated with an Elective Transmission Upgrade that is seeking CNI Interconnection Service obtains a Capacity Supply Obligation in a Forward Capacity Auction prior to or simultaneous with the Forward Capacity Auction in which the Long Lead Facility or its contractual counterparty in the case of an Elective Transmission Upgrade obtains a Capacity Supply Obligation, the Long Lead Facility will be re-studied in order to determine whether any additional facilities and upgrades to those identified prior to the CNR Group Study must be completed, at the Interconnection Customer's cost, prior to its Commercial Operation Date. A Long Lead Facility's cost responsibility for the facilities necessary to accommodate the Interconnection Request shall not be impacted by a Generating Facility or an External ETU with a Queue Position lower than the Long Lead Facility or its counterparty in the case of an External ETU that clears in a Forward Capacity Auction, in accordance with Section III.13.2 of the Tariff, prior to the clearance of the Long Lead Facility.

#### **3.2.3.2 Request for Long Lead Facility Treatment.**

An Interconnection Customer requesting CNR Interconnection Service for its proposed Generating Facility or CNI Interconnection Service for its proposed controllable Merchant Transmission Facility or Other Transmission Facility External ETU, which the Interconnection Customer projects to have a development cycle that would not be completed until after the beginning of the Capacity Commitment Period associated with the next Forward Capacity Auction (after the election for the Long Lead Facility is made) may elect or request Long Lead Facility treatment in the following manner:

- (a) An Interconnection Customer proposing a Generating Facility or a controllable Merchant Transmission Facility or Other Transmission Facility External ETU with a requested CNR Interconnection Service or CNI Interconnection Service equal to or greater than 100 MW may

elect Long Lead Facility treatment at the time the Interconnection Request is submitted, together with the critical path schedule and deposits required in Section 3.2.3.3.

(b) An Interconnection Customer proposing a Generating Facility or a controllable Merchant Transmission Facility or Other Transmission Facility External ETU with a requested CNR Interconnection Service or CNI Interconnection Service under 100 MW may request Long Lead Facility treatment by submitting a written request to the System Operator for its review and approval, explaining why the Generating Facility or the controllable Merchant Transmission Facility or Other Transmission Facility External ETU cannot achieve Commercial Operation by the beginning of the Capacity Commitment Period associated with the next Forward Capacity Auction (after the election for Long Lead Facility treatment is made), together with the critical path schedule and deposits required in Section 3.2.3.3. In reviewing the request, the System Operator shall evaluate the feasibility of the Generating Facility or the controllable Merchant Transmission Facility or Other Transmission Facility External ETU achieving Commercial Operation to meet an earlier Capacity Commitment Period based on the information provided in the request and the critical path schedule submitted pursuant to Section 3.2.3.3, in a manner similar to that performed under Section III.13.3.2 of the Tariff. Within forty-five (45) Business Days after its receipt of the request for Long Lead Facility treatment, the System Operator shall notify the Interconnection Customer in writing whether the request has been granted or denied. If the System Operator determines that the Generating Facility or the controllable Merchant Transmission Facility or Other Transmission Facility External ETU can achieve a Commercial Operation Date prior to the beginning of the Capacity Commitment Period associated with the next Forward Capacity Auction, the Interconnection Customer's request shall be denied. The dispute resolution provisions of the LGIP in the case of a Generating Facility or the ETU IP for an External ETU are not available for disputes or claims associated with the ISO's determination to deny an Interconnection Customer's request for Long Lead Facility treatment.

(c) An Interconnection Customer that did not request Long Lead Facility treatment at the time the Interconnection Request was submitted, may thereafter submit a request for treatment as a Long Lead Facility, together with the critical path schedule and deposits required in Section 3.2.3.3 and, if applicable, a request for an extension of the Commercial Operation Date specified

in the Interconnection Request in accordance with Sections 4.4.4 and 4.4.5. A request for Long Lead Facility treatment that is submitted after the initial Interconnection Request will not be eligible to participate in any Forward Capacity Auction prior to the Forward Capacity Auction associated with the extended Commercial Operation Date. The Long Lead Facility will be modeled in the Base Cases for the CNR Study Group associated with the near term Forward Capacity Auction unless that CNR Study Group is underway, in which case the Long Lead Facility will be modeled in the next CNR Study Group.

### **3.2.3.3 Critical Path Schedule and Deposits for Long Lead Facility Treatment.**

At the time an Interconnection Customer submits an election or request for Long Lead Facility treatment, the Interconnection Customer must submit, together with the request:

**(1) Critical Path Schedule.** A critical path schedule, in writing, for the Long Lead Facility (with a development cycle that would not be completed until after the beginning of the Capacity Commitment Period associated with the next Forward Capacity Auction (after the election for the Long Lead Facility is made) that meets the requirements set forth in Section III.13.1.1.2.2.2 of the Tariff. The Interconnection Customer must submit annually, in writing, an updated critical path schedule to the System Operator by the closing deadline of each New Capacity Show of Interest Submission Window that precedes the Forward Capacity Auction associated with the Capacity Commitment Period by which the Long Lead Facility is expected to have achieved Commercial Operation, prior to the inclusion of the Long Lead Facility in the Base Case for the CNR Group Study associated with the corresponding New Capacity Show of Interest Submission Window. With its annual update, for each critical path schedule milestone achieved since the submission of the previous critical path schedule update, the Interconnection Customer must include in the critical path update documentation demonstrating that the milestone has been achieved by the date indicated and as otherwise described in the critical path schedule.

### **(2) Long Lead Facility Deposits.**

**(a) Deposits.** In addition to the deposits required elsewhere in the LGIP in the case of a Generating Facility or the ETU IP for External ETU, at the time of its request for Long Lead

Facility treatment, in accordance with Section 3.2.3.3, and by each deadline for which a New Generating Capacity Resource is required to provide financial assurance under Section III.13.1.9.1 of the Tariff, the Interconnection Customer must provide a separate deposit in the amount of  $0.25 * (\text{Forward Capacity Auction Starting Price } (\$/\text{kW-mo}) / 2) * \text{requested CNR Capability or CNI Capability}$ . For each calculation of the deposit, the System Operator shall use the Forward Capacity Auction Starting Price in effect for the upcoming Forward Capacity Auction at the time of that calculation, pursuant to Section III.13.2.4 of the Tariff, or the Forward Capacity Auction Starting Price for the previous Forward Capacity Auction in the case where the Forward Capacity Auction Starting Price in effect for the upcoming Forward Capacity Auction has not yet been calculated. The total amount of deposits shall not exceed the Non-Commercial Capacity Financial Assurance Amount that the Long Lead Facility would be required to provide if the Long Lead Facility or its counterparty cleared in the upcoming Forward Capacity Auction, in accordance with Section III.13.1.9.1 of the Tariff. The Long Lead Facility deposits will be fully refunded (with interest to be calculated in accordance with Section 3.7) (i) if the Interconnection Customer withdraws the Interconnection Request, pursuant to Section 3.7, within thirty (30) Calendar Days of the Scoping Meeting or of the completion of the System Impact Study (including restudy of the System Impact Study), pursuant to Section 7, or (ii) once the Long Lead Facility or its counterparty clears in a Forward Capacity Auction.

**(b) Reductions.** Ten (10) percent of the Long Lead Facility deposits collected pursuant to Section 3.2.3.3(2)(a) shall be non-refundable if the Interconnection Customer withdraws its Interconnection Request (except as provided in Section 3.2.3.3(2)(a)) after the Long Lead Facility or its counterparty fails to qualify or qualifies and fails to clear in the Forward Capacity Auction that follows the first Forward Capacity Auction for which the Long Lead Facility or its counterparty could qualify based on the Commercial Operation Date specified in the initial critical path schedule for the Long Lead Facility. An additional five (5) percent of the Long Lead Facility deposits collected pursuant to Section 3.2.3.3(2)(a) shall be non-refundable if the Interconnection Customer withdraws its Interconnection Request (except as provided in Section 3.2.3.3(2)(a)) following each subsequent Forward Capacity Auction in which the Long Lead Facility or its counterparty fails to qualify or qualifies and fails to clear such Forward Capacity Auction, not to exceed the maximum period allowed under Sections 3.4.1, 4.4.4 and 4.4.5. The



non-refundable portions of the deposits shall be credited to the revenue requirements under Schedule 1 of Section IV of the Tariff.

#### **3.2.3.4 Withdrawal and Refunds After Expenditures for Upgrades.**

An Interconnection Customer that provides documentation in the critical path schedule update to be submitted in accordance with Section 3.2.3.3(1), showing expenditures of the required amounts for upgrades identified in the Interconnection Studies for the Long Lead Facility, may submit a withdrawal of the Interconnection Request for the Long Lead Facility, in accordance with Section 3.7, at any time up to thirty (30) Calendar Days, after the Long Lead Facility's or its counterparty's failure to clear in any Forward Capacity Auction. In such instance, the Interconnection Customer shall receive a refund from the System Operator of the Long Lead Facility deposits (with interest to be calculated in accordance with Section 3.7) as adjusted pursuant to 3.2.3.3(2), if appropriate, and from the Interconnecting Transmission Owner a refund of the payments for the upgrades that exceed the costs incurred by the Interconnecting Transmission Owner. If the Interconnection Customer withdraws only its election or request for Long Lead Facility treatment, such withdrawal will be considered a Material Modification and the Long Lead Facility will lose its Queue Position unless its withdrawal occurs within one of the thirty (30)-day periods described in Section 3.2.3.3(2) of the LGIP in the case of a Generating Facility or the ETU IP for an External ETU.

#### **3.2.3.5 Additional Requirements to Maintain Long Lead Facility Treatment.**

An Interconnection Customer with a Long Lead Facility must begin payment as required by the transmission expenditure schedule for the transmission upgrade costs that have been identified in the pertinent Interconnection Studies. The Interconnection Request for CNR Interconnection Service shall be deemed withdrawn under Section 3.7 if the Interconnection Customer fails to comply with the requirements for Long Lead Facility treatment, including the milestones specified in Section 3.2.1.4. In this circumstance, the conditions specified in an Interconnection Agreement for a Generating Facility seeking CNR Interconnection Service or External ETU seeking CNI Interconnection Service that had an Interconnection Request of a Queue Position lower than the Long Lead Facility, but cleared (in the case of the Elective Transmission Upgrade, the Import Capacity Resource) in a Forward Capacity Auction prior to the Long Lead Facility, shall be removed.

### **3.2.3.6 Participation in Earlier Forward Capacity Auctions.**

An Interconnection Customer with a Long Lead Facility may, without loss of Queue Position, elect to participate in an earlier Forward Capacity Auction than originally anticipated, but only if the election to accelerate is made to the System Operator in writing within thirty (30) Calendar Days of the Scoping Meeting or within thirty (30) Calendar Days of the completion of the System Impact Study (but before the Long Lead Facility and the results of the associated System Impact Study are incorporated into the Base Cases). Otherwise, such an election shall be considered a Material Modification.

### **3.3 Utilization of Surplus Interconnection Service.**

Surplus Interconnection Service allows an existing Interconnection Customer whose Generating Facility is already interconnected to the Administered Transmission System and is in Commercial Operation to utilize or transfer Surplus Interconnection Service at the existing Generating Facility's existing Point of Interconnection. For purposes of Surplus Interconnection Service, the existing Interconnection Customer is referred to as the "Original Interconnection Customer," and the entity requesting Surplus Interconnection Service is referred to as the "Surplus Interconnection Customer." The Original Interconnection Customer or, with written consent of the Original Interconnection Customer, one of its affiliates shall have priority to utilize Surplus Interconnection Service. If the Original Interconnection Customer or one of its affiliates does not exercise this priority, then the Surplus Interconnection Service may be utilized by a third party of the Original Interconnection Customer's choosing and with the Original Interconnection Customer's written consent.

Surplus Interconnection Service may be available for any Unused Capability of Interconnection Service established in the Interconnection Agreement for the Original Interconnection Customer's Generating Facility. If the Interconnection Agreement for the Original Interconnection Customer's Generating Facility is for CNR Interconnection Service, any Surplus Interconnection Service may be for CNR Interconnection Service or NR Interconnection Service. If the Interconnection Agreement for the Original Interconnection Customer's Generating Facility is for NR Interconnection Service, any Surplus Interconnection Service shall be for NR Interconnection Service. Surplus Interconnection Service is not applicable when a new Interconnection Request for Interconnection Service or Network Upgrades would be required to implement the proposed

change to the Original Interconnection Customer's Generating Facility. Surplus Interconnection Service is also not available for a retirement or repowering of the Original Interconnection Customer's Generating Facility.

The Original Interconnection Customer shall specify the amount of Unused Capability that is available for use by the Surplus Interconnection Customer's Generating Facility. The total output of the Original Interconnection Customer's Generating Facility plus the Surplus Interconnection Customer's Generating Facility behind the same Point of Interconnection shall be limited to the maximum total amount of Interconnection Service granted to the Original Interconnection Customer as established in the Interconnection Agreement for the Original Interconnection Customer's Generating Facility. Control technology to restrict the total output of the Original Interconnection Customer's and Surplus Interconnection Customer's Generating Facilities shall be required in the case where the sum of the maximum output of the Original Interconnection Customer's Generating Facility plus the maximum output of the Surplus Interconnection Customer's Generating Facility exceeds the total amount of Interconnection Service established in the Original Interconnection Customer's Interconnection Agreement. Surplus Interconnection Service shall only be available at the existing Point of Interconnection of the Original Interconnection Customer's Generating Facility.

### **3.3.1 Surplus Interconnection Service Request**

An Original Interconnection Customer or, with the consent of the Original Interconnection Customer, its affiliate or a third party of the Original Interconnection Customer's choosing may request Surplus Interconnection Service by submitting to the System Operator a completed Surplus Interconnection Service Request Application in the form contained in Attachment C to Appendix 1 of the LGIP. The Surplus Interconnection Service Request Application shall be accompanied by the Original Interconnection Customer's written consent for the Surplus Interconnection Customer's use of Unused Capability for Surplus Interconnection Service, and the technical data called for in the form.

Studies for Surplus Interconnection Service may consist of reactive power, short circuit/fault duty, stability analyses, and/or other appropriate studies. Steady-state (thermal/voltage) analyses

may be performed as necessary to ensure that all required reliability conditions are studied. The study shall consider the full Generating Facility capability to ensure the acceptability of the proposed control technology to restrict the total output of the Original Interconnection Customer's and Surplus Interconnection Customer's Generating Facilities. If the Surplus Interconnection Service was not studied under off-peak conditions, off-peak steady state analyses shall be performed to the required level necessary to demonstrate reliable operation of the Surplus Interconnection Service. If the original Interconnection System Impact Study is not available for Surplus Interconnection Service, both off-peak and peak analysis may need to be performed for the existing Generating Facility associated with the request for Surplus Interconnection Service. The reactive power, short circuit/fault duty, stability, and steady-state analyses for Surplus Interconnection Service will identify any additional Interconnection Facilities and/or Network Upgrades necessary. Any analyses shall be performed at the Surplus Interconnection Customer's expense.

The Interconnection Agreement for the Original Interconnection Customer's Generating Facility shall be replaced by a new agreement among the System Operator, Interconnecting Transmission Owner, Original Interconnection Customer, and Surplus Interconnection Customer. The agreement shall be in the form of the most currently effective LGIA, modified to reflect the Surplus Interconnection Customer's Generating Facility and the amount of, and the terms for the use of, the Surplus Interconnection Service. The agreement shall be developed and negotiated in accordance with Section 11 of the LGIP, at the Surplus Interconnection Customer's expense.

### **3.4 Valid Interconnection Request.**

#### **3.4.1 Initiating an Interconnection Request.**

To initiate and establish a valid Interconnection Request, Interconnection Customer must submit all of the following to the System Operator in the manner specified in Appendix 1 Interconnection Request to this LGIP: (i) an initial deposit of \$50,000, (ii) a completed application in the form of Appendix 1, (iii) all information and deposits required under Section 3.2, and (iv) in the case of a request for CNR Interconnection Service, demonstration of Site Control or, in the case of a request for NR Interconnection Service, demonstration of Site Control or a posting of an additional deposit of \$10,000. Interconnection

Customer does not need to demonstrate Site Control where the Interconnection Request is for a modification to the Interconnection Customer's existing Large Generating Facility and the Interconnection Customer has certified in the Interconnection Request that it has Site Control and that the modification proposed in the Interconnection Request does not require additional real property. The portions of the deposit of \$50,000 that have not been applied as provided in this Section 3.4.1 shall be refundable if (i) the Interconnection Customer withdraws the Interconnection Request, pursuant to Section 3.7, within ten (10) Business Days of the Scoping Meeting, (ii) the Interconnection Customer that is eligible for inclusion in a CSIS withdraws the Interconnection Request, pursuant to Section 4.2.3.2.1, by the Cluster Entry Deadline, (iii) the Interconnection Customer that is eligible for inclusion in a CSIS requests, by the Cluster Entry Deadline, to be re-assigned a Queue Position at the bottom of the queue, pursuant to Section 4.2.3.2.1, in relative order with any other Interconnection Request also requesting to be re-queued pursuant to Section 4.2.3.2.1, in which case the unused balance of the deposit of \$50,000 (and any study-related deposits, if any have been submitted) shall be applied toward the re-queued Interconnection Request's initial deposit of \$50,000 and any remaining balance will be refunded, or (iv) if the Interconnection Customer executes an LGIA. Otherwise, any unused balance of the deposit of \$50,000 shall be non-refundable and applied on a pro-rata basis to offset costs incurred by Interconnection Customers with lower Queue Positions that are subject to re-study, as determined by the System Operator in accordance with the provisions of this LGIP, as a result of the withdrawal of an Interconnection Request with a higher Queue Position.

The deposit of \$50,000 shall be applied toward the costs incurred by the System Operator associated with the Interconnection Request and Long Lead Facility treatment, as well as, the costs of the Interconnection Feasibility Study and/or the Interconnection System Impact Study, including the cost of developing the study agreements and their attachments, and the cost of developing the LGIA. For Interconnection Requests that are identified for inclusion in a CRPS performed under Section 15 of Attachment K, Section II of the Tariff, the deposit of \$50,000 also shall be applied toward the costs incurred by the Interconnecting Transmission Owner in developing the cost estimates in support of the CRPS.

If, in the case of a request for NR Interconnection Service, the Interconnection Customer demonstrates Site Control within the cure period specified in Section 3.4.3 after submitting its Interconnection Request, the additional deposit of \$10,000 shall be refundable; otherwise, that deposit shall be applied as provided

in Section 3.1, including, toward the costs of any Interconnection Studies pursuant to the Interconnection Request, the cost of developing the study agreement(s) and associated attachment(s), and the cost of developing the LGIA. For Interconnection Requests that are identified for inclusion in a CRPS performed under Section 15 of Attachment K, Section II of the Tariff, the deposit also shall be applied toward the costs incurred by the Interconnecting Transmission Owner in developing the cost estimates in support of the CRPS. The portions of the deposit of \$10,000 that have not been applied as provided in this Section 3.4.1 also shall be refundable if (i) the Interconnection Customer withdraws the Interconnection Request, pursuant to Section 3.7, within ten (10) Business Days of the Scoping Meeting, (ii) the Interconnection Customer that is eligible for inclusion in a CSIS withdraws the Interconnection Request, pursuant to Section 4.2.3.2.1, by the Cluster Entry Deadline, (iii) the Interconnection Customer that is eligible for inclusion in a CSIS requests, by the Cluster Entry Deadline, to be re-assigned a Queue Position at the bottom of the queue, pursuant to Section 4.2.3.2.1, in which case the unused balance of the deposit shall be applied toward the re-queued Interconnection Request in lieu of Site Control for NR Interconnection Service, or (iv) if the Interconnection Customer executes an LGIA.

The expected Initial Synchronization Date of the new Large Generating Facility, of the increase in capacity of the existing Generating Facility, or of the implementation of the Material Modification to the existing Generating Facility shall not exceed seven (7) years from the date the Interconnection Request is received by the System Operator, unless the Interconnection Customer demonstrates that such time required to actively engineer, permit and construct the new Large Generating Facility or increase in capacity of the existing Generating Facility or implement the Material Modification to the existing Generating Facility will take longer than the seven year period. Upon such demonstration, the Initial Synchronization Date may succeed the date the Interconnection Request is received by the System Operator by a period of greater than seven (7) years so long as the Interconnection Customer, System Operator, and Interconnecting Transmission Owner agree, such agreement shall not be unreasonably withheld.

#### **3.4.2 Acknowledgment of Interconnection Request.**

System Operator shall acknowledge receipt of the Interconnection Request within five (5) Business Days of receipt of the request and attach a copy of the received Interconnection Request to the acknowledgement. With the System Operator's acknowledgement of a valid Interconnection Request, the

System Operator shall provide to the Interconnection Customer an Interconnection Feasibility Study Agreement in the form of Appendix 2 or an Interconnection System Impact Study Agreement in the form of Appendix 3.

#### **3.4.3 Deficiencies in Interconnection Request.**

An Interconnection Request will not be considered to be a valid Interconnection Request until all items in Section 3.4.1 have been received by the System Operator. If an Interconnection Request fails to meet the requirements set forth in Section 3.4.1, the System Operator shall notify the Interconnection Customer within five (5) Business Days of receipt of the initial Interconnection Request of the reasons for such failure and that the Interconnection Request does not constitute a valid request. Interconnection Customer shall provide the System Operator the additional requested information needed to constitute a valid request within ten (10) Business Days after receipt of such notice. Failure by Interconnection Customer to comply with this Section 3.4.3 shall be treated in accordance with Section 3.7.

#### **3.4.4 Scoping Meeting.**

Within ten (10) Business Days after receipt of a valid Interconnection Request, System Operator shall establish a date agreeable to Interconnection Customer, Interconnecting Transmission Owner, and any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements, for a Scoping Meeting, and such date shall be no later than thirty (30) Calendar Days from receipt of the valid Interconnection Request, unless otherwise mutually agreed upon by the Parties.

The purpose of the Scoping Meeting shall be (i) to discuss the estimated timeline for completing all applicable Interconnection Studies, and alternative interconnection options, (ii) to exchange pertinent information including any transmission data that would reasonably be expected to impact such interconnection options, (iii) to analyze such information, (iv) to determine the potential feasible Points of Interconnection, and (v) to discuss any other information necessary to facilitate the administration of the Interconnection Procedures. A PSCAD model is required for all wind and inverter-based Large Generating Facilities. If a PSCAD model is required for other Large Generating Facility types, the Parties shall discuss this at the Scoping Meeting. If the Interconnection Customer provided the technical data

called for in Appendix 1, Attachment A (and Attachment A-1, if applicable) with the Interconnection Request, the Parties shall discuss the detailed project design at the Scoping Meeting.

The Parties will bring to the meeting such technical data, including, but not limited to: (i) general facility loadings, (ii) general instability issues, (iii) information regarding general short circuit issues, (iv) general voltage issues, and (v) general reliability issues as may be reasonably required to accomplish the purpose of the meeting. The Parties will also bring to the meeting personnel and other resources as may be reasonably required to accomplish the purpose of the meeting in the time allocated for the meeting. On the basis of the meeting, Interconnection Customer shall designate its Point of Interconnection, pursuant to Section 6.1, and one or more available alternative Point(s) of Interconnection. The duration of the meeting shall be sufficient to accomplish its purpose.

Unless the Interconnection Request has been identified to be included in a CRPS or eligible for inclusion in a CSIS, within five (5) Business Days following the Scoping Meeting Interconnection Customer shall notify the System Operator, in writing, (i) of its election to pursue the Interconnection Feasibility Study or the Interconnection System Impact Study; (ii) if electing to pursue the Interconnection Feasibility Study, which of the alternate study scopes is being selected pursuant to Section 6.2; and (iii) the Point of Interconnection and any reasonable alternative Point(s) of Interconnection for inclusion in the attachment to the Interconnection Feasibility Study Agreement, or the Point of Interconnection for inclusion in the attachment to the Interconnection System Impact Study Agreement if the Interconnection Customer elects not to pursue the Interconnection Feasibility Study.

### **3.5 OASIS Posting.**

#### **3.5.1**

The System Operator will maintain on its OASIS a list of all Interconnection Requests in its Control Area. The list will identify, for each Interconnection Request: (i) the maximum summer and winter megawatt electrical output; (ii) the location by county and state; (iii) the station or transmission line or lines where the interconnection will be made; (iv) the projected Initial Synchronization Date; (v) the status of the Interconnection Request, including Queue Position; (vi) the type of Interconnection Service being requested (i.e., CNR Interconnection Service or NR Interconnection Service); and (vii) the



availability of any studies related to the Interconnection Request; (viii) the date of the Interconnection Request; (ix) the type of Generating Facility to be constructed (combined cycle, base load or combustion turbine and fuel type); and (x) for Interconnection Requests that have not resulted in a completed interconnection, an explanation as to why it was not completed. Except in the case of an Affiliate, the list will not disclose the identity of the Interconnection Customer until the Interconnection Customer executes an LGIA or requests that the System Operator and Interconnecting Transmission Owner jointly file an unexecuted LGIA with the Commission. Before participating in a Scoping Meeting with an Interconnection Customer that is also an Affiliate, the Interconnecting Transmission Owner shall post on OASIS an advance notice of its intent to do so. The System Operator shall post to its OASIS site any deviations from the study timelines set forth herein. Interconnection Study reports and Optional Interconnection Study reports shall be posted to the System Operator's OASIS site subsequent to the meeting between the System Operator, Interconnecting Transmission Owner, and Interconnection Customer to discuss the applicable study results. The System Operator shall also post any known deviations in the Large Generating Facility's Initial Synchronization Date.

### **3.5.2 Requirements to Post Interconnection Study Metrics**

The System Operator will maintain on its website summary statistics related to processing Interconnection Studies pursuant to Interconnection Requests, updated quarterly. If the System Operator posts this information on its website, a link to the information must be provided on the System Operator's OASIS site. For each calendar quarter, the System Operator must calculate and post the information detailed in Sections 3.5.2.1 through 3.5.2.4.

#### **3.5.2.1 Interconnection Feasibility Studies Processing Time.**

(A) Number of Interconnection Requests that had Interconnection Feasibility Studies completed for the System Operator's Administered Transmission System during the reporting quarter,

(B) Number of Interconnection Requests that had Interconnection Feasibility Studies completed for the System Operator's Administered Transmission System during the reporting quarter that were completed more than ninety (90) Calendar Days after receipt by System Operator of the Interconnection Customer's executed Interconnection Feasibility Study Agreement,

(C) At the end of the reporting quarter, the number of active valid Interconnection Requests with ongoing incomplete Interconnection Feasibility Studies where such Interconnection Requests had executed Interconnection Feasibility Study Agreements received by System Operator more than ninety (90) Calendar Days before the reporting quarter end,

(D) Mean time (in days), Interconnection Feasibility Studies completed for the System Operator's Administered Transmission System during the reporting quarter, from the date when System Operator received the executed Interconnection Feasibility Study Agreement to the date when System Operator provided the completed Interconnection Feasibility Study to the Interconnection Customer,

(E) Percentage of Interconnection Feasibility Studies exceeding ninety (90) Calendar Days to complete this reporting quarter, calculated as the sum of 3.5.2.1(B) plus 3.5.2.1(C) divided by the sum of 3.5.2.1(A) plus 3.5.2.1(C).

#### **3.5.2.2 Interconnection System Impact Studies Processing Time.**

(A) Number of Interconnection Requests that had Interconnection System Impact Studies completed for the System Operator's Administered Transmission System during the reporting quarter,

(B) Number of Interconnection Requests that had Interconnection System Impact Studies completed for the System Operator's Administered Transmission System during the reporting quarter that were completed more than two hundred and seventy (270) Calendar Days after receipt by System Operator of the Interconnection Customer's executed Interconnection System Impact Study Agreement,

(C) At the end of the reporting quarter, the number of active valid Interconnection Requests with ongoing incomplete System Impact Studies where such Interconnection Requests had executed Interconnection System Impact Study Agreements received by System Operator more than two

hundred and seventy (270) Calendar Days before the reporting quarter end,

(D) Mean time (in days), Interconnection System Impact Studies completed for the System Operator's Administered Transmission System during the reporting quarter, from the date when System Operator received the executed Interconnection System Impact Study Agreement to the date when System Operator provided the completed Interconnection System Impact Study to the Interconnection Customer,

(E) Percentage of Interconnection System Impact Studies exceeding two hundred and seventy (270) Calendar Days to complete this reporting quarter, calculated as the sum of 3.5.2.2(B) plus 3.5.2.2(C) divided by the sum of 3.5.2.2(A) plus 3.5.2.2(C).

### **3.5.2.3 Interconnection Facilities Studies Processing Time.**

(A) Number of Interconnection Requests that had Interconnection Facilities Studies that are completed for the System Operator's Administered Transmission System during the reporting quarter,

(B) Number of Interconnection Requests that had Interconnection Facilities Studies that are completed for the System Operator's Administered Transmission System during the reporting quarter that were completed more than ninety (90) Calendar Days for no more than +/- 20 percent cost estimate or one hundred eighty (180) Calendar Days for +/- 10 percent cost estimate after receipt by System Operator of the Interconnection Customer's executed Interconnection Facilities Study Agreement,

(C) At the end of the reporting quarter, the number of active valid Interconnection Requests with ongoing incomplete Interconnection Facilities Studies where such Interconnection Requests had executed Interconnection Facilities Studies Agreement received by System Operator more than ninety (90) Calendar Days for no more than +/- 20 percent cost estimate or one hundred eighty (180) Calendar Days for +/- 10 percent cost estimate before the reporting quarter end,

(D) Mean time (in days), for Interconnection Facilities Studies completed for the System Operator's Administered Transmission System during the reporting quarter, calculated from the date when System Operator received the executed Interconnection Facilities Study Agreement to the date when System Operator provided the completed Interconnection Facilities Study to the Interconnection Customer,

(E) Percentage of delayed Interconnection Facilities Studies this reporting quarter, calculated as the sum of 3.5.2.3(B) plus 3.5.2.3(C) divided by the sum of 3.5.2.3(A) plus 3.5.2.3(C).

#### **3.5.2.4 Interconnection Requests Withdrawn from Interconnection Queue.**

(A) Number of Interconnection Requests withdrawn from System Operator's interconnection queue during the reporting quarter,

(B) Number of Interconnection Requests withdrawn from System Operator's interconnection queue during the reporting quarter before completion of any Interconnection Studies or execution of any Interconnection Study Agreements,

(C) Number of Interconnection Requests withdrawn from System Operator's interconnection queue during the reporting quarter before completion of an Interconnection System Impact Study,

(D) Number of Interconnection Requests withdrawn from System Operator's interconnection queue during the reporting quarter before completion of an Interconnection Facility Study,

(E) Number of Interconnection Requests withdrawn from System Operator's interconnection queue after execution of an LGIA or Interconnection Customer requests the filing of an unexecuted LGIA,

(F) Mean time (in days), for all withdrawn Interconnection Requests, from the date when the request was determined to be valid to when System Operator received the request to withdraw from the queue.

3.5.3 System Operator is required to post on its website the measures in paragraph 3.5.2.1(A) through paragraph 3.5.2.4(F) for each calendar quarter within 30 days of the end of the calendar quarter. System Operator will keep the quarterly measures posted on its website for three calendar years with the first required report to be the first quarter of 2020. If System Operator retains this information on its website, a link to the information must be provided on System Operator's OASIS site.

3.5.4 In the event that any of the values calculated in paragraphs 3.5.2.1(E), 3.5.2.2(E) or 3.5.2.3(E) exceeds 25 percent for two consecutive calendar quarters, System Operator will have to comply with the measures below for the next four consecutive calendar quarters and must continue reporting this information until System Operator reports four consecutive calendar quarters without the values calculated in 3.5.2.1(E), 3.5.2.2(E) or 3.5.2.3(E) exceeding 25 percent for two consecutive calendar quarters:

(i) System Operator must submit a report to the Commission describing the reason for each study or group of clustered studies pursuant to an Interconnection Request that exceeded its deadline (*i.e.*, 45, 90 or 180 days) for completion (excluding any allowance for Reasonable Efforts). System Operator must describe the reasons for each study delay and any steps taken to remedy these specific issues and, if applicable, prevent such delays in the future. The report must be filed at the Commission within 45 days of the end of the calendar quarter.

(ii) System Operator shall aggregate the total number of employee hours and third party consultant hours expended towards Interconnection Studies for its Administered Transmission System that quarter and post on its website. If System Operator posts this information on its website, a link to the information must be provided on System Operator's OASIS site. This information is to be posted within 30 days of the end of the calendar quarter.

### **3.6 Coordination with Affected Systems.**

The System Operator will coordinate the conduct of any studies required to determine the impact of the Interconnection Request on Affected Systems with Affected Parties and, if possible, include those results

(if available) in its applicable Interconnection Study within the time frame specified in this LGIP. The System Operator will include such Affected Parties in all meetings held with the Interconnection Customer as required by this LGIP. The Interconnection Customer will cooperate with the System Operator and Interconnecting Transmission Owner in all matters related to the conduct of studies and the determination of modifications to Affected Systems. The Interconnection Customer shall be responsible for the costs associated with the studies or portions of studies associated with the Affected Systems. Payment and refunds associated with the costs of such studies will be coordinated between the Interconnection Customer and the Affected Party(ies) unless such costs are included in the costs of the Interconnection Study, in which case, the Affected Party(ies) shall provide System Operator on a monthly basis, and in the form and format specified by the System Operator, invoices for the work conducted on the respective Interconnection Study each month and shall include in such invoices all employee hours and third party consultant hours, including subcontractor hours, expended toward the Interconnection Studies.

The System Operator shall seek the cooperation of all Affected Parties in all matters related to the conduct of studies and the determination of modifications to Affected Systems. Nothing in the foregoing is intended to authorize the Interconnection Customer to receive interconnection, related facilities or other services on an Affected System, and provision of such services must be handled through separate arrangements with Affected Party(ies).

### **3.7 Withdrawal.**

The Interconnection Customer may withdraw its Interconnection Request at any time by written notice of such withdrawal to System Operator, which System Operator will transmit to Interconnecting Transmission Owner and any Affected Parties. In addition, if the Interconnection Customer fails to adhere to all requirements of this LGIP, except as provided in Section 13.5 (Disputes), the System Operator shall deem the Interconnection Request to be withdrawn and shall provide written notice to the Interconnection Customer of the deemed withdrawal and an explanation of the reasons for such deemed withdrawal. Except as otherwise provided elsewhere in this LGIP, upon receipt of such written notice, the Interconnection Customer shall have fifteen (15) Business Days in which to either respond with information or actions that cure the deficiency or to notify the System Operator of its intent to pursue

Dispute Resolution, and System Operator shall notify Interconnecting Transmission Owner and any Affected Parties of the same.

Withdrawal shall result in the loss of the Interconnection Customer's Queue Position. If an Interconnection Customer disputes the withdrawal and loss of its Queue Position, then during Dispute Resolution, the System Operator may eliminate the Interconnection Customer's Interconnection Request from the queue until such time that the outcome of Dispute Resolution would restore its Queue Position. An Interconnection Customer that withdraws or is deemed to have withdrawn its Interconnection Request shall pay to System Operator, Interconnecting Transmission Owner, and any Affected Parties all costs prudently incurred with respect to that Interconnection Request prior to System Operator's receipt of notice described above. The Interconnection Customer must pay all monies due before it is allowed to obtain any Interconnection Study data or results.

The System Operator shall update the OASIS Queue Position posting. Except as otherwise provided elsewhere in this LGIP, the System Operator and the Interconnecting Transmission Owner shall arrange to refund to the Interconnection Customer any portion of the Interconnection Customer's deposit or study payments that exceeds the costs incurred, including interest calculated in accordance with section 35.19a(a)(2) of the Commission's regulations, or arrange to charge to the Interconnection Customer any amount of such costs incurred that exceed the Interconnection Customer's deposit or study payments, including interest calculated in accordance with section 35.19a(a)(2) of the Commission's regulations. In the event of such withdrawal, System Operator, subject to the confidentiality provisions of Section 13.1 and the ISO New England Information Policy, as well as any other applicable requirement under Applicable Laws and Regulations regulating the disclosure or confidentiality of such information, shall provide, at Interconnection Customer's request, all information developed for any completed study conducted up to the date of withdrawal of the Interconnection Request.

### **3.8 Identification of Contingent Facilities.**

System Operator shall identify Contingent Facilities before the execution of the LGIA by reviewing the Interconnection Facilities and Network Upgrades associated with an Interconnection Request with a higher Queue Position or the list of transmission projects planned or proposed for the New England

Transmission System to identify those upgrades that are not yet in service but upon which the Interconnection Request's costs, timing, and study findings are dependent, and if delayed or not built, could cause a need for restudies of the Interconnection Request or a reassessment of the Interconnection Facilities and/or Network Upgrades and/or costs and timing. Planned or proposed upgrades will be identified as Contingent Facilities for an Interconnection Request if the absence of those upgrades would cause additional Adverse System Impacts to be identified in the System Impact Study, using the same conditions as those used in the System Impact Study. The thresholds for identification of Adverse System Impact for the purpose of identifying Contingent Facilities will be as follows: (i) an increase in the flow in an element by at least two percent of the element's rating and that causes that flow to exceed that element's appropriate thermal rating by more than two percent where the appropriate thermal rating is the normal rating with all lines in service and the long time emergency or short time emergency rating after a contingency; (ii) a change of at least one percent in a voltage that causes a voltage level that is higher or lower than the appropriate high or low rating by more than one percent; (iii) an increase of at least a one percent change in the short circuit current experienced by an element and that causes a short circuit stress that is higher than an element's interrupting or withstand capability; or (iv) the introduction of a violation of stability criteria. Contingent Facilities that are identified during the evaluation of the Interconnection Request shall be documented in the Interconnection System Impact Study report or the LGIA for the Large Generating Facility. System Operator shall also provide, upon request of the Interconnection Customer, the estimated Interconnection Facility and/or Network Upgrade costs and estimated in-service completion time for each identified Contingent Facilities when this information is readily available and not commercially sensitive.

## **SECTION 4. QUEUE POSITION.**

### **4.1 General.**

System Operator shall assign a Queue Position based upon the date and time of receipt of the valid Interconnection Request; provided that, if the sole reason an Interconnection Request is not valid is the lack of required information on the application form in Appendix 1 to this LGIP, and Interconnection Customer provides such information in accordance with Section 3.4.3, then System Operator shall assign Interconnection Customer a Queue Position based on the date the application form was originally submitted.



Except as otherwise provided in this Section 4.1, the Queue Position of each Interconnection Request will be used to determine: (i) the order of performing the Interconnection Studies; (ii) the order in which Interconnection Requests will be eligible for inclusion in the CSIS and CFAC; (iii) the order in which Interconnection Requests for CNR Interconnection Service and CNI Interconnection Service will be included in the CNR Group Study; and (iv) the cost responsibility for the facilities and upgrades necessary to accommodate the Interconnection Request. A higher queued Interconnection Request is one that has been placed “earlier” in the queue in relation to another Interconnection Request that is lower queued.

A CSIS and CFAC shall include the Interconnection Requests that were identified as eligible to participate in the CSIS and CFAC and met the associated requirements for inclusion in said studies in accordance with Section 4.2 of this LGIP. An Interconnection Request included in a cluster shall consider a higher queued Interconnection Request not included in the cluster. A lower queued Interconnection Request that is not included in the cluster shall consider all of the higher queued Interconnection Requests that are part of the cluster.

#### **4.1.1 Order of Interconnection Requests in the CNR Group Study**

Participation in a CNR Group Study shall be a prerequisite to achieve CNR Interconnection Service and CNI Interconnection Service. The CNR Group Study (to be conducted in accordance with Section III.13.1.1.2.3 of the Tariff) shall include all Interconnection Requests for CNR Interconnection Service and CNI Interconnection Service that have an associated New Capacity Show of Interest Form that was submitted during the New Capacity Show of Interest Submission Window for the purpose of qualification for participation in the same Forward Capacity Auction for a Capacity Commitment Period, in accordance with Section III.13.1.1.2 of the Tariff, as well as Long Lead Facilities in accordance with Section 3.2.3. Where a CNR Interconnection Service or CNI Interconnection Service Interconnection Request with a lower Queue Position is associated with a New Capacity Show of Interest Form that was submitted for qualification to participate in a particular Forward Capacity Auction for a Capacity Commitment Period and another CNR Interconnection Service or CNI Interconnection Service Interconnection Request with a higher Queue Position is not associated with a New Capacity Show of Interest Form that was submitted

for qualification until a subsequent Forward Capacity Auction, the CNR Interconnection Service or CNI Interconnection Service Interconnection Request with the lower Queue Position will be included in the CNR Group Study prior to the CNR Interconnection Service or the CNI Interconnection Service Interconnection Request with the higher Queue Position.

However, where an Interconnection Customer with a CNR Interconnection Service Interconnection Request submits a New Capacity Show of Interest Form for qualification to participate in a particular Forward Capacity Auction for a Capacity Commitment Period and identifies in that New Capacity Show of Interest Form one or more Elective Transmission Upgrade Interconnection Request(s) for an Internal ETU that is not already included in the network model pursuant to Section III.12 of the Tariff for the particular Forward Capacity Auction, the CNR Interconnection Request will be included in the CNR Group Study at the lowest of the CNR Interconnection Request's or its associated Elective Transmission Upgrade Interconnection Request(s) for the Internal ETU's Queue Position. Where multiple Interconnection Customers' CNR Interconnection Service Interconnection Requests are associated with the same lower Queue Position for an Elective Transmission Upgrade Interconnection Request for an Internal ETU in the CNR Group Study, the CNR Interconnection Request's Queue Position will be used as the tie breaker to dictate the relative order in which the CNR Interconnection Service Interconnection Request will be included in the CNR Group Study.

An Interconnection Customer with a Generating Facility or that is associated with an Import Capacity Resource in the case of an Elective Transmission Upgrade that is treated as a Conditional Qualified New Resource, in accordance with Section III.13.1.1.2.3(f) of the Tariff, may be responsible for the facilities and upgrades associated with an overlapping CNR Interconnection Service or CNI Interconnection Service Interconnection Request having a higher Queue Position if the Conditional Qualified New Resource obtains a Capacity Supply Obligation through a Forward Capacity Auction under Section III.13.2.5 of the Tariff.

An Interconnection Customer with a lower queued CNR Interconnection Service Interconnection Request for a Generating Facility or CNI Interconnection Service Interconnection Request for an Elective Transmission Upgrade that has achieved Commercial Operation and obtained CNR Interconnection Service or CNI Interconnection Service, respectively, may be responsible for additional facilities and

upgrades if the related higher queued CNR Interconnection Service or CNI Interconnection Service Interconnection Request for a Long Lead Facility achieves Commercial Operation and obtains CNR Interconnection Service or CNI Interconnection Service, respectively. In such circumstance, Appendix A to the Interconnection Agreement for the lower queued CNR Interconnection Service or CNI Interconnection Service Interconnection Request shall specify the facilities and upgrades for which the Interconnection Customer shall be responsible if the higher queued CNR Interconnection Service or CNI Interconnection Service Interconnection Request for a Long Lead Facility achieves Commercial Operation and obtains CNR Interconnection Service or CNI Interconnection Service, respectively.

## **4.2 Clustering.**

Clustering Interconnection Studies shall be conducted in such a manner to ensure the efficient implementation of the applicable Regional System Plan in light of the New England Transmission System's capabilities for the time period under study. The System Operator may study an Interconnection Request serially to the extent warranted by Good Utility Practice based upon the electrical remoteness of the proposed Large Generating Facility.

### **4.2.1 Triggers for Studying Interconnection Requests in Clusters.**

At the discretion of the System Operator, Interconnection Requests will be studied in clusters for the purpose of the Interconnection System Impact Study and the Interconnection Facilities Study when the combination of the following circumstances is present in the interconnection queue: (a) there are two (2) or more Interconnection Requests without completed Interconnection System Impact Studies in the same electrical part of the New England Control Area based on the requested Point of Interconnection, and (b) the System Operator determined that none of the Interconnection Requests identified in (a) of this Section 4.2.1 will be able to interconnect, either individually or on a cluster basis, without the use of common significant new transmission line infrastructure rated at or above 115 kV AC or HVDC.

### **4.2.2 Notice of Initiation of Cluster Studies.**

When the combination of the triggers specified in Section 4.2.1 of this LGIP are present in the interconnection queue, the System Operator will provide notice to the Planning Advisory Committee of the initiation of a cluster for studying certain Interconnection Requests under the Regional System Planning Process in accordance with Section 15.1 of Attachment K, Section II of the Tariff. The System

Operator also will provide notice to the Interconnection Customers with Interconnection Requests identified in Section 4.2.1 of this LGIP, and at the time the System Operator notifies the Planning Advisory Committee of the initiation of a cluster, all study work for these Interconnection Requests will be suspended and they will proceed under Section 4.2 of this LGIP. The System Operator will conduct Clustering in two phases. In the first phase, the System Operator will perform a CRPS to identify the CETU and associated system upgrades to enable the interconnection of potentially all of the resources proposed in the Interconnection Requests considered in Section 4.2.1 of this LGIP, consistent with Section 15.2 of Attachment K. In the second phase, the System Operator will conduct a CSIS and a CFAC to study the Interconnection Requests identified through the CRPS that have elected to participate in the CSIS together with the identified CETU and associated system upgrades, in accordance with this LGIP.

Within sixty (60) Calendar Days of the System Operator's notice to the Planning Advisory Committee of the initiation of the use of Clustering for studying certain Interconnection Requests under the Regional System Planning Process in accordance with Section 15.1 of Attachment K, Section II of the Tariff, Interconnection Customers with Interconnection Requests identified in Section 4.2.1 shall submit the technical data called for in Appendix 1, Attachment A (and Attachment A-1, if applicable), to support the conduct of the CRPS.

#### **4.2.3 Cluster Interconnection System Impact Study.**

##### **4.2.3.1 Notice of Cluster Interconnection System Impact Study Entry Deadline.**

At the same time the System Operator issues the final CRPS report to the Planning Advisory Committee in accordance with Section 15.4 of Attachment K, the System Operator will provide notice of the entry deadline for the CSIS (the "Cluster Entry Deadline") to the Interconnection Customers with Interconnection Requests identified in the final CRPS report as eligible to participate in the CSIS. The Cluster Entry Deadline shall be thirty (30) Calendar Days from the posting of the final CRPS report.

##### **4.2.3.2 Cluster Interconnection System Impact Study Entry Requirements.**

All Interconnection Requests identified in the final CRPS report, by Queue Position as assigned in accordance with Section 4.1 of this LGIP, shall be eligible to be studied together in the CSIS.

**4.2.3.2.1 Cluster Entry Deadline Election.** By the Cluster Entry Deadline, an Interconnection Customer with an Interconnection Request identified in the final CRPS report as eligible to be studied in the CSIS must, in writing:

- (i) withdraw the Interconnection Request, pursuant to Section 3.7;
- (ii) request that the System Operator re-assign the Interconnection Customer's Interconnection Request a new Queue Position at the bottom of the queue as of the Cluster Entry Deadline in relative order with any other Interconnection Requests requesting to be re-queued under this Section 4.2.3.2.1; or
- (iii) request to be included in the CSIS and meet the CSIS entry requirements specified in Section 4.2.3.2.2.

If, by the Cluster Entry Deadline, Interconnection Customer fails to withdraw its Interconnection Request, request to be re-assigned a Queue Position at the bottom of the queue, or request to be included in the CSIS and meet the CSIS entry requirements, then the Interconnection Request will be automatically withdrawn from the interconnection queue as of the Cluster Entry Deadline without further opportunity to cure. If Interconnection Customer elects option (iii) and does not meet all of the CSIS entry requirements specified in Section 4.2.3.2.2 by the Cluster Entry Deadline, the Interconnection Request will be automatically withdrawn from the interconnection queue as of the Cluster Entry Deadline without further opportunity to cure. If an initial Cluster Participation Deposit had been submitted as part of the incomplete CSIS entry requirements submission, the initial Cluster Participation Deposit will be refunded at the time the Interconnection Request is withdrawn.

**4.2.3.2.2 CSIS Entry Requirements.** An Interconnection Customer with an Interconnection Request identified in the final CRPS report as eligible to be studied in the CSIS that elects option (iii) under Section 4.2.3.2.1 must meet the following CSIS entry requirements in order to be included in the CSIS:

**(1) Cluster System Impact Study Application.** By the Cluster Entry Deadline, Interconnection Customer must submit to the System Operator a completed Cluster System Impact Study Application in the form specified in Appendix 1, Attachment A-2 of this LGIP, requesting the inclusion of the Interconnection Request in the CSIS;

**(2) System Impact Study Agreement, Study Deposit, Technical Data, and Site Control.**

If an Interconnection Feasibility Study Agreement or an Interconnection System Impact Study Agreement has been executed prior to the issuance of the final CRPS report identifying the Interconnection Request as eligible for inclusion in a CSIS, such agreement shall terminate upon execution of a new Interconnection System Impact Study Agreement in accordance with this Section 4.2.3.2.2, and any unused balance of the study deposit associated with the terminated agreement shall be applied toward the study deposit associated with the new Interconnection System Impact Study Agreement.

Within fifteen (15) Business Days following the Cluster Entry Deadline, the System Operator and Interconnecting Transmission Owner will provide to Interconnection Customer an Interconnection System Impact Study Agreement, including a non-binding good faith estimate of the costs and timeframe for commencing and completing the CSIS. The Interconnection Customer shall execute the Interconnection System Impact Study Agreement and deliver the executed Interconnection System Impact Study Agreement to the System Operator no later than thirty (30) Calendar Days after receipt along with continued demonstration of Site Control, the technical data called for in Appendix 1, Attachment A (and Attachment A-1, if applicable), and a refundable study deposit, to the extent that any additional study deposit is required, in accordance with Section 7.2 of this LGIP.

**(3) Cluster Participation Deposit for the CSIS.** By the Cluster Entry Deadline, Interconnection Customer also must submit to the System Operator an initial Cluster Participation Deposit equal to five (5) percent of the Interconnection Customer's cost allocation responsibility for the CETU and associated system upgrades to be determined based on the cost estimates provided in the final CRPS report. If the System Operator subsequently identifies that an Internal ETU has met the requirements to take the place of a CETU, or portion thereof, pursuant to Section 4.2.3.4 of this LGIP, the initial Cluster Participation Deposit will be reduced to exclude the costs associated with the CETU, or portion thereof, that is being replaced by the Internal ETU, and the Interconnection Customer shall be refunded the corresponding amount. Cost allocation of the CETU and associated system upgrades shall be in accordance with Schedule 11, Section II of this Tariff.

The initial Cluster Participation Deposit will be fully refunded (with interest to be calculated in accordance with Section 3.7 of this LGIP) to Interconnection Customer with an Interconnection Request that met the cluster entry requirements: (i) if the CSIS is initially undersubscribed by more than ten (10) percent of the quantity of megawatts that the CETU developed through the CRPS was designed to enable and the Interconnection Customer withdraws the Interconnection Request, pursuant to Section 3.7, before the CSIS starts, (ii) if the CSIS is initially oversubscribed as described in Section 4.2.3.3.2 of this LGIP (e.g., the CETU developed through the CRPS is designed to enable 1,000 MW and more than 1,000 MW meet the CSIS entry requirements by the Cluster Entry Deadline), in which case the Cluster Participation Deposits will be refunded to Interconnection Customers with Interconnection Requests corresponding to the oversubscribed megawatt quantities, (iii) if the cost estimates for the CETU and the associated system upgrades provided in the final CRPS report for the entire cluster have increased by twenty-five (25) percent or more when compared to the cost estimates provided in the draft CSIS report or the draft CFAC report and the Interconnection Customer withdraws the Interconnection Request, pursuant to Section 3.7, within thirty (30) Calendar Days after receipt of the draft CSIS report or the draft CFAC report in accordance with Sections 7.5 and 8.3 of this LGIP, respectively, (iv) if less than two (2) Interconnection Requests included in the CSIS or CFAC remain in the interconnection queue during the CSIS or CFAC, as applicable, in which case, the CSIS or the CFAC terminates and the remaining Interconnection Request proceeds in serial queue order, (v) at the time the Interconnection Customer with an Interconnection Request included in the CSIS provides to the Interconnecting Transmission Owner the deposit specified in Section 11.3.1.2 of this LGIP, (vi) if no Interconnection Customer with an Interconnection Request included in the cluster executes an Interconnection Agreement and provides to the Interconnecting Transmission Owner the deposit specified in Section 11.3.1.2 of this LGIP, or (vii) if all Interconnection Requests included in the cluster withdraw from the interconnection queue.

Otherwise, the initial Cluster Participation Deposit shall be non-refundable if the Interconnection Customer withdraws its Interconnection Request or the Interconnection Request is withdrawn from the interconnection queue at any time after the Cluster Entry Deadline. The non-refundable initial Cluster Participation Deposits shall be re-allocated, according to the cost allocation methodology contained in Schedule 11, to the Interconnection Customers with Interconnection Requests included in a cluster at the time the facilities proposed in the Interconnection Requests achieve Commercial Operation.

#### **4.2.3.3 Cluster Filling, Oversubscription and Backfilling Upon Withdrawal.**

**4.2.3.3.1 Cluster Filling.** The CSIS shall be filled with all Interconnection Requests in the same electrical part of the New England Control Area relative to the CETU identified in the final CRPS report that do not yet have a completed Interconnection System Impact Study and met the CSIS entry requirements by the Cluster Entry Deadline up to the approximate megawatt quantity identified in the final CRPS report as potentially enabled by the CETU. The Interconnection Requests will be included in the CSIS in queue order, based on the Queue Positions assigned in accordance with Section 4.1 of this LGIP, relative to other eligible Interconnection Requests.

**4.2.3.3.2 Cluster Oversubscription.** If an Interconnection Customer with an Interconnection Request identified in the final CRPS report as eligible to participate in a CSIS met the CSIS entry requirements and therefore would have been eligible for inclusion in the CSIS but is excluded as a result of the quantity of megawatts identified as potentially enabled by the CETU in the final CRPS report having been exhausted in queue order under Section 4.2.3.3.1, (i) the initial Cluster Participation Deposit will be refunded to the Interconnection Customer, and (ii) the Interconnection Request will maintain its Queue Position. If there are two (2) or more such Interconnection Requests after the CSIS is filled, the System Operator will initiate another cluster to identify the transmission infrastructure to enable the interconnection of another round of Interconnection Requests consistent with Section 15.1 of Attachment K.

**4.2.3.3.3 Cluster Backfilling Upon Withdrawal.** Upon withdrawal of an Interconnection Request that is included in the CSIS, the System Operator will backfill the CSIS, in queue order, with later-queued Interconnection Requests consistent with the methodology used to fill the original CSIS as specified in Section 4.2.3.3.1 of this LGIP. The System Operator will notify all Interconnection Customers with Interconnection Requests identified by the System Operator as eligible for backfilling that the respective Large Generating Facility (or part thereof) proposed in the Interconnection Request is eligible to participate in the CSIS, and the Interconnection Customer shall have thirty (30) Calendar Days from receipt of System Operator's notice to withdraw its Interconnection Request, request to be re-assigned a Queue Position at the bottom of the queue, or accept the inclusion of the Interconnection Request (or part thereof, in which case the Interconnection Customer shall modify the Interconnection Request to reflect



the appropriate reduction) in the CSIS and meet the CSIS entry requirements, consistent with Section 4.2.3.2 of this LGIP. If the Interconnection Customer does not make one of these three elections and complete the associated requirements by the thirtieth Calendar Day, the System Operator shall automatically withdraw the Interconnection Request from the interconnection queue without further opportunity to cure and consider other later-queued Interconnection Requests.

**4.2.3.4 Scope of Cluster Interconnection System Impact Study.** Except as otherwise provided in this Section 4.2.3.4, the CSIS shall be conducted in accordance with Sections 7.3 and 7.4 of this LGIP. The Study Case developed for the CSIS shall also include the CETU and associated system upgrades identified in the final CRPS report. An Internal ETU can be considered, and included in the CSIS, in place of a CETU, or portion thereof, if all of the Interconnection Customers with Interconnection Requests included in the cluster that the ISO has determined need to use the Internal ETU have indicated in the Cluster Application Form or with the executed Interconnection System Impact Study Agreement that they have a contractual commitment in place providing for the Interconnection Customers to fund and the right to use the Internal ETU. The CSIS shall evaluate the proposed interconnections to the New England Transmission System under the NC Interconnection Standard consistent with Section 3.2.2 of this LGIP and as detailed in the ISO New England Planning Procedures. Consistent with the NC Interconnection Standard, the evaluation will include conditions where the projects proposed in the Interconnection Requests that are included in the CSIS are not dispatched against each other if they do not share a system constraint that would provide the basis for a redispatch condition. The CSIS shall consist of the analysis specified in Section 7.3 of this LGIP except for analysis associated with an Interconnection Feasibility Study or a preliminary, non-binding, analysis. An Interconnection Customer with an Interconnection Request being studied as part of the CSIS cannot elect to have the Interconnection Feasibility Study or a preliminary, non-binding, analysis performed as part of the CSIS.

**4.2.3.5. Restudy of Cluster Interconnection System Impact Study.** In addition to the circumstances specified in Section 7.6 of this LGIP, a re-study of the CSIS is required due to the withdrawal of an Interconnection Request that had been included in the CSIS. Upon withdrawal of an Interconnection Request that had been included in the CSIS, the System Operator will backfill the CSIS with eligible Interconnection Requests pursuant to Section 4.2.3.3.3. A re-study will be conducted to determine if there are any changes in the upgrades identified during the CSIS with the exception of the CETU

identified in the final CRPS report, which shall remain configured consistent with the megawatt quantity(ies) considered in the final CRPS report.

#### **4.2.4. Cluster Interconnection Facilities Study.**

Notwithstanding any other provision in this LGIP, an Interconnection Customer with an Interconnection Request included in a completed CSIS will not be eligible to waive the, or request a separate, CFAC. All Interconnection Customers with an Interconnection Request included in a completed CSIS shall be studied together in the CFAC for the purpose of implementing the conclusions of the CSIS with respect to non-sole use facilities.

**4.2.4.1 Cluster Interconnection Facilities Study Entry Requirements.** An Interconnection Customer with an Interconnection Request that was included in a completed CSIS shall execute an Interconnection Facilities Study Agreement and deliver the executed Interconnection Facilities Study Agreement to the System Operator, together with the required technical data and refundable deposit for the Interconnection Facilities Study as specified in Section 8.1 of this LGIP.

**4.2.4.2. Scope of Interconnection Facilities Study.** The CFAC will be conducted in accordance with Sections 8.2 and 8.3 of this LGIP based on a +/- 20 percent good faith cost estimate.

**4.2.4.3 Re-study of the Interconnection Facilities Study.** In addition to the circumstances specified in Section 8.5 of this LGIP, a re-study of the CFAC is required due to the withdrawal of an Interconnection Request that had been included in the CFAC. Upon withdrawal of an Interconnection Request included in the CFAC, the System Operator will backfill the CSIS with eligible Interconnection Requests pursuant to Section 4.2.3.3.3. A re-study of the CSIS and CFAC will be conducted to determine if there are any changes in the upgrades identified during the CSIS and CFAC with the exception of the CETU identified in the final CRPS report, which shall remain configured consistent with the megawatt quantity(ies) considered in the final CRPS report.

**4.2.4.4 Additional Cluster Participation Deposit.** Within thirty (30) Calendar Days after receipt of the final CFAC report in accordance with Section 8.3 of this LGIP, an Interconnection Customer with an Interconnection Request included in the CFAC shall submit to the System Operator an additional Cluster

Participation Deposit equal to five (5) percent of the Interconnection Customer's cost allocation responsibility for the CETU and associated system upgrades to be determined based on the cost estimates provided in the final CFAC report. Cost allocation of the CETU and associated system upgrades shall be in accordance with Schedule 11, Section II of this Tariff.

The additional Cluster Participation Deposit provided under this Section 4.2.4 will be fully refunded (with interest to be calculated in accordance with Section 3.7 of this LGIP) to Interconnection Customer that submitted the additional Cluster Participation Deposit if the conditions specified in Sections 4.2.3.2.2(3)(v), (vi), or (vii) above occur.

Otherwise, the additional Cluster Participation Deposit shall be non-refundable if the Interconnection Customer withdraws its Interconnection Request or the Interconnection Request is withdrawn from the interconnection queue. The non-refundable additional Cluster Participation Deposits shall be re-allocated, according to the cost allocation methodology contained in Schedule 11, to the Interconnection Customers with Interconnection Requests included in a cluster at the time the facilities proposed in the Interconnection Requests achieve Commercial Operation.

#### **4.3 Transferability of Queue Position.**

An Interconnection Customer may transfer its Queue Position to another entity only if such entity acquires the specific Generating Facility identified in the Interconnection Request and the Point of Interconnection does not change. The Interconnection Customer must notify the System Operator, in writing, of any transfers of Queue Position and must provide the System Operator with the transferee's contact information, and System Operator shall notify Interconnecting Transmission Owner and any Affected Parties of the same.

#### **4.4 Modifications.**

The Interconnection Customer shall submit to System Operator and Interconnecting Transmission Owner, in writing, modifications to any information provided in the Interconnection Request, including its attachments. The Interconnection Customer shall retain its Queue Position if the modifications are in accordance with Sections 4.4.1 or 4.4.4, or are determined not to be Material Modifications pursuant to Section 4.4.2. The System Operator will notify the Interconnecting Transmission Owner, and, when

System Operator deems it appropriate in accordance with applicable codes of conduct and confidentiality requirements, it will notify any Affected Party of such modifications.

A request to: (1) increase the energy capability or capacity capability output of a Generating Facility above that specified in an Interconnection Request, an existing Interconnection Agreement (whether executed or filed in unexecuted form with the Commission), or as established pursuant to Section 5.2 of this LGIP shall require a new Interconnection Request for the incremental increase and such Interconnection Request will receive the lowest Queue Position available at that time for the purposes of cost allocation and study analysis; and (2) change from NR Interconnection Service to CNR Interconnection Service, at any time, shall require a new Interconnection Request for CNR Interconnection Service and such Interconnection Request will receive the lowest Queue Position available at that time for the purposes of cost allocation and study analysis. Notwithstanding the foregoing, an Interconnection Customer with an Interconnection Request for CNR Interconnection Service has until the Forward Capacity Auction for which the associated Capacity Commitment Period begins less than seven (7) years (or the years agreed to pursuant to Section 3.4.1 or Section 4.4.5) from the date of the original Interconnection Request for CNR Interconnection Service to clear the entire megawatt amount for which CNR Interconnection Service was requested. A new Interconnection Request for CNR Interconnection Service will be required for the Generating Facility to participate in any subsequent auctions.

During the course of the Interconnection Studies, either the System Operator, Interconnection Customer, Interconnecting Transmission Owner, or any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements, may identify changes to the planned interconnection that may improve the costs and benefits (including reliability) of the interconnection, and the ability of the proposed change to accommodate the Interconnection Request. To the extent the identified changes do not constitute a Material Modification and are acceptable to the Parties, such acceptance not to be unreasonably withheld, System Operator and the Interconnecting Transmission Owner shall modify the Point of Interconnection and/or configuration in accordance with such changes and proceed with any re-studies necessary to do so in accordance with Section 6.4, Section 7.6 and Section 8.5 as applicable and Interconnection Customer shall retain its Queue Position.

**4.4.1** Prior to the commencement of the Interconnection System Impact Study, modifications permitted under this Section shall include specifically: (a) a decrease of up to 60 percent of electrical output (MW) of the proposed Large Generating Facility, through either (1) a decrease in facility size or (2) a decrease in Interconnection Service level (consistent with the process described in Section 3.1) accomplished by applying System Operator-approved injection-limiting equipment proposed by the Interconnection Customer and subject to review in the Interconnection System Impact Study; (b) modifying the technical parameters associated with the Large Generating Facility technology or the Large Generating Facility step-up transformer impedance characteristics; and (c) modifying the interconnection configuration. Notwithstanding the foregoing, an Interconnection Customer may decrease the electrical output of a proposed Large Generating Facility after the Cluster Entry Deadline specified in Section 4.2.3.1 of this LGIP; however, the requesting Interconnection Customer remains responsible for costs corresponding to the megawatt quantity requested as of the Cluster Entry Deadline.

**4.4.2** Prior to making any modification other than those specifically permitted by Sections 4.4.1 and 4.4.4, Interconnection Customer may first request that the System Operator and Interconnecting Transmission Owner evaluate whether such modification is a Material Modification. In response to Interconnection Customer's request, the System Operator in consultation with the Interconnecting Transmission Owner, and in consultation with any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements, shall evaluate, at the Interconnection Customer's cost, the proposed modifications prior to making them and the System Operator will inform the Interconnection Customer in writing of whether the modifications would constitute a Material Modification. Any change to the Point of Interconnection, except those deemed acceptable under Sections 4.4.1, 6.1, 7.2 or so allowed elsewhere, shall constitute a Material Modification. The Interconnection Customer may then withdraw the proposed modification or proceed with a new Interconnection Request for such modification.

**4.4.3** Upon receipt of Interconnection Customer's request for modification that does not constitute a Material Modification and therefore is permitted under this Section 4.4, the System Operator in consultation with the Interconnecting Transmission Owner and in consultation with any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements, shall commence and perform any necessary additional studies as soon as

practicable, but in no event shall the System Operator, Interconnecting Transmission Owner, or Affected Party commence such studies later than thirty (30) Calendar Days after receiving notice of Interconnection Customer's request. Any additional studies resulting from such modification shall be done at Interconnection Customer's cost.

**4.4.4** Extensions of less than three (3) cumulative years in the Commercial Operation Date, In-Service Date or Initial Synchronization Date of the Large Generating Facility to which the Interconnection Request relates are not material and should be handled through construction sequencing, provided that the extension(s) do not exceed seven (7) years from the date the Interconnection Request was received by the System Operator.

**4.4.5** Extensions of three (3) or more cumulative years in the Commercial Operation Date, In-Service Date or Initial Synchronization Date of the Large Generating Facility to which the Interconnection Request relates or any extension of a duration that results in the Initial Synchronization Date exceeding the date the Interconnection Request was received by the System Operator by seven (7) or more years is a Material Modification unless the Interconnection Customer demonstrates to the System Operator due diligence, including At-Risk Expenditures, in pursuit of permitting, licensing and construction of the Large Generating Facility to meet the Commercial Operation Date, In-Service Date or Initial Synchronization Date provided in the Interconnection Request. Such demonstration shall be based on evidence to be provided by the Interconnection Customer of accomplishments in permitting, licensing, and construction in an effort to meet the Commercial Operation Date, In-Service Date or Initial Synchronization Date provided in this Interconnection Request. Such evidence may include filed documents, records of public hearings, governmental agency findings, documentation of actual construction progress or documentation acceptable to the System Operator showing At-Risk Expenditure made previously, including the previous four (4) months. If the evidence demonstrates that the Interconnection Customer did not undertake reasonable efforts to meet the Commercial Operation Date, In-Service Date or Initial Synchronization Date specified in the Interconnection Request, or demonstrates that reasonable efforts were not undertaken until four (4) months prior to the request for extension, the request for extension shall constitute a Material Modification. The Interconnection Customer may then withdraw the proposed Material Modification or proceed with a new Interconnection Request for such modification.

## **SECTION 5. PROCEDURES FOR TRANSITION.**

### **5.1 Queue Position for Pending Requests.**

**5.1.1** Any Interconnection Customer assigned a Queue Position prior to March 19, 2020, shall retain that Queue Position subject to Section 4.4 of the LGIP.

**5.1.1.1** If an Interconnection Study Agreement has not been executed prior to March 19, 2020, then such Interconnection Study, and any subsequent Interconnection Studies, shall be processed in accordance with the version of this LGIP in effect on March 19, 2020 (or as revised thereafter).

**5.1.1.2** If an Interconnection Study Agreement has been executed prior to March 19, 2020 and is actively under study, such Interconnection Study shall be completed in accordance with the terms of such agreement. If an Interconnection Study Agreement has been executed prior to March 19, 2020, but the Interconnection Study has not commenced, such Interconnection Study shall be completed, and any subsequent Interconnection Studies shall be processed, in accordance with the version of the LGIP in effect on March 19, 2020. Interconnection Studies for Interconnection Requests seeking to interconnect into the Northern and Western Maine parts of the New England Control Area that do not have a completed Interconnection System Impact Study by November 1, 2017 shall be included in the Maine Resource Integration Study, which shall be the first CRPS. The Interconnection Customers identified in the Maine Resource Integration Study as eligible to participate in the associated Cluster System Impact Study shall make one of the elections and complete the associated requirements specified in Section 4.2.3.2 of this LGIP within thirty (30) Calendar Days from the later of November 1, 2017 or the issuance of the final Maine Resource Integration Study report. If the Interconnection Customer does not make one of the elections and complete the associated requirements by the thirtieth Calendar Day, the System Operator shall automatically withdraw the Interconnection Request from the interconnection queue without further opportunity to cure.

**5.1.2** Transition Period. To the extent necessary, the System Operator, Interconnection Customers with an outstanding Interconnection Request (i.e., an Interconnection Request for which an LGIA has neither

been executed nor submitted to the Commission for approval prior to March 19, 2020), Interconnecting Transmission Owner and any other Affected Parties, shall transition to proceeding under the version of the LGIP in effect as of March 19, 2020 (or as revised thereafter) within a reasonable period of time not to exceed sixty (60) Calendar Days. The use of the term “outstanding Interconnection Request” herein shall mean any Interconnection Request, on March 19, 2020: (i) that has been submitted, together with the required deposit and attachments, but not yet accepted by the System Operator; (ii) where the related LGIA has not yet been submitted to the Commission for approval in executed or unexecuted form, (iii) where the relevant Interconnection Study Agreements have not yet been executed, or (iv) where any of the relevant Interconnection Studies are in process but not yet completed. Any Interconnection Customer with an outstanding Interconnection Request as of the effective date of this LGIP may request a reasonable extension of the next applicable deadline if necessary to avoid undue hardship or prejudice to its Interconnection Request. A reasonable extension, not to exceed sixty (60) Calendar Days, shall be granted by the System Operator to the extent consistent with the intent and process provided for under this LGIP.

### **5.1.3 One-Time Election for CNR Interconnection Service at Queue Position Assigned Prior to February 1, 2009.**

An Interconnection Customer with an outstanding Interconnection Request will be eligible to make a one-time election to be considered for CNR Interconnection Service at the Queue Position assigned prior to February 1, 2009. The Interconnection Customer’s one-time election must be made by the end of the New Generating Capacity Show of Interest Submission Window for the fourth Forward Capacity Auction. The Interconnection Customer’s one-time election may also include a request for Long Lead Facility Treatment, which shall be subject to review pursuant to Section 3.2.3, and, if applicable, a request for a change of the Commercial Operation Date, in accordance with Sections 4.4.4 and 4.4.5.

Interconnection Customers requesting CNR Interconnection Service will be required to comply with the requirements for CNR Interconnection Service set forth in Section 3.2.1. Interconnection Customers requesting CNR Interconnection Service that have not received a completed Interconnection System Impact Study may request a preliminary, non-binding, analysis of potential upgrades that may be necessary for the fourth Forward Capacity Auction – the prompt or near-term auction – pursuant to Sections 6.3 or 7.3, whichever is applicable.



## **5.2 Grandfathering.**

**5.2.1** An Interconnection Customer's Generating Facility that is interconnected pursuant to an Interconnection Agreement executed or submitted to the Commission for approval prior to February 1, 2009, will maintain its status as a Network Resource with Network Resource Interconnection Service eligible to participate in the New England Markets, in accordance with the requirements of Market Rule 1, Section III of the Tariff, up to the megawatt amount specified in the Interconnection Agreement, subject to the Interconnection Customer satisfying all requirements set forth in the Interconnection Agreement and this LGIP. If the Generating Facility does not meet the criteria set forth in Section 5.2.3 of this LGIP, the Interconnection Customer will be eligible to make a one-time election, pursuant to Section 5.1.3, for Capacity Network Resource treatment without submitting a new Interconnection Request; however, the Interconnection Customer will be required to comply with the requirements for CNR Interconnection Service set forth in Section 3.2.1. Upon completion of the requirements to obtain CNR Interconnection Service, the Interconnection Customer's Interconnection Agreement shall be amended to conform to the LGIA in Appendix 6 of this LGIP.

**5.2.2** An Interconnection Customer's Generating Facility governed by an Interconnection Agreement either executed or filed with the Commission in unexecuted form prior to August 1, 2008, shall maintain the Queue Position assigned as of August 1, 2008, and be eligible to participate in the New England Markets, in accordance with the requirements in Market Rule 1, Section III of the Tariff, as in effect as of August 1, 2008, so long as the Interconnection Customer complies with all of the requirements specified in the Interconnection Agreement, including achieving the milestones associated with At-Risk Expenditures, subject to Section 4.4 of this LGIP.

**5.2.3** All resources that are treated as Existing Generating Capacity Resources in the fourth Forward Capacity Auction pursuant to Section III.13 of the Tariff shall receive treatment as a CNR and obtain CNR Interconnection Service, in accordance with this LGIP, up to the CNR Capability of the resource. The grandfathered CNR Capability for these resources shall be equal to the megawatt amount established pursuant to the following hierarchy:

(a) First, the megawatt amount specified in an Interconnection Agreement (whether executed or filed in unexecuted form with the Commission).

(b) Second, in the absence of an Interconnection Agreement with a specified megawatt amount, the megawatt amount specified in an approval pursuant to Section I.3.9 of the Tariff (or its predecessor provision).

(c) Third, in the absence of an Interconnection Agreement and an approval pursuant to Section I.3.9 of the Tariff (or its predecessor provision) with a specified megawatt amount, as determined by the System Operator based on documented historic capability of the Generating Facility.

Where a resource has both an Interconnection Agreement and an approval pursuant to Section I.3.9 of the Tariff (or its predecessor provision), the lower megawatt amount will govern until the resource completes the applicable process(es) under the Tariff for obtaining the higher megawatt amount. The absence of an Interconnection Agreement or an approval pursuant to Section I.3.9 of the Tariff (or its predecessor provision) specifying a megawatt amount shall be confirmed by an affidavit executed by a corporate officer of the resource attesting that the resource does not have an Interconnection Agreement and/or an approval pursuant to Section I.3.9 of the Tariff (or its predecessor provision) that specifies a megawatt amount.

Where the governing document (as determined by the hierarchy set forth in Section 5.2.3) specifies a megawatt amount at an ambient temperature consistent with the definition of CNR Capability, the grandfathered CNR Capability shall be equal to that amount.

Where the governing document (as determined by the hierarchy set forth in Section 5.2.3) does not specify an ambient temperature, the megawatt amount will be deemed to be at the value consistent with the definition of CNR Capability.

Where the implementation of this Section 5.2.3 results in a CNR Capability that is different than previously had been identified, the revised CNR Capability will be applied commencing with the next Forward Capacity Auction qualification process (after the revised CNR Capability value is identified),

which is initiated by the closing deadline of the Show of Interest Submission Window in accordance with Section III.13 of the Tariff. The revised CNR Capability will continue to govern until the resource completes the applicable process(es) for obtaining the higher megawatt amount.

**5.2.4** All resources that are treated as Existing Generating Capacity Resources in the fourth Forward Capacity Auction pursuant to Section III.13 of the Tariff shall receive treatment as a NR and obtain NR Interconnection Service, in accordance with this LGIP, up to the NR Capability of the resource. The grandfathered NR Capability shall be determined pursuant to the hierarchy set forth in Section 5.2.3.

Where the governing document (as determined by the hierarchy set forth in Section 5.2.3) of a resource for which a temperature-adjustment curve is used for the claimed capability verification, as set forth in the ISO New England Manuals, specifies a megawatt amount at an ambient temperature, the grandfathered NR Capability shall be equal to a temperature-adjusted value consistent with the definition of NR Capability.

Where the governing document (as determined by the hierarchy set forth in Section 5.2.3) does not specify an ambient temperature, the megawatt amount will be deemed to be at the value consistent with the definition of NR Capability.

### **5.3 New System Operator or Interconnecting Transmission Owner.**

If the System Operator transfers operational control of the New England Transmission System to a successor System Operator during the period when an Interconnection Request is pending, the System Operator shall transfer to the successor System Operator any amount of the deposit or payment with interest thereon that exceeds the cost that it incurred to evaluate the request for interconnection. Any difference between such net amount and the deposit or payment required by this LGIP shall be paid by or refunded to the Interconnection Customer, as appropriate. The System Operator shall coordinate with the successor System Operator to complete any Interconnection Study, as appropriate, that the System Operator has begun but has not completed.

If the Interconnecting Transmission Owner transfers ownership of its transmission facilities to a successor transmission owner during the period when an Interconnection Request is pending, and System Operator

in conjunction with Interconnecting Transmission Owner has tendered a draft LGIA to the Interconnection Customer but the Interconnection Customer has not either executed the LGIA or requested the filing of an unexecuted LGIA with the Commission, unless otherwise provided, the Interconnection Customer must complete negotiations with the successor transmission owner.

## **SECTION 6. INTERCONNECTION FEASIBILITY STUDY.**

### **6.1 Interconnection Feasibility Study Agreement.**

Except as otherwise provided in Section 4.2.3.4 of this LGIP, within five (5) Business Days following the System Operator's and Interconnecting Transmission Owner's receipt from the Interconnection Customer of its election to pursue the Interconnection Feasibility Study, the designation of the Point(s) of Interconnection, and the scope of Interconnection Feasibility Study to be performed pursuant to Section 3.4.4, System Operator shall tender to Interconnection Customer the Interconnection Feasibility Study Agreement, which includes a good faith estimate of the cost for completing the Interconnection Feasibility Study. The Interconnection Feasibility Study Agreement shall specify that Interconnection Customer is responsible for the actual cost of the Interconnection Feasibility Study, including the cost of developing the study agreement and its attachment(s). No later than thirty (30) Calendar Days after its receipt of the Interconnection Feasibility Study Agreement, (a) the Interconnection Customer shall execute and deliver the agreement to System Operator and the Interconnecting Transmission Owner, (b) the Interconnection Customer shall also deliver the refundable deposit for the Interconnection Feasibility Study to the System Operator, and (c) the technical data called for in Appendix 1, Attachment A (and Attachment A-1, if applicable) or Attachment B, depending on the scope selected pursuant to Section 3.4.4. The deposit for the study shall be 100 percent of the estimated cost of the study. The deposit shall be applied toward the cost of the Interconnection Feasibility Study, including the cost of developing the study agreement and its attachment(s). For Interconnection Requests that are identified for inclusion in a CRPS performed under Section 15 of Attachment K, Section II of the Tariff, the deposit also shall be applied toward the costs incurred by the Interconnecting Transmission Owner in developing the cost estimates in support of the CRPS. Any difference between the study deposit and the actual cost of the Interconnection Feasibility Study or the actual costs incurred by the Interconnecting Transmission Owner in developing the costs estimates in support of the CRPS shall be paid by or refunded to the Interconnection Customer, except as otherwise provided in Section 13.3. In accordance with Section

13.3, the System Operator and/or the Interconnecting Transmission Owner shall issue to the Interconnection Customer an invoice for the costs of the Interconnection Feasibility Study that have been incurred by the System Operator and/or the Interconnecting Transmission Owner on the Interconnection Feasibility Study, including the development of the study agreement and its attachment(s). Interconnecting Transmission Owner shall provide System Operator on a monthly basis, and in the form and format specified by the System Operator, invoices for the work conducted on the Interconnection Feasibility Study each month and shall include in such invoices all employee hours and third party consultant hours, including subcontractor hours, expended toward the Interconnection Feasibility Study. The Interconnection Customer shall pay the invoiced amounts, to the extent such amounts are greater than the initial deposit, within thirty (30) Calendar Days of receipt of invoice. The System Operator shall continue to hold any amounts on deposit until settlement of the final invoice with the Interconnection Customer and the Interconnecting Transmission Owner.

On or before the return of the executed Interconnection Feasibility Study Agreement to the System Operator and Interconnecting Transmission Owner, the Interconnection Customer shall provide the technical data called for in Appendix 1, Attachment A (and Attachment A-1, if applicable) or Attachment B, depending on the scope elected pursuant to Section 3.4.1. If the Interconnection Customer does not provide all such technical data when it delivers the Interconnection Feasibility Study Agreement, the System Operator shall notify the Interconnection Customer of the deficiency within five (5) Business Days of the receipt of the executed Interconnection Feasibility Study Agreement and the Interconnection Customer shall cure the deficiency within ten (10) Business Days of receipt of the notice, provided, however, such deficiency does not include failure to deliver the executed Interconnection Feasibility Study Agreement or deposit.

If the Interconnection Feasibility Study uncovers any unexpected result(s) not contemplated during the Scoping Meeting, a substitute Point of Interconnection identified by the System Operator, Interconnection Customer, Interconnecting Transmission Owner, or any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements, and acceptable to the Parties, such acceptance not to be unreasonably withheld, will be substituted for the designated Point of Interconnection specified above without loss of Queue Position, and re-studies shall be completed pursuant to Section 6.4 as applicable. For the purpose of this Section 6.1, if the Parties

cannot agree on the substituted Point of Interconnection, then Interconnection Customer may direct that one of the alternatives as specified in the Interconnection Feasibility Study Agreement, as specified pursuant to Section 3.4.4, shall be the substitute.

## **6.2 Scope of Interconnection Feasibility Study.**

The Interconnection Feasibility Study shall preliminarily evaluate the feasibility of the proposed interconnection to the Administered Transmission System with available data and information.

The Interconnection Feasibility Study will consider the Base Case as well as all generating facilities and Elective Transmission Upgrades (and with respect to (iii), any identified Network Upgrades) that, on the date the Interconnection Feasibility Study is commenced: (i) are directly interconnected to the New England Transmission System; (ii) are interconnected to Affected Systems and may have an impact on the Interconnection Request; (iii) have a pending higher queued Interconnection Request to interconnect to the New England Transmission System and may have an impact on the Interconnection Request; and (iv) have no Queue Position but have executed an Interconnection Agreement or requested that an unexecuted Interconnection Agreement be filed with the Commission (the “Study Case” for the Interconnection Feasibility Study). If the Reasonable Efforts timeframe for the completion of the Interconnection Feasibility Study does not overlap with the timeframe for the overlapping interconnection impacts analysis conducted for qualification in the Forward Capacity Auction pursuant to Section III.13.1.1.2.3 of the Tariff, then an Interconnection Customer with a CNR Interconnection Request may also request that the Interconnection Feasibility Study include a preliminary, non-binding, analysis to identify potential upgrades that may be necessary for the Interconnection Customer’s Generating Facility to qualify for participation in a Forward Capacity Auction under Section III.13 of the Tariff, based on a limited set of assumptions to be specified by the Interconnection Customer and reflected in Attachment A to the Interconnection Feasibility Study Agreement.

The Interconnection Feasibility Study will consist of a limited power flow, including thermal analysis and voltage analysis, and short circuit analysis. The Interconnection Feasibility Study report will provide (i) the study findings; and (ii) a preliminary description of a non-binding good faith order of magnitude estimated cost of (unless the Interconnection Customer waives such cost estimate) and the time to

construct the Interconnection Facilities and Network Upgrades necessary to interconnect the Large Generating Facility as identified within the scope of the analysis performed as part of the study.

Alternatively, the Interconnection Customer may provide the technical data called for in Appendix 1, Attachment A (and Attachment A-1, if applicable) with the executed Interconnection Feasibility Study Agreement and request that the Interconnection Feasibility Study consist of limited thermal analysis, voltage analysis, short circuit analysis, stability analysis, or electromagnetic transient analysis, as appropriate, focusing on the issues that are expected to be the most significant for the proposed Large Generating Facility's interconnection given recent study experience and as discussed at the Scoping Meeting. In this case, the Interconnection Feasibility Study report will provide (i) the study findings; and, (ii) a preliminary description of and a non-binding good faith order of magnitude estimated cost of (unless the Interconnection Customer waives such cost) and the time to construct the Interconnection Facilities and Network Upgrades necessary to interconnect the Large Generating Facility as identified within the scope of the analysis performed as part of the study.

To the extent the Interconnection Customer requested a preliminary analysis as described in this Section 6.2, the Interconnection Feasibility Study report will also provide a list of potential upgrades that may be necessary for the Interconnection Customer's Generating Facility to qualify for participation in a Forward Capacity Auction under Section III.13 of the Tariff.

### **6.3 Interconnection Feasibility Study Procedures.**

The System Operator in coordination with Interconnecting Transmission Owner shall utilize existing studies to the extent practicable when it performs the study. The System Operator and Interconnecting Transmission Owner shall use Reasonable Efforts to complete the Interconnection Feasibility Study no later than ninety (90) Calendar Days after System Operator and Interconnecting Transmission Owner receive the fully executed Interconnection Feasibility Study Agreement, study deposit and required technical data in accordance with Section 6.1. At the request of the Interconnection Customer or at any time the System Operator or the Interconnecting Transmission Owner determines that it will not meet the required time frame for completing the Interconnection Feasibility Study, the System Operator shall notify the Interconnection Customer as to the schedule status of the Interconnection Feasibility Study. If the System Operator is unable to complete the Interconnection Feasibility Study within that time period,

the System Operator shall notify the Interconnection Customer and provide an estimated completion date with an explanation of the reasons why additional time is required. In such circumstances, upon request, the System Operator with input from the Interconnecting Transmission Owner shall provide all supporting documentation, workpapers and relevant Study Case power flow and short circuit databases that have been developed for the Interconnection Feasibility Study to any third party consultant retained by the Interconnection Customer. The recipient(s) of such information shall be subject to the confidentiality provisions of Section 13.1 and the ISO New England Information Policy, as well as any other applicable requirement under Applicable Laws and Regulations regulating the disclosure or confidentiality of such information. To the extent that any applicable information is not covered by any applicable confidentiality/disclosure requirements, such information may be provided directly to the Interconnection Customer.

System Operator shall study the Interconnection Request at the level of Interconnection Service requested by the Interconnection Customer for purposes of determining necessary Interconnection Facilities and Network Upgrades, and at the full Generating Facility capability to ensure the acceptability of the proposed control technology to restrict the facility's output and the safety or reliability of the system.

#### **6.3.1 Meeting with Parties.**

Within ten (10) Business Days of providing an Interconnection Feasibility Study report to the Interconnection Customer, the System Operator will convene a meeting of the Interconnecting Transmission Owner, Interconnection Customer, and any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements to discuss the results of the Interconnection Feasibility Study.

#### **6.4 Re-Study.**

If re-study of the Interconnection Feasibility Study is required due to (i) a higher queued project dropping out of the queue, (ii) a modification of a higher queued project subject to Section 4.4, (iii) a re-designation of the Point of Interconnection pursuant to Section 6.1, (iv) a re-assessment of the upgrade responsibilities of an Elective Transmission Upgrade associated with an Import Capacity Resource(s) or a Generating Facility after the Import Capacity Resource(s) or the Generating Facility receives a Capacity Supply



Obligation in accordance with Section III.13 of the Tariff, or (v) a modification to a transmission project included in the Base Case, the System Operator shall notify the Interconnection Customer and Interconnecting Transmission Owner in writing. Each re-study shall be conducted serially based on the Queue Position of each Interconnection Customer, and each re-study shall take not longer than sixty (60) Calendar Days from the date the re-study commences. Any cost of re-study shall be borne by the Interconnection Customer being re-studied. If the original Interconnection Feasibility Study is complete and the final invoice has been issued, the re-study shall be performed under a new Interconnection Feasibility Study Agreement.

The Interconnection Customer shall have the option to waive the re-study and elect to have the re-study performed as part of its Interconnection System Impact Study. The Interconnection Customer shall provide written notice of the waiver and election of moving directly to the Interconnection System Impact Study within five (5) Business Days of receiving notice from the System Operator of the required re-study.

## **SECTION 7. INTERCONNECTION SYSTEM IMPACT STUDY.**

### **7.1 Interconnection System Impact Study Agreement.**

Within five (5) Business Days following the Interconnection Feasibility Study results meeting, or subsequent to the Scoping Meeting within five (5) Business Days if the Interconnection Customer did not pursue the Interconnection Feasibility Study, the System Operator and Interconnecting Transmission Owner shall provide to Interconnection Customer the Interconnection System Impact Study Agreement, which includes a non-binding good faith estimate of the cost and timeframe for commencing and completing the Interconnection System Impact Study. The Interconnection System Impact Study Agreement shall provide that the Interconnection Customer shall compensate the System Operator and Interconnecting Transmission Owner for the actual cost of the Interconnection System Impact Study, including the cost of developing the study agreement and its attachment(s) and the cost of developing the LGIA.

### **7.2 Execution of Interconnection System Impact Study Agreement.**

The Interconnection Customer shall execute the Interconnection System Impact Study Agreement and deliver the executed Interconnection System Impact Study Agreement to the System Operator no later than thirty (30) Calendar Days after its receipt along with a demonstration of Site Control and the technical data called for in Appendix 1, Attachment A (and Attachment A-1, if applicable), and the Interconnection Customer shall also deliver a refundable deposit. An Interconnection Customer does not need to demonstrate Site Control where the Interconnection Request is for a modification to the Interconnection Customer's existing Large Generating Facility and the Interconnection Customer has certified in the Interconnection Request that it has Site Control and that the modification proposed in the Interconnection Request does not require additional real property. The deposit for the study shall be: (i) the greater of 100 percent of the estimated cost of the study or \$250,000; or (ii) the lower of 100 percent of the estimated costs of the study or \$50,000, if the Interconnection Customer can provide: (1) evidence of applications for all Major Permits, as defined in Section III.13.1.1.2.2.2(a) of the Tariff, required in support of the Interconnection Request or written certification that Major Permits are not required, or (2) evidence acceptable to the System Operator of At-Risk Expenditures (excluding Interconnection Study costs) totaling at least the amounts of money described in (i) above; or (iii) the lower of 100 percent of the estimated costs of the study or \$50,000, if the Interconnection Request is for a modification to an existing Large Generating Facility that does not increase the energy capability or capacity capability of the Large Generating Facility.

The deposit shall be applied toward the cost of the Interconnection System Impact Study, including the cost of developing the study agreement and its attachment(s) and the cost of developing the LGIA. For Interconnection Requests that are identified for inclusion in a CRPS performed under Section 15 of Attachment K, Section II of the Tariff, the deposit also shall be applied toward the costs incurred by the Interconnecting Transmission Owner in developing the cost estimates in support of the CRPS. Any difference between the study deposit and the actual cost of the Interconnection System Impact Study or the actual costs incurred by the Interconnecting Transmission Owner in developing the costs estimates in support of the CRPS shall be paid by or refunded to the Interconnection Customer, except as otherwise provided in Section 13.3. In accordance with Section 13.3, the System Operator and/or the Interconnecting Transmission Owner shall issue to the Interconnection Customer an invoice for the costs of Interconnection System Impact Study that have been incurred by the System Operator and/or the Interconnecting Transmission Owner for the System Impact Study, including the study agreement and its

attachment(s) and the LGIA. Interconnecting Transmission Owner shall provide System Operator on a monthly basis, and in the form and format specified by the System Operator, invoices for the work conducted on the Interconnection System Impact Study each month and shall include in such invoices all employee hours and third party consultant hours, including subcontractor hours, expended toward the Interconnection System Impact Study. In the case of Clustering, CSIS costs that are associated with an individual Interconnection Request assessed within the CSIS will be charged directly to that Interconnection Customer. CSIS costs that are associated with the CSIS as a whole will be divided equally, on a per-project basis, among the Interconnection Customers in the cluster. If the Interconnection Customer elects the deposit described in (ii) above, the System Operator and the Interconnecting Transmission Owner may, in the exercise of reasonable discretion, invoice the Interconnection Customer on a monthly basis for the work to be conducted on the Interconnection System Impact Study on each month. The Interconnection Customer shall pay the invoiced amounts, to the extent such amounts are greater than the initial deposit, within thirty (30) Calendar Days of receipt of invoice. The System Operator shall continue to hold the amounts on deposit until settlement of the final invoice with the Interconnection Customer and the Interconnecting Transmission Owner.

On or before the return of the executed Interconnection System Impact Study Agreement to the System Operator and Interconnecting Transmission Owner, the Interconnection Customer shall provide the technical data called for in Appendix 1, Attachment A (and Attachment A-1, if applicable); provided that if a PSCAD model for a non-wind or non-inverter-based Large Generating Facility was determined to be needed at the Scoping Meeting, then the Interconnection Customer shall have ninety (90) Calendar Days from the execution of the System Impact Study Agreement to provide the PSCAD model.

If the Interconnection Customer does not provide all such technical data when it delivers the Interconnection System Impact Study Agreement, the System Operator shall notify the Interconnection Customer of the deficiency within five (5) Business Days of the receipt of the executed Interconnection System Impact Study Agreement and the Interconnection Customer shall cure the deficiency within ten (10) Business Days of receipt of the notice, provided, however, such deficiency does not include failure to deliver the executed Interconnection System Impact Study Agreement or deposit.

If the Interconnection System Impact Study uncovers any unexpected result(s) not contemplated during the Scoping Meeting or the Interconnection Feasibility Study, a substitute Point of Interconnection identified by the System Operator, Interconnection Customer, Interconnecting Transmission Owner, or any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements, and acceptable to each Party, such acceptance not to be unreasonably withheld, will be substituted for the designated Point of Interconnection specified above without loss of Queue Position, and re-studies shall be completed pursuant to Section 7.6 as applicable. For the purpose of this Section 7.2, if the Parties cannot agree on the substituted Point of Interconnection, then Interconnection Customer may direct that one of the alternatives as specified in the Interconnection Feasibility Study Agreement if Interconnection Customer pursued the Interconnection Feasibility Study, as specified pursuant to Section 3.4.4, shall be the substitute.

### **7.3 Scope of Interconnection System Impact Study.**

The Interconnection System Impact Study shall evaluate the impact of the proposed interconnection on the reliability and operation of the New England Transmission System. The Interconnection System Impact Study will consider the Base Case as well as all generating facilities and Elective Transmission Upgrades (and with respect to (iii) below, any identified Network Upgrades associated with such higher queued interconnection) that, on the date the Interconnection System Impact Study is commenced: (i) are directly interconnected to the New England Transmission System; (ii) are interconnected to Affected Systems and may have an impact on the Interconnection Request; (iii) have a pending higher queued Interconnection Request to interconnect to the New England Transmission System and may have an impact on the Interconnection Request; and (iv) have no Queue Position but have executed an Interconnection Agreement or requested that an unexecuted Interconnection Agreement be filed with the Commission (the “Study Case” for the Interconnection System Impact Study). An Interconnection Customer with a CNR Interconnection Request may also request that the Interconnection System Impact Study include a preliminary, non-binding, analysis to identify potential upgrades that may be necessary for the Interconnection Customer’s Generating Facility to qualify for participation in a Forward Capacity Auction under Section III.13 of the Tariff, based on a limited set of assumptions to be specified by the Interconnection Customer and reflected in Attachment A to the Interconnection System Impact Study Agreement.

The Interconnection System Impact Study will consist of a short circuit analysis, a stability analysis, a power flow analysis, such as electromagnetic transient analysis, including thermal analysis and voltage analysis, a system protection analysis and any other analyses that are deemed necessary by the System Operator in consultation with the Interconnecting Transmission Owner. The Interconnection System Impact Study report will state the assumptions upon which it is based, state the results of the analyses, and provide the requirements or potential impediments to providing the requested interconnection service, including a preliminary indication of the cost and length of time that would be necessary to correct any problems identified in those analyses and implement the interconnection. For purposes of determining necessary Interconnection Facilities and Network Upgrades, the Interconnection System Impact Study shall consider the level of Interconnection Service requested by the Interconnection Customer. However, the Interconnection System Impact Study shall consider the full Generating Facility capability to ensure the acceptability of the proposed control technology to restrict the facility's output and the safety and reliability of the system. The Interconnection System Impact Study report will provide (i) a list of facilities that are required as a result of the Interconnection Request and a non-binding good faith estimate of cost responsibility; (ii) a non-binding good faith estimated time to construct; (iii) a protection assessment to determine the required protection upgrades; and may provide (iv) an evaluation of the siting of the Interconnection Facilities and Network Upgrades; and (v) identification of the likely permitting and siting process including easements and environment work. To the extent the Interconnection Customer requested a preliminary analysis as described in this Section 7.3, the Interconnection System Impact Study report will also provide a list of potential upgrades that may be necessary for the Interconnection Customer's Generating Facility to qualify for participation in a Forward Capacity Auction under Section III.13 of the Tariff.

#### **7.4 Interconnection System Impact Study Procedures.**

The System Operator shall coordinate the Interconnection System Impact Study with the Interconnecting Transmission Owner, and with any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements, that is affected by the Interconnection Request pursuant to Section 3.6 above. The System Operator and Interconnecting Transmission Owner shall utilize existing studies to the extent practicable when it performs the study. The System Operator and Interconnecting Transmission Owner shall use Reasonable Efforts to complete the Interconnection System Impact Study within two hundred and seventy (270) Calendar Days after the

receipt of the Interconnection System Impact Study Agreement, study deposit, demonstration of Site Control, if Site Control is required, and required technical data in accordance with Section 7.2. If System Operator uses Clustering, the System Operator and Interconnecting Transmission Owner shall use Reasonable Efforts to deliver a completed Interconnection System Impact Study within the times specified in this Section 7.4.

At the request of the Interconnection Customer or at any time the System Operator or Interconnecting Transmission Owner determines that it will not meet the required time frame for completing the Interconnection System Impact Study, the System Operator shall notify the Interconnection Customer as to the schedule status of the Interconnection System Impact Study. If the System Operator and Interconnecting Transmission Owner are unable to complete the Interconnection System Impact Study within the time period, the System Operator shall notify the Interconnection Customer and provide an estimated start date if the study has not commenced and completion date with an explanation of the reasons why additional time is required. In such circumstances, upon request, the System Operator and Interconnecting Transmission Owner shall provide all supporting documentation, workpapers and relevant Study Case power flow, short circuit and stability databases that have been developed for the Interconnection System Impact Study to any third party consultant retained by the Interconnection Customer. The recipient(s) of such information shall be subject to the confidentiality provisions of Section 13.1 and the ISO New England Information Policy, as well as any other applicable requirement under Applicable Laws and Regulations regulating the disclosure or confidentiality of such information. To the extent that any applicable information is not covered by any applicable confidentiality/ disclosure requirements, such information may be provided directly to the Interconnection Customer.

Except in the case of a CSIS, the System Operator shall notify the Interconnection Customer when the Interconnection System Impact Study is expected to commence within sixty-five (65) Calendar Days. An Interconnection Customer with an Interconnection Request being studied serially will be permitted to update the technical data provided in Appendix 1 and Attachment A (and Attachment A-1, if applicable), and submit modifications to that technical data to the System Operator no later than sixty (60) Calendar Days from the date that the System Operator notified the Interconnection Customer that the Interconnection System Impact Study is expected to commence. Such modifications will not be deemed Material Modifications provided they meet the requirements of Section 4.4.1 of this LGIP.

Where sufficient time has elapsed since the initial Scoping Meeting, within ten (10) Business Days after notifying the Interconnection Customer that the Interconnection System Impact Study is expected to commence, the System Operator may convene a second Scoping Meeting for the purpose of providing updated information to the Interconnection Customer in preparation for the submittal of updates to the technical data.

#### **7.5 Meeting with Parties.**

Within ten (10) Business Days of providing an Interconnection System Impact Study report to Interconnection Customer, the System Operator shall convene a meeting of the Interconnecting Transmission Owner, Interconnection Customer, and any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements, to discuss the results of the Interconnection System Impact Study.

Within ten (10) Business Days following the study results meeting, the Interconnection Customer shall provide to the System Operator written notice that it will either pursue the Interconnection Facilities Study or waive the Interconnection Facilities Study and elect an expedited interconnection. Once the Interconnection Customer notifies the System Operator of its election, such election is not subject to change. If the Interconnection Customer elects to pursue the Facilities Study it must proceed with the study. If the Interconnection Customer waives the Facilities Study, it shall commit to the following milestones in the LGIA: (i) Siting approval for the Generating Facility and Interconnection Facilities; (ii) Engineering of Interconnection Facilities approved by Interconnecting Transmission Owner; (iii) Ordering of long lead time material for Interconnection Facilities and system upgrades; (iv) Initial Synchronization Date; and (v) Commercial Operation Date.

Within thirty (30) Calendar Days of the Interconnection Customer receiving the Interconnection System Impact Study report, the Interconnection Customer shall provide written comments on the report or written notice that it has no comments on the report. The System Operator shall issue a final Interconnection System Impact Study report within fifteen (15) Business Days of receiving the Interconnection Customer's comments or promptly upon receiving the Interconnection Customer's notice that it will not provide comments.

## **7.6 Re-Study.**

If re-study of the Interconnection System Impact Study is required due to (i) a higher queued project dropping out of the queue, (ii) a modification of a higher queued project subject to Section 4.4, (iii) re-designation of the Point of Interconnection pursuant to Section 7.2, (iv) a re-assessment of the upgrade responsibilities of an Elective Transmission Upgrade associated with an Import Capacity Resource(s) or a Generating Facility after the Import Capacity Resource(s) or the Generating Facility receives a Capacity Supply Obligation in accordance with Section III.13 of the Tariff, or (v) a modification to a transmission project included in the Base Case, the System Operator shall notify the Interconnection Customer and Interconnecting Transmission Owner in writing.

Each re-study shall be conducted serially based on the Queue Position of each Interconnection Customer, and each re-study shall take no longer than sixty (60) Calendar Days from the date the re-study commences. Any cost of re-study shall be borne by the Interconnection Customer being re-studied. If the original Interconnection System Impact Study is complete and the final invoice has been issued, the re-study shall be performed under a new Interconnection System Impact Study Agreement.

## **7.7 Operational Readiness.**

The System Operator shall, as close to the Interconnection Customer's actual Synchronization Date as reasonably possible, ensure that operational analysis, including current stability analyses, power flow analyses, and any other analyses deemed necessary by the System Operator, are performed, and that procedures are developed or updated to address the operation of the New England Transmission System with the addition of the Interconnection Customer's Generating Facility. The operational analysis will also include tests of system performance with selected facilities out of service. Such studies shall be performed at the expense of the Interconnection Customer.

The System Operator is not obligated to perform the operational analyses described in this Section 7.7 if, in the exercise of reasonable discretion, the System Operator in consultation with Interconnecting Transmission Owner determines that interconnection of the Interconnection Customer's Generating Facility to the Administered Transmission System is remote and speculative.



## **SECTION 8. INTERCONNECTION FACILITIES STUDY.**

### **8.1 Interconnection Facilities Study Agreement.**

Except as otherwise provided in Section 4.2.4 of this LGIP, the Interconnection Customer may waive the Interconnection Facilities Study and instead elect expedited interconnection, which means that the Interconnection Customer may enter into E&P Agreements under Section 9 if it had not already done so, and shall enter into an LGIA in accordance with the requirements specified in Section 11.

If the Interconnection Customer waives the Interconnection Facilities Study, the Interconnection Customer, subject to the specific terms of the E&P Agreements, assumes all risks and shall pay all costs associated with equipment, engineering, procurement and construction work covered by the Interconnection Facilities Study as described in Section 8.2 below.

The System Operator shall provide to the Interconnection Customer an Interconnection Facilities Study Agreement in the form of Appendix 4 to this LGIP simultaneously with the delivery of the Interconnection System Impact Study to the Interconnection Customer.

The Interconnection Facilities Study Agreement shall provide that the Interconnection Customer shall compensate the System Operator and Interconnecting Transmission Owner for the actual cost of the Interconnection Facilities Study, including the cost of developing the study agreement and its attachment(s) and the cost of developing the LGIA. Within three (3) Business Days following the Interconnection System Impact Study results meeting, the System Operator and Interconnecting Transmission Owner shall provide to Interconnection Customer a non-binding good faith estimate of the cost for completing the Interconnection Facilities Study in accordance with requirements specified in Section 8.3. The Interconnection Customer shall execute the Interconnection Facilities Study Agreement and deliver the executed Interconnection Facilities Study Agreement to the System Operator within thirty (30) Calendar Days after its receipt, together with the required technical data and the refundable deposit for the Interconnection Facilities Study. In accordance with Section 8.3, the Interconnection Customer shall specify in Attachment A to the Interconnection Facilities Study Agreement whether it wants no more than a +/- 20 percent or a +/- 10 percent good faith cost estimate contained in the report. The deposit for the study shall be either: (i) the greater of twenty-five percent of the estimated cost of the

study or \$250,000; or (ii) the greater of 100 percent of one month's estimated study cost or \$100,000, if the Interconnection Customer can provide: (1) evidence of applications for all Major Permits, as defined in Section III.13.1.1.2.2.2 of the Tariff, required in support of the Interconnection Request, or provide certification that Major Permits are not required or (2) evidence acceptable to the System Operator of At-Risk Expenditures (excluding Interconnection Study costs) totaling at least the amounts of money in (i) above, not including the same At-Risk Expenditures demonstrated with the Interconnection System Impact Study Agreement, if applicable; or (iii) the greater of 100 percent of one month's estimated study cost or \$100,000, if the Interconnection Request is for a modification to an existing Large Generating Facility that does not increase the energy capability or capacity capability of the Large Generating Facility.

Any difference between the study deposit and the actual cost of the Interconnection Facilities Study shall be paid by or refunded to the Interconnection Customer, except as otherwise provided in Section 13.3. In accordance with Section 13.3, the System Operator and/or the Interconnecting Transmission Owner shall issue to the Interconnection Customer an invoice for the cost of the Interconnection Facilities Studies that have been incurred by the System Operator and/or the Interconnecting Transmission Owner for the Interconnection Facilities Study, the study agreement and its attachment(s) and the LGIA.

Interconnecting Transmission Owner shall provide System Operator on a monthly basis, and in the form and format specified by the System Operator, invoices for the work conducted on the Interconnection Facilities Study each month and shall include in such invoices all employee hours and third party consultant hours, including subcontractor hours, expended toward the Interconnection Facilities Study. In the case of Clustering, CFAC costs that are associated with an individual Interconnection Request assessed within the CFAC will be charged directly to that Interconnection Customer. CFAC costs that are associated with the CFAC as a whole will be divided equally, on a per-project basis, among the Interconnection Customers in the cluster. The System Operator and the Interconnecting Transmission Owner may, in the exercise of reasonable discretion, invoice the Interconnection Customer on a monthly basis for the work to be conducted on the Interconnection Facilities Study each month. The Interconnection Customer shall pay the invoiced amounts, to the extent such amounts are greater than the initial deposit, within thirty (30) Calendar Days of receipt of invoice. The System Operator shall continue to hold the amounts on deposit until settlement of the final invoice with the Interconnection Customer and the Interconnecting Transmission Owner.

## **8.2 Scope of Interconnection Facilities Study.**

The Interconnection Facilities Study shall specify and estimate the cost of the equipment, engineering, procurement and construction work needed to implement the conclusions of the Interconnection System Impact Study in accordance with Good Utility Practice to physically and electrically connect the Interconnection Facility to the Administered Transmission System. The Interconnection Facilities Study shall also identify the electrical switching configuration of the connection equipment, including, without limitation: the transformer, switchgear, meters, and other station equipment; the nature and estimated cost of any Interconnecting Transmission Owner's Interconnection Facilities and Network Upgrades necessary to accomplish the interconnection; and an estimate of the time required to complete the construction and installation of such facilities. The Interconnection Facilities Study shall also identify any potential control technology for the Large Generating Facility if the Interconnection Customer has requested Interconnection Service at a level that is lower than the nameplate capability of the facility. The scope and cost of the Interconnection Facilities Study shall include completion of any engineering work limited to what is reasonably required to (i) estimate such aforementioned cost to the accuracy specified by the Interconnection Customer pursuant to Section 8.3, (ii) identify, configurations of required facilities and (iii) identify time requirements for construction and installation of required facilities.

## **8.3 Interconnection Facilities Study Procedures.**

The System Operator shall coordinate the Interconnection Facilities Study with Interconnecting Transmission Owner, and any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements, pursuant to Section 3.6 above. The System Operator and Interconnecting Transmission Owner shall utilize existing studies to the extent practicable in performing the Interconnection Facilities Study. The System Operator and Interconnecting Transmission Owner shall use Reasonable Efforts to complete the study and the System Operator shall issue a draft Interconnection Facilities Study report to the Interconnection Customer, Interconnecting Transmission Owner, and any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements, within the following number of days after receipt of an executed Interconnection Facilities Study Agreement: ninety (90) Calendar Days, with no more than a +/- 20 percent good faith cost estimate contained in the report; or one hundred eighty (180) Calendar Days, if the Interconnection Customer requests a +/- 10 percent

good faith cost estimate. Such cost estimates either individually or in the aggregate will be provided in the final study report. If the System Operator uses Clustering, the System Operator and the Interconnecting Transmission Owner shall use Reasonable Efforts to deliver a completed Interconnection Facilities Study within the times specified in this Section 8.3.

At the request of the Interconnection Customer or at any time the System Operator or Interconnecting Transmission Owner determines that it will not meet the required time frame for completing the Interconnection Facilities Study, System Operator shall notify the Interconnection Customer, and any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements, as to the schedule status of the Interconnection Facilities Study. If the System Operator is unable to complete the Interconnection Facilities Study and issue a draft Interconnection Facilities Study report within the time required, the System Operator shall notify the Interconnection Customer, Interconnecting Transmission Owner and any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements, and provide an estimated completion date and an explanation of the reasons why additional time is required.

The Interconnection Customer and appropriate Affected Parties may, within thirty (30) Calendar Days after receipt of the draft report, provide written comments to the System Operator and Interconnecting Transmission Owner, which the System Operator shall include in the final report. The System Operator shall issue the final Interconnection Facilities Study report within fifteen (15) Business Days of receiving the Interconnection Customer's comments or promptly upon receiving Interconnection Customer's statement that it will not provide comments. The System Operator may reasonably extend such fifteen-day period upon notice to the Interconnection Customer if the Interconnection Customer's comments require the System Operator or Interconnecting Transmission Owner to perform additional analyses or make other significant modifications prior to the issuance of the final Interconnection Facilities Report. Upon request, the System Operator and Interconnecting Transmission Owner shall provide the Interconnection Customer and any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements, or any third party consultant retained by the Interconnection Customer supporting documentation, with workpapers, and databases or data developed in the preparation of the Interconnection Facilities Study. The recipient(s) of

such information shall be subject to the confidentiality provisions of Section 13.1 and the ISO New England Information Policy, as well as any other applicable requirement under Applicable Laws and Regulations regulating the disclosure or confidentiality of such information. To the extent that any applicable information is not covered by any applicable confidentiality/ disclosure requirements, such information may be provided directly to the Interconnection Customer.

#### **8.4 Meeting with Parties.**

Within ten (10) Business Days of providing a draft Interconnection Facilities Study report to Interconnection Customer, the System Operator will convene a meeting of the Interconnecting Transmission Owner, Interconnection Customer, and any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements to discuss the results of the Interconnection Facilities Study.

#### **8.5 Re-Study.**

If re-study of the Interconnection Facilities Study is required due to (i) a higher queued project dropping out of the queue, (ii) a modification of a higher queued project subject to Section 4.4, (iii) a re-assessment of the upgrade responsibilities of an Elective Transmission Upgrade associated with an Import Capacity Resource(s) or a Generating Facility after the Import Capacity Resource(s) or the Generating Facility receives a Capacity Supply Obligation in accordance with Section III.13 of the Tariff, or (iv) a modification to a transmission project included in the Base Case, the System Operator shall notify the Interconnection Customer and Interconnecting Transmission Owner in writing. Each re-study shall be conducted serially based on the Queue Position of each Interconnection Customer, and each re-study shall take no longer than sixty (60) Calendar Days from the date the re-study commences. Any cost of re-study shall be borne by the Interconnection Customer being re-studied. If the original Interconnection Facilities Study is complete and the final invoice has been issued, the re-study shall be performed under a new Interconnection Facilities Study Agreement.

### **SECTION 9. ENGINEERING & PROCUREMENT (“E&P”) AGREEMENT.**

Prior to executing an LGIA, an Interconnection Customer may request, in order to advance the implementation of its interconnection, and the Interconnecting Transmission Owner and any Affected

Party shall offer the Interconnection Customer, an E&P Agreement that authorizes the Interconnecting Transmission Owner and any Affected Party to begin engineering and procurement of long lead-time items necessary for the establishment of the interconnection. However, the Interconnecting Transmission Owner or any Affected Party shall not be obligated to offer an E&P Agreement if the Interconnection Customer is in Dispute Resolution as a result of an allegation that the Interconnection Customer has failed to meet any milestones or comply with any prerequisites specified in other parts of the LGIP. The E&P Agreement is an optional procedure and it will not alter the Interconnection Customer's Queue Position or Initial Synchronization Date. The E&P Agreement shall provide for the Interconnection Customer to pay the cost of all activities authorized by the Interconnection Customer, including a deposit of 100 percent of the estimated engineering and study costs, and to make advance payments or provide other satisfactory security for such costs.

The Interconnection Customer shall pay the cost of such authorized activities and any cancellation costs for equipment that is already ordered for its interconnection, which cannot be mitigated as hereafter described, whether or not such items or equipment later become unnecessary. If the Interconnection Customer withdraws its application for interconnection or an E&P Agreement is terminated by any Party, to the extent the equipment ordered can be canceled under reasonable terms, the Interconnection Customer shall be obligated to pay the associated cancellation costs. To the extent that the equipment cannot be reasonably canceled, the Interconnecting Transmission Owner or the Affected Party that is a party to an E&P Agreement may elect: (i) to take title to the equipment, in which event the Interconnecting Transmission Owner or relevant Affected Party shall refund the Interconnection Customer any amounts paid by the Interconnection Customer for such equipment and shall pay the cost of delivery of such equipment, or (ii) to transfer title to and deliver such equipment to the Interconnection Customer, in which event the Interconnection Customer shall pay any unpaid balance and cost of delivery of such equipment.

## **SECTION 10. OPTIONAL INTERCONNECTION STUDY.**

### **10.1 Optional Interconnection Study Agreement.**

On or after the date when the Interconnection Customer receives Interconnection System Impact Study report and no later than five (5) Business Days after the study results meeting to review the report, the

Interconnection Customer may request in writing, and the System Operator in coordination with the Interconnecting Transmission Owner shall perform, an Optional Interconnection Study. The request shall describe the assumptions that the Interconnection Customer wishes the System Operator to study within the scope described in Section 10.2. Within five (5) Business Days after receipt of a request for an Optional Interconnection Study, the System Operator shall provide to the Interconnecting Transmission Owner and the Interconnection Customer an Optional Interconnection Study Agreement in the form of Appendix 5.

The Optional Interconnection Study Agreement shall: (i) specify the technical data that the Interconnection Customer must provide for each phase of the Optional Interconnection Study, (ii) specify the Interconnection Customer's assumptions as to which Interconnection Requests with earlier queue priority dates will be excluded from the Optional Interconnection Study case, and (iii) specify the System Operator's and Interconnecting Transmission Owner's estimate of the cost of the Optional Interconnection Study. To the extent known by the System Operator, such estimate shall include any costs expected to be incurred by any Affected System whose participation is necessary to complete the Optional Interconnection Study. The Optional Interconnection Study Agreement shall specify that Interconnection Customer is responsible for the actual cost of the Optional Interconnection Study, including the cost of developing the study agreement and its attachment(s). Notwithstanding the above, the System Operator and Interconnecting Transmission Owner shall not be required as a result of an Optional Interconnection Study request to conduct any additional Interconnection Studies with respect to any other Interconnection Request.

The Interconnection Customer shall execute the Optional Interconnection Study Agreement within ten (10) Business Days of receipt and deliver the Optional Interconnection Study Agreement, the required technical data and the refundable deposit for the Optional Interconnection Study to the System Operator. The deposit for the study shall be 100 percent of the estimated cost of the study. Any difference between the study deposit and the actual cost of the Optional Interconnection Study shall be paid by or refunded to the Interconnection Customer, except as otherwise provided in Section 13.3. In accordance with Section 13.3, the System Operator and/or the Interconnecting Transmission Owner shall issue to the Interconnection Customer an invoice for the costs of the Optional Interconnection Study that have been incurred by the System Operator and/or the Interconnecting Transmission Owner for the Optional

Interconnection Study and the study agreement and its attachments(s). The Interconnection Customer shall pay the invoiced amounts, to the extent such amounts are greater than the initial deposit, within thirty (30) Calendar Days of receipt of invoice. The System Operator shall continue to hold the amounts on deposits until settlement of the final invoice with the Interconnection Customer and the Interconnecting Transmission Owner.

## **10.2 Scope of Optional Interconnection Study.**

The Optional Interconnection Study will consist of a sensitivity analysis based on the assumptions specified by the Interconnection Customer in the Optional Interconnection Study Agreement. The Optional Interconnection Study will also identify the Interconnecting Transmission Owner's Interconnection Facilities and the Network Upgrades, and the estimated cost thereof, that may be required to provide transmission service or Interconnection Service based upon the results of the Optional Interconnection Study. The System Operator shall use Reasonable Efforts to coordinate the study with any Affected Systems that may be affected by the types of Interconnection Services that are being studied. The System Operator and Interconnecting Transmission Owner shall utilize existing studies to the extent practicable in conducting the Optional Interconnection Study.

The Optional Interconnection Study will consist of a short circuit analysis, a stability analysis, a power flow analysis, including thermal analysis and voltage analysis, a system protection analysis, and any other analyses that are deemed necessary by the System Operator in consultation with the Interconnecting Transmission Owner.

## **10.3 Optional Interconnection Study Procedures.**

The executed Optional Interconnection Study Agreement, the prepayment, and technical and other data called for therein must be provided to the System Operator and Interconnecting Transmission Owner within ten (10) Business Days of the Interconnection Customer receipt of the Optional Interconnection Study Agreement. The System Operator and Interconnecting Transmission Owner shall use Reasonable Efforts to complete the Optional Interconnection Study within a mutually agreed-upon time period specified within the Optional Interconnection Study Agreement. If the System Operator and Interconnecting Transmission Owner are unable to complete the Optional Interconnection Study within such time period, the System Operator shall notify the Interconnection Customer and provide an



estimated completion date and an explanation of the reasons why additional time is required. In such circumstances, upon request, the System Operator and Interconnecting Transmission Owner shall provide the Interconnection Customer supporting documentation and workpapers and databases or data developed in the preparation of the Optional Interconnection Study to any third party consultant retained by the Interconnection Customer. The recipient(s) of such information shall be subject to the confidentiality provisions of Section 13.1 and the ISO New England Information Policy, as well as any other applicable requirement under Applicable Laws and Regulations regulating the disclosure or confidentiality of such information. To the extent that any applicable information is not covered by any applicable confidentiality/disclosure requirements, such information may be provided directly to the Interconnection Customer.

#### **10.4 Meeting with Parties.**

Within ten (10) Business Days of providing an Optional Interconnection Study report to Interconnection Customer, System Operator will convene a meeting of the Interconnecting Transmission Owner, Interconnection Customer, and any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements to discuss the results of the Optional Interconnection Study.

#### **10.5 Interconnection Agreement Developed Based on Optional Interconnection Study.**

If the LGIA for a Large Generating Facility is based on the results of an Optional Interconnection Study, the LGIA shall reflect the conditions studied and any obligations that may involve: (i) additional studies if such conditions change, (ii) operational limits, or (iii) financial support for transmission upgrades.

### **SECTION 11. STANDARD LARGE GENERATOR INTERCONNECTION AGREEMENT (LGIA).**

#### **11.1 Tender.**

Interconnection Customer shall tender comments or provide notice, in writing, to the System Operator and Interconnecting Transmission Owner that the Interconnection Customer has no comments on the draft Interconnection Facilities Study report or on the draft Interconnection System Impact Study report if the Interconnection Customer waived the Interconnection Facilities Study, within thirty (30) Calendar Days

of receipt of the report. Except as provided in the E&P Agreement or any mutual agreement by the entities that would be Parties to the LGIA, the System Operator shall initiate the development of the LGIA process within fifteen (15) Calendar Days after the comments are submitted or waived, by tendering to the Interconnection Customer a draft LGIA, together with draft appendices completed by the System Operator, in conjunction with the Interconnecting Transmission Owner to the extent practicable. The draft LGIA shall be in the form of the System Operator's Commission-approved standard form LGIA which is in Appendix 6 to Schedule 22. The Interconnection Customer shall return the Interconnection Customer specific information required to complete the form of LGIA, including the appendices, in Appendix 6 of Schedule 22 that the Interconnection Customer is willing to execute within thirty (30) Calendar Days after receipt of the draft from the System Operator.

## **11.2 Negotiation.**

Notwithstanding Section 11.1, at the request of the Interconnection Customer, the System Operator and Interconnecting Transmission Owner shall begin negotiations with the Interconnection Customer concerning the appendices to the LGIA at any time after the Interconnection Facilities Study is complete or after the Interconnection System Impact Study is complete if the Interconnection Customer intends to waive the Interconnection Facilities Study. The System Operator, Interconnection Customer, and Interconnecting Transmission Owner shall negotiate concerning any disputed provisions of the appendices to the draft LGIA for not more than sixty (60) Calendar Days after tender by the System Operator of the draft LGIA pursuant to Section 11. If the Interconnection Customer determines that negotiations are at an impasse, it may request termination of the negotiations at any time after tender of the draft LGIA pursuant to Section 11.1 and request submission of the unexecuted LGIA with the Commission or initiate Dispute Resolution procedures pursuant to Section 13.5. If the Interconnection Customer requests termination of the negotiations, but within sixty (60) Calendar Days thereafter fails to request either the filing of the unexecuted LGIA or initiate Dispute Resolution, it shall be deemed to have withdrawn its Interconnection Request. Unless otherwise agreed by the Parties, if the Interconnection Customer has not executed the LGIA, requested filing of an unexecuted LGIA, or initiated Dispute Resolution procedures pursuant to Section 13.5 within sixty (60) Calendar Days of tender of by the System Operator of the draft LGIA pursuant to Section 11.1, it shall be deemed to have withdrawn its Interconnection Request. The System Operator and Interconnecting Transmission Owner shall provide to

the Interconnection Customer a final LGIA within fifteen (15) Business Days after the mutually agreed completion of the negotiation process.

### **11.3 Evidence to be Provided by Interconnection Customer; Execution and Filing of LGIA.**

#### **11.3.1 Evidence to be Provided by Interconnection Customer.**

**11.3.1.1 Site Control.** Within fifteen (15) Business Days after receipt of the final LGIA, the Interconnection Customer shall provide (A) to the System Operator, reasonable evidence of continued Site Control, or (B) to the Interconnecting Transmission Owner, posting of \$250,000, non-refundable additional security, which shall be applied toward future construction costs. Interconnection Customer does not need to demonstrate Site Control where the Interconnection Request is for a modification to the Interconnection Customer's existing Large Generating Facility and the Interconnection Customer has certified in the Interconnection Request that it has Site Control and that the modification proposed in the Interconnection Request does not require additional real property.

**11.3.1.2 Development Milestones.** Within fifteen (15) Business Days after receipt of the final LGIA, the Interconnection Customer also shall provide to the System Operator reasonable evidence that one or more of the following milestones in the development of the Large Generating Facility, to be elected by the Interconnection Customer, has been achieved: (i) the execution of a contract for the supply or transportation of fuel to the Large Generating Facility; (ii) the execution of a contract for the supply of cooling water to the Large Generating Facility; (iii) execution of a contract for the engineering for, procurement of major equipment for, or construction of, the Large Generating Facility; (iv) execution of a contract for the sale of electric energy or capacity from the Large Generating Facility; (v) application for an air, water, or land use permit.

At the same time, the Interconnection Customer with an Interconnection Request that was not studied using Clustering shall commit to a schedule for the payment of upgrades identified in the Interconnection Studies or an E&P Agreement, and either: (A) provide evidence of approvals for all Major Permits, as defined in Section III.13.1.1.2.2.2(a) of the Tariff, or (B) provide to the Interconnecting Transmission Owner, in the form acceptable to the Interconnecting Transmission Owner, a refundable deposit of twenty

(20) percent of the total costs for the Interconnection Facilities and other upgrades identified in the Interconnection Studies or an E&P Agreement, unless the Interconnecting Transmission Owner's expenditure schedule for the Interconnection Facilities and other upgrades calls for an initial payment of greater than twenty (20) percent of the total upgrade costs, in which case the scheduled initial payment must instead be made within the fifteenth Business Day after receipt of the final LGIA. If the Interconnection Customer selects option (B) above, it shall also commit in the LGIA to the achievement of: (i) milestones for the completion of Major Permit approvals, and (ii) in the case of a CNR Interconnection Request, milestones to align the LGIA with the fulfillment of terms outlined in Section III.13 of the Tariff for participation in the Forward Capacity Market.

Within fifteen (15) Business Days after receipt of the final LGIA, an Interconnection Customer with an Interconnection Request studied using Clustering that provided the additional Cluster Participation Deposit in accordance with Section 4.2.4.4 shall provide to the Interconnecting Transmission Owner, in cash, a potentially non-refundable deposit of twenty (20) percent of the total costs for the Interconnection Facilities and other upgrades, including any CETUs, identified in the CFAC, unless the Interconnecting Transmission Owner's expenditure schedule for the Interconnection Facilities and other upgrades calls for an initial payment of greater than twenty (20) percent of the total upgrade costs, in which case the scheduled initial payment must instead be made within the fifteenth Business Day after receipt of the final LGIA. If the Interconnection Customer does not submit this deposit (or make the initial payment) by the fifteenth Business Day after receipt of the final LGIA, the Interconnection Request shall be automatically withdrawn from the interconnection queue without further opportunity to cure, and the Interconnection Customer's initial and additional Cluster Participation Deposits shall become non-refundable. The non-refundable initial and additional Cluster Participation Deposits shall be re-allocated, according to the cost allocation methodology contained in Schedule 11, to the Interconnection Customers with Interconnection Requests included in the cluster at time the facilities proposed in the Interconnection Requests achieve Commercial Operation. If an Interconnection Request is withdrawn after the Interconnection Customer's payment of twenty (20) percent of the total cost responsibility for the upgrades to the Interconnecting Transmission Owner, then the payment shall be used to offset the costs of the CETU. Any unspent payments of the total cost responsibility for the upgrades to the Interconnecting Transmission Owner will be refunded to the respective Interconnection Customers that executed the Interconnection Agreement and provided to the Interconnecting Transmission Owner the twenty (20) percent deposit (or initial payment)

if all the associated Interconnection Requests are withdrawn from the interconnection queue and the associated Interconnection Agreements are terminated.

**11.3.2 Execution and Filing of LGIA.** Within fifteen (15) Business Days after receipt of the final LGIA, (i) the Interconnection Customer and Interconnecting Transmission Owner shall execute three (3) originals of the tendered LGIA and return them to the System Operator, who will send an original to Interconnecting Transmission Owner and Interconnection Customer; or (ii) the Interconnection Customer shall request in writing that the System Operator and the Interconnecting Transmission Owner jointly file with the Commission an LGIA in unexecuted form. As soon as practicable, but not later than ten (10) Business Days after receiving either the executed originals of the tendered LGIA (if it does not conform with a Commission-approved standard form of interconnection agreement) or the request to file an unexecuted LGIA, the System Operator and Interconnecting Transmission Owner, in accordance with Section 11.3.3 or Section 11.3.4, as appropriate, shall jointly file the LGIA with the Commission, together with its explanation of any matters as to which the System Operator, Interconnection Customer or Interconnecting Transmission Owner disagree and support for the costs that the Interconnecting Transmission Owner proposes to charge to the Interconnection Customer under the LGIA. An unexecuted LGIA should contain terms and conditions deemed appropriate by the System Operator and Interconnecting Transmission Owner for the Interconnection Request. If the Parties agree to proceed with design, procurement, and construction of facilities and upgrades under the agreed-upon terms of the unexecuted LGIA, they may proceed pending Commission action.

With respect to the interconnection of an Interconnection Customer under Schedule 22, the LGIA shall be a three-party agreement among the Interconnecting Transmission Owner, the System Operator and the Interconnection Customer. If Interconnecting Transmission Owner, System Operator and Interconnection Customer agree to the terms and conditions of a specific LGIA, or any amendments to such an LGIA, then the System Operator and Interconnecting Transmission Owner shall jointly file the executed LGIA, or amendment thereto, with the Commission under Section 205 of the Federal Power Act. To the extent the Interconnecting Transmission Owner, System Operator and Interconnection Customer cannot agree to proposed variations from the standard form of LGIA in Appendix 6 or cannot otherwise agree to the terms and conditions of the LGIA for such Large Generating Unit, or any amendments to such an LGIA, then the System Operator and Interconnecting Transmission Owner shall jointly file an unexecuted LGIA,

or amendment thereto, with the Commission under Section 205 of the Federal Power Act and shall identify the areas of disagreement in such filing, provided that, in the event of disagreement on terms and conditions of the LGIA related to the costs of upgrades to such Interconnecting Transmission Owner's transmission facilities, the anticipated schedule for the construction of such upgrades, any financial obligations of the Interconnecting Transmission Owner, and any provisions related to physical impacts of the interconnection on the Interconnecting Transmission Owner's transmission facilities or other assets, then the standard applicable under Section 205 of the Federal Power Act shall apply only to the Interconnecting Transmission Owner's position on such terms and conditions.

**11.3.3** The Interconnecting Transmission Owner, acting on its own or jointly with the System Operator, may initiate a filing to amend this LGIP and the standard form of LGIA in Appendix 6 under Section 205 of the Federal Power Act and shall include in such filing the views of System Operator, provided that the standard applicable under Section 205 of the Federal Power Act shall apply only to the Interconnecting Transmission Owner's position on any financial obligations of the Interconnecting Transmission Owner or the Interconnection Customer(s), and any provisions related to physical impacts of the interconnection on the Interconnecting Transmission Owner's transmission facilities or other assets.

#### **11.4 Commencement of Interconnection Activities.**

If the Interconnection Customer executes the final LGIA, the System Operator, Interconnection Customer and Interconnecting Transmission Owner shall perform their respective obligations in accordance with the terms of the LGIA, subject to modification by the Commission. Upon submission of an unexecuted LGIA, the System Operator, Interconnection Customer and Interconnecting Transmission Owner shall promptly comply with the unexecuted LGIA, subject to modification by the Commission.

### **SECTION 12. CONSTRUCTION OF INTERCONNECTING TRANSMISSION OWNER INTERCONNECTION FACILITIES AND NETWORK UPGRADES.**

#### **12.1 Schedule.**

The Interconnection Customer, Interconnecting Transmission Owner and any other Affected Party shall negotiate in good faith concerning a schedule for the construction of the Interconnecting Transmission Owner's Interconnection Facilities and the Network Upgrades.

## **12.2 Construction Sequencing.**

**12.2.1 General.** In general, the Initial Synchronization Date of an Interconnection Customer seeking interconnection to the Administered Transmission System will determine the sequence of construction of Network Upgrades.

**12.2.2 Advance Construction of Network Upgrades that are an Obligation of an Entity other than the Interconnection Customer.** An Interconnection Customer with an executed or unexecuted, but filed with the Commission, LGIA, in order to maintain its Initial Synchronization Date, may request that the Interconnecting Transmission Owner or appropriate Affected Party advance to the extent necessary the completion of Network Upgrades that: (i) were assumed in the Interconnection Studies for such Interconnection Customer, (ii) are necessary to support such Initial Synchronization Date, and (iii) would otherwise not be completed, pursuant to a contractual obligation of an entity other than the Interconnection Customer that is seeking interconnection to the Administered Transmission System, in time to support such Initial Synchronization Date. Upon such request, the Interconnecting Transmission Owner or appropriate Affected Party will use Reasonable Efforts to advance the construction of such Network Upgrades to accommodate such request; provided that the Interconnection Customer commits to pay the Interconnecting Transmission Owner or appropriate Affected Party; (i) any associated expediting costs and (ii) the cost of such Network Upgrades.

The Interconnecting Transmission Owner or appropriate Affected Party will refund to the Interconnection Customer both the expediting costs and the cost of Network Upgrades, in accordance with Article 11.4 of the LGIA. Consequently, the entity with a contractual obligation to construct such Network Upgrades shall be obligated to pay only that portion of the costs of the Network Upgrades that the Interconnecting Transmission Owner or appropriate Affected Party has not refunded to the Interconnection Customer. Payment by that entity with a contractual obligation to construct such Network Upgrades shall be due on the date that it would have been due had there been no request for advance construction. The Interconnecting Transmission Owner or appropriate Affected Party shall forward to the Interconnection Customer the amount paid by the entity with a contractual obligation to construct the Network Upgrades as payment in full for the outstanding balance owed to the Interconnection Customer. The

Interconnecting Transmission Owner or appropriate Affected Party then shall refund to that entity the amount that it paid for the Network Upgrades, in accordance with Article 11.4 of the LGIA.

**12.2.3 Advancing Construction of Network Upgrades that are Part of the Regional System Plan of the System Operator.** An Interconnection Customer with an LGIA, in order to maintain its Initial Synchronization Date, may request that Interconnecting Transmission Owner or appropriate Affected Party advance to the extent necessary the completion of Network Upgrades that: (i) are necessary to support such Initial Synchronization Date and (ii) would otherwise not be completed, pursuant to the Regional System Plan, in time to support such Initial Synchronization Date. Upon such request, the Interconnecting Transmission Owner or appropriate Affected Party will use Reasonable Efforts to advance the construction of such Network Upgrades to accommodate such request; provided that the Interconnection Customer commits to pay the Interconnecting Transmission Owner or appropriate Affected Party any associated expediting costs.

**12.2.4 Amended Interconnection System Impact Study.** An Interconnection System Impact Study will be amended to determine the facilities necessary to support the requested Initial Synchronization Date. This amended study will include those transmission and Large Generating Facilities that are expected to be in service on or before the requested Initial Synchronization Date. The LGIA will also be amended to reflect the results of the Amended Interconnection System Impact Study and any changes in obligations, including financial support, of the Parties.

## **SECTION 13. MISCELLANEOUS.**

### **13.1 Confidentiality.**

Confidential Information shall include, without limitation, all information treated as confidential under the ISO New England Information Policy, all information obtained from third parties under confidentiality agreements, all information relating to a Party's technology, research and development, business affairs, and pricing, and any information supplied by any of the Parties to the others prior to the execution of an LGIA.



Information is Confidential Information only if it is clearly designated or marked in writing as confidential on the face of the document, or, if the information is conveyed orally or by inspection, if the Party providing the information orally informs the Party receiving the information that the information is confidential.

If requested by any Party, the other Party(ies) shall provide in writing, the basis for asserting that the information referred to in this Article warrants confidential treatment, and the requesting Party may disclose such writing to the appropriate Governmental Authority. Each Party shall be responsible for the costs associated with affording confidential treatment to its information.

**13.1.1 Scope.** Confidential Information shall not include information that the receiving Party can demonstrate: (1) is generally available to the public other than as a result of a disclosure by the receiving Party; (2) was in the lawful possession of the receiving Party on a non-confidential basis before receiving it from the disclosing Party; (3) was supplied to the receiving Party without restriction by a third party, who, to the knowledge of the receiving Party after due inquiry, was under no obligation to the disclosing Party to keep such information confidential; (4) was independently developed by the receiving Party without reference to Confidential Information of the disclosing Party; (5) is, or becomes, publicly known, through no wrongful act or omission of the receiving Party or Breach of the LGIA; or (6) is required, in accordance with Section 13.1.6, Order of Disclosure, to be disclosed by any Governmental Authority or is otherwise required to be disclosed by law or subpoena, or is necessary in any legal proceeding establishing rights and obligations under the LGIA. Information designated as Confidential Information will no longer be deemed confidential if the Party that designated the information as confidential notifies the other Parties that it no longer is confidential.

**13.1.2 Release of Confidential Information.** A Party shall not release or disclose Confidential Information to any other person, except to its Affiliates (limited by the Standards of Conduct requirements), employees, consultants, or to parties who may be or considering providing financing to or equity participation with Interconnection Customer, or to potential purchasers or assignees of Interconnection Customer, on a need-to-know basis in connection with these procedures, unless such person has first been advised of the confidentiality provisions of this Section 13.1 and has agreed to comply with such provisions. Notwithstanding the foregoing, a Party providing Confidential Information

to any person shall remain primarily responsible for any release of Confidential Information in contravention of this Section 13.1.

**13.1.3 Rights.** Each Party retains all rights, title, and interest in the Confidential Information that each Party discloses to the other Party(ies). The disclosure by each Party to the other Party(ies) of Confidential Information shall not be deemed a waiver by any Party or any other person or entity of the right to protect the Confidential Information from public disclosure.

**13.1.4 No Warranties.** By providing Confidential Information, a Party does not make any warranties or representations as to its accuracy or completeness. In addition, by supplying Confidential Information, a Party does not obligate itself to provide any particular information or Confidential Information to the other Party(ies) nor to enter into any further agreements or proceed with any other relationship or joint venture.

**13.1.5 Standard of Care.** Each Party shall use at least the same standard of care to protect Confidential Information it receives as it uses to protect its own Confidential Information from unauthorized disclosure, publication or dissemination. Each Party may use Confidential Information solely to fulfill its obligations to the other Party(ies) under these procedures or its regulatory requirements.

**13.1.6 Order of Disclosure.** If a court or a Government Authority or entity with the right, power, and apparent authority to do so requests or requires a Party, by subpoena, oral deposition, interrogatories, requests for production of documents, administrative order, or otherwise, to disclose Confidential Information, that Party shall provide the other Party(ies) with prompt notice of such request(s) or requirement(s) so that the other Party(ies) may seek an appropriate protective order or waive compliance with the terms of the LGIA. Notwithstanding the absence of a protective order or waiver, the Party may disclose such Confidential Information which, in the opinion of its counsel, the Party is legally compelled to disclose. Each Party will use Reasonable Efforts to obtain reliable assurance that confidential treatment will be accorded any Confidential Information so furnished.

**13.1.7 Remedies.** The Parties agree that monetary damages would be inadequate to compensate a Party for the other Party's(ies') Breach of its obligations under this Section 13.1. Each Party accordingly agrees

that the other Party(ies) shall be entitled to equitable relief, by way of injunction or otherwise, if the first Party Breaches or threatens to Breach its obligations under this Section 13.1, which equitable relief shall be granted without bond or proof of damages, and the receiving Party shall not plead in defense that there would be an adequate remedy at law. Such remedy shall not be deemed an exclusive remedy for the Breach of this Section 13.1, but shall be in addition to all other remedies available at law or in equity. The Parties further acknowledge and agree that the covenants contained herein are necessary for the protection of legitimate business interests and are reasonable in scope. No Party, however, shall be liable for indirect, incidental, or consequential or punitive damages of any nature or kind resulting from or arising in connection with this Section 13.1.

**13.1.8 Disclosure to the Commission, its Staff, or a State.** Notwithstanding anything in this Section 13.1 to the contrary, and pursuant to 18 CFR section 1b.20, if the Commission or its staff, during the course of an investigation or otherwise, requests information from one of the Parties that is otherwise required to be maintained in confidence pursuant to the LGIP, the Party shall provide the requested information to the Commission or its staff, within the time provided for in the request for information. In providing the information to the Commission or its staff, the Party must, consistent with 18 CFR. section 388.112, request that the information be treated as confidential and non-public by the Commission and its staff and that the information be withheld from public disclosure. Parties are prohibited from notifying the other Party(ies) prior to the release of the Confidential Information to the Commission or its staff. The Party shall notify the other Party(ies) to the LGIA when it is notified by the Commission or its staff that a request to release Confidential Information has been received by the Commission, at which time any of the Parties may respond before such information would be made public, pursuant to 18 CFR section 388.112. Requests from a state regulatory body conducting a confidential investigation shall be treated in a similar manner, consistent with applicable state rules, regulations and Section 13.1.

**13.1.9** Subject to the exception in Section 13.1.8, any information that a Party claims is competitively sensitive, commercial or financial information (“Confidential Information”) shall not be disclosed by the other Party(ies) to any person not employed or retained by the other Party(ies), except to the extent disclosure is (i) required by law; (ii) reasonably deemed by the disclosing Party to be required to be disclosed in connection with a dispute between or among the Parties, or the defense of litigation or dispute; (iii) otherwise permitted by consent of the other Party(ies), such consent not to be unreasonably

withheld; or (iv) necessary to fulfill its obligations under this LGIP or as a transmission service provider or a Control Area operator including disclosing the Confidential Information to an RTO or ISO or to a subregional, regional or national reliability organization or planning group. The Party asserting confidentiality shall notify the other Party(ies) in writing of the information it claims is confidential. Prior to any disclosures of the other Party's(ies') Confidential Information under this subparagraph, or if any third party or Governmental Authority makes any request or demand for any of the information described in this subparagraph, the disclosing Party agrees to promptly notify the other Party(ies) in writing and agrees to assert confidentiality and cooperate with the other Party(ies) in seeking to protect the Confidential Information from public disclosure by confidentiality agreement, protective order or other reasonable measures.

**13.1.10** This provision shall not apply to any information that was or is hereafter in the public domain (except as a result of a Breach of this provision).

**13.1.11** The System Operator and Interconnecting Transmission Owner shall, at Interconnection Customer's election, destroy, in a confidential manner, or return the Confidential Information provided at the time when Confidential Information is no longer needed.

## **13.2 Delegation of Responsibility.**

The System Operator and Interconnecting Transmission Owner, or any Affected Party may use the services of subcontractors as it deems appropriate to perform its obligations under this LGIP. The Party using the services of a subcontractor shall remain primarily liable to the Interconnection Customer for the performance of such subcontractors and compliance with its obligations of this LGIP. The subcontractor shall keep all information provided confidential and shall use such information solely for the performance of such obligation for which it was provided and no other purpose.

## **13.3 Obligation for Study Costs.**

The System Operator and the Interconnecting Transmission Owner shall charge, and the Interconnection Customer shall pay, the actual costs of the Interconnection Studies. Any difference between the study deposit and the actual cost of the applicable Interconnection Study shall be paid by or refunded, except as otherwise provided herein, to the Interconnection Customer or offset against the cost of any future

Interconnection Studies associated with the applicable Interconnection Request prior to beginning of any such future Interconnection Studies. Any invoices for Interconnection Studies shall include a detailed and itemized accounting of the cost of each Interconnection Study. The Interconnection Customer shall pay any such undisputed costs within thirty (30) Calendar Days of receipt of an invoice therefore. The System Operator and Interconnecting Transmission Owner shall not be obligated to perform or continue to perform any studies unless the Interconnection Customer has paid all undisputed amounts in compliance herewith.

#### **13.4 Third Parties Conducting Studies.**

If (i) at the time of the signing of an Interconnection Study Agreement there is disagreement as to the estimated time to complete an Interconnection Study, (ii) the Interconnection Customer receives notice pursuant to Sections 6.3, 7.4 or 8.3 that the System Operator or Interconnecting Transmission Owner will not complete an Interconnection Study within the applicable timeframe for such Interconnection Study, or (iii) the Interconnection Customer receives neither the Interconnection Study nor a notice under Sections 6.3, 7.4 or 8.3 within the applicable timeframe for such Interconnection Study, then the Interconnection Customer may request, which request will not be unreasonably denied, that the System Operator and Interconnecting Transmission Owner utilize a third party consultant reasonably acceptable to the System Operator, Interconnection Customer, Interconnecting Transmission Owner and any appropriate Affected Party, to perform such Interconnection Study under the direction of the System Operator or Interconnecting Transmission Owner as applicable. At other times, System Operator or Interconnecting Transmission Owner may also utilize a third party consultant to perform such Interconnection Study, either in response to a general request of the Interconnection Customer, or on its own volition.

In all cases, use of a third party consultant shall be in accord with Article 26 of the LGIA (Subcontractors) and limited to situations where the System Operator or Interconnecting Transmission Owner determines that doing so will help maintain or accelerate the study process for the Interconnection Customer's pending Interconnection Request and not interfere with the System Operator and Interconnecting Transmission Owner's progress on Interconnection Studies for other pending Interconnection Requests.

In cases where the Interconnection Customer requests use of a third party consultant to perform such Interconnection Study, the Interconnection Customer, System Operator and Interconnecting Transmission Owner shall negotiate all of the pertinent terms and conditions, including reimbursement arrangements and the estimated study completion date and study review deadline. The System Operator and

Interconnecting Transmission Owner shall convey all workpapers, data bases, study results and all other supporting documentation prepared to date with respect to the Interconnection Request as soon as soon as practicable upon the Interconnection Customer's request subject to the confidentiality provision in Section 13.1 and the ISO New England Information Policy, as well as any other applicable requirement under Applicable Laws and Regulations regulating the disclosure or confidentiality of such information. In any case, such third party contract may be entered into with the System Operator, Interconnection Customer, or Interconnecting Transmission Owner at the System Operator and Interconnecting Transmission Owner's discretion. In the case of (iii) the Interconnection Customer maintains its right to submit a claim to Dispute Resolution to recover the costs of such third party study. Such third party consultant shall be required to comply with this LGIP, Article 26 of the LGIA (Subcontractors), and the relevant Tariff procedures and protocols as would apply if the System Operator and Interconnecting Transmission Owner were to conduct the Interconnection Study and shall use the information provided to it solely for purposes of performing such services and for no other purposes.

The System Operator and Interconnecting Transmission Owner shall cooperate with such third party consultant and Interconnection Customer to complete and issue the Interconnection Study in the shortest reasonable time.

### **13.5 Disputes.**

**13.5.1 Submission.** In the event a Party has a dispute, or asserts a claim, that arises out of or in connection with the LGIA, the LGIP, or their performance, such Party (the "Disputing Party") shall provide the other Party(ies) with written notice of the dispute or claim ("Notice of Dispute"). Such dispute or claim shall be referred to a designated senior representative of each Party for resolution on an informal basis as promptly as practicable after receipt of the Notice of Dispute by the other Party(ies). In the event the designated representatives are unable to resolve the claim or dispute through unassisted or assisted negotiations within thirty (30) Calendar Days of the other Party's(ies') receipt of the Notice of Dispute, such claim or dispute may, upon mutual agreement of the Parties, be submitted to arbitration and resolved in accordance with the arbitration procedures set forth below. In the event the Parties do not agree to submit such claim or dispute to arbitration, after thirty (30) Calendar Days, then (i) in the case of disputes arising out of or in conjunction with the LGIA, the System Operator and Interconnecting

Transmission Owner shall jointly file an unexecuted LGIA, or amendment thereto, with the Commission in accordance with Section 11.3.4, or (ii) in the case of disputes arising out of or in connection with any other matter regarding the administration of the LGIP, the System Operator may terminate the Interconnection Request and the Interconnection Customer may seek relief pursuant to Section 206 of the Federal Power Act. Each Party may exercise whatever rights and remedies it may have in equity or at law consistent with the terms of this Schedule 22.

**13.5.2 External Arbitration Procedures.** Any arbitration initiated under these procedures shall be conducted before a single neutral arbitrator appointed by the Parties. If the Parties fail to agree upon a single arbitrator within ten (10) Calendar Days of the submission of the dispute to arbitration, each Party shall choose one arbitrator who shall sit on a three-member arbitration panel. The arbitrator so chosen by the System Operator shall chair the arbitration panel. In either case, the arbitrators shall be knowledgeable in electric utility matters, including electric transmission and bulk power issues, and shall not have any current or past substantial business or financial relationships with any party to the arbitration (except prior arbitration). The arbitrator(s) shall provide each of the Parties an opportunity to be heard and, except as otherwise provided herein, shall conduct the arbitration in accordance with the Commercial Arbitration Rules of the American Arbitration Association (“Arbitration Rules”) and any applicable Commission regulations or RTO rules; provided, however, in the event of a conflict between the Arbitration Rules and the terms of this Section 13, the terms of this Section 13 shall prevail.

**13.5.3 Arbitration Decisions.** Unless otherwise agreed by the Parties, the arbitrator(s) shall render a decision within ninety (90) Calendar Days of appointment and shall notify the Parties in writing of such decision and the reasons for such decision. The arbitrator(s) shall be authorized only to interpret and apply the provisions of the LGIA and LGIP and shall have no power to modify or change any provision of the LGIA and LGIP in any manner. The decision of the arbitrator(s) shall be final and binding upon the Parties, and judgment on the award may be entered in any court having jurisdiction. The decision of the arbitrator(s) may be appealed solely on the grounds that the conduct of the arbitrator(s), or the decision itself, violated the standards set forth in the Federal Arbitration Act or the Administrative Dispute Resolution Act. The final decision of the arbitrator must also be filed with the Commission if it affects jurisdictional rates, terms and conditions of service, Interconnection Facilities, or Network Upgrades.

**13.5.4 Costs.** Each Party shall be responsible for its own costs incurred during the arbitration process and for the following costs, if applicable: (1) the cost of the arbitrator chosen by the Party to sit on the three-member panel and one-third of any associated arbitration costs; or (2) one-third the cost of the single arbitrator jointly chosen by the Parties and one-third of any associated arbitration costs.

**13.5.5 Non-binding Dispute Resolution Procedures.** If a Party has submitted a Notice of Dispute pursuant to Section 13.5.1, and the Parties are unable to resolve the claim or dispute through unassisted or assisted negotiations within the thirty (30) Calendar Days provided in that section, and the Parties cannot reach mutual agreement to pursue the Section 13.5 arbitration process, a Party may request that the other Parties engage in Non-binding Dispute Resolution pursuant to this Section 13.5.5 by providing written notice to the other Parties (“Request for Non-binding Dispute Resolution”). Conversely, either Party may file a Request for Non-binding Dispute Resolution pursuant to this Section 13.5.5 without first seeking mutual agreement to pursue the Section 13.5 arbitration process. The process in Section 13.5.5 shall serve as an alternative to, and not a replacement of, the Section 13.5 arbitration process. Pursuant to this process, System Operator must within 30 days of receipt of the Request for Non-binding Dispute Resolution appoint a neutral decision-maker that is an independent subcontractor that shall not have any current or past substantial business or financial relationships with the Parties. Unless otherwise agreed by the Parties, the decision-maker shall render a decision within sixty (60) Calendar Days of appointment and shall notify the Parties in writing of such decision and reasons therefore. This decision-maker shall be authorized only to interpret and apply the provisions of the LGIP and LGIA and shall have no power to modify or change any provision of the LGIP and LGIA in any manner. The result reached in this process is not binding, but, unless otherwise agreed, the Parties may cite the record and decision in the non-binding dispute resolution process in future dispute resolution processes, including in a Section 13.5 arbitration, or in a Federal Power Act Section 206 complaint. Each Party shall be responsible for its own costs incurred during the process and the cost of the decision-maker shall be divided equally among each Party to the dispute.

## **13.6 Local Furnishing Bonds.**



**13.6.1 Facilities Financed by Local Furnishing Bonds.** This provision is applicable only to interconnections associated with facilities financed for the local furnishing of electric energy with tax-exempt bonds, as described in Section 142(f) of the Internal Revenue Code ("local furnishing bonds"). Notwithstanding any other provision of this LGIA and LGIP, the Interconnecting Transmission Owner shall not be required to provide Interconnection Service to the Interconnection Customer pursuant to this LGIA and LGIP if the provision of such Interconnection Service would jeopardize the tax-exempt status of any local furnishing bond(s) used to finance the Interconnecting Transmission Owner's facilities that would be used in providing such Interconnection Service.

**13.6.2 Alternative Procedures for Requesting Interconnection Service.** If the Interconnecting Transmission Owner determines that the provision of Interconnection Service requested by the Interconnection Customer would jeopardize the tax-exempt status of any local furnishing bond(s) used to finance its facilities that would be used in providing such Interconnection Service, it shall advise the Interconnection Customer within thirty (30) Calendar Days of receiving notice of the Interconnection Request. The Interconnection Customer thereafter may renew its Interconnection Request using the process specified in the Tariff.

## **APPENDICES TO LGIP**

APPENDIX 1 INTERCONNECTION REQUEST

APPENDIX 2 INTERCONNECTION FEASIBILITY STUDY AGREEMENT

APPENDIX 3 INTERCONNECTION SYSTEM IMPACT STUDY AGREEMENT

APPENDIX 4 INTERCONNECTION FACILITIES STUDY AGREEMENT

APPENDIX 5 OPTIONAL INTERCONNECTION STUDY AGREEMENT

APPENDIX 6 LARGE GENERATOR INTERCONNECTION AGREEMENT

**APPENDIX 1**  
**INTERCONNECTION REQUEST**

The undersigned Interconnection Customer submits this request to interconnect its Large Generating Facility to the Administered Transmission System under Schedule 22 - Large Generator Interconnection Procedures (“LGIP”) of the ISO New England Inc. Open Access Transmission Tariff (the “Tariff”). Capitalized terms have the meanings specified in the Tariff.

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**PROJECT INFORMATION**

Proposed Project Name: \_\_\_\_\_

**1. This Interconnection Request is for (check one):**

- \_\_\_\_\_ A proposed new Large Generating Facility
- \_\_\_\_\_ An increase in the generating capacity or a modification that has the potential to be a Material Modification of an existing Generating Facility
- \_\_\_\_\_ Commencement of participation in the wholesale markets by an existing Generating Facility
- \_\_\_\_\_ A change from Network Resource Interconnection Service to Capacity Network Resource Interconnection Service

**2. The types of Interconnection Service requested:**

- \_\_\_\_\_ Network Resource Interconnection Service (energy capability only)
- \_\_\_\_\_ Capacity Network Resource Interconnection Service (energy capability and capacity capability)

**If Capacity Network Resource Interconnection Service, does Interconnection Customer request Long Lead Facility treatment? Check: \_\_\_\_Yes or \_\_\_\_ No**

**If yes, provide, together with this Interconnection Request, the Long Lead Facility deposit and other required information as specified in Section 3.2.3 of the LGIP, including (if the Large Generating Facility will be less than 100 MW) a justification for Long Lead Facility treatment.**

**3. This Interconnection Customer requests (check one, selection is not required as part of the initial Interconnection Request):**

\_\_\_\_\_ **An Interconnection Feasibility Study**

\_\_\_\_\_ **An Interconnection System Impact Study**

**(The Interconnection Customer shall select either option and may revise any earlier selection up to within five (5) Business Days following the Scoping Meeting.)**

**4. The Interconnection Customer shall provide the following information:**

**Address or Location of the Facility (including Town/City, County and State):**

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**Approximate location of the proposed Point of Interconnection:**

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**Type of Generating Facility to be Constructed:** \_\_\_\_\_

**Will the Generating Facility include electric storage capacity? Yes \_\_\_ No \_\_\_**

**If yes, describe the electric storage device and specifications:**

\_\_\_\_\_

\_\_\_\_\_

**Primary frequency response operating range for electric storage resources:**

\_\_\_\_\_

**Generating Facility Fuel Type:**

\_\_\_\_\_

**Generating Facility Capacity (MW):**

<b>Temperatures<sup>1</sup></b>	<b>Maximum Gross MW Electrical Output<sup>2</sup></b>	<b>Maximum Net MW Electrical Output<sup>3</sup></b>	<b>Net MW Capability at the Point of Interconnection<sup>4</sup></b>
<b>At or above 90 degrees F</b>			
<b>At or above 50 degrees F</b>			
<b>At or above 20 degrees F</b>			
<b>At or above 0 degrees F</b>			

Requested capacity (in MW) of Interconnection Service (if lower than the Generating Facility Capacity):

<b>Temperatures<sup>1</sup></b>	<b>Requested Gross MW Electrical Output<sup>2</sup></b>	<b>Requested Net MW Electrical Output<sup>3</sup></b>	<b>Requested Net MW Capability at the Point of Interconnection<sup>4</sup></b>
<b>At or above 90 degrees F</b>			
<b>At or above 50 degrees F</b>			
<b>At or above 20 degrees F</b>			
<b>At or above 0 degrees F</b>			

Notes:

<sup>1</sup> In each row, insert all values corresponding to the given temperature, or a temperature greater than the given temperature, at which aggregate maximum gross output of the Generating Facility would be the highest. For example, if the aggregate maximum gross Generating Facility output occurs at 12 degrees F, all values in the “At or above 0 degrees F” row shall correspond to the 12 degrees F operating condition.

<sup>2</sup> Measured at the terminal(s) or inverter/converter terminal(s), as applicable, for each generating unit comprising the Generating Facility.

<sup>3</sup> Measured at the terminal(s) or inverter/converter terminal(s), as applicable, for each generating unit comprising the Generating Facility less any station service at each generating unit’s terminal(s) or inverter/converter terminal(s), as applicable.

<sup>4</sup> Measured at the Interconnection Customer’s proposed Point of Interconnection. The values correspond to the requested levels of Interconnection Service pursuant to Section 3.1 of the LGIP. The values account for any station service, losses incurred in Interconnection Facilities, station or generator step up transformers, and any other auxiliary systems. After the Interconnection Request is deemed valid, any increases to these values shall be subject to a new, separate Interconnection Request.

**General description of the equipment configuration, including any proposed control technologies to restrict the Large Generating Facility’s output to the requested Interconnection Service levels, if applicable (# of units and GSUs):**

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**Requested Commercial Operations Date:**

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**Requested Initial Synchronization Date:**

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**Requested In-Service Date:**

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**Evidence of Site Control (check one):**

☐ **If for Capacity Network Resource Interconnection Service, Site Control is provided herewith, as required.**

☐ **If for Network Resource Interconnection Service: (Check one)**

☐ **Is provided herewith**

☐ **In lieu of evidence of Site Control, a \$10,000 deposit is provided (refundable within the cure period as described in Section 3.4.3 of the LGIP).**

☐ **Site Control is not provided because the proposed modification is to the Interconnection Customer's existing Large Generating Facility and, by checking this option, the Interconnection Customer certifies that it has Site Control and that the proposed modification does not require additional real property.**

**The technical data specified within the applicable attachment to this form (check one):**

☐ **Is included with the submittal of this Interconnection Request form**

☐ **Will be provided on or before the execution and return of the Feasibility Study Agreement (Attachment A (and Attachment A-1, if applicable) or Attachment B, depending on the scope of the study) or the System Impact Study Agreement (Attachment A (and Attachment A-1, if applicable)), as applicable**

**The ISO will post the Project Information on the ISO web site under "New Interconnections" and OASIS.**

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**CUSTOMER INFORMATION**

**Company Name:** \_\_\_\_\_

**ISO Customer ID# (If available):** \_\_\_\_\_

**(Interconnection Customer)**

**Company Address:**    **PO Box No.:** \_\_\_\_\_

**Street Address:** \_\_\_\_\_

**City, State ZIP:** \_\_\_\_\_

**Company Representative:    Name:** \_\_\_\_\_

**Title:** \_\_\_\_\_

**Company Representative's Company and Address (if different from above):**

**Company Name:** \_\_\_\_\_

**PO Box No.:** \_\_\_\_\_

**Street Address:** \_\_\_\_\_

**City, State ZIP:** \_\_\_\_\_

**Phone:** \_\_\_\_\_ **FAX:** \_\_\_\_\_ **email:** \_\_\_\_\_



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**This Interconnection Request is submitted by:**

**Authorized Signature:**\_\_\_\_\_

**Name (type or print):**\_\_\_\_\_

**Title:**\_\_\_\_\_

**Date:**\_\_\_\_\_

***In order for an Interconnection Request to be considered a valid request, it must:***

- (a) Be accompanied by a deposit of \$50,000.00 that is provided electronically and which may be refundable in accordance with Section 3.4.1 of the LGIP;***
- (b) For Capacity Network Resource Interconnection Service, include documentation demonstrating Site Control. If for Network Resource Interconnection Service, demonstrate Site Control or post an additional deposit of \$10,000.00. If the Interconnection Customer with an Interconnection Request for Network Resource Interconnection Service demonstrates Site Control within the cure period specified in Section 3.4.1 of the LGIP, the additional deposit of \$10,000.00 shall be refundable (An Interconnection Customer does not need to demonstrate Site Control for an Interconnection Request for a modification to its existing Large Generating Facility where the Interconnection Customer has certified that it has Site Control and that the proposed modification does not require additional real property);***
- (c) Include a detailed map, such as a map of the quality produced by the U.S. Geological Survey, which clearly indicates the site of the new facility and pertinent surrounding structures; and***
- (d) Include all information required on the Interconnection Request form and attachments thereto; and***
- (e) Include the deposit and all information required for Long Lead Facility treatment, if such treatment is requested in accordance with Section 3.2.3 of the LGIP.***

*The Interconnection Request must be submitted to the System Operator via the Interconnection Request Tracking Tool or IRTT, a web-based application for submitting, tracking and viewing Interconnection Requests available on the ISO New England website.*

**The technical data required below must be submitted no later than the date of execution of the System Impact Study Agreement pursuant to Section 7.2 of the LGIP.**

**LARGE GENERATING FACILITY DATA**

**UNIT RATINGS**

Kva	°F	Voltage
Power Factor		
Speed (RPM)		Connection (e.g. Wye)
Short Circuit Ratio		Frequency, Hertz
Stator Amperes at Rated Kva		Field Volts
Max Turbine MW	°F	

Primary frequency response operating range for electric storage resources:

Minimum State of Charge:

Maximum State of Charge:

**GREATEST UNIT RATING AT AMBIENT TEMPERATURE OF 90 ° OR ABOVE**

Gross Unit Rating (MW)	Gross Lagging (MVAR)
Net Unit Rating (MW)	Gross Leading (MVAR)
Station Service (MW)	Station Service (MVAR)
Temperature (°F)	

**GREATEST UNIT RATING AT AMBIENT TEMPERATURE OF 50° OR ABOVE**

Gross Unit Rating (MW)	Gross Lagging (MVAR)
Net Unit Rating (MW)	Gross Leading (MVAR)
Station Service (MW)	Station Service (MVAR)
Temperature (°F)	

**GREATEST UNIT RATING AT AMBIENT TEMPERATURE OF 20° OR ABOVE**

Gross Unit Rating (MW)	Gross Lagging (MVAR)
Net Unit Rating (MW)	Gross Leading (MVAR)
Station Service (MW)	Station Service (MVAR)
Temperature (°F)	

**GREATEST UNIT RATING AT AMBIENT TEMPERATURE OF 0° OR ABOVE**

Gross Unit Rating (MW)	Gross Lagging (MVAR)
Net Unit Rating (MW)	Gross Leading (MVAR)
Station Service (MW)	Station Service (MVAR)
Temperature (°F)	

**COMBINED TURBINE-GENERATOR-EXCITER INERTIA DATA**

Inertia Constant, H	=	kW sec/kVA
Moment-of-Inertia, WR <sup>2</sup>	=	lb. ft. <sup>2</sup>

**REACTANCE DATA (PER UNIT-RATED KVA)**

	<b>DIRECT AXIS</b>	<b>QUADRATURE AXIS</b>
Synchronous – saturated	X <sub>dv</sub>	X <sub>qv</sub>
Synchronous – unsaturated	X <sub>di</sub>	X <sub>qi</sub>
Transient – saturated	X' <sub>dv</sub>	X' <sub>qv</sub>
Transient – unsaturated	X' <sub>di</sub>	X' <sub>qi</sub>
Subtransient – saturated	X'' <sub>dv</sub>	X'' <sub>qv</sub>
Subtransient – unsaturated	X'' <sub>di</sub>	X'' <sub>qi</sub>
Negative Sequence – saturated	X <sub>2v</sub>	
Negative Sequence – unsaturated	X <sub>2i</sub>	

**FIELD TIME CONSTANT DATA (SEC)**

Zero Sequence – saturated	X <sub>0v</sub>	
Zero Sequence – unsaturated	X <sub>0i</sub>	
Leakage Reactance	X <sub>lm</sub>	
Open Circuit	T' <sub>qo</sub>	T' <sub>do</sub>
Three-Phase Short Circuit Transient	T' <sub>d3</sub>	T' <sub>q</sub>
Line to Line Short Circuit Transient	T' <sub>d2</sub>	
Line to Neutral Short Circuit Transient	T' <sub>d1</sub>	
Short Circuit Subtransient	T'' <sub>d</sub>	T'' <sub>q</sub>
Open Circuit Subtransient	T'' <sub>do</sub>	T'' <sub>qo</sub>

**ARMATURE TIME CONSTANT DATA (SEC)**

Three Phase Short Circuit	T <sub>a3</sub>
Line to Line Short Circuit	T <sub>a2</sub>
Line to Neutral Short Circuit	T <sub>a1</sub>

NOTE: If requested information is not applicable, indicate by marking “N/A.”

## MW CAPABILITY AND PLANT CONFIGURATION

### LARGE GENERATING FACILITY DATA

#### ARMATURE WINDING RESISTANCE DATA (PER UNIT)

Positive	R1		
Negative	R2		
Zero	R0		
Rotor Short Time Thermal Capacity $I^2t$	=		
Field Current at Rated kVA, Armature Voltage and PF	=	amps	
Field Current at Rated kVA and Armature Voltage, 0 PF		amps	
Three Phase Armature Winding Capacitance	=	microfarad	
Field Winding Resistance	=	ohms	°C
Armature Winding Resistance (Per Phase)	=	ohms	°C

### CURVES

Provide Saturation, Vee, Reactive Capability, Capacity Temperature Correction curves. Designate normal and emergency Hydrogen Pressure operating range for multiple curves.

**GENERATOR STEP-UP TRANSFORMER DATA RATINGS**

Capacity	Self-cooled/Maximum Nameplate / Kva
Voltage Ratio	Generator side/System side/Tertiary / kV
Winding Connections	Generator side/System Side/Tertiary (Delta or Wye) /

Fixed Taps Available

Present Tap Setting

**IMPEDANCE**

Positive	Z1 (on self-cooled kVA rating)	%	X/R
Zero	Z0 (on self-cooled kVA rating)	%	X/R

### **EXCITATION SYSTEM DATA**

Identify appropriate IEEE model block diagram of excitation system and power system stabilizer (“PSS”) for computer representation in power system stability simulations and the corresponding excitation system and PSS constants for use in the model.

### **GOVERNOR SYSTEM DATA**

Identify appropriate IEEE model block diagram of governor system for computer representation in power system stability simulations and the corresponding governor system constants for use in the model.

### **WIND AND INVERTER-BASED GENERATORS**

A completed Attachment A-1 Supplementary Wind and Inverter-Based Generating Facility Form to this Attachment A, must be supplied for all Interconnection Requests for wind and inverter-based Generating Facilities.

### **MODEL REQUIREMENTS**

For all Generating Facility types: A completed, fully functioning, public (*i.e.*, non-proprietary, non-confidential) Siemens PTI’s (“PSSE”) power flow model or other compatible formats, such as IEEE and General Electric Company Power Systems Load Flow (“PSLF”) data sheet , must be supplied with this Attachment A. If additional public data sheets are more appropriate to the proposed device then they shall be provided and discussed at the Scoping Meeting. For all Interconnection Studies commencing after January 1, 2017, all power flow models must be standard library models in PSS/E or applicable applications. After January 1, 2017, user-models will not be accepted.



Attachment A (page 7)  
To Appendix 1  
Interconnection Request  
Technical Data Required For  
Interconnection System Impact Study

A PSCAD model for all wind and inverter-based Generating Facilities must be supplied with this Attachment A. If a PSCAD model is deemed required for other Generating Facility types at the Scoping Meeting, such PSCAD model must be provided to the System Operator within ninety (90) Calendar Days of the executed Interconnection System Impact Study Agreement. A benchmarking analysis, consistent with the requirements in the ISO New England Planning Procedures, confirming acceptable performance of the PSS/E model in comparison to the PSCAD model, shall be provided at the time PSCAD model is submitted.

**INDUCTION GENERATORS:**

- (\*) Field Volts:
- (\*) Field Amperes:
- (\*) Motoring Power (kW):
- (\*) Neutral Grounding Resistor (If Applicable):
- (\*)  $I_2^2t$  or K (Heating Time Constant):
- (\*) Rotor Resistance:
- (\*) Stator Resistance:
- (\*) Stator Reactance:
- (\*) Rotor Reactance:
- (\*) Magnetizing Reactance:
- (\*) Short Circuit Reactance:
- (\*) Exciting Current:
- (\*) Temperature Rise:
- (\*) Frame Size:
- (\*) Design Letter:
- (\*) Reactive Power Required In Vars (No Load):
- (\*) Reactive Power Required In Vars (Full Load):
- (\*) Total Rotating Inertia, H: Per Unit on KVA Base

Note: Please consult System Operator prior to submitting the Interconnection Request to determine if the information designated by (\*) is required.

**Applicant Signature**

I hereby certify that, to the best of my knowledge, all the information provided in this Attachment A to the Interconnection Request is true and accurate.

For Interconnection Customer: \_\_\_\_\_ Date: \_\_\_\_\_

**SUPPLEMENTARY WIND AND INVERTER-BASED GENERATING FACILITY DATA FORM**

1. Attach a Geographic Map Demonstrating the Project Layout and its Interconnection to the Power Grid. (Specify the name of the attachment here)

2. Attach a Bus-Breaker Based One-line Diagram (The diagram should include each of the individual unit generators, generator number, rating and terminal voltage.) (Specify the name of the attachment here)

2.1 Collection system detail impedance sheet

If a collector system is used, attach a collector system data sheet in accordance with the one-line diagram attached above. The data sheet should include: the type, length  $Z_0$ ,  $Z_1$  and  $X_c/B$  of each circuit (feeder and collector string).

Specify the name of the attachment here: \_\_\_\_\_

2.2 Collection system aggregate (equivalent) model data sheet

Attach an aggregate (equivalent) collection system data sheet. The data table should include: the type, length,  $Z_0$ ,  $Z_1$  and  $X_c/B$  of the equivalent circuits (feeders and collector strings).

Specify the name of the attachment here: \_\_\_\_\_

Attachment A-1 (page 2)  
To Attachment A of Appendix 1  
Supplementary Wind  
and Inverter-Based  
Generating Facility Form

3. Summary of the Unit Models in the wind or inverter-based generating facility *(List all different unit models in the facility)*

Manufacturer Model	Type of this WTG* (if applicable)	Generator Unit Numbers in the field	Number(s) of these Units	Maximum Output of this Unit (MW)	Total MW

- \* Type 1 – Cage rotor induction generators  
 Type 2 – Induction generators with variable rotor resistance  
 Type 3 – Doubly-fed asynchronous generators with rotor-side converter  
 Type 4 – Full-power converter interface

***Repeat the following sections from 4 to 12 for each different unit model.***

4. Unit Detail Information

Unit Manufacturer Model	
Terminal Voltage	
Rating of Each Unit (MVA)	
Maximum Gross Electrical Output (MW)	
Minimum Gross Electrical Output(MW)	
Lagging Reactive Power Limit at Rated Real Power Output (MVAR)	
Leading Reactive Power Limit at Rated Real Power Output (MVAR)	
Lagging Reactive Power Limit at Zero Real Power Output (MVAR)	
Leading Reactive Power Limit at Zero Real Power Output (MVAR)	
Station Service Load(MW, MVAR)	
Minimum short circuit ratio(SCR) requirement by manufacturer	
On which bus the minimum SCR is required by manufacturer	
What voltage level the minimum SCR is required by manufacturer	
Positive sequence Xsource	
Zero sequence Xsource	

5. Unit GSU – \_\_\_\_\_

Nameplate rating(MVA)	
Total number of the GSUs	
Voltages, generator side/system side	
Winding connections, low voltage/high voltage	
Available tap positions on high voltage side	
Available tap positions on low voltage side	
Will the GSU operate as an LTC?	
Desired voltage control range if LTC	
Tap adjustment time (Tap switching delay + switching time) if LTC	
Desired tap position if applicable	
Impedance, Z1, X/R ratio	
Impedance, Z0, X/R ratio	

6. Low Voltage Ride Through(LVRT) – \_\_\_\_\_(*Specify the Manufacturer Model of this Unit*)

Does each Unit have LVRT capability?

Yes\_\_\_ No\_\_\_

If yes, please provide:

6.1 Unit LVRT mode activation and release condition:

When operating at maximum real power, what is the Unit terminal voltage for LVRT mode activation? \_\_\_\_\_

When operating at maximum real power, what is the Unit terminal voltage for releasing LVRT mode after it is activated? \_\_\_\_\_

If there is different LVRT activation and release logic, please state here \_\_\_\_\_

- 6.2 A wind or other inverter-based generating facility technical manual from the manufacturer including description of LVRT functionality:

***Attach the file and specify the name of the attachment here:***

\_\_\_\_\_

- 6.3 Does the wind or other inverter-based generating facility technical manual attached above include a reactive power capability curve?

Yes\_\_\_ No\_\_\_

***If no, attach the file and specify the name of the attachment here:***

\_\_\_\_\_

7. Low Voltage Protection (considering LVRT functionality)

(Specify the Manufacturer Model of this Unit)

Low Voltage Setting (pu)	Relay Pickup Time (Seconds)

\*Add more rows in the table as needed

8. High Voltage Protection - \_\_\_\_\_(Specify the Manufacturer Model of this Unit)

High Voltage Setting (pu)	Relay Pickup Time (Seconds)

\*Add more rows in the table as needed

9. Low Frequency Protection - \_\_\_\_\_(Specify the Manufacturer Model of this Unit)

Low Frequency Setting (Hz)	Relay Pickup Time (Seconds)

\*Add more rows in the table as needed

10. High Frequency Protection - \_\_\_\_\_(Specify the Manufacturer Model of this Unit)

High Frequency Setting (Hz)	Relay Pickup Time (Seconds)

\*Add more rows in the table as needed

Please make sure the settings in sections 7 through 10 comply with NERC and NPCC standards for generator protection relays.



11. Unit Reactive Power Control - \_\_\_\_ (Specify the Manufacturer Model of this Unit)

11.1 What are the options for the Unit reactive power control (check all available)?

- \_\_\_\_ Control the voltage at the Unit terminal
- \_\_\_\_ Control constant power factor at the Unit terminal
- \_\_\_\_ Control constant power factor at the low side of the station main transformer
- \_\_\_\_ Control constant power factor at the high side of the station main transformer
- \_\_\_\_ Control voltage at the low side of the station main transformer
- \_\_\_\_ Control voltage at the high side of the station main transformer
- \_\_\_\_ Other options. Please describe if select others \_\_\_\_\_

11.2 In all the control options selected above, please list the options in which the Unit is able to control its terminal voltage to prevent low/high voltage tripping.

\_\_\_\_\_

11.3 What is the desired control mode from the selected options above? Specify the control plan in this mode. For example: control voltage at which bus to what schedule.

\_\_\_\_\_

12. Wind or inverter-based generating facility Model

***(All model files provided under this section 12 should be compatible with Siemens PTI's PSS/E version currently in use at ISO New England)***

12.1 Power flow model

- 12.1.1 A \*.RAW file including **aggregated/equivalent** wind or inverter-based generating facility power flow model with appropriate parameters and settings.

*Attach the \*.RAW file and specify the name of the attachment here:*

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- 12.1.2 A \*.RAW file including **detailed** wind or inverter-based generating facility power flow model with appropriate parameters and settings. *(Optional)*

*Attach the \*.RAW file and specify the name of the attachment here:*

---

12.2 Dynamic simulation model

*(Please note that the dynamic model must match the aggregated/equivalent power flow model provided above. Attach the following information for each of the models.)*

- 12.2.1 Wind or inverter-based generating facility Model \_\_\_\_\_ (Please Specify the Manufacturer Model)

- 12.2.2 A compiled PSS/E dynamic model for the turbines (a \*.LIB or \*.OBJ file)

*Attach the \*.LIB or \*.OBJ file and specify the name of the attachment here:*

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12.2.3 A dynamic data file with appropriate parameters and settings for the turbines (typically a \*.DYR file)

***Attach the \*.DYR file and specify the name of the attachment here:***

---

12.2.4 PSS/E wind or inverter-based generating facility model user manual for the WTG

***Attach and specify the name of the attachment here:***

---

***Repeat the above sections from 6 to 12 for each different wind or inverter-based generating facility model.***

13. Power Plant Controller

Will the wind or inverter-based generating facility be equipped with power plant controller, which has the ability to centrally control the output of the units? Yes\_\_ No\_\_

If yes, please provide:

13.1 Manufacturer model of the power plant controller

---

13.2 What are the reactive power control strategy options of the power plant controller?

13.3 Which of the control option stated above is being used in current operation?

---

13.4 Is the power plant controller able to control the unit terminal voltages to prevent low/high voltage tripping?

Yes\_\_\_ No\_\_\_

Please provide the park controller technical manual from the manufacturer

***Attach the file and specify the name of the attachment here:***

\_\_\_\_\_

14. Station Transformer

Transformer Name	
Nameplate ratings (MVA)	
Total number of the main transformer(s)	
Voltage, High/Low/Tertiary (kV)	
Winding connections, High/Low Tertiary	
Available tap positions on high voltage side	
Available tap positions on low voltage side	
Will the transformer operate as a LTC?	
Desired voltage control range if LTC	

Tap adjustment time (Tap switching delay + switching time) if LTC		
Desired tap position if applicable		
Tap adjustment time (Tap switching delay + switching time)		
Impedance $Z_1$ , X/R ratio	$Z_{1H-L}$	X/R
	$Z_{1H-T}$	X/R
	$Z_{1T-L}$	X/R
Impedance $Z_0$ , X/R ratio	$Z_{0H-L}$	X/R
	$Z_{0H-T}$	X/R
	$Z_{0T-L}$	X/R

15. Dynamic Simulation Model for the Power Plant Controller(s) (if applicable )

*(All model files provided under this section 15 should be compatible with Siemens PTI's PSS/E version currently in use at ISO New England)*

15.1 A compiled PSS/E dynamic model for the power plant controller(s) (a \*.LIB or \*.OBJ file)

***Attach the \*.LIB or \*.OBJ file and specify the name of the attachment here:***

\_\_\_\_\_

15.2 A dynamic data file with appropriate parameters and settings for the power plant controller(s) (typically a \*.DYR file).

***Please set the parameters in accordance with the currently used control mode.***

***Attach the \*.DYR file and specify the name of the attachment here:***

- 
- 15.3 PSS/E model user manual for the power plant controller(s)

***Attach the manual and specify the name of the attachment or specify the name of the attachment here:*** \_\_\_\_\_

16. Capacitors and Reactors

Please provide necessary modeling data for all the capacitors and reactors belong to the facility, including: size, basic electrical parameters, connecting bus, switched or fixed, etc.

17. Dynamic Device(s)

***(All model files provided under this section 17 should be compatible with Siemens PTI's PSS/E version currently in use at ISO New England)***

- 17.1 Provide necessary modeling data file for all the dynamic devices belong to the facility.

Attach the \*.LIB or \*.OBJ file and specify the name of the attachment here:

\_\_\_\_\_

- 17.2 A dynamic data file containing the parameters for the units (typically a \*.DYR file).

Set the parameters in accordance with the desired control mode.

Attach the \*.DYR file and specify the name of the attachment here:

\_\_\_\_\_

18. Collection System/Transformer Tap-Setting Design

Attach a collection system/transformer tap-setting design calculations, consistent with the requirements in the ISO New England Planning Procedures, that identify the calculations to support the proposed tap settings for the unit step-up transformers and the station step-up transformers.

Attached the design document and specify the name of the attachment here:

---

19. Additional Information

Are there any special features available to be implemented to the wind or inverter-based generating facility? Such as weak grid interconnection solutions, etc.  
Specify the available features here:

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***Insert the technical manual for each of the features listed above as objects (display as icons) or specify the name of the attachment here:***

---

20. Provide PSCAD Model and Documentation for the wind or inverter-based generating facility, the Power Plant Controller(s) and Other Dynamic Devices for the wind or inverter-based generating facility.

***ISO will determine how much PSCAD work is needed from the wind or inverter-based generating facility based on its interconnection system conditions.***

### **CLUSTER SYSTEM IMPACT STUDY APPLICATION FORM**

The undersigned Interconnection Customer submits this form to request the inclusion of the Interconnection Request for its Large Generating Facility in a Cluster Interconnection System Impact Study pursuant to Section 4.2.3.2.2 of this LGIP.

To be included in a Cluster Interconnection System Impact Study, the following must be submitted together with this form to the System Operator by the Cluster Entry Deadline:

1. Project Information:
  - a. Project Name: \_\_\_\_\_
  - b. Queue Position: \_\_\_\_\_
  - c. Is the Interconnection Request contractually associated with an Interconnection Request for an Elective Transmission Upgrade? Yes \_\_\_\_ No \_\_\_\_  
If yes, identify Queue Position of the associated Interconnection Request and provide evidence of the contractual commitment. Queue Position No.: \_\_\_\_\_
2. Initial Cluster Participation Deposit as specified in Section 4.2.3.2.2

#### **Applicant Signature**

I hereby certify that, to the best of my knowledge, all the information provided in this form is true and accurate.

For Interconnection Customer: \_\_\_\_\_ Date: \_\_\_\_\_



**The technical data required below must be submitted no later than the date of execution of the Feasibility Study Agreement pursuant to Section 6.1 of the LGIP.**

**Complete all fields. If field is not applicable, state “N/A”.**

**A. LARGE GENERATING FACILITY DATA**

(Aggregated data for all units at the Generating Facility)

	0°F	50°F
1. Total gross Generating Facility rated real power output (MW)		
2. Total gross lagging reactive capability of generator(s) at rated output (MVAR)		
3. Total gross leading reactive capability of generator(s) at rated output (MVAR)		
4. Total station service load (MW)		
5. Total station service load (MVAR)		

## B. INDIVIDUAL GENERATING UNIT DATA

(Repeat the relevant table for each distinct type of generating unit utilized at the facility)

(Greatest unit rating at ambient temperature of 50°F or above)

<b>Synchronous Generators</b>	
1. Generating unit manufacturer	
2. Generating unit model	
3. Number of generating units	
4. Generating unit gross rated real power output (MW)	
5. Generating unit gross lagging reactive capability at rated output (MVAR)	
6. Generating unit gross leading reactive capability at rated output (MVAR)	
7. Generator rated MVA	
8. Station service (MW)	
9. Station service (MVAR)	
10. Net generator output (MW)	
11. Net generator output (MVAR)	
12. Nominal terminal voltage (kV)	
13. Rated power factor (%)	
14. Direct axis, positive sequence, sub-transient reactance on generator base in per unit, $X''_{dv}$ (Unsaturated)	
15. Positive sequence, generator AC resistance on generator base in per unit, $R_a$	

Attachment B (page 3)  
To Appendix 1  
Interconnection Request  
Technical Data Required For  
Interconnection Feasibility Study

<b>Wind Turbine Generators</b>	
1. Wind turbine manufacturer	
2. Wind turbine model	
3. Number of wind turbines	
4. Wind turbine type (1/2/3/4)	
5. Wind turbine unit rated output (MW)	
6. Wind turbine unit gross lagging reactive capability at rated output and at nominal terminal voltage (MVAR)	
7. Wind turbine unit gross leading reactive capability at rated output and at nominal terminal voltage (MVAR)	
8. Wind turbine converter rated MVA (Type 3 & 4)	
9. Nominal terminal voltage (kV)	
10. Rated power factor (%)	
11. Direct axis, positive sequence, sub-transient reactance on generator base, $X''_{dv}$ (Unsaturated) in per unit	
12. Positive sequence, generator AC resistance on generator base in per unit, $R_a$	

Attachment B (page 4)  
To Appendix 1  
Interconnection Request  
Technical Data Required For  
Interconnection Feasibility Study

<b>Non-Wind Inverter-Based Generators</b>	
1. Inverter manufacturer	
2. Inverter model	
3. Number of inverters	
4. Inverter unit rated output (MW)	
5. Inverter unit gross lagging reactive capability at rated output and at nominal terminal voltage (MVAR)	
6. Inverter unit gross leading reactive capability at rated output and at nominal terminal voltage (MVAR)	
7. Inverter rated MVA	
8. Nominal terminal voltage (kV)	
9. Rated power factor (%)	
<b>Additional Data for Battery Energy Storage System (BESS)</b>	
10. Maximum charging power (MW)	
11. Will BESS be charged from the Administered Transmission System? (Yes/No)	

### C. GENERATOR SHORT CIRCUIT DATA

(Repeat the relevant table for each distinct type of generating unit utilized at the facility)

<b>Synchronous Generator(s)</b>		
MVA base for data		
kV base for data		
	R (per unit)*	X (direct axis, saturated) (per unit)*
1. Subtransient		
2. Transient		
3. Synchronous		
4. Negative Sequence		
5. Zero Sequence		
6. Connection (delta, grounded WYE, ungrounded WYE, impedance grounded)		
7.a. Ground resistance if impedance grounded (per unit)		
7.b. Ground reactance if impedance grounded (per unit)		

\* Provide impedance in per unit on the generator MVA base

<b>Inverter-Based Resources (including Type 3 &amp; 4 Wind Turbine)</b>	
Full load current magnitude (Amps) per inverter	
Instantaneous controlled fault current magnitude (Amps) per inverter	

#### **D. TRANSFORMER RATINGS DATA**

(Repeat the table for each distinct type of station generator step-up transformer utilized at the facility)

Station generator step-up transformer (Station Transformer)			
Number of Station Transformer(s)			
	Self-cooled	Maximum nameplate	
Capacity (kVA)			
	Generator side	System side	Tertiary
Voltage ratio (kV)			
	Low voltage	High voltage	Tertiary voltage
Winding connections (Delta or Wye)			
	Tap settings		
Fixed taps available		Present tap setting	

(Repeat the table for each distinct type of generating unit step-up transformer utilized at the facility)

Generating unit step-up transformer (GSU) (Wind turbine and inverter-based Generating Facilities)			
Number of GSU(s)			
	Self-cooled	Maximum nameplate	
Capacity (kVA)			
	Generator side	System side	Tertiary
Voltage ratio (kV)			
	Low voltage	High voltage	Tertiary voltage
Winding Connections (Delta or Wye)			
	Tap settings		
Fixed taps available		Present tap setting	

### E. TRANSFORMER IMPEDANCE DATA

(Repeat the table for each distinct type of GSU transformer and station transformer on self-cooled kVA rating)

2-Winding Transformer			
Data For (Check One)	GSU	Station Transformer	
MVA Base for Data			
	R (p.u.)	X (p.u.)	X/R
Positive Sequence			
Zero Sequence			

3-Winding Transformer				
Data For (Check One)	GSU	Station Transformer		
MVA Base for Data				
	R (p.u.)	X (p.u.)	X/R	Positive Sequence
High Side-Low Side				
High Side-Tertiary				
Low Side-Tertiary				
High Side-Low Side				Zero Sequence
High Side-Tertiary				
Low Side-Tertiary				

### F. COLLECTOR SYSTEM EQUIVALENCE IMPEDANCE DATA FOR WIND/PHOTOVOLTAIC PLANTS

(Provide data below in per unit on 100 MVA and nominal line voltage (kV) base. Do not include Station Transformer impedance)

1. Nominal voltage (kV)		
2. Positive sequence resistance (R1) , reactance (X1)		
3. Zero sequence resistance (R0), reactance (X0)		
4. Total branch charging susceptance, B		



### **G. INTERCONNECTION FACILITIES TIE LINE DATA**

(Provide data below in per unit on 100 MVA and nominal line voltage (kV) base)

(Only list data for lines that are to be added by the generation developer)

1. Nominal Voltage (kV)		
2. Line termination points (The proposed line will connect point 2.a with point 2.b)	2.a.	
	2.b.	
3. Positive sequence resistance (R1) , reactance (X1)		
4. Zero sequence resistance (R0), reactance (X0)		
5. Total branch charging susceptance, B		

**In addition, provide the following data:**

- a) Reactive capability curve
- b) For synchronous generator(s)
  - i. A complete Siemens PTI (“PSSE”) format steady state power flow model of the Generating Facility (including Interconnection Facilities tie-line, if applicable)
  - ii. A short-circuit model of the Generating Facility (including Interconnection Facilities tie-line, if applicable) in ASPEN OneLiner (.OLR) format
- c) For collector-based Generating Facilities
  - i. A complete Siemens PTI (“PSSE”) format steady state power flow single-machine equivalent model shall be used for each major feeder branch of the Generating Facility as described in Planning Procedure 5-6 (Interconnection Planning Procedure for Generation and Elective Transmission Upgrades)
  - ii. A single-machine equivalent short-circuit model of the Generating Facility (including Interconnection Facilities tie-line, if applicable) in ASPEN OneLiner (.OLR) format

Attachment B (page 10)  
To Appendix 1  
Interconnection Request  
Technical Data Required For  
Interconnection Feasibility Study

**Applicant Signature**

I hereby certify that, to the best of my knowledge, all the information provided in this Attachment B to the Interconnection Request is true and accurate.

For Interconnection Customer:\_\_\_\_\_Date:\_\_\_\_\_

**SURPLUS INTERCONNECTION SERVICE REQUEST APPLICATION**

The Surplus Interconnection Customer submits this application to request Surplus Interconnection Service pursuant to Section 3.3 of this LGIP.

**SURPLUS INTERCONNECTION CUSTOMER AND ORIGINAL INTERCONNECTION**  
**CUSTOMER INFORMATION**

Surplus Interconnection Customer Company Name: \_\_\_\_\_

ISO Customer ID# (If available): \_\_\_\_\_

Company Address:

PO Box No.: \_\_\_\_\_

Street Address: \_\_\_\_\_

City, State ZIP: \_\_\_\_\_

Company Representative:      Name: \_\_\_\_\_

Title: \_\_\_\_\_

Company Representative's Company and Address (if different from above):

Company Name: \_\_\_\_\_

PO Box No.: \_\_\_\_\_

Attachment C (page 2)  
To Appendix 1  
Surplus Interconnection Service  
Request Application

Street Address: \_\_\_\_\_

City, State ZIP: \_\_\_\_\_

Phone: \_\_\_\_\_ FAX: \_\_\_\_\_ E-mail: \_\_\_\_\_

Original Interconnection Customer Company Name: \_\_\_\_\_

ISO Customer ID# (If available): \_\_\_\_\_

Company Address:

PO Box No.: \_\_\_\_\_

Street Address: \_\_\_\_\_

City, State ZIP: \_\_\_\_\_

Company Representative: Name: \_\_\_\_\_

Title: \_\_\_\_\_

Company Representative's Company and Address (if different from above):

Company Name: \_\_\_\_\_

PO Box No.: \_\_\_\_\_

Street Address: \_\_\_\_\_

City, State ZIP: \_\_\_\_\_

Phone: \_\_\_\_\_ FAX: \_\_\_\_\_ email: \_\_\_\_\_

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### PROJECT INFORMATION

Description of the Original Interconnection Customer's existing, commercial Large Generating Facility:

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Description of the Surplus Interconnection Customer's Generating Facility:

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Select Type of Interconnection Service for the Surplus Interconnection Customer's Generating Facility:

☐ CNR Interconnection Service

☐ NR Interconnection Service

Specify the amount of Unused Capability at the corresponding CNR Interconnection Service or NR Interconnection Service available for the Surplus Interconnection Customer's Generating Facility:

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Requested Commercial Operations Date for the Surplus Interconnection Customer's Generating Facility:

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Requested Initial Synchronization Date for the Surplus Interconnection Customer's Generating Facility:

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Requested In-Service Date for the Surplus Interconnection Customer's Generating Facility:

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To request Surplus Interconnection Service, the Surplus Interconnection Customer shall provide the following, together with this Surplus Interconnection Service Request Application:

1. The Original Interconnection Customer's written consent for the Surplus Interconnection Customer's Generating Facility to use Unused Capability associated with Interconnection Service established under the Interconnection Agreement for the Original Interconnection Customer's Generating Facility, together with a copy of that Interconnection Agreement;
2. A detailed description of the Original Interconnection Customer's Generating Facility and the Surplus Interconnection Customer's Generating Facility and their respective Interconnection Facilities and existing Point of Interconnection and Point of Change of Ownership, together with a completed Attachment A and Attachment A-1, as applicable, to Appendix 1 of this LGIP, including a site electrical one-line diagram reflecting both the Original Interconnection Customer's Generating Facility and the proposed Surplus Interconnection Customer's Generating Facility and a plot plan; and
3. Site Control for the Surplus Interconnection Customer's Generating Facility.

System Operator and Interconnecting Transmission Owner reserve the right to request additional technical and non-technical information necessary from the Original Interconnection Customer or the Surplus Interconnection Customer as may reasonably become necessary to facilitate their review of the Surplus Interconnection Service request.

**Applicant Signature**

I hereby certify that, to the best of my knowledge, all the information provided in this form is true and accurate.

Authorized Signature: \_\_\_\_\_

Name (type or print): \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**APPENDIX 2**  
**INTERCONNECTION FEASIBILITY STUDY AGREEMENT**

THIS AGREEMENT is made and entered into this \_\_\_\_ day of \_\_\_\_\_, 20\_\_ by and between \_\_\_\_\_, a \_\_\_\_\_ organized and existing under the laws of the State of \_\_\_\_\_ (“Interconnection Customer,”) and ISO New England Inc., a non-stock corporation existing under the laws of the State of Delaware (“System Operator”), and \_\_\_\_\_, a \_\_\_\_\_ organized and existing under the laws of the State of \_\_\_\_\_ (“Interconnecting Transmission Owner”). Interconnection Customer, System Operator, and Interconnecting Transmission Owner may be referred to as a “Party,” or collectively as the “Parties.”

**RECITALS**

**WHEREAS**, Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by the Interconnection Customer dated \_\_\_\_\_; and

**WHEREAS**, Interconnection Customer desires to interconnect the Large Generating Facility to the Administered Transmission System; and

**WHEREAS**, Interconnection Customer has requested System Operator and Interconnecting Transmission Owner to perform an Interconnection Feasibility Study to assess the feasibility of interconnecting the proposed Large Generating Facility to the Administered Transmission System, and any Affected Systems.

**NOW, THEREFORE**, in consideration of and subject to the mutual covenants contained herein the Parties agree as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in the Commission-approved Large Generator Interconnection



Procedures (“LGIP”), or in the other provisions of the ISO New England Inc. Transmission, Markets and Services Tariff (the “Tariff”).

- 2.0 Interconnection Customer elects and System Operator shall cause to be performed an Interconnection Feasibility Study consistent with Section 6.0 of the LGIP in accordance with the Tariff.
- 3.0 The scope of the Interconnection Feasibility Study shall be subject to the assumptions set forth in Attachment A to this Agreement.
- 4.0 The Interconnection Feasibility Study shall be based on the technical information provided by Interconnection Customer in Attachment A (and Attachment A-1, if applicable) or Attachment B to the Interconnection Request, as may be modified as the result of the Scoping Meeting. System Operator and Interconnecting Transmission Owner reserve the right to request additional technical information from Interconnection Customer as may reasonably become necessary consistent with Good Utility Practice during the course of the Interconnection Feasibility Study and as designated in accordance with Section 3.4.4 of the LGIP. If, after the designation of the Point of Interconnection pursuant to Section 3.4.4 of the LGIP, Interconnection Customer modifies its Interconnection Request pursuant to Section 4.4, the time to complete the Interconnection Feasibility Study may be extended.
- 5.0 The Interconnection Feasibility Study report shall provide the following information depending on whether the Feasibility Study consisted of (a) a limited power flow, including thermal analysis and voltage analysis, and short circuit analysis, or (b) limited thermal analysis, voltage analysis, short circuit analysis, stability analysis, or electromagnetic transient analysis, as appropriate, focusing on the issues that are expected to be the most significant for the proposed Large Generating Facility’s interconnection given recent study experience and as discussed at the Scoping Meeting:

- If the study consisted of a limited power flow, including thermal analysis, voltage analysis, and short circuit analysis, preliminary identification of: (1) any circuit breaker or other facility short circuit capability limits exceeded as a result of the interconnection; (2) any thermal overload of any transmission facility or system voltage limit violations resulting from the interconnection; (3) Interconnection Facilities and Network Upgrades necessary to interconnect the Large Generating Facility, together with a non-binding good faith order of magnitude estimated cost of (unless the Interconnection Customer waives such cost estimate) and the time to construct such facilities as identified within the scope of the analysis performed; or
- If the study consisted of limited thermal analysis, voltage analysis, short circuit analysis, stability analysis, or electromagnetic transient analysis, as appropriate, focusing on the issues that are expected to be the most significant for the proposed Large Generating Facility's interconnection given recent study experience and as discussed at the Scoping Meeting: (1) the study findings; and (2) preliminary description of and a non-binding good faith order of magnitude estimated cost of (unless Interconnection Customer waives such cost) and the time to construct the Interconnection Facilities and Network Upgrades necessary to interconnect the Large Generating Facility as identified within the scope of the analysis performed as part of the study.

In accordance with the LGIP, in performing the Interconnection Feasibility Study, System Operator and Interconnecting Transmission Owner shall coordinate with each other and Affected Parties, and shall receive and incorporate input from such entities into its study, and shall provide copies of the final study report to such entities.

- 6.0 The Interconnection Customer is providing a deposit equal to 100 percent of the estimated cost of the study. The deposit shall be applied toward the cost of the Interconnection Feasibility Study and the development of this Interconnection Feasibility Study Agreement and its attachment(s). Interconnecting Transmission Owner's and

System Operator's good faith estimate for the time of completion of the Interconnection Feasibility Study Agreement is [insert date].

The total estimated cost of the performance of the Interconnection Feasibility Study consists of \$\_\_\_\_\_ which is comprised of the System Operator's estimated cost of \$\_\_\_\_\_ and the Interconnecting Transmission Owner's estimated cost of \$\_\_\_\_\_. Any difference between the deposit and the actual cost of the Interconnection Feasibility Study shall be paid by or refunded to the Interconnection Customer, as appropriate. Upon receipt of the Interconnection Feasibility Study System Operator and Interconnecting Transmission Owner shall charge and the Interconnection Customer shall pay the actual costs of the Interconnection Feasibility Study.

Interconnection Customer shall pay any invoiced amounts within thirty (30) Calendar Days of receipt of the invoice.

7.0 Miscellaneous.

7.1 Accuracy of Information. Except as a Party ("Providing Party") may otherwise specify in writing when it provides information to the other Parties under this Agreement, the Providing Party represents and warrants that, to the best of its knowledge, the information it provides to the other Parties shall be accurate and complete as of the date the information is provided. The Providing Party shall promptly provide the other Parties with any additional information needed to update information previously provided.

7.2 Disclaimer of Warranty. In preparing and/or participating in the Interconnection Feasibility Study, as applicable, each Party and any subcontractor consultants employed by it shall have to rely on information provided by the Providing Party, and possibly by third parties, and may not have control over the accuracy of such information. Accordingly, beyond the commitment to use Reasonable Efforts in preparing and/or participating in the Interconnection Feasibility Study (including, but not limited to, exercise of Good Utility Practice in verifying the accuracy of information provided for or

used in the Interconnection Feasibility Study), as applicable, no Party nor any subcontractor consultant employed by it makes any warranties, express or implied, whether arising by operation of law, course of performance or dealing, custom, usage in the trade or profession, or otherwise, including without limitation implied warranties of merchantability and fitness for a particular purpose, with regard to the accuracy of the information considered in conducting the Interconnection Feasibility Study, the content of the Interconnection Feasibility Study, or the conclusions of the Interconnection Feasibility Study. Interconnection Customer acknowledges that it has not relied on any representations or warranties not specifically set forth herein and that no such representations or warranties have formed the basis of its bargain hereunder.

### 7.3 Force Majeure, Liability and Indemnification.

7.3.1 Force Majeure. Neither System Operator, Interconnecting Transmission Owner nor an Interconnection Customer will be considered in default as to any obligation under this Agreement if prevented from fulfilling the obligation due to an event of Force Majeure; provided that no event of Force Majeure affecting any entity shall excuse that entity from making any payment that it is obligated to make hereunder. However, an entity whose performance under this Agreement is hindered by an event of Force Majeure shall make all reasonable efforts to perform its obligations under this Agreement, and shall promptly notify the System Operator, the Interconnecting Transmission Owner or the Interconnection Customer, whichever is appropriate, of the commencement and end of each event of Force Majeure.

7.3.2 Liability. System Operator shall not be liable for money damages or other compensation to the Interconnection Customer for action or omissions by System Operator in performing its obligations under this Agreement, except to the extent such act or omission by System Operator is found to result from its gross negligence or willful misconduct. Interconnecting Transmission Owner shall not be liable for money damages or other compensation to the Interconnection

Customer for action or omissions by Interconnecting Transmission Owner in performing its obligations under this Agreement, except to the extent such act or omission by Interconnecting Transmission Owner is found to result from its gross negligence or willful misconduct. To the extent the Interconnection Customer has claims against System Operator or Interconnecting Transmission Owner, the Interconnection Customer may only look to the assets of System Operator or Interconnecting Transmission Owner (as the case may be) for the enforcement of such claims and may not seek to enforce any claims against the directors, members, shareholders, officers, employees or agents of System Operator or Interconnecting Transmission Owner or Affiliate of either who, the Interconnection Customer acknowledges and agrees, have no personal or other liability for obligations of System Operator or an Interconnecting Transmission Owner by reason of their status as directors, members, shareholders, officers, employees or agents of System Operator or an Interconnecting Transmission Owner or Affiliate of either. In no event shall System Operator, Interconnecting Transmission Owner or Interconnection Customer be liable for any incidental, consequential, multiple or punitive damages, loss of revenues or profits, attorneys fees or costs arising out of, or connected in any way with the performance or non-performance under this Agreement. Notwithstanding the foregoing, nothing in this section shall diminish an Interconnection Customer's obligations under the Indemnification section below.

- 7.3.3 Indemnification. Interconnection Customer shall at all times indemnify, defend, and save harmless System Operator and the Interconnecting Transmission Owner and their respective directors, officers, members, employees and agents from any and all damages, losses, claims and liabilities ("Losses") by or to third parties arising out of or resulting from the performance by System Operator or Interconnecting Transmission Owner under this Agreement, any bankruptcy filings made by the Interconnection Customer, or the actions or omissions of the Interconnection Customer in connection with this Agreement, except in the case of System Operator, to the extent such Losses arise from the gross negligence or

willful misconduct by System Operator or its directors, officers, members, employees or agents, and, in the case of Interconnecting Transmission Owner, to the extent such Losses arise from the gross negligence or willful misconduct by Interconnecting Transmission Owner or its directors, officers, members, employees or agents. The amount of any indemnity payment hereunder shall be reduced (including, without limitation, retroactively) by any insurance proceeds or other amounts actually recovered by the indemnified party in respect of the indemnified action, claim, demand, cost, damage or liability. The obligations of Interconnection Customer to indemnify System Operator and Interconnecting Transmission Owner shall be several, and not joint or joint and several. The liability provisions of the Transmission Operating Agreement or other applicable operating agreements shall apply to the relationship between the System Operator and the Interconnecting Transmission Owner.

- 7.4 Third-Party Beneficiaries. Without limitation of Sections 7.2 and 7.3 of this Agreement, the Parties agree that subcontractor consultants hired by them to conduct, participate in, or review, or to assist in the conducting, participating in, or reviewing of, an Interconnection Feasibility Study shall be deemed third party beneficiaries of Sections 7.2 and 7.3.
- 7.5 Term and Termination. This Agreement shall be effective from the date hereof and unless earlier terminated in accordance with this Section 7.5, shall continue in effect for a term of one year or until the Interconnection Feasibility Study is completed. This Agreement shall automatically terminate upon the withdrawal of Interconnection Request under Section 3.7 of the LGIP. The System Operator or the Interconnecting Transmission Owner may terminate this Agreement fifteen (15) days after providing written notice to the Interconnection Customer that it has breached one of its obligations hereunder, if the breach has not been cured within such fifteen (15) day period.

- 7.6 Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the state where the Point of Interconnection is located without regard to any choice of laws provisions.
- 7.7 Severability. In the event that any part of this Agreement is deemed as a matter of law to be unenforceable or null and void, such unenforceable or void part shall be deemed severable from this Agreement and the Agreement shall continue in full force and effect as if each part was not contained herein.
- 7.8 Counterparts. This Agreement may be executed in counterparts, and each counterpart shall have the same force and effect as the original instrument.
- 7.9 Amendment. No amendment, modification or waiver of any term hereof shall be effective unless set forth in writing and signed by the Parties hereto.
- 7.10 Survival. All warranties, limitations of liability and confidentiality provisions provided herein shall survive the expiration or termination hereof.
- 7.11 Independent Contractor. Each of the Parties shall at all times be deemed to be an independent contractor of the other Parties, and none of its employees or the employees of its subcontractors shall be considered to be employees of the other Parties as a result of this Agreement.
- 7.12 No Implied Waivers. The failure of a Party to insist upon or enforce strict performance of any of the provisions of this Agreement shall not be construed as a waiver or relinquishment to any extent of such Party's right to insist or rely on any such provision, rights and remedies in that or any other instance; rather, the same shall be and remain in full force and effect.
- 7.13 Successors and Assigns. This Agreement may not be assigned, by operation of law or otherwise, without the prior written consent of the other Parties hereto, such consent not

to be unreasonably withheld. Notwithstanding the foregoing, this Agreement, and each and every term and condition hereof, shall be binding upon and inure to the benefit of the Parties hereto and their respective successors and assigns, to the extent the same are authorized hereunder.

- 7.14 Due Authorization. Each Party to this Agreement represents and warrants that it has full power and authority to enter into this Agreement and to perform its obligations hereunder, that execution of this Agreement will not violate any other agreement with a third party, and that the person signing this Agreement on its behalf has been properly authorized and empowered to enter into this Agreement.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

System Operator

By:

Title:

Date:

Interconnecting Transmission Owner

By:

Title:

Date:

[Insert name of Interconnection Customer]

By:

Title:

Date:



**ASSUMPTIONS USED IN CONDUCTING THE  
INTERCONNECTION FEASIBILITY STUDY**

The Interconnection Feasibility Study will be based upon the information set forth in the Interconnection Request and agreed upon in the Scoping Meeting held on \_\_\_\_\_:

Designation of Point of Interconnection and configuration to be studied.

Designation of alternative Point(s) of Interconnection and configuration.

[Above assumptions to be completed by Interconnection Customer and other assumptions to be provided by Interconnection Customer, System Operator, and Interconnecting Transmission Owner]

### APPENDIX 3

#### INTERCONNECTION SYSTEM IMPACT STUDY AGREEMENT

**THIS AGREEMENT** is made and entered into this \_\_\_\_ day of \_\_\_\_\_, 20\_\_ by and between \_\_\_\_\_, a \_\_\_\_\_ organized and existing under the laws of the State of \_\_\_\_\_ (“Interconnection Customer,”) and ISO New England Inc., a non-stock corporation existing under the laws of the State of Delaware (“System Operator”), and \_\_\_\_\_, a \_\_\_\_\_ organized and existing under the laws of the State of \_\_\_\_\_ (“Interconnecting Transmission Owner”). Interconnection Customer, System Operator, and Interconnecting Transmission Owner may be referred to as a “Party,” or collectively as the “Parties.”

#### RECITALS

**WHEREAS**, Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by the Interconnection Customer dated \_\_\_\_\_; and

**WHEREAS**, Interconnection Customer desires to interconnect the Large Generating Facility to the Administered Transmission System;

**WHEREAS**, System Operator and Interconnecting Transmission Owner have completed an Interconnection Feasibility Study (the “Feasibility Study”) and provided the results of said study to the Interconnection Customer (This recital is to be omitted if Interconnection Customer has elected to forego the Interconnection Feasibility Study); and

**WHEREAS**, Interconnection Customer has requested System Operator and Interconnecting Transmission Owner to perform an Interconnection System Impact Study to assess the impact of interconnecting the Large Generating Facility to the Administered Transmission System, and any Affected Systems.

**NOW, THEREFORE**, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in the Commission-approved Large Generator Interconnection Procedure (“LGIP”).
- 2.0 Interconnection Customer elects and System Operator and Interconnecting Transmission Owner shall cause to be performed an Interconnection System Impact Study consistent with Section 7.0 of the LGIP in accordance with the Tariff.
- 3.0 The scope of the Interconnection System Impact Study shall be subject to the assumptions set forth in Attachment A to this Agreement.
- 4.0 The Interconnection System Impact Study will be based upon the results of the Interconnection Feasibility Study unless Interconnection Customer did not pursue the Interconnection Feasibility Study, and the technical information provided by Interconnection Customer in Attachment A (and Attachment A-1 as applicable) to the Interconnection Request, subject to any modifications in accordance with Section 4.4 of the LGIP. System Operator and Interconnecting Transmission Owner reserve the right to request additional technical information from Interconnection Customer as may reasonably become necessary consistent with Good Utility Practice during the course of the Interconnection System Impact Study. If Interconnection Customer modifies its designated Point of Interconnection, Interconnection Request, or the technical information provided therein is modified, the time to complete the Interconnection System Impact Study may be extended.
- 5.0 The Interconnection System Impact Study report shall provide the following information:
  - identification of any circuit breaker or other facility short circuit capability limits exceeded as a result of the interconnection;
  - identification of any thermal overload of any transmission facility or system voltage limit violations resulting from the interconnection;
  - initial review of grounding requirements and electric system protection;

- identification of any instability or inadequately damped response to system disturbances resulting from the interconnection;
- description and non-binding, good faith estimated cost of and the time to construct the facilities required to interconnect the Large Generating Facility to the Administered Transmission System and to address the identified short circuit, instability, and power flow issues; and
- to the extent the Interconnection Customer requested a preliminary analysis as described in this Section 7.4 of the LGIP, the report will also provide a list of potential upgrades that may be necessary for the Interconnection Customer's Generating Facility to qualify for participation in a Forward Capacity Auction under Section III.13 of the Tariff.

6.0 The Interconnection Customer is providing a deposit equal to:

- i. the greater of 100 percent of the estimated cost of the Interconnection System Impact Study or \$250,000;  
or
- ii. the lower of 100 percent of the estimated cost of the Interconnection System Impact Study or \$50,000, if the Interconnection Customer is providing herewith either:
  - (a) evidence of applications for all Major Permits, as defined in Section III.13.1.1.2.2.2(a) of the Tariff, required in support of the Interconnection Request, or provide certification that Major Permits are not required or
  - (b) evidence acceptable to the System Operator of At-Risk Expenditures (excluding study costs) totaling at least the amounts of money described in (i) above.

or

- iii the lower of 100 percent of the estimated costs of the study or \$50,000 if the Interconnection Request is for a modification to an existing Large Generating Facility that does not increase the energy capability or capacity capability of the Large Generating Facility.

The deposit shall be applied toward the cost of the Interconnection System Impact Study and the development of this Interconnection System Impact Study Agreement and its attachment(s) and the LGIA. Interconnecting Transmission Owner's and System Operator's good faith estimate for the times of commencement and completion of the Interconnection System Impact Study is [insert dates].

The total estimated cost of the performance of the Interconnection System Impact Study consists of \$\_\_\_\_\_ which is comprised of the System Operator's estimated cost of \$\_\_\_\_\_ and the Interconnecting Transmission Owner's estimated cost of \$\_\_\_\_\_.

Any difference between the deposit and the actual cost of the Interconnection System Impact Study shall be paid by or refunded to the Interconnection Customer, as appropriate.

Upon receipt of the Interconnection System Impact Study, System Operator and Interconnecting Transmission Owner shall charge and the Interconnection Customer shall pay the actual costs of the Interconnection System Impact Study.

System Operator and Interconnecting Transmission Owner may, in the exercise of reasonable discretion, invoice the Interconnection Customer on a monthly basis for the work to be conducted on the Interconnection System Impact Study each month.

Interconnection Customer shall pay any invoiced amounts within thirty (30) Calendar Days of receipt of the invoice.

In accordance with the LGIP, in performing the Interconnection System Impact Study, System Operator and Interconnecting Transmission Owner shall coordinate with Affected Parties, shall receive and incorporate input from such entities into its study, and shall provide copies of the final study report to such entities.

7.0 Miscellaneous.

7.1 Accuracy of Information. Except as a Party ("Providing Party") may otherwise specify in writing when it provides information to the other Parties under this Agreement, the Providing Party represents and warrants that, to the best of its knowledge, the information it provides to the other Parties shall be accurate and complete as of the date the information is provided. The Providing Party shall promptly provide the other Parties with any additional information needed to update information previously provided.

7.2 Disclaimer of Warranty. In preparing and/or participating in the Interconnection System Impact Study, as applicable, each Party and any subcontractor consultants employed by it shall have to rely on information provided by the Providing Party, and possibly by third parties, and may not have control over the accuracy of such information. Accordingly, beyond the commitment to use Reasonable Efforts in preparing and/or participating in the Interconnection System Impact Study (including, but not limited to, exercise of Good Utility Practice in verifying the accuracy of information provided for or used in the Interconnection System Impact Study), as applicable, no Party nor any subcontractor consultant employed by it makes any warranties, express or implied, whether arising by operation of law, course of performance or dealing, custom, usage in the trade or profession, or otherwise, including without limitation implied warranties of merchantability and fitness for a particular purpose, with regard to the accuracy of the information considered in conducting the Interconnection System Impact Study, the content of the Interconnection System Impact Study, or the conclusions of the Interconnection System Impact Study. Interconnection Customer acknowledges that it has not relied on any representations or warranties not specifically set forth herein and that no such representations or warranties have formed the basis of its bargain hereunder.

### 7.3 Force Majeure, Liability and Indemnification.

- 7.3.1 Force Majeure. Neither System Operator, Interconnecting Transmission Owner nor an Interconnection Customer will be considered in default as to any obligation under this Agreement if prevented from fulfilling the obligation due to an event of Force Majeure; provided that no event of Force Majeure affecting any entity shall excuse that entity from making any payment that it is obligated to make hereunder. However, an entity whose performance under this Agreement is hindered by an event of Force Majeure shall make all reasonable efforts to perform its obligations under this Agreement, and shall promptly notify the System Operator, the Interconnecting Transmission Owner or the Interconnection Customer, whichever is appropriate, of the commencement and end of each event of Force Majeure.
- 7.3.2 Liability. System Operator shall not be liable for money damages or other compensation to the Interconnection Customer for action or omissions by System Operator in performing its obligations under this Agreement, except to the extent such act or omission by System Operator is found to result from its gross negligence or willful misconduct. Interconnecting Transmission Owner shall not be liable for money damages or other compensation to the Interconnection Customer for action or omissions by Interconnecting Transmission Owner in performing its obligations under this Agreement, except to the extent such act or omission by Interconnecting Transmission Owner is found to result from its gross negligence or willful misconduct. To the extent the Interconnection Customer has claims against System Operator or Interconnecting Transmission Owner, the Interconnection Customer may only look to the assets of System Operator or Interconnecting Transmission Owner (as the case may be) for the enforcement of such claims and may not seek to enforce any claims against the directors, members, shareholders, officers, employees or agents of System Operator or Interconnecting Transmission Owner or Affiliate of either who, the

Interconnection Customer acknowledges and agrees, have no personal or other liability for obligations of System Operator or Interconnecting Transmission Owner by reason of their status as directors, members, shareholders, officers, employees or agents of System Operator or Interconnecting Transmission Owner or Affiliate of either. In no event shall System Operator, an Interconnecting Transmission Owner or any Interconnection Customer be liable for any incidental, consequential, multiple or punitive damages, loss of revenues or profits, attorneys fees or costs arising out of, or connected in any way with the performance or non-performance under this Agreement. Notwithstanding the foregoing, nothing in this section shall diminish an Interconnection Customer's obligations under the Indemnification section below.

- 7.3.3 Indemnification. Interconnection Customer shall at all times indemnify, defend, and save harmless System Operator and the Interconnecting Transmission Owners and their respective directors, officers, members, employees and agents from any and all damages, losses, claims and liabilities ("Losses") by or to third parties arising out of or resulting from the performance by System Operator or Interconnecting Transmission Owner under this Agreement, any bankruptcy filings made by the Interconnection Customer, or the actions or omissions of the Interconnection Customer in connection with this Agreement, except in the case of System Operator, to the extent such Losses arise from the gross negligence or willful misconduct by System Operator or its directors, officers, members, employees or agents, and, in the case of Interconnecting Transmission Owner, to the extent such Losses arise from the gross negligence or willful misconduct by Interconnecting Transmission Owner or its directors, officers, members, employees or agents. The amount of any indemnity payment hereunder shall be reduced (including, without limitation, retroactively) by any insurance proceeds or other amounts actually recovered by the indemnified party in respect of the indemnified action, claim, demand, cost, damage or liability. The obligations of Interconnection Customer to indemnify System Operator and Interconnecting Transmission Owners shall be several, and not joint or joint and several. The



liability provisions of the Transmission Operating Agreement or other applicable operating agreements shall apply to the relationship between the System Operator and the Interconnecting Transmission Owner.

- 7.4 Third-Party Beneficiaries. Without limitation of Sections 7.2 and 7.3 of this Agreement, the Parties agree that subcontractor consultants hired by them to conduct, participate in, or review, or to assist in the conducting, participating in, or reviewing of, an Interconnection System Impact Study shall be deemed third party beneficiaries of Sections 7.2 and 7.3.
- 7.5 Term and Termination. This Agreement shall be effective from the date hereof and unless earlier terminated in accordance with this Section 7.5, shall continue in effect for a term of one year or until the Interconnection System Impact Study is completed. This Agreement shall automatically terminate upon the withdrawal of Interconnection Request under Section 3.7 of the LGIP. The System Operator or the Interconnecting Transmission Owner may terminate this Agreement fifteen (15) days after providing written notice to the Interconnection Customer that it has breached one of its obligations hereunder, if the breach has not been cured within such fifteen (15) day period.
- 7.6 Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the state where the Point of Interconnection is located without regard to any choice of laws provisions.
- 7.7 Severability. In the event that any part of this Agreement is deemed as a matter of law to be unenforceable or null and void, such unenforceable or void part shall be deemed severable from this Agreement and the Agreement shall continue in full force and effect as if each part was not contained herein.
- 7.8 Counterparts. This Agreement may be executed in counterparts, and each counterpart shall have the same force and effect as the original instrument.

- 7.9      Amendment. No amendment, modification or waiver of any term hereof shall be effective unless set forth in writing and signed by the Parties hereto.
- 7.10     Survival. All warranties, limitations of liability and confidentiality provisions provided herein shall survive the expiration or termination hereof.
- 7.11     Independent Contractor. Each of the Parties shall at all times be deemed to be an independent contractor of the other Parties, and none of its employees or the employees of its subcontractors shall be considered to be employees of the other Parties as a result of this Agreement.
- 7.12     No Implied Waivers. The failure of a Party to insist upon or enforce strict performance of any of the provisions of this Agreement shall not be construed as a waiver or relinquishment to any extent of such Party's right to insist or rely on any such provision, rights and remedies in that or any other instance; rather, the same shall be and remain in full force and effect.
- 7.13     Successors and Assigns. This Agreement may not be assigned, by operation of law or otherwise, without the prior written consent of the other Parties hereto, such consent not to be unreasonably withheld. Notwithstanding the foregoing, this Agreement, and each and every term and condition hereof, shall be binding upon and inure to the benefit of the Parties hereto and their respective successors and assigns, to the extent the same are authorized hereunder.
- 7.14     Due Authorization. Each Party to this Agreement represents and warrants that it has full power and authority to enter into this Agreement and to perform its obligations hereunder, that execution of this Agreement will not violate any other agreement with a third party, and that the person signing this Agreement on its behalf has been properly authorized and empowered to enter into this Agreement.

IN WITNESS THEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

System Operator

By:

Title:

Date:

Interconnecting Transmission Owner

By:

Title:

Date:

[Insert name of Interconnection Customer]

By:

Title:

Date:

**ASSUMPTIONS USED IN CONDUCTING THE  
INTERCONNECTION SYSTEM IMPACT STUDY**

The Interconnection System Impact Study will be based upon the results of the Interconnection Feasibility Study unless Interconnection Customer did not pursue the Interconnection Feasibility Study, subject to any modifications in accordance with Section 4.4 of the LGIP, and the following assumptions:

Designation of Point of Interconnection and configuration to be studied.

Designation of alternative Point(s) of Interconnection and configuration. [Above assumptions to be completed by Interconnection Customer and other assumptions to be provided by Interconnection Customer, System Operator, and Interconnecting Transmission Owner]

**APPENDIX 4**  
**INTERCONNECTION FACILITIES STUDY AGREEMENT**

**THIS AGREEMENT** is made and entered into this \_\_\_\_ day of \_\_\_\_\_, 20\_\_ by and between \_\_\_\_\_, a \_\_\_\_\_ organized and existing under the laws of the State of \_\_\_\_\_ (“Interconnection Customer,”) and ISO New England Inc., a non-stock corporation existing under the laws of the State of Delaware (“System Operator”), and \_\_\_\_\_, a \_\_\_\_\_ organized and existing under the laws of the State of \_\_\_\_\_ (“Interconnecting Transmission Owner”). Interconnection Customer, System Operator, and Interconnecting Transmission Owner may be referred to as a “Party,” or collectively as the “Parties.”

**RECITALS**

**WHEREAS**, Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by the Interconnection Customer dated ; and

**WHEREAS**, Interconnection Customer desires to interconnect the Large Generating Facility to the Administered Transmission System; and

**WHEREAS**, System Operator and Interconnecting Transmission Owner have completed an Interconnection System Impact Study (the “System Impact Study”) and provided the results of said study to the Interconnection Customer; and

**WHEREAS**, Interconnection Customer has requested System Operator and Interconnecting Transmission Owner to perform an Interconnection Facilities Study to specify and estimate the cost of the equipment, engineering, procurement and construction work needed to implement the conclusions of the Interconnection System Impact Study in accordance with Good Utility Practice to physically and electrically connect the Large Generating Facility to the Administered Transmission System.

**NOW, THEREFORE,** in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in the Commission-approved Large Generator Interconnection Procedures (“LGIP”), or in the other provisions of the ISO New England Inc. Transmission, Markets and Services Tariff (the “Tariff”).
- 2.0 Interconnection Customer elects and System Operator shall cause an Interconnection Facilities Study consistent with Section 8.0 of the LGIP to be performed in accordance with the Tariff.
- 3.0 The scope of the Interconnection Facilities Study shall be subject to the assumptions set forth in Attachment A and the data provided in Attachment B to this Agreement.
- 4.0 The Interconnection Facilities Study report (i) shall provide a description, estimated cost of (consistent with Attachment A), and schedule for required facilities to interconnect the Large Generating Facility to the Administered Transmission System and (ii) shall address the short circuit, instability, and power flow issues identified in the Interconnection System Impact Study.
- 5.0 The Interconnection Customer is providing a deposit equal to:
  - i. the greater of 25 percent of the estimated cost of the Interconnection Facilities Study or \$250,000;  
or
  - ii. the greater of 100 percent of the estimated monthly cost of the Interconnection Facilities Study Agreement or \$100,000, if the Interconnection Customer can provide either:

- (a) evidence of application for all Major Permits, as defined in Section III.13.1.1.2.2.2(a) of the Tariff, required in support of the Interconnection Request, or provide certification that Major Permits are not required or
- (b) evidence acceptable to the System Operator of At-Risk Expenditures (excluding Interconnection Study costs) totaling at least the amount of the money in (i) above, not including the At-Risk Expenditures demonstrated with the Interconnection System Impact Study Agreement, if applicable.

or

- iii. the greater of 100 percent of one month's estimated study cost or \$100,000, if the Interconnection Request is for a modification to an existing Large Generating Facility that does not increase the energy capability or capacity capability of the Large Generating Facility.

The deposit shall be applied toward the cost of the Interconnection Facilities Study and the development of this Interconnection Facilities Study Agreement and its attachment(s) and the LGIA. The time for completion of the Interconnection Facilities Study is specified in Attachment A.

The total estimated cost of the performance of the Interconnection Facilities Study consists of \$\_\_\_\_\_ which is comprised of the System Operator's estimated cost of \$\_\_\_\_\_ and the Interconnecting Transmission Owner's estimated cost of \$\_\_\_\_\_.

Any difference between the deposit and the actual cost of the Interconnection Facilities Study shall be paid by or refunded to the Interconnection Customer, as appropriate.

Upon receipt of the Interconnection Facilities Study, System Operator and

Interconnecting Transmission Owner shall charge and Interconnection Customer shall pay the actual costs of the Interconnection Facilities Study. System Operator and Interconnecting Transmission Owner may, in the exercise of reasonable discretion, invoice the Interconnection Customer on a monthly basis for the work to be conducted on the Interconnection Facilities Study each month. Interconnection Customer shall pay any invoiced amounts within thirty (30) Calendar Days of receipt of the invoice. In accordance with the LGIP, in performing the Interconnection Facilities Study, Interconnecting Transmission Owner and System Operator shall coordinate with Affected Parties, shall receive and incorporate input from such entities into its study, and shall provide copies of the final study report to such entities.

6.0 Miscellaneous.

6.1 Accuracy of Information. Except as a Party ("Providing Party") may otherwise specify in writing when it provides information to the other Parties under this Agreement, the Providing Party represents and warrants that, to the best of its knowledge, the information it provides to the other Parties shall be accurate and complete as of the date the information is provided. The Providing Party shall promptly provide the other Parties with any additional information needed to update information previously provided.

6.2 Disclaimer of Warranty. In preparing and/or participating in the Interconnection Facilities Study, as applicable, each Party and any subcontractor consultants employed by it shall have to rely on information provided by the Providing Party, and possibly by third parties, and may not have control over the accuracy of such information. Accordingly, beyond the commitment to use Reasonable Efforts in preparing and/or participating in the Interconnection Facilities Study (including, but not limited to, exercise of Good Utility Practice in verifying the accuracy of information provided for or used in the Interconnection Facilities Study), as applicable, no Party nor any subcontractor consultant employed by it makes any warranties, express or implied, whether arising by operation of law, course of performance or dealing, custom, usage in the trade or profession, or



otherwise, including without limitation implied warranties of merchantability and fitness for a particular purpose, with regard to the accuracy of the information considered in conducting the Interconnection Facilities Study, the content of the Interconnection Facilities Study, or the conclusions of the Interconnection Facilities Study.

Interconnection Customer acknowledges that it has not relied on any representations or warranties not specifically set forth herein and that no such representations or warranties have formed the basis of its bargain hereunder.

### 6.3 Force Majeure, Liability and Indemnification.

6.3.1 Force Majeure. Neither System Operator, Interconnecting Transmission Owner nor an Interconnection Customer will be considered in default as to any obligation under this Agreement if prevented from fulfilling the obligation due to an event of Force Majeure; provided that no event of Force Majeure affecting any entity shall excuse that entity from making any payment that it is obligated to make hereunder. However, an entity whose performance under this Agreement is hindered by an event of Force Majeure shall make all reasonable efforts to perform its obligations under this Agreement, and shall promptly notify the System Operator, the Interconnecting Transmission Owner or the Interconnection Customer, whichever is appropriate, of the commencement and end of each event of Force Majeure.

6.3.2 Liability. System Operator shall not be liable for money damages or other compensation to the Interconnection Customer for action or omissions by System Operator in performing its obligations under this Agreement, except to the extent such act or omission by System Operator is found to result from its gross negligence or willful misconduct. Interconnecting Transmission Owner shall not be liable for money damages or other compensation to the Interconnection Customer for action or omissions by Interconnecting Transmission Owner in performing its obligations under this Agreement, except to the extent such act or omission by Interconnecting Transmission Owner is found to result from its

gross negligence or willful misconduct. To the extent the Interconnection Customer has claims against System Operator or Interconnecting Transmission Owner, the Interconnection Customer may only look to the assets of System Operator or Interconnecting Transmission Owner (as the case may be) for the enforcement of such claims and may not seek to enforce any claims against the directors, members, shareholders, officers, employees or agents of System Operator or Interconnecting Transmission Owner or Affiliate of either who, the Interconnection Customer acknowledges and agrees, have no personal or other liability for obligations of System Operator or Interconnecting Transmission Owner by reason of their status as directors, members, shareholders, officers, employees or agents of System Operator or Interconnecting Transmission Owner or Affiliate of either. In no event shall System Operator, Interconnecting Transmission Owner or any Interconnection Customer be liable for any incidental, consequential, multiple or punitive damages, loss of revenues or profits, attorneys fees or costs arising out of, or connected in any way with the performance or non-performance under this Agreement. Notwithstanding the foregoing, nothing in this section shall diminish an Interconnection Customer's obligations under the Indemnification section below.

- 6.3.3 Indemnification. Interconnection Customer shall at all times indemnify, defend, and save harmless System Operator and the Interconnecting Transmission Owners and their respective directors, officers, members, employees and agents from any and all damages, losses, claims and liabilities ("Losses") by or to third parties arising out of or resulting from the performance by System Operator or Interconnecting Transmission Owner under this Agreement, any bankruptcy filings made by the Interconnection Customer, or the actions or omissions of the Interconnection Customer in connection with this Agreement, except in the case of System Operator, to the extent such Losses arise from the gross negligence or willful misconduct by System Operator or its directors, officers, members, employees or agents, and, in the case of Interconnecting Transmission Owner, to the extent such Losses arise from the gross negligence or willful misconduct by

Interconnecting Transmission Owner or its directors, officers, members, employees or agents. The amount of any indemnity payment hereunder shall be reduced (including, without limitation, retroactively) by any insurance proceeds or other amounts actually recovered by the indemnified party in respect of the indemnified action, claim, demand, cost, damage or liability. The obligations of Interconnection Customer to indemnify System Operator and Interconnecting Transmission Owners shall be several, and not joint or joint and several. The liability provisions of the Transmission Operating Agreement or other applicable operating agreements shall apply to the relationship between the System Operator and the Interconnecting Transmission Owner.

- 6.4 Third-Party Beneficiaries. Without limiting Sections 7.2 and 7.3 of this Agreement, the Parties agree that subcontractor consultants hired by them to conduct, participate in, review, or to assist in the conducting, participating in, or reviewing of, an Interconnection Facilities Study shall be deemed third party beneficiaries of Sections 7.2 and 7.3.
- 6.5 Term and Termination. This Agreement shall be effective from the date hereof and unless earlier terminated in accordance with this Section 7.5, shall continue in effect for a term of one year or until the Interconnection Facilities Study is completed. This Agreement shall automatically terminate upon the withdrawal of Interconnection Request under Section 3.7 of the LGIP. The System Operator or the Interconnecting Transmission Owner may terminate this Agreement fifteen (15) days after providing written notice to the Interconnection Customer that it has breached one of its obligations hereunder, if the breach has not been cured within such fifteen (15) day period.
- 6.6 Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the state where the Point of Interconnection is located without regard to any choice of laws provisions.

- 6.7 Severability. In the event that any part of this Agreement is deemed as a matter of law to be unenforceable or null and void, such unenforceable or void part shall be deemed severable from this Agreement and the Agreement shall continue in full force and effect as if each part was not contained herein.
- 6.8 Counterparts. This Agreement may be executed in counterparts, and each counterpart shall have the same force and effect as the original instrument.
- 6.9 Amendment. No amendment, modification or waiver of any term hereof shall be effective unless set forth in writing and signed by the Parties hereto.
- 6.10 Survival. All warranties, limitations of liability and confidentiality provisions provided herein shall survive the expiration or termination hereof.
- 6.11 Independent Contractor. Each of the Parties shall at all times be deemed to be an independent contractor of the other Parties, and none of its employees or the employees of its subcontractors shall be considered to be employees of the other Parties as a result of this Agreement.
- 6.12 No Implied Waivers. The failure of a Party to insist upon or enforce strict performance of any of the provisions of this Agreement shall not be construed as a waiver or relinquishment to any extent of such Party's right to insist or rely on any such provision, rights and remedies in that or any other instance; rather, the same shall be and remain in full force and effect.
- 6.13 Successors and Assigns. This Agreement may not be assigned, by operation of law or otherwise, without the prior written consent of the other Parties hereto, such consent not to be unreasonably withheld. Notwithstanding the foregoing, this Agreement, and each and every term and condition hereof, shall be binding upon and inure to the benefit of the Parties hereto and their respective successors and assigns, to the extent the same are authorized hereunder.

6.14 Due Authorization. Each Party to this Agreement represents and warrants that it has full power and authority to enter into this Agreement and to perform its obligations hereunder, that execution of this Agreement will not violate any other agreement with a third party, and that the person signing this Agreement on its behalf has been properly authorized and empowered to enter into this Agreement.

**IN WITNESS WHEREOF**, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

System Operator

By:

Title:

Date:

Interconnecting Transmission Owner

By:

Title:

Date:

[Insert name of Interconnection Customer]

By:

Title:

Date:

**INTERCONNECTION CUSTOMER SCHEDULE ELECTION FOR CONDUCTING THE  
INTERCONNECTION FACILITIES STUDY**

Interconnection Customer elects (check one):

- ☐ +/- 20 percent cost estimate contained in the Interconnection Facilities Study report.
- ☐ +/- 10 percent cost estimate contained in the Interconnection Facilities Study report.

Interconnecting Transmission Owner and System Operator shall use Reasonable Efforts to complete the study and issue a draft Interconnection Facilities Study report to the Interconnection Customer within the following number of days after of receipt of an executed copy of this Interconnection Facilities Study Agreement:

- ninety (90) Calendar Days with no more than a +/- 20 percent cost estimate contained in the report, or
- one hundred eighty (180) Calendar Days with no more than a +/- 10 percent cost estimate contained in the report.

**DATA FORM TO BE PROVIDED BY INTERCONNECTION CUSTOMER  
WITH THE  
INTERCONNECTION FACILITIES STUDY AGREEMENT**

Provide location plan and simplified one-line diagram of the plant and station facilities. For staged projects, please indicate future generation, transmission circuits, etc.

One set of metering is required for each generation connection to the new ring bus or existing New England Transmission System station. Number of generation connections:

On the one line indicate the generation capacity attached at each metering location. (Maximum load on Current Transformer/Power Transformer (“CT/PT”))

On the one line indicate the location of auxiliary power. (Minimum load on CT/PT) Amps

Will an alternate source of auxiliary power be available during CT/PT maintenance?

Yes \_\_\_\_\_ No \_\_\_\_\_

Will a transfer bus on the generation side of the metering require that each meter set be designed for the total plant generation? Yes \_\_\_\_\_ No \_\_\_\_\_

(Please indicate on one line).

What type of control system or Power Line Carrier (“PLC”) will be located at the Interconnection Customer’s Large Generating Facility?

What protocol does the control system or PLC use?

Attachment B (page 2)  
Appendix 4  
Interconnection Facilities  
Study Agreement

Please provide a 7.5-minute quadrangle of the site. Sketch the plant, station, transmission line, and property line.

Physical dimensions of the proposed interconnection station:

Bus length from generation to interconnection station:

Line length from interconnection station to Interconnecting Transmission Owner's transmission line.

Tower number observed in the field. (Painted on tower leg)\*

Number of third party easements required for transmission lines\*:

\* To be completed in coordination with System Operator and Interconnecting Transmission Owner.

Is the Large Generating Facility in Interconnecting Transmission Owner's service area?

Yes \_\_\_\_\_ No \_\_\_\_\_ Local provider:

Please provide proposed schedule dates:

Begin Construction Date:

Generator step-up transformer Date:

Receives back feed power Date

Generation Testing Date:

Commercial Operation Date:





**APPENDIX 5**  
**OPTIONAL INTERCONNECTION STUDY AGREEMENT**

**THIS AGREEMENT** is made and entered into this \_\_\_\_ day of \_\_\_\_\_, 20\_\_ by and between \_\_\_\_\_, a \_\_\_\_\_ organized and existing under the laws of the State of \_\_\_\_\_ (“Interconnection Customer,”) and ISO New England Inc., a non-stock corporation existing under the laws of the State of Delaware (“System Operator”), and \_\_\_\_\_, a \_\_\_\_\_ organized and existing under the laws of the State of \_\_\_\_\_ (“Interconnecting Transmission Owner”). Interconnection Customer, System Operator, and Interconnecting Transmission Owner may be referred to as a “Party,” or collectively as the “Parties.”

**RECITALS**

**WHEREAS**, Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by the Interconnection Customer dated \_\_\_\_\_; and

**WHEREAS**, Interconnection Customer is proposing to establish an interconnection to the Administered Transmission System; and

**WHEREAS**, Interconnection Customer has submitted to System Operator an Interconnection Request; and

**WHEREAS**, on or after the date when the Interconnection Customer receives the Interconnection System Impact Study results, Interconnection Customer has further requested that the System Operator and Interconnecting Transmission Owner prepare an Optional Interconnection Study.

**NOW, THEREFORE**, in consideration of and subject to the mutual covenants contained herein the Parties agree as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in the Commission-approved Large Generator Interconnection Procedures (“LGIP”), or in the other provisions of the ISO New England Inc. Transmission, Markets and Services Tariff (the “Tariff”).
- 2.0 Interconnection Customer elects and System Operator shall cause an Optional Interconnection Study consistent with Section 10.0 of the LGIP to be performed in accordance with the Tariff.
- 3.0 The scope of the Optional Interconnection Study shall be subject to the assumptions set forth in Attachment A to this Agreement.
- 4.0 The Optional Interconnection Study shall be performed solely for informational purposes.
- 5.0 The Optional Interconnection Study report shall provide a sensitivity analysis based on the assumptions specified by the Interconnection Customer in Attachment A to this Agreement. The Optional Interconnection Study will identify Interconnecting Transmission Owner’s Interconnection Facilities and the Network Upgrades, and the estimated cost thereof, that may be required to provide transmission service or Interconnection Service based upon the assumptions specified by the Interconnection Customer in Attachment A.  
  
In accordance with the LGIP, in performing the Optional Interconnection Study, the System Operator shall coordinate with Interconnecting Transmission Owner and Affected Parties, and shall receive and incorporate input from such entities into its study, and shall provide copies of the final study report to such entities.
- 6.0 The Interconnection Customer is providing a deposit equal to 100 percent of the estimated cost of the study. Interconnecting Transmission Owner’s and System Operator’s good faith estimate for the time of completion of the Optional Interconnection Study is [insert date].

The total estimated cost of the performance of the Optional Interconnection Study consists of \$\_\_\_\_\_ which is comprised of the System Operator's estimated cost of \$\_\_\_\_\_ and the Interconnecting Transmission Owner's estimated cost of \$\_\_\_\_\_.

Any difference between the initial payment and the actual cost of the study shall be paid by or refunded to the Interconnection Customer, as appropriate. Upon receipt of the Optional Interconnection Study, System Operator and Interconnecting Transmission Owner shall charge and the Interconnection Customer shall pay the actual costs of the Optional Interconnection Study. Interconnection Customer shall pay any invoiced amounts within thirty (30) Calendar Days of receipt of invoice.

7.0 Miscellaneous.

7.1 Accuracy of Information. Except as a Party ("Providing Party") may otherwise specify in writing when it provides information to the other Parties under this Agreement, the Providing Party represents and warrants that, to the best of its knowledge, the information it provides to the other Parties shall be accurate and complete as of the date the information is provided. The Providing Party shall promptly provide the other Parties with any additional information needed to update information previously provided.

7.2 Disclaimer of Warranty. In preparing and/or participating in the Optional Interconnection Study, as applicable, each Party and any subcontractor consultants employed by it shall have to rely on information provided by the Providing Party, and possibly by third parties, and may not have control over the accuracy of such information. Accordingly, beyond the commitment to use Reasonable Efforts in preparing and/or participating in the Optional Interconnection Study (including, but not limited to, exercise of Good Utility Practice in verifying the accuracy of information provided for or used in the Optional Interconnection Study), as applicable, no Party nor any subcontractor consultant employed by it makes any warranties, express or implied, whether arising by operation of law, course of performance or dealing, custom, usage in the trade or profession, or otherwise, including without limitation implied warranties of

merchantability and fitness for a particular purpose, with regard to the accuracy of the information considered in conducting the Optional Interconnection Study, the content of the Optional Interconnection Study, or the conclusions of the Optional Interconnection Study. Interconnection Customer acknowledges that it has not relied on any representations or warranties not specifically set forth herein and that no such representations or warranties have formed the basis of its bargain hereunder.

### 7.3 Force Majeure, Liability and Indemnification.

7.3.1 Force Majeure. Neither System Operator, Interconnecting Transmission Owner nor an Interconnection Customer will be considered in default as to any obligation under this Agreement if prevented from fulfilling the obligation due to an event of Force Majeure; provided that no event of Force Majeure affecting any entity shall excuse that entity from making any payment that it is obligated to make hereunder. However, an entity whose performance under this Agreement is hindered by an event of Force Majeure shall make all reasonable efforts to perform its obligations under this Agreement, and shall promptly notify the System Operator, the Interconnecting Transmission Owner or the Interconnection Customer, whichever is appropriate, of the commencement and end of each event of Force Majeure.

7.3.2 Liability. System Operator shall not be liable for money damages or other compensation to the Interconnection Customer for action or omissions by System Operator in performing its obligations under this Agreement, except to the extent such act or omission by System Operator is found to result from its gross negligence or willful misconduct. Interconnecting Transmission Owner shall not be liable for money damages or other compensation to the Interconnection Customer for action or omissions by Interconnecting Transmission Owner in performing its obligations under this Agreement, except to the extent such act or omission by Interconnecting Transmission Owner is found to result from its gross negligence or willful misconduct. To the extent the Interconnection

Customer has claims against System Operator or Interconnecting Transmission Owner, the Interconnection Customer may only look to the assets of System Operator or Interconnecting Transmission Owner (as the case may be) for the enforcement of such claims and may not seek to enforce any claims against the directors, members, shareholders, officers, employees or agents of System Operator or Interconnecting Transmission Owner or Affiliate of either who, the Interconnection Customer acknowledges and agrees, have no personal or other liability for obligations of System Operator or Interconnecting Transmission Owner by reason of their status as directors, members, shareholders, officers, employees or agents of System Operator or Interconnecting Transmission Owner or Affiliate of either. In no event shall System Operator, Interconnecting Transmission Owner or any Interconnection Customer be liable for any incidental, consequential, multiple or punitive damages, loss of revenues or profits, attorneys fees or costs arising out of, or connected in any way with the performance or non-performance under this Agreement. Notwithstanding the foregoing, nothing in this section shall diminish an Interconnection Customer's obligations under the Indemnification section below.

- 7.3.3 Indemnification. Interconnection Customer shall at all times indemnify, defend, and save harmless System Operator and the Interconnecting Transmission Owners and their respective directors, officers, members, employees and agents from any and all damages, losses, claims and liabilities ("Losses") by or to third parties arising out of or resulting from the performance by System Operator or Interconnecting Transmission Owners under this Agreement, any bankruptcy filings made by the Interconnection Customer, or the actions or omissions of the Interconnection Customer in connection with this Agreement, except in the case of System Operator, to the extent such Losses arise from gross negligence or willful misconduct by System Operator or its directors, officers, members, employees or agents, and, in the case of Interconnecting Transmission Owner, to the extent such Losses arise from the gross negligence or willful misconduct by Interconnecting Transmission Owner or its directors, officers, members,

employees or agents. The amount of any indemnity payment hereunder shall be reduced (including, without limitation, retroactively) by any insurance proceeds or other amounts actually recovered by the indemnified party in respect of the indemnified action, claim, demand, cost, damage or liability. The obligations of Interconnection Customer to indemnify System Operator and Interconnecting Transmission Owners shall be several, and not joint or joint and several. The liability provisions of the Transmission Operating Agreement or other applicable operating agreements shall apply to the relationship between the System Operator and the Interconnecting Transmission Owner.

- 7.4 Third-Party Beneficiaries. Without limitation of Sections 7.2 and 7.3 of this Agreement, the Parties agree that subcontractor consultants hired by them to conduct, participate in, or review, or to assist in the conducting, participating in, or reviewing of, an Optional Interconnection Study shall be deemed third party beneficiaries of Sections 7.2 and 7.3.
- 7.5 Term and Termination. This Agreement shall be effective from the date hereof and unless earlier terminated in accordance with this Section 7.5, shall continue in effect for a term of one year or until the Optional Interconnection Study is completed. This Agreement shall automatically terminate upon the withdrawal of Interconnection Request under Section 3.7 of the LGIP. The System Operator or the Interconnecting Transmission Owner may terminate this Agreement fifteen (15) days after providing written notice to the Interconnection Customer that it has breached one of its obligations hereunder, if the breach has not been cured within such fifteen (15) day period.
- 7.6 Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the state where the Point of Interconnection is located, without regard to any choice of laws provisions.
- 7.7 Severability. In the event that any part of this Agreement is deemed as a matter of law to be unenforceable or null and void, such unenforceable or void part shall be deemed

severable from this Agreement and the Agreement shall continue in full force and effect as if each part was not contained herein.

- 7.8 Counterparts. This Agreement may be executed in counterparts, and each counterpart shall have the same force and effect as the original instrument.
- 7.9 Amendment. No amendment, modification or waiver of any term hereof shall be effective unless set forth in writing and signed by the Parties hereto.
- 7.10 Survival. All warranties, limitations of liability and confidentiality provisions provided herein shall survive the expiration or termination hereof.
- 7.11 Independent Contractor. Each of the Parties shall at all times be deemed to be an independent contractor of the other Parties, and none of its employees or the employees of its subcontractors shall be considered to be employees of the other Parties as a result of this Agreement.
- 7.12 No Implied Waivers. The failure of a Party to insist upon or enforce strict performance of any of the provisions of this Agreement shall not be construed as a waiver or relinquishment to any extent of such Party's right to insist or rely on any such provision, rights and remedies in that or any other instances; rather, the same shall be and remain in full force and effect.
- 7.13 Successors and Assigns. This Agreement may not be assigned, by operation of law or otherwise, without the prior written consent of the other Parties hereto, such consent not to be unreasonably withheld. Notwithstanding the foregoing, this Agreement, and each and every term and condition hereof, shall be binding upon and inure to the benefit of the Parties hereto and their respective successors and assigns, to the extent the same are authorized hereunder.



7.14 Due Authorization. Each Party to this Agreement represents and warrants that it has full power and authority to enter into this Agreement and to perform its obligations hereunder, that execution of this Agreement will not violate any other agreement with a third party, and that the person signing this Agreement on its behalf has been properly authorized and empowered to enter into this Agreement.

**IN WITNESS WHEREOF**, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

System Operator

By:

Title:

Date:

Interconnecting Transmission Owner

By:

Title:

Date:

[Insert name of Interconnection Customer]

By:

Title:

Date:

Attachment A

Appendix 5

Optional Interconnection

Study Agreement

**ASSUMPTIONS USED IN CONDUCTING  
THE OPTIONAL INTERCONNECTION STUDY**

[To be completed by Interconnection Customer consistent with Section 10 of the LGIP.]

**APPENDIX 6**  
**LARGE GENERATOR INTERCONNECTION**  
**AGREEMENT**

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## **THIS STANDARD LARGE GENERATOR INTERCONNECTION AGREEMENT**

("Agreement") is made and entered into this \_\_\_\_ day of \_\_\_\_\_ 20\_\_, by and between \_\_\_\_\_, a \_\_\_\_\_ organized and existing under the laws of the State/Commonwealth of \_\_\_\_\_ ("Interconnection Customer" with a Large Generating Facility), ISO New England Inc., a non-stock corporation organized and existing under the laws of the State of Delaware ("System Operator"), and \_\_\_\_\_, a \_\_\_\_\_ organized and existing under the laws of the State/Commonwealth of \_\_\_\_\_ ("Interconnecting Transmission Owner"). Under this Agreement, the Interconnection Customer, System Operator, and Interconnecting Transmission Owner each may be referred to as a "Party" or collectively as the "Parties."

### **RECITALS**

**WHEREAS**, System Operator is the central dispatching agency provided for under the Transmission Operating Agreement ("TOA") which has responsibility for the operation of the New England Control Area from the System Operator control center and the administration of the Tariff; and

**WHEREAS**, Interconnecting Transmission Owner is the owner or possessor of an interest in the Administered Transmission System; and

**WHEREAS**, Interconnection Customer intends to own, lease and/or control and operate the Generating Facility identified as a Large Generating Facility in Appendix C to this Agreement; and

**WHEREAS**, System Operator, Interconnection Customer and Interconnecting Transmission Owner have agreed to enter into this Agreement for the purpose of interconnecting the Large Generating Facility to the Administered Transmission System.

**NOW, THEREFORE**, in consideration of and subject to the mutual covenants contained herein, it is agreed:

When used in this Standard Large Generator Interconnection Agreement, terms with initial capitalization that are not defined in Article 1 shall have the meanings specified in the Article in which they are used.

## **ARTICLE 1. DEFINITIONS**

The definitions contained in this Article 1 and those definitions embedded in an Article of this Agreement are intended to apply in the context of the generator interconnection process provided for in Schedule 22 (and its appendices). To the extent that the definitions herein are different than those contained in Section I.2.2 of the Tariff, the definitions provided below shall control only for purposes of generator interconnections under Schedule 22. Capitalized terms in Schedule 22 that are not defined in this Article 1 shall have the meanings specified in Section I.2.2 of the Tariff.

**Administered Transmission System** shall mean the PTF, the Non-PTF, and distribution facilities that are subject to the Tariff.

**Adverse System Impact** shall mean any significant negative effects on the stability, reliability or operating characteristics of the electric system.

**Affected Party** shall mean the entity that owns, operates or controls an Affected System, or any other entity that otherwise may be a necessary party to the interconnection process.

**Affected System** shall mean any electric system that is within the Control Area, including, but not limited to, generator owned transmission facilities, or any other electric system that is not within the Control Area that may be affected by the proposed interconnection.

**Affiliate** shall mean, with respect to a corporation, partnership or other entity, each such other corporation, partnership or other entity that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, such corporation, partnership or other entity.

**Applicable Laws and Regulations** shall mean all duly promulgated applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority.

**Applicable Reliability Council** shall mean the reliability council applicable to the New England Control Area.

**Applicable Reliability Standards** shall mean the requirements and guidelines of NERC, the NPCC and the New England Control Area, including publicly available local reliability requirements of Interconnecting Transmission Owners or other Affected Parties.

**At-Risk Expenditure** shall mean money expended for the development of the Generating Facility that cannot be recouped if the Interconnection Customer were to withdraw the Interconnection Request for the Generating Facility. At-Risk Expenditure may include, but is not limited to, money expended on: (i) costs of federal, state, local, regional and town permits, (ii) Site Control, (iii) site-specific design and surveys, (iv) construction activities, and (v) non-refundable deposits for major equipment components. For purposes of this definition, At-Risk Expenditure shall not include costs associated with the Interconnection Studies.

**Base Case** shall have the meaning specified in Section 2.3 of the Large Generator Interconnection Procedures (“LGIP”).

**Base Case Data** shall mean the Base Case power flow, short circuit, and stability data bases used for the Interconnection Studies by the System Operator, Interconnection Customer, Interconnecting Transmission Owner, or any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements.

**Breach** shall mean the failure of a Party to perform or observe any material term or condition of the Standard Large Generator Interconnection Agreement.

**Breaching Party** shall mean a Party that is in Breach of the Standard Large Generator Interconnection Agreement.

**Calendar Day** shall mean any day including Saturday, Sunday or a Federal Holiday.

**Capacity Capability Interconnection Standard (“CC Interconnection Standard”)** shall mean the criteria required to permit the Interconnection Customer to interconnect a Generating Facility seeking Capacity Network Resource Interconnection Service or an Elective Transmission Upgrade seeking Capacity Network Import Interconnection Service in a manner that avoids any significant adverse effect on the reliability, stability, and operability of the New England Transmission System, including protecting against the degradation of transfer capability for interfaces affected by the Generating Facility seeking Capacity Network Resource Interconnection Service or an Elective Transmission Upgrade seeking Capacity Network Import Interconnection Service, and in a manner that ensures intra-zonal deliverability by avoidance of the redispatch of other Capacity Network Resources or Elective Transmission Upgrades with Capacity Network Import Interconnection Service, as detailed in the ISO New England Planning Procedures.

**Capacity Network Resource (“CNR”)** shall mean that portion of a Generating Facility that is interconnected to the Administered Transmission System under the Capacity Capability Interconnection Standard.

**Capacity Network Resource Capability (“CNR Capability”)** shall mean the MW quantity associated with CNR Interconnection Service, calculated as described in Section II.48 of the Tariff.

**Capacity Network Resource Group Study (“CNR Group Study”)** shall mean the study performed by the System Operator under Section III.13.1.1.2.3 of the Tariff to determine which resources qualify to participate in a Forward Capacity Auction.

**Capacity Network Resource Interconnection Service (“CNR Interconnection Service”)** shall mean the Interconnection Service selected by the Interconnection Customer to interconnect its Large Generating Facility with the Administered Transmission System in accordance with the Capacity



Capability Interconnection Standard. An Interconnection Customer's CNR Interconnection Service shall be for the megawatt amount of CNR Capability. CNR Interconnection Service does not in and of itself convey transmission service.

**Cluster Enabling Transmission Upgrade ("CETU")** shall mean new significant transmission line infrastructure that consists of AC transmission lines and related terminal equipment having a nominal voltage rating at or above 115 kV or HVDC transmission lines and HVDC terminal equipment that is identified through the Clustering Enabling Transmission Upgrade Regional Planning Study conducted to accommodate the Interconnection Requests for which the conditions identified in Section 4.2.1 have been triggered. The CETU shall be considered part of a Generator Interconnection Related Upgrade and be categorized as Interconnection Facilities or Network Upgrades.

**Cluster Enabling Transmission Upgrade Regional Planning Study ("CRPS")** shall mean a study conducted by the System Operator under Attachment K, Section II of the Tariff to identify the Cluster Enabling Transmission Upgrade and associated system upgrades to enable the interconnection of Interconnection Requests for which the conditions identified in Section 4.2.1 have been triggered.

**Cluster Interconnection Facilities Study ("CFAC")** shall mean an Interconnection Facilities Study performed using Clustering pursuant to Section 4.2.4.

**Cluster Interconnection System Impact Study ("CSIS")** shall mean an Interconnection System Impact Study performed using Clustering pursuant to Section 4.2.3.

**Cluster Participation Deposit** shall mean the initial and additional deposit due under Sections 4.2.3.2.2 and 4.2.4.4.

**Cluster Entry Deadline** shall mean the deadline specified in Section 4.2.3.1.

**Clustering** shall mean the process whereby a group of Interconnection Requests is studied together for the purpose of conducting the Interconnection System Impact Study and Interconnection

Facilities Study and for the purpose of determining cost responsibility for upgrades identified through the Clustering provisions.

**Commercial Operation** shall mean the status of a Generating Facility that has commenced generating electricity for sale, excluding electricity generated during Trial Operation.

**Commercial Operation Date** of a unit shall mean the date on which the Generating Facility commences Commercial Operation as agreed to by the Parties pursuant to Appendix E to the Standard Large Generator Interconnection Agreement.

**Confidential Information** shall mean any confidential, proprietary or trade secret information of a plan, specification, pattern, procedure, design, device, list, concept, policy or compilation relating to the present or planned business of a Party, which is designated as confidential by the Party supplying the information, whether conveyed orally, electronically, in writing, through inspection, or otherwise. Confidential Information shall include, but not be limited to, information that is confidential pursuant to the ISO New England Information Policy.

**Contingent Facilities** shall mean those unbuilt Interconnection Facilities and Network Upgrades associated with an Interconnection Request with a higher Queue Position or a transmission project that is planned or proposed for the New England Transmission System upon which the Interconnection Request's costs, timing, and study findings are dependent, and if delayed or not built, could cause a need for restudies of the Interconnection Request or a reassessment of the Interconnection Facilities and/or Network Upgrades and/or costs and timing.

**Default** shall mean the failure of a Breaching Party to cure its Breach in accordance with Article 17 of the Standard Large Generator Interconnection Agreement.

**Dispute Resolution** shall mean the procedure for resolution of a dispute between the Parties in which they will first attempt to resolve the dispute on an informal basis.

**Distribution System** shall mean the Interconnecting Transmission Owner's facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries directly from nearby generators or from interchanges with higher voltage transmission networks which transport bulk power over longer distances. The voltage levels at which distribution systems operate differ among areas.

**Distribution Upgrades** shall mean the additions, modifications, and upgrades to Interconnecting Transmission Owner's Distribution System at or beyond the Point of Interconnection to facilitate interconnection of the Generating Facility and render the transmission service necessary to effect Interconnection Customer's wholesale sale of electricity in interstate commerce. Distribution Upgrades do not include Interconnection Facilities.

**Effective Date** shall mean the date on which the Standard Large Generator Interconnection Agreement becomes effective upon execution by the Parties subject to acceptance by the Commission or if filed unexecuted, upon the date specified by the Commission.

**Emergency Condition** shall mean a condition or situation: (1) that in the judgment of the Party making the claim is likely to endanger life or property; or (2) that, in the case of the Interconnecting Transmission Owner, is likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to the New England Transmission System, Interconnecting Transmission Owner's Interconnection Facilities or any Affected System to which the New England Transmission System is directly connected; or (3) that, in the case of Interconnection Customer, is likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Generating Facility or Interconnection Customer's Interconnection Facilities. System restoration and black start shall be considered Emergency Conditions; provided that Interconnection Customer is not obligated by the Standard Large Generator Interconnection Agreement to possess black start capability.

**Engineering & Procurement ("E&P") Agreement** shall mean an agreement that authorizes the Interconnection Customer, Interconnecting Transmission Owner and any other Affected Party to begin engineering and procurement of long lead-time items necessary for the establishment of the interconnection in order to advance the implementation of the Interconnection Request.

**Environmental Law** shall mean Applicable Laws or Regulations relating to pollution or protection of the environment or natural resources.

**Federal Power Act** shall mean the Federal Power Act, as amended, 16 U.S.C. §§ 791a *et seq.*

**Force Majeure** shall mean any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. A Force Majeure event does not include acts of negligence or intentional wrongdoing by the Party claiming Force Majeure.

**Generating Facility** shall mean Interconnection Customer's device for the production and/or storage for later injection of electricity identified in the Interconnection Request, but shall not include the Interconnection Customer's Interconnection Facilities.

**Governmental Authority** shall mean any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that such term does not include the System Operator, Interconnection Customer, Interconnecting Transmission Owner, or any Affiliate thereof.

**Hazardous Substances** shall mean any chemicals, materials or substances defined as or included in the definition of "hazardous substances," "hazardous wastes," "hazardous materials," "hazardous constituents," "restricted hazardous materials," "extremely hazardous substances," "toxic substances," "radioactive substances," "contaminants," "pollutants," "toxic pollutants" or words of similar meaning and regulatory effect under any applicable Environmental Law, or any other chemical, material or substance, exposure to which is prohibited, limited or regulated by any applicable Environmental Law.

**Initial Synchronization Date** shall mean the date upon which the Generating Facility is initially synchronized and upon which Trial Operation begins.

**In-Service Date** shall mean the date upon which the Interconnection Customer reasonably expects it will be ready to begin use of the Interconnecting Transmission Owner's Interconnection Facilities to obtain back feed power.

**Interconnecting Transmission Owner** shall mean a Transmission Owner that owns, leases or otherwise possesses an interest in, or a Non-Incumbent Transmission Developer that is not a Participating Transmission Owner that is constructing, a portion of the Administered Transmission System at the Point of Interconnection and shall be a Party to the Standard Large Generator Interconnection Agreement. The term Interconnecting Transmission Owner shall not be read to include the System Operator.

**Interconnecting Transmission Owner's Interconnection Facilities** shall mean all facilities and equipment owned, controlled, or operated by Interconnecting Transmission Owner from the Point of Change of Ownership to the Point of Interconnection as identified in Appendix A to the Standard Large Generator Interconnection Agreement, including any modifications, additions or upgrades to such facilities and equipment. Interconnecting Transmission Owner's Interconnection Facilities are sole use facilities and shall not include Distribution Upgrades, Stand Alone Network Upgrades or Network Upgrades.

**Interconnection Customer** shall mean any entity, including a transmission owner or its Affiliates or subsidiaries, that interconnects or proposes to interconnect its Generating Facility with the Administered Transmission System under the Standard Large Generator Interconnection Procedures.

**Interconnection Customer's Interconnection Facilities** shall mean all facilities and equipment, as identified in Appendix A of the Standard Large Generator Interconnection Agreement, that are located between the Generating Facility and the Point of Change of Ownership, including any modification, addition, or upgrades to such facilities and equipment necessary to physically and electrically interconnect the Generating Facility to the Administered Transmission System. Interconnection Customer's Interconnection Facilities are sole use facilities.

**Interconnection Facilities** shall mean the Interconnecting Transmission Owner's Interconnection Facilities and the Interconnection Customer's Interconnection Facilities. Collectively, Interconnection Facilities include all facilities and equipment between the Generating Facility and the Point of Interconnection, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the Generating Facility to the Administered Transmission System. Interconnection Facilities are sole use facilities and shall not include Distribution Upgrades, Stand Alone Network Upgrades or Network Upgrades.

**Interconnection Facilities Study** shall mean a study conducted by the System Operator, Interconnecting Transmission Owner, or a third party consultant for the Interconnection Customer to determine a list of facilities (including Interconnecting Transmission Owner's Interconnection Facilities and Network Upgrades as identified in the Interconnection System Impact Study), the cost of those facilities, and the time required to interconnect the Generating Facility with the Administered Transmission System. The scope of the study is defined in Section 8 of the Standard Large Generator Interconnection Procedures.

**Interconnection Facilities Study Agreement** shall mean the form of agreement contained in Appendix 4 of the Standard Large Generator Interconnection Procedures for conducting the Interconnection Facilities Study.

**Interconnection Feasibility Study** shall mean a preliminary evaluation of the system impact and cost of interconnecting the Generating Facility to the Administered Transmission System, the scope of which is described in Section 6 of the Standard Large Generator Interconnection Procedures.

**Interconnection Feasibility Study Agreement** shall mean the form of agreement contained in Appendix 2 of the Standard Large Generator Interconnection Procedures for conducting the Interconnection Feasibility Study.

**Interconnection Request** (a) shall mean an Interconnection Customer's request, in the form of Appendix 1 to the Standard Large Generator Interconnection Procedures, in accordance with the Tariff,

to: (i) interconnect a new Generating Facility to the Administered Transmission System as either a CNR or a NR; (ii) make a Material Modification to a proposed Generating Facility with an outstanding Interconnection Request; (iii) increase the energy capability or capacity capability of an existing Generating Facility; (iv) make a Material Modification to the design or operating characteristics of an existing Generating Facility, including its Interconnection Facilities, that is interconnected with the Administered Transmission System; (v) commence participation in the wholesale markets by an existing Generating Facility that is interconnected with the Administered Transmission System; or (vi) change from NR Interconnection Service to CNR Interconnection Service. Interconnection Request shall not include: (i) a retail customer interconnecting a new Generating Facility that will produce electric energy to be consumed only on the retail customer's site; (ii) a request to interconnect a new Generating Facility to a distribution facility that is subject to the Tariff if the Generating Facility will not be used to make wholesale sales of electricity in interstate commerce; or (iii) a request to interconnect a Qualifying Facility (as defined by the Public Utility Regulatory Policies Act, as amended by the Energy Policy Act of 2005 and the regulations thereto), where the Qualifying Facility's owner intent is to sell 100% of the Qualifying Facility's output to its interconnected electric utility.

**Interconnection Service** shall mean the service provided by System Operator and the Interconnecting Transmission Owner, associated with interconnecting the Interconnection Customer's Generating Facility to the Administered Transmission System and enabling the receipt of electric energy capability and/or capacity capability from the Generating Facility at the Point of Interconnection, pursuant to the terms of the Standard Large Generator Interconnection Agreement and, if applicable, the Tariff.

**Interconnection Study** shall mean any of the following studies: the Interconnection Feasibility Study, the Interconnection System Impact Study, the Interconnection Facilities Study and the Optional Interconnection Study described in the Standard Large Generator Interconnection Procedures. Interconnection Study shall not include a CNR Group Study.

**Interconnection Study Agreement** shall mean any of the following agreements: the Interconnection Feasibility Study Agreement, the Interconnection System Impact Study Agreement, the Interconnection Facilities Study Agreement, and the Optional Interconnection Study Agreement attached to the Standard Large Generator Interconnection Procedures.

**Interconnection System Impact Study** shall mean an engineering study that evaluates the impact of the proposed interconnection on the safety and reliability of the Administered Transmission System and any other Affected System, the scope of which is described in Section 7 of the Standard Large Generator Interconnection Procedures. The study shall identify and detail the system impacts that would result if the Generating Facility were interconnected without project modifications or system modifications, focusing on Adverse System Impacts, or to study potential impacts, including but not limited to those identified in the Scoping Meeting as described in the Standard Large Generator Interconnection Procedures.

**Interconnection System Impact Study Agreement** shall mean the form of agreement contained in Appendix 3 of the Standard Large Generator Interconnection Procedures for conducting the Interconnection System Impact Study.

**IRS** shall mean the Internal Revenue Service.

**Large Generating Facility** shall mean a Generating Facility having a maximum gross capability at or above zero degrees F of more than 20 MW.

**Long Lead Time Facility (“Long Lead Facility”)** shall mean a Generating Facility or an Elective Transmission Upgrade with an Interconnection Request for Capacity Network Resource Interconnection Service or Capacity Network Import Interconnection Service, respectively, that has, as applicable, elected or requested long lead time treatment and met the eligibility criteria and requirements specified in Schedule 22 or Schedule 25 of Section II of the Tariff..

**Loss** shall mean any and all losses relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from another Party’s performance, or non-performance of its obligations under the Standard Large Generator Interconnection Agreement on behalf of the Indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the Indemnifying Party.



**Major Permits** shall be as defined in Section III.13.1.1.2.2.2(a) of the Tariff.

**Material Modification** shall mean (i) except as expressly provided in Section 4.4.1, those modifications to the Interconnection Request, including any of the technical data provided by the Interconnection Customer in Appendix 1, Attachment A (and Attachment A-1, if applicable) to the Interconnection Request or to the interconnection configuration, requested by the Interconnection Customer that either require significant additional study of the same Interconnection Request and could substantially change the interconnection design, or have a material impact (*i.e.*, an evaluation of the proposed modification cannot be completed in less than ten (10) Business Days) on the cost or timing of any Interconnection Studies or upgrades associated with an Interconnection Request with a later queue priority date; (ii) a change to the design or operating characteristics of an existing Generating Facility, including its Interconnection Facilities, that is interconnected with the Administered Transmission System that may have a significant adverse effect on the reliability or operating characteristics of the New England Transmission System; (iii) a delay to the Commercial Operation Date, In-Service Date, or Initial Synchronization Date of greater than three (3) years where the reason for delay is unrelated to construction schedules or permitting which delay is beyond the Interconnection Customer's control; or (iv) except as provided in Section 3.2.3.4 of the LGIP, a withdrawal of a request for Long Lead Facility treatment; or (v) except as provided in Section 3.2.3.6 of the LGIP, an election to participate in an earlier Forward Capacity Auction than originally anticipated.

**Metering Equipment** shall mean all metering equipment installed or to be installed at the Generating Facility pursuant to the Standard Large Generator Interconnection Agreement at the metering points, including but not limited to instrument transformers, MWh-meters, data acquisition equipment, transducers, remote terminal unit, communications equipment, phone lines, and fiber optics.

**Network Capability Interconnection Standard ("NC Interconnection Standard")** shall mean the minimum criteria required to permit the Interconnection Customer to interconnect a Generating Facility seeking Network Resource Interconnection Service or Elective Transmission Upgrade seeking Network Import Interconnection Service in a manner that avoids any significant adverse effect on the reliability, stability, and operability of the New England Transmission System, including protecting

against the degradation of transfer capability for interfaces affected by the Generating Facility seeking Network Resource Interconnection Service or Elective Transmission Upgrade seeking Network Import Interconnection Service, as detailed in the ISO New England Planning Procedures.

**Network Resource (“NR”)** shall mean the portion of a Generating Facility that is interconnected to the Administered Transmission System under the Network Capability Interconnection Standard.

**Network Resource Capability (“NR Capability”)** shall mean the MW quantity associated with NR Interconnection Service, calculated as described in Section II.48 of the Tariff.

**Network Resource Interconnection Service (“NR Interconnection Service”)** shall mean the Interconnection Service selected by the Interconnection Customer to interconnect its Generating Facility to the Administered Transmission System in accordance with the Network Capability Interconnection Standard. An Interconnection Customer’s NR Interconnection Service shall be solely for the megawatt amount of the NR Capability requested pursuant to Section 3.1 of the LGIP. NR Interconnection Service in and of itself does not convey transmission service.

**Network Upgrades** shall mean the additions, modifications, and upgrades to the New England Transmission System required at or beyond the Point of Interconnection to accommodate the interconnection of the Large Generating Facility to the Administered Transmission System.

**Notice of Dispute** shall mean a written notice of a dispute or claim that arises out of or in connection with the Standard Large Generator Interconnection Agreement or its performance.

**Optional Interconnection Study** shall mean a sensitivity analysis based on assumptions specified by the Interconnection Customer in the Optional Interconnection Study Agreement.

**Optional Interconnection Study Agreement** shall mean the form of agreement contained in Appendix 5 of the Standard Large Generator Interconnection Procedures for conducting the Optional Interconnection Study.

**Party** shall mean the System Operator, Interconnection Customer and Interconnecting Transmission Owner or any combination of the above.

**Point of Change of Ownership** shall mean the point, as set forth in Appendix A to the Standard Large Generator Interconnection Agreement, where the Interconnection Customer's Interconnection Facilities connect to Interconnecting Transmission Owner's Interconnection Facilities.

**Point of Interconnection** shall mean the point, as set forth in Appendix A to the Standard Large Generator Interconnection Agreement, where the Interconnection Facilities connect to the Administered Transmission System.

**Provisional Interconnection Service** shall mean Network Resource Interconnection Service provided by the System Operator, and the Interconnecting Transmission Owner, associated with interconnecting the Interconnection Customer's Generating Facility to the Administered Transmission System and enabling the receipt of electric energy capability from the Generating Facility at the Point of Interconnection on a limited and temporary basis, pursuant to the terms of the Provisional Large Generator Interconnection Agreement and, if applicable, the Tariff.

**Provisional Large Generator Interconnection Agreement** shall mean the Interconnection Agreement for Provisional Interconnection Service established between the System Operator, the Interconnecting Transmission Owner, and the Interconnection Customer. This agreement shall take the form of the Standard Large Generator Interconnection Agreement, modified for provisional purposes.

**Queue Position** shall mean the order of a valid request in the New England Control Area, relative to all other pending requests in the New England Control Area, that is established based upon the date and time of receipt of such request by the System Operator. Requests are comprised of interconnection requests for Generating Facilities, Elective Transmission Upgrades, requests for transmission service and notification of requests for interconnection to other electric systems, as notified by the other electric systems, that impact the Administered Transmission System. References to a "higher-queued"

Interconnection Request shall mean one that has been received by the System Operator (and placed in queue order) earlier than another Interconnection Request, which is referred to as “lower-queued.”

**Reasonable Efforts** shall mean, with respect to an action required to be attempted or taken by a Party under the Standard Large Generator Interconnection Agreement, efforts that are timely and consistent with Good Utility Practice and are otherwise substantially equivalent to those a Party would use to protect its own interests.

**Scoping Meeting** shall mean the meeting between representatives of the System Operator, Interconnection Customer, Interconnecting Transmission Owner, or any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements, conducted for the purpose of discussing alternative interconnection options, to exchange information including any transmission data and earlier study evaluations that would be reasonably expected to impact such interconnection options, to analyze such information, and to determine the potential feasible Points of Interconnection.

**Site Control** shall mean documentation reasonably demonstrating: (a) that the Interconnection Customer is the owner in fee simple of the real property or holds an easement for which new interconnection is sought; (b) that the Interconnection Customer holds a valid written leasehold or other contractual interest in the real property for which new interconnection is sought; (c) that the Interconnection Customer holds a valid written option to purchase or a leasehold interest in the real property for which new interconnection is sought; (d) that the Interconnection Customer holds a duly executed written contract to purchase, acquire an easement, a license or a leasehold interest in the real property for which new interconnection is sought; or (e) that the Interconnection Customer has filed applications for required permits to site on federal or state property.

**Stand Alone Network Upgrades** shall mean Network Upgrades that are not part of an Affected System that an Interconnection Customer may construct without affecting day-to-day operations of the New England Transmission System during their construction. The System Operator, Interconnection Customer, and Interconnecting Transmission Owner must agree as to what constitutes Stand Alone Network Upgrades and identify them in Appendix A to the Standard Large Generator Interconnection

Agreement. If the System Operator, Interconnecting Transmission Owner, and Interconnection Customer disagree about whether a particular Network Upgrade is a Stand Alone Network Upgrade, the System Operator must provide the Interconnection Customer a written technical explanation outlining why the System Operator does not consider the Network Upgrade to be a Stand Alone Network Upgrade within 15 days of its determination.

**Standard Large Generator Interconnection Agreement (“LGIA”)** shall mean the form of interconnection agreement applicable to an Interconnection Request pertaining to a Large Generating Facility, that is included in this Schedule 22 to the Tariff.

**Standard Large Generator Interconnection Procedures (“LGIP”)** shall mean the interconnection procedures applicable to an Interconnection Request pertaining to a Large Generating Facility that are included in this Schedule 22 to the Tariff.

**Surplus Interconnection Service** shall mean a form of Interconnection Service that allows an Interconnection Customer to use any Unused Capability of Interconnection Service established in an Interconnection Agreement for an existing Generating Facility that has achieved Commercial Operation, such that if Surplus Interconnection Service is utilized the total amount of Interconnection Service at the same Point of Interconnection would remain the same.

**Study Case** shall have the meaning specified in Sections 6.2 and 7.3 of this LGIP.

**System Protection Facilities** shall mean the equipment, including necessary signal protection communications equipment, required to protect (1) the New England Transmission System from faults or other electrical disturbances occurring at the Generating Facility and (2) the Generating Facility from faults or other electrical system disturbances occurring on the New England Transmission System or on other delivery systems or other generating systems to which the New England Transmission System is directly connected.

**Trial Operation** shall mean the period during which Interconnection Customer is engaged in on-site test operations and commissioning of the Generating Facility prior to Commercial Operation.

**Unused Capability** shall mean: (i) in the case of NR Interconnection Service at an existing, commercial Generating Facility, the MW quantity as determined by the Original Interconnection Customer (as defined in Section 3.3 of the LGIP), not to exceed the existing, commercial Generating Facility's NR Interconnection Service; and (ii) in the case of CNR Interconnection Service at an existing, commercial Generating Facility, for Summer, the Summer CNR Capability minus the latest Summer Qualified Capacity, and for Winter, the Winter CNR Capability minus the latest Winter Qualified Capacity.

## **ARTICLE 2. EFFECTIVE DATE, TERM AND TERMINATION**

**2.1 Effective Date.** This LGIA shall become effective upon execution by the Parties subject to acceptance by the Commission (if applicable), or if filed unexecuted, upon the date specified by the Commission. System Operator and Interconnecting Transmission Owner shall promptly and jointly file this LGIA with the Commission upon execution in accordance with Section 11.3 of the LGIP and Article 3.1, if required.

**2.2 Term of Agreement.** This LGIA, subject to the provisions of Article 2.3, and by mutual agreement of the Parties, shall remain in effect for a period of \_\_\_\_\_ years from the Effective Date (*term to be specified in individual Agreement, but in no case should the term be less than ten (10) years from the Effective Date or such other longer period as the Interconnection Customer may request*) and shall be automatically renewed for each successive one-year period thereafter.

**2.3 Termination Procedures.**

**2.3.1 Written Notice.** This LGIA may be terminated by the Interconnection Customer, subject to continuing obligations of this LGIA and the Tariff, after giving the System Operator and Interconnecting Transmission Owner ninety (90) Calendar Days advance written notice, or by System Operator or Interconnecting Transmission Owner notifying the Commission after a Generating Facility retires pursuant to the Tariff, provided that if an Interconnection Customer exercises its right to terminate on ninety (90) Calendar Days,

any reconnection would be treated as a new interconnection request; or this LGIA may be terminated by Interconnecting Transmission Owner or System Operator by notifying the Commission after the Generating Facility permanently ceases Commercial Operation.

**2.3.2 Default.** Each Party may terminate this LGIA in accordance with Article 17.

Notwithstanding Articles 2.3.1 and 2.3.2, no termination shall become effective until the Parties have complied with all Applicable Laws and Regulations applicable to such termination, including the filing, if applicable, with the Commission of a notice of termination of this LGIA, which notice has been accepted for filing by the Commission. Termination of the LGIA shall not supersede or alter any requirements for deactivation or retirement of a generating unit under ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

**2.4 Termination Costs.** If a Party elects to terminate this LGIA pursuant to Article 2.3 above, each Party shall pay all costs incurred (including any cancellation costs relating to orders or contracts for Interconnection Facilities and equipment) or charges assessed by the other Party(ies), as of the date of such Party's(ies') receipt of such notice of termination, that are the responsibility of such Party(ies) under this LGIA. In the event of termination by a Party, all Parties shall use commercially Reasonable Efforts to mitigate the costs, damages and charges arising as a consequence of termination. Upon termination of this LGIA, unless otherwise ordered or approved by the Commission:

**2.4.1** With respect to any portion of the Interconnecting Transmission Owner's Interconnection Facilities, Network Upgrades, or Distribution Upgrades to the extent covered by this LGIA, that have not yet been constructed or installed, the Interconnecting Transmission Owner shall to the extent possible and with Interconnection Customer's authorization cancel any pending orders of, or return, any materials or equipment for, or contracts for construction of, such facilities; provided that in the event Interconnection Customer elects not to authorize such cancellation, Interconnection Customer shall assume all payment obligations with respect to such materials, equipment, and contracts, and the Interconnecting Transmission Owner shall deliver such material and equipment, and, if

necessary, and to the extent possible, assign such contracts, to Interconnection Customer as soon as practicable, at Interconnection Customer's expense. To the extent that Interconnection Customer has already paid Interconnecting Transmission Owner for any or all such costs of materials or equipment not taken by Interconnection Customer, either (i) in the case of overpayment, Interconnecting Transmission Owner shall promptly refund such amounts to Interconnection Customer, less any costs, including penalties incurred by the Interconnecting Transmission Owner to cancel any pending orders of or return such materials, equipment, or contracts, or (ii) in the case of underpayment, Interconnection Customer shall promptly pay such amounts still due plus any costs, including penalties incurred by Interconnecting Transmission Owner to cancel any pending orders of or return such materials, equipment, or contracts.

If an Interconnection Customer terminates this LGIA, it shall be responsible for all costs incurred in association with that Interconnection Customer's interconnection, including any cancellation costs relating to orders or contracts for Interconnection Facilities and equipment, and other expenses including any Network Upgrades for which the Interconnecting Transmission Owner has incurred expenses and has not been reimbursed by the Interconnection Customer.

2.4.2 Interconnecting Transmission Owner may, at its option, retain any portion of such materials, equipment, or facilities that Interconnection Customer chooses not to accept delivery of, in which case Interconnecting Transmission Owner shall be responsible for all costs associated with procuring such materials, equipment, or facilities.

2.4.3 With respect to any portion of the Interconnection Facilities, and any other facilities already installed or constructed pursuant to the terms of this LGIA, Interconnection Customer shall be responsible for all costs associated with the removal, relocation or other disposition or retirement of such materials, equipment, or facilities.

**2.5 Disconnection.** Upon termination of this LGIA, Interconnection Service shall terminate and, the Parties will take all appropriate steps to disconnect the Large Generating Facility from the Interconnecting Transmission Owner's Interconnection Facilities. All costs required to effectuate



such disconnection shall be borne by the terminating Party, unless such termination resulted from a non-terminating Party's Default of this LGIA or such non-terminating Party otherwise is responsible for these costs under this LGIA.

- 2.6 Survival.** This LGIA shall continue in effect after termination to the extent necessary to provide for final billings and payments and for costs incurred hereunder, including billings and payments pursuant to this LGIA; to permit the determination and enforcement of liability and indemnification obligations arising from acts or events that occurred while this LGIA was in effect; and to permit each Party to have access to the lands of the other Party(ies) pursuant to this LGIA or other applicable agreements, to disconnect, remove or salvage its own facilities and equipment.

### **ARTICLE 3. REGULATORY FILINGS**

- 3.1 Filing.** The System Operator and Interconnecting Transmission Owner shall jointly file this LGIA (and any amendment hereto) with the appropriate Governmental Authority, if required, in accordance with Section 11.3 of the LGIP. Interconnection Customer may request that any information so provided be subject to the confidentiality provisions of Article 22. If the Interconnection Customer has executed this LGIA, or any amendment thereto, the Interconnection Customer shall reasonably cooperate with the System Operator and Interconnecting Transmission Owner with respect to such filing and to provide any information reasonably requested by the System Operator and/or the Interconnecting Transmission Owner needed to comply with applicable regulatory requirements.

### **ARTICLE 4. SCOPE OF SERVICE**

- 4.1 Interconnection Product Options.** Interconnection Customer has selected the following (checked) type(s) of Interconnection Service:

Check: \_\_\_\_ NR for NR Interconnection Service (NR Capability Only)

\_\_\_ CNR for CNR Interconnection Service (CNR Capability and NR Capability)

#### **4.1.1 Capacity Network Resource Interconnection Service (CNR Interconnection Service).**

**4.1.1.1 The Product.** The System Operator and Interconnecting Transmission Owner must conduct the necessary studies and the Interconnecting Transmission Owner and Affected Parties must construct the Network Upgrades needed to interconnect the Large Generating Facility in a manner comparable to that in which all other Capacity Network Resources are interconnected under the CC Interconnection Standard. CNR Interconnection Service allows the Interconnection Customer's Large Generating Facility to be designated as a Capacity Network Resource, to participate in the New England Markets, in accordance with Market Rule 1, Section III of the Tariff, up to the net CNR Capability, or as otherwise provided in Market Rule 1, Section III of the Tariff, on the same basis as all other existing Capacity Network Resources, and to be studied as a Capacity Network Resource on the assumption that such a designation will occur.

#### **4.1.2 Network Resource Interconnection Service (NR Interconnection Service).**

**4.1.2.1 The Product.** The System Operator and Interconnecting Transmission Owner must conduct the necessary studies and Interconnecting Transmission Owner and Affected Parties must construct the Network Upgrades needed to interconnect the Large Generating Facility in a manner comparable to that in which all other Network Resources are interconnected under the NC Interconnection Standard. NR Interconnection Service allows the Interconnection Customer's Large Generating Facility to participate in the New England Markets, in accordance with Market Rule 1, Section III of the Tariff, up to the gross and net NR Capability or as otherwise provided in Market Rule 1, Section III of the Tariff.

Notwithstanding the above, the portion of a Large Generating Facility that has been designated as a Network Resource interconnected under the NC Interconnection Standard cannot be a capacity resource under Section III.13 of the Tariff, unless pursuant to a new Interconnection Request for CNR Interconnection Service.

- 4.2 Provision of Service.** System Operator and Interconnecting Transmission Owner shall provide Interconnection Service for the Large Generating Facility at the Point of Interconnection.
- 4.3 Performance Standards.** Each Party shall perform all of its obligations under this LGIA in accordance with Applicable Laws and Regulations, the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents, and Good Utility Practice, and to the extent a Party is required or prevented or limited in taking any action by such requirements and standards, such Party shall not be deemed to be in Breach of this LGIA for its compliance therewith. If such Party is the Interconnecting Transmission Owner, then that Party shall amend the LGIA and System Operator, in conjunction with the Interconnecting Transmission Owner, shall submit the amendment to the Commission for approval.
- 4.4 No Transmission Delivery Service.** The execution of this LGIA does not constitute a request for, nor the provision of, any service except for Interconnection Service, including, but not limited to, transmission delivery service, local delivery service, distribution service, capacity service, energy service, or Ancillary Services under any applicable tariff, and does not convey any right to deliver electricity to any specific customer or Point of Delivery.
- 4.5 Transmission Delivery Service Implications.** CNR Interconnection Service and NR Interconnection Service allow the Interconnection Customer's Large Generating Facility to be designated by any Network Customer under the Tariff on the New England Transmission System as a Capacity Network Resource or Network Resource, up to the net CNR Capability or NR Capability, respectively, on the same basis as all other existing Capacity Network Resources and Network Resources interconnected to the New England Transmission System, and to be studied as a Capacity Network Resource or a Network

Resource on the assumption that such a designation will occur. Although CNR Interconnection Service and NR Interconnection Service do not convey a reservation of transmission service, any Network Customer can utilize its network service under the Tariff to obtain delivery of capability from the Interconnection Customer's Large Generating Facility in the same manner as it accesses Capacity Network Resources and Network Resources. A Large Generating Facility receiving CNR Interconnection Service or NR Interconnection Service may also be used to provide Ancillary Services, in accordance with the Tariff and Market Rule 1, after technical studies and/or periodic analyses are performed with respect to the Large Generating Facility's ability to provide any applicable Ancillary Services, provided that such studies and analyses have been or would be required in connection with the provision of such Ancillary Services by any existing Capacity Network Resource or Network Resource. However, if an Interconnection Customer's Large Generating Facility has not been designated as a Capacity Network Resource or as a Network Resource by any load, it cannot be required to provide Ancillary Services except to the extent such requirements extend to all Generating Facilities that are similarly situated.

CNR Interconnection Service and NR Interconnection Service do not necessarily provide the Interconnection Customer with the capability to physically deliver the output of its Large Generating Facility to any particular load on the New England Transmission System without incurring congestion costs. In the event of transmission constraints on the New England Transmission System, the Interconnection Customer's Large Generating Facility shall be subject to the applicable congestion management procedures for the New England Transmission System in the same manner as other Capacity Network Resources or Network Resources.

There is no requirement either at the time of study or interconnection, or at any point in the future, that the Interconnection Customer's Large Generating Facility be designated as a Capacity Network Resource or as a Network Resource by a Network Service Customer under the Tariff or that the Interconnection Customer identify a specific buyer (or sink). To the extent a Network Customer does designate the Large Generating

Facility as either a Capacity Network Resource or a Network Resource, it must do so pursuant to the Tariff.

Once an Interconnection Customer satisfies the requirements for obtaining CNR Interconnection Service or NR Interconnection Service, as long as the Large Generating Facility has not been deemed to be retired, any future transmission service request for delivery from the Large Generating Facility on the New England Transmission System of any amount of capacity capability and/or energy capability will not require that any additional studies be performed or that any further upgrades associated with such Large Generating Facility be undertaken, regardless of whether or not such Large Generating Facility is ever designated by a Network Customer as a Capacity Network Resource or Network Resource, and regardless of changes in ownership of the Large Generating Facility. To the extent the Interconnection Customer enters into an arrangement for long-term transmission service for deliveries from the Large Generating Facility outside the New England Transmission System, or if the unit has been deemed to be retired, such request may require additional studies and upgrades in order for Interconnecting Transmission Owner to grant such request.

**4.6 Interconnection Customer Provided Services.** The services provided by Interconnection Customer under this LGIA are set forth in Article 9.6 and Article 13.4. Interconnection Customer shall be paid for such services in accordance with Article 11.6.

**ARTICLE 5. INTERCONNECTION FACILITIES ENGINEERING,  
PROCUREMENT, AND CONSTRUCTION**

**5.1 Options.** Unless otherwise mutually agreed to between the Parties, Interconnection Customer shall specify the In-Service Date, Initial Synchronization Date, and Commercial Operation Date as specified in the Interconnection Request or as subsequently revised pursuant to Section 4.4 of the LGIP; and select either the Standard Option or Alternate Option set forth below, and such dates and selected option shall be set forth in Appendix B (Milestones). At the same time, Interconnection Customer shall indicate whether it elects to exercise the Option to Build set forth in Article 5.1.3 below. If the dates designated by Interconnection Customer are not acceptable to Interconnecting Transmission Owner, Interconnecting Transmission Owner shall so notify Interconnection Customer within thirty (30) Calendar Days. Upon receipt of the notification that Interconnection Customer's designated dates are not acceptable to Interconnecting Transmission Owner, the Interconnection Customer shall notify Interconnecting Transmission Owner within thirty (30) Calendar Days whether it elects to exercise the Option to Build if it has not already elected to exercise the Option to Build. In accordance with Section 8 of the LGIP and unless otherwise mutually agreed, the Alternate Option is not an available option if the Interconnection Customer waived the Interconnection Facilities Study.

**5.1.1 Standard Option.** The Interconnecting Transmission Owner shall design, procure, and construct the Interconnecting Transmission Owner's Interconnection Facilities and Network Upgrades, using Reasonable Efforts to complete the Interconnecting Transmission Owner's Interconnection Facilities and Network Upgrades by the dates set forth in Appendix B (Milestones). The Interconnecting Transmission Owner shall not be required to undertake any action which is inconsistent with its standard safety practices, its material and equipment specifications, its design criteria and construction procedures, its labor agreements, and Applicable Laws and Regulations. In the event the Interconnecting Transmission Owner reasonably expects that it will not be able to complete the Interconnecting Transmission Owner's Interconnection Facilities and Network Upgrades by the specified dates, the Interconnecting Transmission Owner shall

promptly provide written notice to the Interconnection Customer and shall undertake Reasonable Efforts to meet the earliest dates thereafter.

**5.1.2 Alternate Option.** If the dates designated by Interconnection Customer are acceptable to Interconnecting Transmission Owner, the Interconnecting Transmission Owner shall so notify Interconnection Customer within thirty (30) Calendar Days, and shall assume responsibility for the design, procurement and construction of the Interconnecting Transmission Owner's Interconnection Facilities by the designated dates.

If Interconnecting Transmission Owner subsequently fails to complete Interconnecting Transmission Owner's Interconnection Facilities by the In-Service Date, to the extent necessary to provide back feed power; or fails to complete Network Upgrades by the Initial Synchronization Date to the extent necessary to allow for Trial Operation at full power output, unless other arrangements are made by the Parties for such Trial Operation; or fails to complete the Network Upgrades by the Commercial Operation Date, as such dates are reflected in Appendix B (Milestones); Interconnecting Transmission Owner shall pay Interconnection Customer liquidated damages in accordance with Article 5.3, Liquidated Damages, provided, however, the dates designated by Interconnection Customer shall be extended day for day for each day that the applicable System Operator refuses to grant clearances to install equipment.

**5.1.3 Option to Build.** Interconnection Customer shall have the option to assume responsibility for the design, procurement and construction of new Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades on the dates specified in Article 5.1.2. The System Operator, Interconnecting Transmission Owner, and Interconnection Customer must agree as to what constitutes Stand Alone Network Upgrades and identify such Stand Alone Network Upgrades in Appendix A to the LGIA. Except for Stand Alone Network Upgrades, Interconnection Customer shall have no right to construct Network Upgrades under this option.

**5.1.4 Negotiated Option.** If the dates designated by Interconnection Customer are not acceptable to Interconnecting Transmission Owner, the Parties shall in good faith attempt

to negotiate terms and conditions (including revision of the specified dates and liquidated damages, the provision of incentives, or the procurement and construction of all facilities other than the Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades if the Interconnection Customer elects to exercise the Option to Build under Article 5.1.3). If the Parties are unable to reach agreement on such terms and conditions, then, pursuant to Article 5.1.1 (Standard Option), Interconnecting Transmission Owner shall assume responsibility for the design, procurement and construction of all facilities other than the Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades if the Interconnection Customer elects to exercise the Option to Build.

**5.2 General Conditions Applicable to Option to Build.** If Interconnection Customer assumes responsibility for the design, procurement and construction of the Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades,

- (1) the Interconnection Customer shall commit in the LGIA to a schedule for the completion of, and provide the System Operator evidence of proceeding with: (a) engineering and design of Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades, (b) procurement of necessary equipment and ordering of long lead time material, and (c) construction of the Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades;
- (2) the Interconnection Customer shall engineer, procure equipment, and construct the Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades (or portions thereof) using Good Utility Practice and using standards and specifications provided in advance by the Interconnecting Transmission Owner;
- (3) Interconnection Customer's engineering, procurement and construction of the Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades shall comply with all requirements of law to which Interconnecting Transmission



Owner would be subject in the engineering, procurement or construction of the Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades;

(4) Interconnecting Transmission Owner shall review and approve the engineering design, equipment acceptance tests, and the construction of the Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades;

(5) prior to commencement of construction, Interconnection Customer shall provide to Interconnecting Transmission Owner any changes to the schedule for construction of the Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades reflected in Appendix B (Milestones), and shall promptly respond to requests for information from Interconnecting Transmission Owner;

(6) at any time during construction, Interconnecting Transmission Owner shall have the right to gain unrestricted access to the Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades and to conduct inspections of the same;

(7) at any time during construction, should any phase of the engineering, equipment procurement, or construction of the Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades not meet the standards and specifications provided by Interconnecting Transmission Owner, the Interconnection Customer shall be obligated to remedy deficiencies in that portion of the Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades;

(8) the Interconnection Customer shall indemnify the Interconnecting Transmission Owner for claims arising from the Interconnection Customer's construction of Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades under the terms and procedures applicable to Article 18.1 (Indemnity);

- (9) the Interconnection Customer shall transfer control of Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to the Interconnecting Transmission Owner prior to the In-Service Date;
- (10) Unless Parties otherwise agree, Interconnection Customer shall transfer ownership of Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to Interconnecting Transmission Owner prior to the In-Service Date;
- (11) Interconnecting Transmission Owner shall approve and accept for operation and maintenance the Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to the extent engineered, procured, and constructed in accordance with this Article 5.2;
- (12) Interconnection Customer shall deliver to Interconnecting Transmission Owner "as built" drawings, information, and any other documents that are reasonably required by Interconnecting Transmission Owner to assure that the Interconnection Facilities and Stand Alone Network Upgrades are built to the standards and specifications required by Interconnecting Transmission Owner; and
- (13) Interconnection Customer shall pay Interconnecting Transmission Owner the agreed upon amount of [\$ PLACEHOLDER] for Interconnecting Transmission Owner to execute responsibilities enumerated to Interconnecting Transmission Owner under this Article 5.2. Interconnecting Transmission Owner shall invoice Interconnection Customer for this total amount to be divided on a monthly basis pursuant to Article 12.

**5.3 Liquidated Damages.** The actual damages to the Interconnection Customer, in the event the Interconnecting Transmission Owner's Interconnection Facilities or Network Upgrades are not completed by the dates designated by the Interconnection Customer and accepted by the Interconnecting Transmission Owner pursuant to subparagraphs 5.1.2 or 5.1.4, above, may include Interconnection Customer's fixed operation and maintenance costs and lost opportunity

costs. Such actual damages are uncertain and impossible to determine at this time. Because of such uncertainty, any liquidated damages paid by the Interconnecting Transmission Owner to the Interconnection Customer in the event that Interconnecting Transmission Owner does not complete any portion of the Interconnecting Transmission Owner's Interconnection Facilities or Network Upgrades by the applicable dates, shall be an amount equal to ½ of 1 percent per day of the actual cost of the Interconnecting Transmission Owner's Interconnection Facilities and Network Upgrades, in the aggregate, for which Interconnecting Transmission Owner has assumed responsibility to design, procure and construct.

However, in no event shall the total liquidated damages exceed 20 percent of the actual cost of the Interconnecting Transmission Owner's Interconnection Facilities and Network Upgrades for which the Interconnecting Transmission Owner has assumed responsibility to design, procure, and construct. The foregoing payments will be made by the Interconnecting Transmission Owner to the Interconnection Customer as just compensation for the damages caused to the Interconnection Customer, which actual damages are uncertain and impossible to determine at this time, and as reasonable liquidated damages, but not as a penalty or a method to secure performance of this LGIA. Liquidated damages, when the Parties agree to them, are the exclusive remedy for the Interconnecting Transmission Owner's failure to meet its schedule.

No liquidated damages shall be paid to Interconnection Customer if: (1) Interconnection Customer is not ready to commence use of the Interconnecting Transmission Owner's Interconnection Facilities or Network Upgrades to take the delivery of power for the Large Generating Facility's Trial Operation or to export power from the Large Generating Facility on the specified dates, unless the Interconnection Customer would have been able to commence use of the Interconnecting Transmission Owner's Interconnection Facilities or Network Upgrades to take the delivery of power for Large Generating Facility's Trial Operation or to export power from the Large Generating Facility, but for Interconnecting Transmission Owner's delay; (2) the Interconnecting Transmission Owner's failure to meet the specified dates is the result of the action or inaction of the Interconnection Customer or any other Interconnection Customer who has entered into an LGIA with the Interconnecting Transmission Owner or any cause beyond Interconnecting Transmission Owner's reasonable control or reasonable ability to cure, including,

but not limited to, actions by the System Operator that cause delays and/or delays in licensing, permitting or consents where the Interconnecting Transmission Owner has pursued such licenses, permits or consents in good faith; (3) the Interconnection Customer has assumed responsibility for the design, procurement and construction of the Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades; or (4) the Parties have otherwise agreed.

**5.4 Power System Stabilizers.** If a Power System Stabilizer is required to be installed on the Large Generating Facility for the purpose of maintaining system stability, the Interconnection Customer shall procure, install, maintain and operate Power System Stabilizers in accordance with the guidelines and procedures established by the System Operator and Interconnecting Transmission Owner, and consistent with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents. The System Operator and Interconnecting Transmission Owner reserve the right to reasonably establish minimum acceptable settings for any installed Power System Stabilizers, subject to the design and operating limitations of the Large Generating Facility. If the Large Generating Facility's Power System Stabilizers are removed from service or not capable of automatic operation, the Interconnection Customer shall immediately notify the System Operator and Interconnecting Transmission Owner, or their designated representative. The requirements of this paragraph shall not apply to non-synchronous power production equipment.

**5.5 Equipment Procurement.** If responsibility for construction of the Interconnecting Transmission Owner's Interconnection Facilities or Network Upgrades is to be borne by the Interconnecting Transmission Owner, then the Interconnecting Transmission Owner shall commence design of the Interconnecting Transmission Owner's Interconnection Facilities or Network Upgrades and procure necessary equipment as soon as practicable after all of the following conditions are satisfied, unless the Parties otherwise agree in writing:

**5.5.1** The Interconnecting Transmission Owner has completed the Facilities Study pursuant to the Facilities Study Agreement;

**5.5.2** The Interconnecting Transmission Owner has received written authorization to proceed with design and procurement from the Interconnection Customer by the date specified in Appendix B (Milestones); and

**5.5.3** The Interconnection Customer has provided security to the Interconnecting Transmission Owner in accordance with Article 11.5 by the dates specified in Appendix B (Milestones).

**5.6 Construction Commencement.** The Interconnecting Transmission Owner shall commence construction of the Interconnecting Transmission Owner's Interconnection Facilities and Network Upgrades for which it is responsible as soon as practicable after the following additional conditions are satisfied:

**5.6.1** Approval of the appropriate Governmental Authority has been obtained for any facilities requiring regulatory approval;

**5.6.2** Necessary real property rights and rights-of-way have been obtained, to the extent required for the construction of a discrete aspect of the Interconnecting Transmission Owner's Interconnection Facilities and Network Upgrades;

**5.6.3** The Interconnecting Transmission Owner has received written authorization to proceed with construction from the Interconnection Customer by the date specified in Appendix B (Milestones); and

**5.6.4** The Interconnection Customer has provided security to Interconnecting Transmission Owner in accordance with Article 11.5 by the dates specified in Appendix B (Milestones).

**5.7 Work Progress.** The Interconnection Customer and the Interconnecting Transmission Owner shall keep each Party informed, by written quarterly progress reports, as to the progress of their respective design, procurement and construction efforts in order to meet the dates specified in

Appendix B (Milestones). Any Party may also, at any other time, request a written progress report from the other Parties. If, at any time, the Interconnection Customer determines that the completion of the Interconnecting Transmission Owner's Interconnection Facilities will not be required until after the specified In-Service Date, the Interconnection Customer, upon the System Operator's approval that the change in the In-Service Date will not constitute a Material Modification pursuant to Section 4.4 of the LGIP, will provide written notice to the Interconnecting Transmission Owner of such later date upon which the completion of the Interconnecting Transmission Owner's Interconnection Facilities will be required.

**5.8 Information Exchange.** As soon as reasonably practicable after the Effective Date, the Parties shall exchange information regarding the design and compatibility of the Parties' Interconnection Facilities and compatibility of the Interconnection Facilities with the New England Transmission System, and shall work diligently and in good faith to make any necessary design changes.

**5.9 Other Interconnection Options.**

**5.9.1 Limited Operation.** If any of the Interconnecting Transmission Owner's Interconnection Facilities or Network Upgrades are not reasonably expected to be completed prior to the Commercial Operation Date of the Large Generating Facility, System Operator and the Interconnecting Transmission Owner shall, upon the request and at the expense of Interconnection Customer, perform operating studies on a timely basis to determine the extent to which the Large Generating Facility and the Interconnection Customer's Interconnection Facilities may operate prior to the completion of the Interconnecting Transmission Owner's Interconnection Facilities or Network Upgrades consistent with Applicable Laws and Regulations, Applicable Reliability Standards, Good Utility Practice, and this LGIA. System Operator and Interconnecting Transmission Owner shall permit Interconnection Customer to operate the Large Generating Facility and the Interconnection Customer's Interconnection Facilities in accordance with the results of such studies.

**5.9.2 Provisional Interconnection Service.** Upon the request of Interconnection Customer, and prior to completion of requisite Interconnection Facilities, Network Upgrades, Distribution Upgrades,

or System Protection Facilities, System Operator and the Interconnecting Transmission Owner may execute a Provisional Large Generator Interconnection Agreement or Interconnection Customer may request the filing of an unexecuted Provisional Large Generator Interconnection Agreement with the Interconnection Customer for Provisional Interconnection Service at the discretion of System Operator and Interconnecting Transmission Owner based upon an evaluation that will consider the results of available studies. System Operator and Interconnecting Transmission Owner shall determine, through available studies or additional studies as necessary, whether stability, short circuit, thermal, and/or voltage issues would arise if Interconnection Customer interconnects without modifications to the Large Generating Facility or the New England Transmission System. System Operator and Interconnecting Transmission Owner shall determine whether any Interconnection Facilities, Network Upgrades, Distribution Upgrades, or System Protection Facilities that are necessary to meet the requirements of NERC, or any applicable Regional Entity for the interconnection of a new, modified and/or expanded Large Generating Facility are in place prior to the commencement of Interconnection Service from the Large Generating Facility. Where available studies indicate that such Interconnection Facilities, Network Upgrades, Distribution Upgrades, and/or System Protection Facilities that are required for the interconnection of a new, modified and/or expanded Large Generating Facility are not currently in place, System Operator will perform a study, at the Interconnection Customer's expense, to confirm the facilities that are required for Provisional Interconnection Service. The maximum permissible output of the Large Generating Facility in the Provisional Large Generator Interconnection Agreement shall be studied and updated each time the conditions assumed in the studies supporting the Provisional Interconnection Service change. Provisional Interconnection Service is an optional procedure and it will not alter the Interconnection Customer's Queue Position and associated cost and upgrade responsibilities. Interconnection Customer assumes all risk and liabilities with respect to changes between the Provisional Large Generator Interconnection Agreement and the Large Generator Interconnection Agreement, including changes in output limits and Interconnection Facilities, Network Upgrades, Distribution Upgrades, and/or System Protection Facilities cost responsibilities.

**5.10 Interconnection Customer's Interconnection Facilities ("ICIF").** Interconnection Customer shall, at its expense, design, procure, construct, own and install the ICIF, as set forth in Appendix A (Interconnection Facilities, Network Upgrades and Distribution Upgrades).

**5.10.1 Large Generating Facility Specifications.** Interconnection Customer shall submit initial specifications for the ICIF, including System Protection Facilities, to Interconnecting Transmission Owner at least one hundred eighty (180) Calendar Days prior to the Initial Synchronization Date; and final specifications for review and comment at least ninety (90) Calendar Days prior to the Initial Synchronization Date. Interconnecting Transmission Owner shall review such specifications to ensure that the ICIF are compatible with the technical specifications, operational control, and safety requirements of the Interconnecting Transmission Owner and comment on such specifications within thirty (30) Calendar Days of Interconnection Customer's submission. All specifications provided hereunder shall be deemed confidential.

**5.10.2 Interconnecting Transmission Owner's Review.** Interconnecting Transmission Owner's review of Interconnection Customer's final specifications shall not be construed as confirming, endorsing, or providing a warranty as to the design, fitness, safety, durability or reliability of the Large Generating Facility, or the ICIF. Interconnection Customer shall make such changes to the ICIF as may reasonably be required by Interconnecting Transmission Owner, in accordance with Good Utility Practice, to ensure that the ICIF are compatible with the technical specifications, operational control, and safety requirements of the Interconnecting Transmission Owner.

**5.10.3 ICIF Construction.** The ICIF shall be designed and constructed in accordance with Good Utility Practice. Within one hundred twenty (120) Calendar Days after the Commercial Operation Date, unless the Parties agree on another mutually acceptable deadline, the Interconnection Customer shall deliver to the Interconnecting Transmission Owner "as-built" drawings, information and documents for the ICIF, such as: a one-line diagram, a site plan showing the Large Generating Facility and the ICIF, plan and elevation drawings showing the layout of the ICIF, a relay functional diagram, relaying



AC and DC schematic wiring diagrams and relay settings for all facilities associated with the Interconnection Customer's step-up transformers, the facilities connecting the Large Generating Facility to the step-up transformers and the ICIF, and the impedances (determined by factory tests) for the associated step-up transformers and the Large Generating Facilities. The Interconnection Customer shall provide Interconnecting Transmission Owner specifications for the excitation system, automatic voltage regulator, Large Generating Facility control and protection settings, transformer tap settings, and communications, if applicable.

- 5.11 Interconnecting Transmission Owner's Interconnection Facilities Construction.** The Interconnecting Transmission Owner's Interconnection Facilities shall be designed and constructed in accordance with Good Utility Practice. Upon request, within one hundred twenty (120) Calendar Days after the Commercial Operation Date, unless the Parties agree on another mutually acceptable deadline, the Interconnecting Transmission Owner shall deliver to the Interconnection Customer the following "as-built" drawings, information and documents for the Interconnecting Transmission Owner's Interconnection Facilities. The appropriate drawings and relay diagrams shall be included in Appendix A of this LGIA.
- The System Operator will obtain operational control of the Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades upon completion of such facilities pursuant to the TOA.
- 5.12 Access Rights.** Upon reasonable notice and supervision by a Party, and subject to any required or necessary regulatory approvals, a Party ("Granting Party") shall furnish at the incremental cost to another Party ("Access Party") any rights of use, licenses, rights of way and easements with respect to lands owned or controlled by the Granting Party, its agents if allowed under the applicable agency agreement, that are necessary to enable the Access Party solely to obtain ingress and egress to construct, operate, maintain, repair, test (or witness testing), inspect, replace or remove facilities and equipment to: (i) interconnect the Large Generating Facility with the Administered Transmission System; (ii) operate and maintain the Large Generating Facility, the Interconnection Facilities and the New England Transmission System; and (iii) disconnect or remove the Access Party's facilities and equipment upon termination of this LGIA. In exercising

such licenses, rights of way and easements, the Access Party shall not unreasonably disrupt or interfere with normal operation of the Granting Party's business and shall adhere to the safety rules and procedures established in advance, as may be changed from time to time, by the Granting Party and provided to the Access Party.

- 5.13 Lands of Other Property Owners.** If any part of the Interconnecting Transmission Owner's Interconnection Facilities and/or Network Upgrades is to be installed on property owned by persons other than Interconnection Customer or Interconnecting Transmission Owner, the Interconnecting Transmission Owner shall at Interconnection Customer's expense use Reasonable Efforts, including use of its eminent domain authority, and to the extent consistent with state law, to procure from such persons any rights of use, licenses, rights of way and easements that are necessary to construct, operate, maintain, test, inspect, replace or remove the Interconnecting Transmission Owner's Interconnection Facilities and/or Network Upgrades upon such property. Notwithstanding the foregoing, the Interconnecting Transmission Owner shall not be obligated to exercise eminent domain authority in a manner inconsistent with Applicable Laws and Regulations or when an Interconnection Customer is authorized under Applicable Laws and Regulations to exercise eminent domain on its own behalf.
- 5.14 Permits.** System Operator, Interconnecting Transmission Owner and Interconnection Customer shall cooperate with each other in good faith in obtaining all permits, licenses, and authorizations that are necessary to accomplish the interconnection in compliance with Applicable Laws and Regulations. With respect to this paragraph, Interconnecting Transmission Owner shall provide permitting assistance to the Interconnection Customer comparable to that provided to the Interconnecting Transmission Owner's own, or an Affiliate's generation.
- 5.15 Early Construction of Base Case Facilities.** Interconnection Customer may request Interconnecting Transmission Owner to construct, and Interconnecting Transmission Owner shall construct, using Reasonable Efforts to accommodate Interconnection Customer's In-Service Date, all or any portion of any Network Upgrades required for Interconnection Customer to be interconnected to the Administered Transmission System, which are included in the Base Case of the Facilities Study for the Interconnection Customer, and which also are required to be

constructed for another Interconnection Customer, but where such construction is not scheduled to be completed in time to achieve Interconnection Customer's In-Service Date. The Interconnection Customer shall reimburse the Interconnecting Transmission Owner for all costs incurred related to early construction to the extent such costs are not recovered from other Interconnection Customers included in the base case.

**5.16 Suspension.** Interconnection Customer reserves the right, upon written notice to Interconnecting Transmission Owner and System Operator, to suspend at any time all work by Interconnecting Transmission Owner associated with the construction and installation of Interconnecting Transmission Owner's Interconnection Facilities and/or Network Upgrades required under this LGIA with the condition that the New England Transmission System shall be left in a safe and reliable condition in accordance with Good Utility Practice and the System Operator's and Interconnecting Transmission Owner's safety and reliability criteria. In such event, Interconnection Customer shall be responsible for all reasonable and necessary costs which Interconnecting Transmission Owner (i) has incurred pursuant to this LGIA prior to the suspension and (ii) incurs in suspending such work, including any costs incurred to perform such work as may be necessary to ensure the safety of persons and property and the integrity of the New England Transmission System during such suspension and, if applicable, any costs incurred in connection with the cancellation or suspension of material, equipment and labor contracts which Interconnecting Transmission Owner cannot reasonably avoid; provided, however, that prior to canceling or suspending any such material, equipment or labor contract, Interconnecting Transmission Owner shall obtain Interconnection Customer's authorization to do so. Interconnecting Transmission Owner shall invoice Interconnection Customer for such costs pursuant to Article 12 and shall use due diligence to minimize its costs. In the event Interconnection Customer suspends work by Interconnecting Transmission Owner required under this LGIA pursuant to this Article 5.16, and has not requested Interconnecting Transmission Owner to recommence the work required under this LGIA on or before the expiration of three (3) years following commencement of such suspension, this LGIA shall be deemed terminated. The three-year period shall begin on the date the suspension is requested, or the date of the written notice to Interconnecting Transmission Owner and System Operator, if no effective date is specified. A suspension under this Article 5.16 does not automatically permit an extension of the

In-Service Date, the Initial Synchronization Date or the Commercial Operation Date. A request for extension of such dates is subject to Section 4.4.5 of the LGIP. Notwithstanding the extensions permitted under Section 4.4.5 of the LGIP, the three-year period shall in no way result in an extension of the In-Service Date, the Initial Synchronization Date or the Commercial Operation Date that exceeds seven (7) years from the date of the Interconnection Request; otherwise, this LGIA shall be deemed terminated.

## **5.17 Taxes.**

**5.17.1 Payments Not Taxable.** The Parties intend that all payments or property transfers made by any Party for the installation of the Interconnecting Transmission Owner's Interconnection Facilities and the Network Upgrades shall be non-taxable, either as contributions to capital, or as an advance, in accordance with the Internal Revenue Code and any applicable state income tax laws and shall not be taxable as contributions in aid of construction or otherwise under the Internal Revenue Code and any applicable state income tax laws.

**5.17.2 Representations and Covenants.** In accordance with IRS Notice 2001-82 and IRS Notice 88-129, Interconnection Customer represents and covenants that (i) ownership of the electricity generated at the Large Generating Facility will pass to another party prior to the transmission of the electricity on the New England Transmission System, (ii) for income tax purposes, the amount of any payments and the cost of any property transferred to the Interconnecting Transmission Owner for the Interconnecting Transmission Owner's Interconnection Facilities will be capitalized by Interconnection Customer as an intangible asset and recovered using the straight-line method over a useful life of twenty (20) years, and (iii) any portion of the Interconnecting Transmission Owner's Interconnection Facilities that is a "dual-use intertie," within the meaning of IRS Notice 88-129, is reasonably expected to carry only a de minimis amount of electricity in the direction of the Large Generating Facility. For this purpose, "de minimis amount" means no more than 5 percent of the total power flows in both directions, calculated in accordance with the "5 percent test" set forth in IRS Notice 88-129. This is not intended

to be an exclusive list of the relevant conditions that must be met to conform to IRS requirements for non-taxable treatment.

At Interconnecting Transmission Owner's request, Interconnection Customer shall provide Interconnecting Transmission Owner with a report from an independent engineer confirming its representation in clause (iii), above. Interconnecting Transmission Owner represents and covenants that the cost of the Interconnecting Transmission Owner's Interconnection Facilities paid for by Interconnection Customer will have no net effect on the base upon which rates are determined.

**5.17.3 Indemnification for the Cost Consequences of Current Tax Liability Imposed Upon Interconnecting Transmission Owner.** Notwithstanding Article 5.17.1, Interconnection Customer shall protect, indemnify and hold harmless Interconnecting Transmission Owner from the cost consequences of any current tax liability imposed against Interconnecting Transmission Owner as the result of payments or property transfers made by Interconnection Customer to Interconnecting Transmission Owner under this LGIA, as well as any interest and penalties, other than interest and penalties attributable to any delay caused by Interconnecting Transmission Owner.

The Interconnecting Transmission Owner shall not include a gross-up for the cost consequences of any current tax liability in the amounts it charges Interconnection Customer under this LGIA unless (i) Interconnecting Transmission Owner has determined, in good faith, that the payments or property transfers made by Interconnection Customer to Interconnecting Transmission Owner should be reported as income subject to taxation or (ii) any Governmental Authority directs Interconnecting Transmission Owner to report payments or property as income subject to taxation; provided, however, that Interconnecting Transmission Owner may require Interconnection Customer to provide security, in a form reasonably acceptable to Interconnecting Transmission Owner (such as a parental guarantee or a letter of credit), in an amount equal to the cost consequences of any current tax liability under this Article 5.17. Interconnection Customer shall reimburse Interconnecting Transmission Owner for

such costs on a fully grossed-up basis, in accordance with Article 5.17.4, within thirty (30) Calendar Days of receiving written notification from Interconnecting Transmission Owner of the amount due, including detail about how the amount was calculated.

The indemnification obligation shall terminate at the earlier of (1) the expiration of the ten year testing period, and the applicable statute of limitation, as it may be extended by the Interconnecting Transmission Owner upon request of the IRS, to keep these years open for audit or adjustment, or (2) the occurrence of a subsequent taxable event and the payment of any related indemnification obligations as contemplated by this Article 5.17.

**5.17.4 Tax Gross-Up Amount.** Interconnection Customer's liability for the cost consequences of any current tax liability under this Article 5.17 shall be calculated on a fully grossed-up basis. Except as may otherwise be agreed to by the parties, this means that Interconnection Customer will pay Interconnecting Transmission Owner, in addition to the amount paid for the Interconnection Facilities and Network Upgrades, an amount equal to (1) the current taxes imposed on Interconnecting Transmission Owner ("Current Taxes") on the excess of (a) the gross income realized by Interconnecting Transmission Owner as a result of payments or property transfers made by Interconnection Customer to Interconnecting Transmission Owner under this LGIA (without regard to any payments under this Article 5.17) (the "Gross Income Amount") over (b) the present value of future tax deductions for depreciation that will be available as a result of such payments or property transfers (the "Present Value Depreciation Amount"), plus (2) an additional amount sufficient to permit the Interconnecting Transmission Owner to receive and retain, after the payment of all Current Taxes, an amount equal to the net amount described in clause (1). For this purpose, (i) Current Taxes shall be computed based on Interconnecting Transmission Owner composite federal and state tax rates at the time the payments or property transfers are received and Interconnecting Transmission Owner will be treated as being subject to tax at the highest marginal rates in effect at that time (the "Current Tax Rate"), and (ii) the Present Value Depreciation Amount shall be computed by discounting Interconnecting Transmission Owner's anticipated tax depreciation deductions as a result of such payments or property transfers by Interconnecting

Transmission Owner current weighted average cost of capital. Thus, the formula for calculating Interconnection Customer's liability to Transmission Owner pursuant to this Article 5.17.4 can be expressed as follows:  $(\text{Current Tax Rate} \times (\text{Gross Income Amount} - \text{Present Value of Tax Depreciation})) / (1 - \text{Current Tax Rate})$ . Interconnection Customer's estimated tax liability in the event taxes are imposed shall be stated in Appendix A (Interconnection Facilities, Network Upgrades and Distribution Upgrades).

**5.17.5 Private Letter Ruling or Change or Clarification of Law.** At Interconnection Customer's request and expense, Interconnecting Transmission Owner shall file with the IRS a request for a private letter ruling as to whether any property transferred or sums paid, or to be paid, by Interconnection Customer to Interconnecting Transmission Owner under this LGIA are subject to federal income taxation. Interconnection Customer will prepare the initial draft of the request for a private letter ruling, and will certify under penalties of perjury that all facts represented in such request are true and accurate to the best of Interconnection Customer's knowledge. Interconnecting Transmission Owner and Interconnection Customer shall cooperate in good faith with respect to the submission of such request.

Interconnecting Transmission Owner shall keep Interconnection Customer fully informed of the status of such request for a private letter ruling and shall execute either a privacy act waiver or a limited power of attorney, in a form acceptable to the IRS, that authorizes Interconnection Customer to participate in all discussions with the IRS regarding such request for a private letter ruling. Interconnecting Transmission Owner shall allow Interconnection Customer to attend all meetings with IRS officials about the request and shall permit Interconnection Customer to prepare the initial drafts of any follow-up letters in connection with the request.

**5.17.6 Subsequent Taxable Events.** If, within ten (10) years from the date on which the relevant Interconnecting Transmission Owner's Interconnection Facilities are placed in service, (i) Interconnection Customer Breaches the covenant contained in Article 5.17.2, (ii) a "disqualification event" occurs within the meaning of IRS Notice 88-129, or (iii)

this LGIA terminates and Interconnecting Transmission Owner retains ownership of the Interconnection Facilities and Network Upgrades, the Interconnection Customer shall pay a tax gross-up for the cost consequences of any current tax liability imposed on Interconnecting Transmission Owner, calculated using the methodology described in Article 5.17.4 and in accordance with IRS Notice 90-60.

**5.17.7 Contests.** In the event any Governmental Authority determines that Interconnecting Transmission Owner's receipt of payments or property constitutes income that is subject to taxation, Interconnecting Transmission Owner shall notify Interconnection Customer, in writing, within thirty (30) Calendar Days of receiving notification of such determination by a Governmental Authority. Upon the timely written request by Interconnection Customer and at Interconnection Customer's sole expense, Interconnecting Transmission Owner may appeal, protest, seek abatement of, or otherwise oppose such determination. Upon Interconnection Customer's written request and sole expense, Interconnecting Transmission Owner may file a claim for refund with respect to any taxes paid under this Article 5.17, whether or not it has received such a determination. Interconnecting Transmission Owner reserves the right to make all decisions with regard to the prosecution of such appeal, protest, abatement or other contest, including the selection of counsel and compromise or settlement of the claim, but Interconnecting Transmission Owner shall keep Interconnection Customer informed, shall consider in good faith suggestions from Interconnection Customer about the conduct of the contest, and shall reasonably permit Interconnection Customer or an Interconnection Customer representative to attend contest proceedings.

Interconnection Customer shall pay to Interconnecting Transmission Owner on a periodic basis, as invoiced by Interconnecting Transmission Owner, documented reasonable costs of prosecuting such appeal, protest, abatement or other contest. At any time during the contest, Interconnecting Transmission Owner may agree to a settlement either with Interconnection Customer's consent or after obtaining written advice from nationally-recognized tax counsel, selected by Interconnecting Transmission Owner, but reasonably acceptable to Interconnection Customer, that the proposed settlement represents a



reasonable settlement given the hazards of litigation. Interconnection Customer's obligation shall be based on the amount of the settlement agreed to by Interconnection Customer, or if a higher amount, so much of the settlement that is supported by the written advice from nationally recognized tax counsel selected under the terms of the preceding sentence. The settlement amount shall be calculated on a fully grossed-up basis to cover any related cost consequences of the current tax liability. Any settlement without Interconnection Customer's consent or such written advice will relieve Interconnection Customer from any obligation to indemnify Interconnecting Transmission Owner for the tax at issue in the contest.

**5.17.8 Refund.** In the event that (a) a private letter ruling is issued to Interconnecting Transmission Owner which holds that any amount paid or the value of any property transferred by Interconnection Customer to Interconnecting Transmission Owner under the terms of this LGIA is not subject to federal income taxation, (b) any legislative change or administrative announcement, notice, ruling or other determination makes it reasonably clear to Interconnecting Transmission Owner in good faith that any amount paid or the value of any property transferred by Interconnection Customer to Interconnecting Transmission Owner under the terms of this LGIA is not taxable to Interconnecting Transmission Owner, (c) any abatement, appeal, protest, or other contest results in a determination that any payments or transfers made by Interconnection Customer to Interconnecting Transmission Owner are not subject to federal income tax, or (d) if Interconnecting Transmission Owner receives a refund from any taxing authority for any overpayment of tax attributable to any payment or property transfer made by Interconnection Customer to Interconnecting Transmission Owner pursuant to this LGIA, Interconnecting Transmission Owner shall promptly refund to Interconnection Customer the following:

- (i) any payment made by Interconnection Customer under this Article 5.17 for taxes that is attributable to the amount determined to be non-taxable, together with interest thereon,

(ii) interest on any amounts paid by Interconnection Customer to Interconnecting Transmission Owner for such taxes which Interconnecting Transmission Owner did not submit to the taxing authority, interest calculated in accordance with the methodology set forth in the Commission's regulations at 18 CFR §35.19a(a)(2)(iii) from the date payment was made by Interconnection Customer to the date Interconnecting Transmission Owner refunds such payment to Interconnection Customer, and

(iii) with respect to any such taxes paid by Interconnecting Transmission Owner, any refund or credit Interconnecting Transmission Owner receives or to which it may be entitled from any Governmental Authority, interest (or that portion thereof attributable to the payment described in clause (i), above) owed to the Interconnecting Transmission Owner for such overpayment of taxes (including any reduction in interest otherwise payable by Interconnecting Transmission Owner to any Governmental Authority resulting from an offset or credit); provided, however, that Interconnecting Transmission Owner will remit such amount promptly to Interconnection Customer only after and to the extent that Interconnecting Transmission Owner has received a tax refund, credit or offset from any Governmental Authority for any applicable overpayment of income tax related to the Interconnecting Transmission Owner's Interconnection Facilities.

The intent of this provision is to leave Parties, to the extent practicable, in the event that no taxes are due with respect to any payment for Interconnection Facilities and Network Upgrades hereunder, in the same position they would have been in had no such tax payments been made.

**5.17.9 Taxes Other Than Income Taxes.** Upon the timely request by Interconnection Customer, and at Interconnection Customer's sole expense, Interconnecting Transmission Owner shall appeal, protest, seek abatement of, or otherwise contest any tax (other than federal or state income tax) asserted or assessed against Interconnecting Transmission

Owner for which Interconnection Customer may be required to reimburse Interconnecting Transmission Owner under the terms of this LGIA. Interconnection Customer shall pay to Interconnecting Transmission Owner on a periodic basis, as invoiced by Interconnecting Transmission Owner, Interconnecting Transmission Owner's documented reasonable costs of prosecuting such appeal, protest, abatement, or other contest. Interconnection Customer and Interconnecting Transmission Owner shall cooperate in good faith with respect to any such contest. Unless the payment of such taxes is a prerequisite to an appeal or abatement or cannot be deferred, no amount shall be payable by Interconnection Customer to Interconnecting Transmission Owner for such taxes until they are assessed by a final, non-appealable order by any court or agency of competent jurisdiction. In the event that a tax payment is withheld and ultimately due and payable after appeal, Interconnection Customer will be responsible for all taxes, interest and penalties, other than penalties attributable to any delay caused by Interconnecting Transmission Owner.

**5.18 Tax Status.** Each Party shall cooperate with the others to maintain the other Party's(ies') tax status. Nothing in this LGIA is intended to adversely affect any Interconnecting Transmission Owner's tax-exempt status with respect to the issuance of bonds including, but not limited to, Local Furnishing Bonds.

**5.19 Modification.**

**5.19.1 General.** Either Interconnection Customer or Interconnecting Transmission Owner may undertake modifications to its facilities. If a Party plans to undertake a modification that reasonably may be expected to affect the other Party's facilities, the facilities of any Affected Parties, or the New England Transmission System, that Party shall provide to the other Parties and any Affected Party: (i) sufficient information regarding such modification so that the other Party(ies) may evaluate the potential impact of such modification prior to commencement of the work; and (ii) such information as may be required by the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents. Such information shall be deemed to be confidential

hereunder and shall include information concerning the timing of such modifications and whether such modifications are expected to interrupt the flow of electricity from the Large Generating Facility. The Party desiring to perform such work shall provide the relevant drawings, plans, and specifications to the other Party(ies) at least ninety (90) Calendar Days in advance of the commencement of the work or such shorter period upon which the Parties may agree, which agreement shall not unreasonably be withheld, conditioned or delayed. Notwithstanding the foregoing, no Party shall be obligated to proceed with a modification that would constitute a Material Modification and therefore require an Interconnection Request under the LGIP, except as provided under and pursuant to the LGIP.

In the case of Large Generating Facility or Interconnection Customer's Interconnection Facility modifications that do not require Interconnection Customer to submit an Interconnection Request, Interconnecting Transmission Owner shall provide, within thirty (30) Calendar Days (or such other time as the Parties may agree), an estimate of any additional modifications to the New England Transmission System, Interconnecting Transmission Owner's Interconnection Facilities or Network Upgrades necessitated by such Interconnection Customer modification and a good faith estimate of the costs thereof.

**5.19.2 Standards.** Any additions, modifications, or replacements made to a Party's facilities shall be designed, constructed and operated in accordance with this LGIA and Good Utility Practice.

**5.19.3 Modification Costs.** Interconnection Customer shall not be directly assigned for the costs of any additions, modifications, or replacements that Interconnecting Transmission Owner makes to the Interconnecting Transmission Owner's Interconnection Facilities or the New England Transmission System to facilitate the interconnection of a third party to the Interconnecting Transmission Owner's Interconnection Facilities or the New England Transmission System, or to provide transmission service to a third party under the Tariff, except as provided for under the Tariff or any other applicable tariff. Interconnection

Customer shall be responsible for the costs of any additions, modifications, or replacements to the Large Generating Facility or Interconnection Customer's Interconnection Facilities that may be necessary to maintain or upgrade such Interconnection Customer's Interconnection Facilities consistent with Applicable Laws and Regulations, Applicable Reliability Standards or Good Utility Practice.

## **ARTICLE 6. TESTING AND INSPECTION**

- 6.1 Pre-Commercial Operation Date Testing and Modifications.** Prior to the Commercial Operation Date, the Interconnecting Transmission Owner shall test Interconnecting Transmission Owner's Interconnection Facilities and Network Upgrades and Interconnection Customer shall test the Large Generating Facility and the Interconnection Customer's Interconnection Facilities to ensure their safe and reliable operation. Similar testing may be required after initial operation. Each Party shall make any modifications to its facilities that are found to be necessary as a result of such testing. Interconnection Customer shall bear the cost of all such testing and modifications. Interconnection Customer shall generate test energy at the Large Generating Facility only if it has arranged for the delivery of such test energy.
- 6.2 Post-Commercial Operation Date Testing and Modifications.** Each Interconnection Customer and Interconnecting Transmission Owner shall at its own expense perform routine inspection and testing of its facilities and equipment in accordance with ISO New England Operating Documents, Applicable Reliability Standards, or successor documents, as may be necessary to ensure the continued interconnection of the Large Generating Facility to the Administered Transmission System in a safe and reliable manner. The Interconnection Customer and Interconnecting Transmission Owner each shall have the right, upon advance written notice, to require reasonable additional testing of the other Party's(ies') facilities, at the requesting Party's expense, as may be in accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents. The System Operator shall also have the right to require reasonable additional testing of the other Party's (ies') facilities in accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

**6.3 Right to Observe Testing.** Each Party shall notify the System Operator and other Party(ies) in advance of its performance of tests of its Interconnection Facilities. The other Party(ies) has the right, at its own expense, to observe such testing.

**6.4 Right to Inspect.** Each Party shall have the right, but shall have no obligation to: (i) observe the other Party's(ies') tests and/or inspection of any of its System Protection Facilities and other protective equipment, including Power System Stabilizers; (ii) review the settings of the other Party's(ies') System Protection Facilities and other protective equipment; and (iii) review the other Party's(ies') maintenance records relative to the Interconnection Facilities, the System Protection Facilities and other protective equipment. Each Party may exercise these rights from time to time as it deems necessary upon reasonable notice to the other Parties. The exercise or non-exercise by a Party of any such rights shall not be construed as an endorsement or confirmation of any element or condition of the Interconnection Facilities or the System Protection Facilities or other protective equipment or the operation thereof, or as a warranty as to the fitness, safety, desirability, or reliability of same. Any information that a Party obtains through the exercise of any of its rights under this Article 6.4 shall be governed by Article 22.

## ARTICLE 7. METERING

- 7.1 General.** Each Party shall comply with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents, regarding metering. Interconnection Customer shall bear all reasonable documented costs associated with the purchase, installation, operation, testing and maintenance of the Metering Equipment. Unless the System Operator otherwise agrees, the Interconnection Customer shall be responsible for installing and maintaining compatible metering and communications equipment to accurately account for the capacity and energy being transmitted under this Tariff and to communicate the information to the System Operator. Unless otherwise agreed, such equipment shall remain the property of the Interconnecting Transmission Owner.
- 7.2 Check Meters.** Interconnection Customer, at its option and expense, may install and operate, on its premises and on its side of the Point of Interconnection, one or more check meters to check Interconnecting Transmission Owner's meters. Such check meters shall be for check purposes only and shall not be used for the measurement of power flows for purposes of this LGIA, except as provided in Article 7.4 below. The check meters shall be subject at all reasonable times to inspection and examination by Interconnecting Transmission Owner or its designee. The installation, operation and maintenance thereof shall be performed entirely by Interconnection Customer in accordance with Good Utility Practice.
- 7.3 Standards.** Interconnecting Transmission Owner shall install, calibrate, and test revenue quality Metering Equipment in accordance with applicable ANSI standards and the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.
- 7.4 Testing of Metering Equipment.** Interconnecting Transmission Owner shall inspect and test all Interconnecting Transmission Owner-owned Metering Equipment upon installation and thereafter as specified in the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents. Interconnecting Transmission Owner shall give reasonable notice of the time when any inspection or test shall take place, and Interconnection Customer may have representatives present at the test or inspection. If at any time Metering Equipment is found to be

inaccurate or defective, it shall be adjusted, repaired or replaced at Interconnection Customer's expense, in order to provide accurate metering. If Metering Equipment fails to register, or if the measurement made by Metering Equipment during a test varies by more than the values specified within ISO New England Operating Documents, or successor documents, from the measurement made by the standard meter used in the test, the Interconnecting Transmission Owner shall adjust the measurements, in accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

- 7.5 Metering Data.** At Interconnection Customer's expense, metered data shall be telemetered to one or more locations designated by System Operator and Interconnecting Transmission Owner. The hourly integrated metering, established in accordance with ISO New England Operating Documents, Applicable Reliability Standards, or successor documents, used to transmit Megawatt hour ("MWh") per hour data by electronic means and the Watt-hour meters equipped with kilowatt-hour ("kwh") or MWh registers to be read at month's end shall be the official measurement of the amount of energy delivered from the Large Generating Facility to the Point of Interconnection. Instantaneous metering is required for all Generators in accordance with ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

## **ARTICLE 8. COMMUNICATIONS**

- 8.1 Interconnection Customer Obligations.** Interconnection Customer shall maintain satisfactory operating communications with the System Operator and Interconnecting Transmission Owner in accordance with applicable provisions of ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.
- 8.2 Remote Terminal Unit.** Prior to the Initial Synchronization Date of the Large Generating Facility, a Remote Terminal Unit, or equivalent data collection and transfer equipment acceptable to the Parties, shall be installed by Interconnection Customer or Interconnecting Transmission Owner at Interconnection Customer's expense, to gather accumulated and instantaneous data to be telemetered to the location(s) designated by System Operator and Interconnecting Transmission Owner through use of a dedicated point-to-point data circuit(s). The



communication protocol for the data circuit(s) shall be specified by System Operator and Interconnecting Transmission Owner. All information required by the ISO New England Operating Documents, or successor documents, must be telemetered directly to the location(s) specified by System Operator and Interconnecting Transmission Owner.

Each Party will promptly advise the other Party(ies) if it detects or otherwise learns of any metering, telemetry or communications equipment errors or malfunctions that require the attention and/or correction by the other Party(ies). The Party owning such equipment shall correct such error or malfunction as soon as reasonably feasible.

**8.3 No Annexation.** Any and all equipment placed on the premises of a Party shall be and remain the property of the Party providing such equipment regardless of the mode and manner of annexation or attachment to real property, unless otherwise mutually agreed by the Parties.

~~**8.4 Provision of Data from an Intermittent Power Resource.** The Interconnection Customer whose Generating Facility is an Intermittent Power Resource shall provide meteorological and forced outage data to the System Operator to the extent necessary for the System Operator's development and deployment of power production forecasts for that class of Intermittent Power Resources. The Interconnection Customer with an Intermittent Power Resource having wind as the energy source, at a minimum, will be required to provide the System Operator with site-specific meteorological data including: temperature, wind speed, wind direction, and atmospheric pressure. The Interconnection Customer with an Intermittent Power Resource having solar as the energy source, at a minimum, will be required to provide the System Operator with site-specific meteorological data including: temperature, atmospheric pressure, and irradiance. The System Operator and Interconnection Customer whose Generating Facility is an Intermittent Power Resource shall mutually agree to any additional meteorological data that are required for the development and deployment of a power product forecast. The Interconnection Customer whose Generating Facility is an Intermittent Power Resource also shall submit data to the System Operator regarding all forced outages to the extent necessary for the System Operator's development and deployment of power production forecasts for that class of Intermittent Power Resources. The exact specifications of the meteorological and forced outage data to be provided by the Interconnection Customer to the System Operator, including the frequency and timing of~~

~~data submittals, shall be made taking into account the size and configuration of the Intermittent Power Resource, its characteristics, location, and its importance in maintaining generation resource adequacy and transmission system reliability in its area. All requirements for meteorological and forced outage data must be commensurate with the power production forecasting employed by the System Operator. Such requirements for meteorological and forced outage data are set forth in Appendix C, Interconnection Details, of this LGIA, as they may change from time to time.~~

## **ARTICLE 9. OPERATIONS**

- 9.1 General.** Each Party shall comply with applicable provisions of ISO New England Operating Documents, Reliability Standards, or successor documents, regarding operations. Each Party shall provide to the other Party(ies) all information that may reasonably be required by the other Party(ies) to comply with Applicable Laws and Regulations and Applicable Reliability Standards.
- 9.2 Control Area Notification.** Before Initial Synchronization Date, the Interconnection Customer shall notify the System Operator and Interconnecting Transmission Owner in writing in accordance with ISO New England Operating Documents, Reliability Standards, or successor documents. If the Interconnection Customer elects to have the Large Generating Facility dispatched and operated from a remote Control Area other than the Control Area in which the Large Generating Facility is physically located, and if permitted to do so by the relevant transmission tariffs and ISO New England Operating Documents, Reliability Standards, or successor documents, all necessary arrangements, including but not limited to those set forth in Article 7 and Article 8 of this LGIA, and remote Control Area generator interchange agreements, if applicable, and the appropriate measures under such agreements, shall be executed and implemented prior to the placement of the Large Generating Facility in the other Control Area for dispatch and operations.
- 9.3 Interconnecting Transmission Owner and System Operator Obligations.** Interconnecting Transmission Owner and System Operator shall cause the Interconnecting Transmission Owner's Interconnection Facilities to be operated, maintained and controlled in a safe and reliable manner

and in accordance with this LGIA and ISO New England Operating Documents, Reliability Standards, or successor documents. Interconnecting Transmission Owner or System Operator may provide operating instructions to Interconnection Customer consistent with this LGIA, ISO New England Operating Documents, Applicable Reliability Standards, or successor documents, and Interconnecting Transmission Owner's and System Operator's operating protocols and procedures as they may change from time to time. Interconnecting Transmission Owner and System Operator will consider changes to their operating protocols and procedures proposed by Interconnection Customer.

**9.4 Interconnection Customer Obligations.** Interconnection Customer shall at its own expense operate, maintain and control the Large Generating Facility and the Interconnection Customer's Interconnection Facilities in a safe and reliable manner and in accordance with this LGIA and ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

**9.5 Start-Up and Synchronization.** The Interconnection Customer is responsible for the proper start-up and synchronization of the Large Generating Facility to the New England Transmission System in accordance with ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

**9.6 Reactive Power and Primary Frequency Response.**

**9.6.1 Power Factor Design Criteria.**

**9.6.1.1 Synchronous Generation.** Interconnection Customer shall design the Large Generating Facility and all generating units comprising the Large Generating Facility, as applicable, to maintain a composite power delivery at continuous rated power output at the Point of Interconnection with dynamic reactive capability over the power factor range of 0.95 leading to 0.95 lagging, unless the System Operator or Interconnecting Transmission Owner has established different requirements that apply to all synchronous (and non-wind non-

synchronous generators as specified in Appendix G, Section A.ii.4 to the LGIA) generators in the Control Area on a comparable basis and in accordance with ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

**9.6.1.2 Non-Synchronous Generation.** The power factor design criteria requirements applicable to non-synchronous Generating Facilities shall be as specified in in Appendix G to the LGIA. The Low Voltage Ride-Through Capability requirements applicable to wind and inverter-based Generating Facilities shall be as specified in Appendix G to the LGIA.

**9.6.2 Voltage Schedules.** Once the Interconnection Customer has synchronized the Large Generating Facility to the New England Transmission System, Interconnection Customer shall operate the Large Generating Facility at the direction of System Operator and Interconnecting Transmission Owner in accordance with applicable provisions of the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents, regarding voltage schedules in accordance with such requirements.

**9.6.2.1 Voltage Regulators.** The Interconnection Customer must keep and maintain a voltage regulator on all generating units comprising a Large Generating Facility in accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents. All Interconnection Customers that have, or are required to have, automatic voltage regulation shall normally operate the Large Generating Facility with its voltage regulators in automatic operation.

It is the responsibility of the Interconnection Customer to maintain the voltage regulator in good operating condition and promptly report to the System Operator and Interconnecting Transmission Owner any problems that could cause interference with its proper operation.

**9.6.2.2 System Protection.** The Interconnection Customer shall install and maintain protection systems in accordance with applicable provisions of the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

**9.6.3 Payment for Reactive Power.**

Interconnection Customers shall be compensated for Reactive Power service in accordance with Schedule 2 of the Section II of the Tariff.

**9.6.4 Primary Frequency Response.**

Interconnection Customer with an Interconnection System Impact Study that commenced on or after May 15, 2018 shall ensure the primary frequency response capability of its Large Generating Facility by installing, maintaining, and operating a functioning governor or equivalent controls. The term “functioning governor or equivalent controls” as used herein shall mean the required hardware and/or software that provides frequency responsive real power control with the ability to sense changes in system frequency and autonomously adjust the Large Generating Facility’s real power output in accordance with the droop and deadband parameters and in the direction needed to correct frequency deviations. Interconnection Customer is required to install a governor or equivalent controls with the capability of operating: (1) with a maximum 5 percent droop and  $\pm 0.036$  Hz deadband; or (2) in accordance with the relevant droop, deadband, and timely and sustained response settings from an approved NERC Reliability Standard providing for equivalent or more stringent parameters. The droop characteristic shall be: (1) based on the nameplate capacity of the Large Generating Facility, and shall be linear in the range of frequencies between 59 to 61 Hz that are outside of the deadband parameter; or (2) based on an approved NERC Reliability Standard providing for an equivalent or more stringent parameter. The deadband parameter shall be: the range of frequencies above and below nominal (60 Hz) in which the governor or equivalent controls is not expected to adjust the Large Generating Facility’s real power output in response to frequency deviations. The deadband shall be implemented: (1) without a step to the droop curve, that is, once the frequency deviation exceeds the deadband parameter, the expected

change in the Large Generating Facility's real power output in response to frequency deviations shall start from zero and then increase (for under-frequency deviations) or decrease (for over-frequency deviations) linearly in proportion to the magnitude of the frequency deviation; or (2) in accordance with an approved NERC Reliability Standard providing for an equivalent or more stringent parameter. Interconnection Customer shall notify System Operator and Interconnecting Transmission Owner that the primary frequency response capability of the Large Generating Facility has been tested and confirmed during commissioning. Once Interconnection Customer has synchronized the Large Generating Facility with the New England Transmission System, Interconnection Customer shall operate the Large Generating Facility consistent with the provisions specified in Articles 9.6.4.1 and 9.6.4.2 of this Agreement. The primary frequency response requirements contained herein shall apply to both synchronous and non-synchronous Large Generating Facilities.

**9.6.4.1 Governor or Equivalent Controls.** Whenever the Large Generating Facility is operated in parallel with the New England Transmission System, Interconnection Customer shall operate the Large Generating Facility with its governor or equivalent controls in service and responsive to frequency. Interconnection Customer shall: (1) in coordination with System Operator and Interconnecting Transmission Owner, set the deadband parameter to: (1) a maximum of  $\pm 0.036$  Hz and set the droop parameter to a maximum of 5 percent; or (2) implement the relevant droop and deadband settings from an approved NERC Reliability Standard that provides for equivalent or more stringent parameters. Interconnection Customer shall be required to provide the status and settings of the governor or equivalent controls to System Operator and Interconnecting Transmission Owner upon request. If Interconnection Customer needs to operate the Large Generating Facility with its governor or equivalent controls not in service, Interconnection Customer shall immediately notify System Operator and Interconnecting Transmission Owner, and provide both with the following information: (1) the operating status of the governor or equivalent controls (i.e., whether it is currently out of service or when it will be taken out of service); (2)

the reasons for removing the governor or equivalent controls from service; and (3) a reasonable estimate of when the governor or equivalent controls will be returned to service. Interconnection Customer shall make Reasonable Efforts to return its governor or equivalent controls into service as soon as practicable. Interconnection Customer shall make Reasonable Efforts to keep outages of the Large Generating Facility's governor or equivalent controls to a minimum whenever the Large Generating Facility is operated in parallel with the New England Transmission System.

**9.6.4.2 Timely and Sustained Response.** Interconnection Customer shall ensure that the Large Generating Facility's real power response to sustained frequency deviations outside of the deadband setting is automatically provided and shall begin immediately after frequency deviates outside of the deadband, and to the extent the Large Generating Facility has operating capability in the direction needed to correct the frequency deviation. Interconnection Customer shall not block or otherwise inhibit the ability of the governor or equivalent controls to respond and shall ensure that the response is not inhibited, except under certain operational constraints including, but not limited to, ambient temperature limitations, physical energy limitations, outages of mechanical equipment, or regulatory requirements. The Large Generating Facility shall sustain the real power response at least until system frequency returns to a value within the deadband setting of the governor or equivalent controls. A Commission-approved Reliability Standard with equivalent or more stringent requirements shall supersede the above requirements.

**9.6.4.3 Exemptions.** Large Generating Facilities that are regulated by the United States Nuclear Regulatory Commission shall be exempt from Articles 9.6.4, 9.6.4.1, and 9.6.4.2 of this Agreement. Large Generating Facilities that are behind the meter generation that is sized-to-load (i.e., the thermal load and the generation are near-balanced in real-time operation and the generation is primarily controlled to maintain the unique thermal, chemical, or mechanical output

necessary for the operating requirements of its host facility) shall be required to install primary frequency response capability in accordance with the droop and deadband capability requirements specified in Article 9.6.4, but shall be otherwise exempt from the operating requirements in Articles 9.6.4, 9.6.4.1, 9.6.4.2, and 9.6.4.4 of this Agreement.

**9.6.4.4 Electric Storage Resources.** Interconnection Customer interconnecting a Large Generating Facility that is an electric storage resource shall establish an operating range in Appendix C of its LGIA that specifies a minimum state of charge and a maximum state of charge between which the electric storage resource will be required to provide primary frequency response consistent with the conditions set forth in Articles 9.6.4, 9.6.4.1, 9.6.4.2, and 9.6.4.3 of this Agreement. Appendix C shall specify whether the operating range is static or dynamic, and shall consider (1) the expected magnitude of frequency deviations in the interconnection; (2) the expected duration that system frequency will remain outside of the deadband parameter in the interconnection; (3) the expected incidence of frequency deviations outside of the deadband parameter in the interconnection; (4) the physical capabilities of the electric storage resource; (5) operational limitations of the electric storage resource due to manufacturer specifications; and (6) any other relevant factors agreed to by System Operator, Interconnecting Transmission Owner and Interconnection Customer. If the operating range is dynamic, then Appendix C must establish how frequently the operating range will be reevaluated and the factors that may be considered during its reevaluation.

Interconnection Customer's electric storage resource is required to provide timely and sustained primary frequency response consistent with Article 9.6.4.2 of this Agreement when it is online and dispatched to inject electricity to the New England Transmission System and/or receive electricity from the New England Transmission System. This excludes circumstances when the electric storage resource is not dispatched to inject electricity to the New England Transmission System and/or dispatched to receive



electricity from the New England Transmission System. If Interconnection Customer's electric storage resource is charging at the time of a frequency deviation outside of its deadband parameter, it is to increase (for over-frequency deviations) or decrease (for under-frequency deviations) the rate at which it is charging in accordance with its droop parameter. Interconnection Customer's electric storage resource is not required to change from charging to discharging, or vice versa, unless the response necessitated by the droop and deadband settings requires it to do so and it is technically capable of making such a transition.

## **9.7 Outages and Interruptions.**

### **9.7.1 Outages.**

**9.7.1.1 Outage Authority and Coordination.** The System Operator shall have the authority to coordinate facility outages in accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents. Each Party may in accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents, in coordination with the other Party(ies), remove from service any of its respective Interconnection Facilities or Network Upgrades that may impact the other Party's(ies') facilities as necessary to perform maintenance or testing or to install or replace equipment, subject to the oversight of System Operator in accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

**9.7.1.2 Outage Schedules.** Outage scheduling, and any related compensation, shall be in accordance with the applicable provisions of the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

**9.7.2 Interruption of Service.** In accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents, the System

Operator or Interconnecting Transmission Owner may require Interconnection Customer to interrupt or reduce deliveries of electricity if such delivery of electricity could adversely affect System Operator's or Interconnecting Transmission Owner's ability to perform such activities as are necessary to safely and reliably operate and maintain the New England Transmission System.

**9.7.3 Under-Frequency and Over Frequency Conditions.** Interconnection Customer shall implement under-frequency and over-frequency relay set points for the Large Generating Facility as required by the applicable provisions of ISO New England Operating Documents, Applicable Reliability Standards, or successor documents. Large Generating Facility response to frequency deviations of pre-determined magnitudes, both under-frequency and over-frequency deviations, shall be studied and coordinated with System Operator and Interconnecting Transmission Owner in accordance with ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

**9.7.4 System Protection and Other Control Requirements.**

**9.7.4.1 System Protection Facilities.** Interconnection Customer shall, at its expense, install, operate and maintain System Protection Facilities as a part of the Large Generating Facility or the Interconnection Customer's Interconnection Facilities in accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents. Interconnecting Transmission Owner shall install at Interconnection Customer's expense, in accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents, any System Protection Facilities that may be required on the Interconnecting Transmission Owner Interconnection Facilities or the New England Transmission System as a result of the interconnection of the Large Generating Facility and the Interconnection Customer's Interconnection Facilities.

**9.7.4.2** Each Party's protection facilities shall be designed and coordinated with other systems in accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

**9.7.4.3** Each Party shall be responsible for protection of its facilities consistent with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

**9.7.4.4** Each Party's protective relay design shall allow for tests required in Article 6.

**9.7.4.5** Each Party will test, operate and maintain System Protection Facilities in accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

**9.7.5 Requirements for Protection.** In accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents, and compliance with Good Utility Practice , Interconnection Customer shall provide, install, own, and maintain relays, circuit breakers and all other devices necessary to remove any fault contribution of the Large Generating Facility to any short circuit occurring on the New England Transmission System not otherwise isolated by Interconnecting Transmission Owner's equipment, such that the removal of the fault contribution shall be coordinated with the protective requirements of the New England Transmission System. Such protective equipment shall include, without limitation, a disconnecting device or switch with load-interrupting capability located between the Large Generating Facility and the New England Transmission System at a site selected upon mutual agreement (not to be unreasonably withheld, conditioned or delayed) of the Parties. Interconnection Customer shall be responsible for protection of the Large Generating Facility and Interconnection Customer's other equipment from such conditions as negative sequence currents, over- or under-frequency, sudden load rejection, over- or under-voltage, and generator loss-of-field. Interconnection Customer shall be solely responsible to disconnect the Large

Generating Facility and Interconnection Customer's other equipment if conditions on the New England Transmission System could adversely affect the Large Generating Facility.

**9.7.6 Power Quality.** A Party's facilities shall not cause excessive voltage flicker nor introduce excessive distortion to the sinusoidal voltage or current waves as defined by ANSI Standard C84.1-1989, in accordance with IEEE Standard 519, or any applicable superseding electric industry standard.

**9.8 Switching and Tagging Rules.** Each Party shall provide the other Party(ies) with a copy of its switching and tagging rules that are applicable to the other Party's activities. Such switching and tagging rules shall be developed on a non-discriminatory basis. The Parties shall comply with applicable switching and tagging rules, as amended from time to time, in obtaining clearances for work or for switching operations on equipment.

**9.9 Use of Interconnection Facilities by Third Parties.**

**9.9.1 Purpose of Interconnection Facilities.** Except as may be required by Applicable Laws and Regulations, or as otherwise agreed to among the Parties, the Interconnection Facilities shall be constructed for the sole purpose of interconnecting the Large Generating Facility to the Administered Transmission System and shall be used for no other purpose.

**9.9.2 Third Party Users.** If required by Applicable Laws and Regulations or if the Parties mutually agree, such agreement not to be unreasonably withheld, to allow one or more third parties to use the Interconnecting Transmission Owner's Interconnection Facilities, or any part thereof, Interconnection Customer will be entitled to compensation for the capital expenses it incurred in connection with the Interconnection Facilities based upon the pro rata use of the Interconnection Facilities by Interconnecting Transmission Owner, all third party users, and Interconnection Customer, in accordance with Applicable Laws and Regulations or upon some other mutually agreed-upon methodology. In addition, cost responsibility for ongoing costs, including operation and maintenance costs

associated with the Interconnection Facilities, will be allocated between Interconnection Customer and any third party users based upon the pro rata use of the Interconnection Facilities by Interconnecting Transmission Owner, all third party users, and Interconnection Customer, in accordance with Applicable Laws and Regulations or upon some other mutually agreed-upon methodology. If the issue of such compensation or allocation cannot be resolved through such negotiations, it shall be submitted to the Commission for resolution.

- 9.10 Disturbance Analysis Data Exchange.** The Parties will cooperate with one another in the analysis of disturbances to either the Large Generating Facility or the New England Transmission System by gathering and providing access to any information relating to any disturbance, including information from oscillography, protective relay targets, breaker operations and sequence of events records, and any disturbance information required by the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

## **ARTICLE 10. MAINTENANCE**

- 10.1 Interconnecting Transmission Owner and Customer Obligations.** Interconnecting Transmission Owner and Interconnection Customer shall each maintain that portion of its respective facilities that are part of the New England Transmission System and the Interconnecting Transmission Owner's Interconnection Facilities in a safe and reliable manner and in accordance with the applicable provisions of the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.
- 10.2 Operating and Maintenance Expenses.** Subject to the provisions herein addressing the use of facilities by others, and except for operations and maintenance expenses associated with modifications made for providing interconnection or transmission service to a third party and such third party pays for such expenses, Interconnection Customer shall be responsible for all reasonable expenses including overheads, associated with: (1) owning, operating, maintaining, repairing, and replacing Interconnection Customer's Interconnection Facilities; and (2) operation,

maintenance, repair and replacement of Interconnecting Transmission Owner's Interconnection Facilities, Stand Alone Network Upgrades, Network Upgrades and Distribution Upgrades.

## **ARTICLE 11. PERFORMANCE OBLIGATION**

**11.1 Interconnection Customer's Interconnection Facilities.** Interconnection Customer shall design, procure, construct, install, own and/or control the Interconnection Customer's Interconnection Facilities described in Appendix A (Interconnection Facilities, Network Upgrades and Distribution Upgrades) at its sole expense.

**11.2 Interconnecting Transmission Owner's Interconnection Facilities.** Interconnecting Transmission Owner shall design, procure, construct, install, own and/or control the Interconnecting Transmission Owner's Interconnection Facilities described in Appendix A (Interconnection Facilities, Network Upgrades and Distribution Upgrades) at the sole expense of the Interconnection Customer.

**11.3 Network Upgrades and Distribution Upgrades.** Interconnecting Transmission Owner shall design, procure, construct, install, and own the Network Upgrades, and to the extent provided by Article 5.1, Stand Alone Network Upgrades, and Distribution Upgrades described in Appendix A (Interconnection Facilities, Network Upgrades and Distribution Upgrades). The Interconnection Customer shall be responsible for all costs related to Distribution Upgrades. Unless the Interconnecting Transmission Owner elects to fund the capital for the Network Upgrades, they shall be solely funded by the Interconnection Customer.

### **11.4 Cost Allocation; Compensation; Rights; Affected Systems**

**11.4.1 Cost Allocation.** Cost allocation of Generator Interconnection Related Upgrades shall be in accordance with Schedule 11 of Section II of the Tariff.

**11.4.2 Compensation.** Any compensation due to the Interconnection Customer for increases in transfer capability to the PTF resulting from its Generator Interconnection Related Upgrade shall be determined in accordance with Sections II and III of the Tariff.

**11.4.3 Rights.** Notwithstanding any other provision of this LGIA, nothing herein shall be construed as relinquishing or foreclosing any rights, including but not limited to firm transmission rights, capacity rights, transmission congestion rights, or transmission credits, that the Interconnection Customer shall be entitled to, now or in the future, under any other agreement or tariff as a result of, or otherwise associated with, the transmission capacity, if any, created by the Network Upgrades.

**11.4.4 Special Provisions for Affected Systems.** The Interconnection Customer shall enter into separate related facilities agreements to address any upgrades to the Affected System(s) that are necessary for safe and reliable interconnection of the Interconnection Customer's Generating Facility.

**11.5 Provision of Security.** At least thirty (30) Calendar Days prior to the commencement of the procurement, installation, or construction of a discrete portion of an Interconnecting Transmission Owner's Interconnection Facilities, Network Upgrades, or Distribution Upgrades, Interconnection Customer shall provide Interconnecting Transmission Owner a guarantee, a surety bond, letter of credit or other form of security that is reasonably acceptable to Interconnecting Transmission Owner in accordance with Section 7 of Schedule 11 of the Tariff. In addition:

**11.5.1** The guarantee must be made by an entity that meets the creditworthiness requirements of Interconnecting Transmission Owner, and contain terms and conditions that guarantee payment of any amount that may be due from Interconnection Customer, up to an agreed-to maximum amount.

**11.5.2** The letter of credit must be issued by a financial institution reasonably acceptable to Interconnecting Transmission Owner and must specify a reasonable expiration date.

**11.5.3** The surety bond must be issued by an insurer reasonably acceptable to Interconnecting Transmission Owner and must specify a reasonable expiration date.

**11.6 Interconnection Customer Compensation.** If System Operator or Interconnecting Transmission Owner requests or directs Interconnection Customer to provide a service pursuant to Articles 9.6.3 (Payment for Reactive Power), or 13.4.1 of this LGIA, Interconnection Customer shall be compensated pursuant to the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

**11.6.1 Interconnection Customer Compensation for Actions During Emergency Condition.** Interconnection Customer shall be compensated for its provision of real and reactive power and other Emergency Condition services that Interconnection Customer provides to support the New England Transmission System during an Emergency Condition in accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

## **ARTICLE 12. INVOICE**

**12.1 General.** Each Party shall submit to the other Party(ies), on a monthly basis, invoices of amounts due for the preceding month. Each invoice shall state the month to which the invoice applies and fully describe the services and equipment provided. The Parties may discharge mutual debts and payment obligations due and owing to each other on the same date through netting, in which case all amounts a Party owes to the other Party(ies) under this LGIA, including interest payments or credits, shall be netted so that only the net amount remaining due shall be paid by the owing Party.

**12.2 Final Invoice.** Within six months after completion of the construction of the Interconnecting Transmission Owner's Interconnection Facilities and the Network Upgrades, Interconnecting Transmission Owner shall provide an invoice of the final cost of the construction of the Interconnecting Transmission Owner's Interconnection Facilities and the Network Upgrades and shall set forth such costs in sufficient detail to enable Interconnection Customer to compare the



actual costs with the estimates and to ascertain deviations, if any, from the cost estimates.

Interconnecting Transmission Owner shall refund to Interconnection Customer any amount by which the actual payment by Interconnection Customer for estimated costs exceeds the actual costs of construction within thirty (30) Calendar Days of the issuance of such final construction invoice. Interconnection Customer shall pay to Interconnecting Transmission Owner any amount by which the actual payment by Interconnection Customer for estimated costs falls short of the actual costs of construction within thirty (30) Calendar Days of the issuance of such final construction invoice.

**12.3 Payment.** Invoices shall be rendered to the paying Party at the address specified in Appendix F. The Party receiving the invoice shall pay the invoice within thirty (30) Calendar Days of receipt. All payments shall be made in immediately available funds payable to the other Party, or by wire transfer to a bank named and account designated by the invoicing Party. Payment of invoices by any Party will not constitute a waiver of any rights or claims the other Party(ies) may have under this LGIA.

**12.4 Disputes.** In the event of a billing dispute between Interconnecting Transmission Owner and Interconnection Customer, Interconnecting Transmission Owner shall continue to provide Interconnection Service under this LGIA as long as Interconnection Customer: (i) continues to make all payments not in dispute; and (ii) pays to Interconnecting Transmission Owner or into an independent escrow account the portion of the invoice in dispute, pending resolution of such dispute. If Interconnection Customer fails to meet these two requirements for continuation of service, then Interconnecting Transmission Owner may provide notice to Interconnection Customer of a Default pursuant to Article 17. Within thirty (30) Calendar Days after the resolution of the dispute, the Party that owes money to the other Party shall pay the amount due with interest calculated in accord with the methodology set forth in the Commission's Regulations at 18 CFR § 35.19a(a)(2)(iii).

## **ARTICLE 13. EMERGENCIES**

- 13.1 Obligations.** Each Party shall comply with the Emergency Condition procedures of the System Operator in accordance with the applicable provisions of the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.
- 13.2 Notice.** Interconnecting Transmission Owner or System Operator as applicable shall notify Interconnection Customer and System Operator or Interconnecting Transmission Owner as applicable, promptly when it becomes aware of an Emergency Condition that affects the Interconnecting Transmission Owner's Interconnection Facilities or the New England Transmission System that may reasonably be expected to affect Interconnection Customer's operation of the Large Generating Facility or the Interconnection Customer's Interconnection Facilities. Interconnection Customer shall notify Interconnecting Transmission Owner and System Operator promptly when it becomes aware of an Emergency Condition that affects the Large Generating Facility or the Interconnection Customer's Interconnection Facilities that may reasonably be expected to affect the New England Transmission System or the Interconnecting Transmission Owner's Interconnection Facilities. To the extent information is known, the notification shall describe the Emergency Condition, the extent of the damage or deficiency, the expected effect on the operation of Interconnection Customer's or Interconnecting Transmission Owner's facilities and operations, its anticipated duration and the corrective action taken and/or to be taken. The initial notice shall be followed as soon as practicable with written notice.
- 13.3 Immediate Action.** Unless, in Interconnection Customer's reasonable judgment, immediate action is required, Interconnection Customer shall obtain the consent of Interconnecting Transmission Owner and System Operator, such consent to not be unreasonably withheld, prior to performing any manual switching operations at the Large Generating Facility or the Interconnection Customer's Interconnection Facilities in response to an Emergency Condition either declared by the Interconnecting Transmission Owner or the System Operator or otherwise regarding the New England Transmission System.
- 13.4 System Operator's and Interconnecting Transmission Owner's Authority.**

**13.4.1 General.** System Operator or Interconnecting Transmission Owner may take whatever actions or inactions with regard to the New England Transmission System or the Interconnecting Transmission Owner's Interconnection Facilities it deems necessary during an Emergency Condition in order to (i) preserve public health and safety, (ii) preserve the reliability of the New England Transmission System or Interconnecting Transmission Owner's Interconnection Facilities, (iii) limit or prevent damage, and (iv) expedite restoration of service.

System Operator and Interconnecting Transmission Owner shall use Reasonable Efforts to minimize the effect of such actions or inactions on the Large Generating Facility or the Interconnection Customer's Interconnection Facilities. System Operator and Interconnecting Transmission Owner may, on the basis of technical considerations, require the Large Generating Facility to mitigate an Emergency Condition by taking actions necessary and limited in scope to remedy the Emergency Condition, including, but not limited to, directing Interconnection Customer to shut-down, start-up, increase or decrease the real or reactive power output of the Large Generating Facility; implementing a reduction or disconnection pursuant to Article 13.4.2; directing the Interconnection Customer to assist with black start (if available) or restoration efforts; or altering the outage schedules of the Large Generating Facility and the Interconnection Customer's Interconnection Facilities. Interconnection Customer shall comply with all of System Operator's and Interconnecting Transmission Owner's operating instructions concerning Large Generating Facility real power and reactive power output within the manufacturer's design limitations of the Large Generating Facility's equipment that is in service and physically available for operation at the time, in compliance with Applicable Laws and Regulations.

**13.4.2 Reduction and Disconnection.** System Operator and Interconnecting Transmission Owner may reduce Interconnection Service or disconnect the Large Generating Facility or the Interconnection Customer's Interconnection Facilities when such reduction or disconnection is necessary in accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents. These rights are

separate and distinct from any right of curtailment of the System Operator and Interconnecting Transmission Owner pursuant to the Tariff. When the System Operator and Interconnecting Transmission Owner can schedule the reduction or disconnection in advance, System Operator and Interconnecting Transmission Owner shall notify Interconnection Customer of the reasons, timing and expected duration of the reduction or disconnection. System Operator and Interconnecting Transmission Owner shall coordinate with the Interconnection Customer in accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents to schedule the reduction or disconnection during periods of least impact to the Interconnection Customer and the System Operator and Interconnecting Transmission Owner. Any reduction or disconnection shall continue only for so long as reasonably necessary in accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents. The Parties shall cooperate with each other to restore the Large Generating Facility, the Interconnection Facilities, and the New England Transmission System to their normal operating state as soon as practicable in accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

**13.5 Interconnection Customer Authority.** In accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents and the LGIA and the LGIP, the Interconnection Customer may take whatever actions or inactions with regard to the Large Generating Facility or the Interconnection Customer's Interconnection Facilities during an Emergency Condition in order to (i) preserve public health and safety, (ii) preserve the reliability of the Large Generating Facility or the Interconnection Customer's Interconnection Facilities, (iii) limit or prevent damage, and (iv) expedite restoration of service. Interconnection Customer shall use Reasonable Efforts to minimize the effect of such actions or inactions on the New England Transmission System and the Interconnecting Transmission Owner's Interconnection Facilities. System Operator and Interconnecting Transmission Owner shall use Reasonable Efforts to assist Interconnection Customer in such actions.

- 13.6 Limited Liability.** Except as otherwise provided in Article 11.6.1 of this LGIA, a Party shall not be liable to another Party for any action it takes in responding to an Emergency Condition so long as such action is made in good faith and in accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

#### **ARTICLE 14. REGULATORY REQUIREMENTS AND GOVERNING LAW**

- 14.1 Regulatory Requirements.** Each Party's obligations under this LGIA shall be subject to its receipt of any required approval or certificate from one or more Governmental Authorities in the form and substance satisfactory to the applying Party, or the Party making any required filings with, or providing notice to, such Governmental Authorities, and the expiration of any time period associated therewith. Each Party shall in good faith seek and use its Reasonable Efforts to obtain such other approvals. Nothing in this LGIA shall require Interconnection Customer to take any action that could result in its inability to obtain, or its loss of, status or exemption under the Federal Power Act or the Public Utility Holding Company Act of 1935, as amended. To the extent that a condition arises that could result in Interconnection Customer's inability to obtain, or its loss of, status or exemption under the Federal Power Act, the Public Utility Holding Company Act of 1935, as amended, or the Public Utility Regulatory Policies Act of 1978, the Parties shall engage in good faith negotiations to address the condition so that such result will not occur and so that this LGIA can be performed.

**14.2 Governing Law.**

**14.2.1** The validity, interpretation and performance of this LGIA and each of its provisions shall be governed by the laws of the state where the Point of Interconnection is located, without regard to its conflicts of law principles.

**14.2.2** This LGIA is subject to all Applicable Laws and Regulations.

**14.2.3** Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, rules, or regulations of a Governmental Authority.

## **ARTICLE 15. NOTICES**

- 15.1 General.** Unless otherwise provided in this LGIA, any notice, demand or request required or permitted to be given by a Party to another Party and any instrument required or permitted to be tendered or delivered by a Party in writing to another Party shall be effective when delivered and may be so given, tendered or delivered, by recognized national courier, or by depositing the same with the United States Postal Service with postage prepaid, for delivery by certified or registered mail, addressed to the Party, or personally delivered to the Party, at the address set out in Appendix F (Addresses for Delivery of Notices and Billings).  
A Party may change the notice information in this LGIA by giving five (5) Business Days written notice prior to the effective date of the change.
- 15.2 Billings and Payments.** Billings and payments shall be sent to the addresses set out in Appendix F.
- 15.3 Alternative Forms of Notice.** Any notice or request required or permitted to be given by a Party to another Party and not required by this Agreement to be given in writing may be so given by telephone, facsimile or email to the telephone numbers and email addresses set out in Appendix F.
- 15.4 Operations and Maintenance Notice.** Each Party shall notify the other Party(ies) in writing of the identity of the person(s) that it designates as the point(s) of contact with respect to the implementation of Articles 9 and 10.

## **ARTICLE 16. FORCE MAJEURE**

### **16.1 Force Majeure.**

**16.1.1** Economic hardship is not considered a Force Majeure event.

**16.1.2** A Party shall not be considered to be in Default with respect to any obligation hereunder (including obligations under Article 4), other than the obligation to pay money when due, if prevented from fulfilling such obligation by Force Majeure. A Party unable to fulfill any obligation hereunder (other than an obligation to pay money when due) by reason of Force Majeure shall give notice and the full particulars of such Force Majeure to the other Party(ies) in writing or by telephone as soon as reasonably possible after the occurrence of the cause relied upon. Telephone notices given pursuant to this Article shall be confirmed in writing as soon as reasonably possible and shall specifically state full particulars of the Force Majeure, the time and date when the Force Majeure occurred and when the Force Majeure is reasonably expected to cease. The Party affected shall exercise due diligence to remove such disability with reasonable dispatch, but shall not be required to accede or agree to any provision not satisfactory to it in order to settle and terminate a strike or other labor disturbance.

## **ARTICLE 17. DEFAULT**

### **17.1 Default.**

**17.1.1 General.** No Breach shall exist where such failure to discharge an obligation (other than the payment of money) is the result of Force Majeure as defined in this LGIA or the result of an act or omission of the other Party(ies). Upon a Breach, the non-Breaching Party shall give written notice of such Breach to the breaching Party. Except as provided in Article 17.1.2, the Breaching Party shall have thirty (30) Calendar Days from receipt of the Breach notice within which to cure such Breach; provided however, if such Breach is not capable of cure within thirty (30) Calendar Days, the Breaching Party shall commence such cure within thirty (30) Calendar Days after notice and continuously and diligently complete such cure within ninety (90) Calendar Days from receipt of the Breach notice; and, if cured within such time, the Breach specified in such notice shall cease to exist.

**17.1.2 Right to Terminate.** If a Breach is not cured as provided in this Article, or if a Breach is not capable of being cured within the period provided for herein, the non-Breaching Party(ies) shall have the right to terminate this LGIA by written notice at any time until cure occurs, and be relieved of any further obligation hereunder and, whether or not those Parties terminate this LGIA, to recover from the Breaching Party all amounts due hereunder, plus all other damages and remedies to which they are entitled at law or in equity. The provisions of this Article will survive termination of this LGIA.

## **ARTICLE 18. INDEMNITY, CONSEQUENTIAL DAMAGES AND INSURANCE**

Notwithstanding any other provision of this Agreement, the liability, indemnification and insurance provisions of the Transmission Operating Agreement (“TOA”) or other applicable operating agreements shall apply to the relationship between the System Operator and the Interconnecting Transmission Owner and the liability, indemnification and insurance provisions of the Tariff apply to the relationship between the System Operator and the Interconnection Customer and between the Interconnecting Transmission Owner and the Interconnection Customer.

**18.1 Indemnity.** Each Party shall at all times indemnify, defend, and save the other Party(ies) harmless from any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party’s(ies’) action or inactions of their obligations under this LGIA on behalf of the Indemnifying Party, except in cases of gross negligence or intentional wrongdoing by an indemnified Party.

**18.1.1 Indemnified Person.** If an Indemnified Person is entitled to indemnification under this Article 18 as a result of a claim by a third party, and the Indemnifying Party fails, after notice and reasonable opportunity to proceed under Article 18.1, to assume the defense of such claim, such Indemnified Person may at the expense of the Indemnifying Party



contest, settle or consent to the entry of any judgment with respect to, or pay in full, such claim.

**18.1.2 Indemnifying Party.** If an Indemnifying Party is obligated to indemnify and hold any Indemnified Person harmless under this Article 18, the amount owing to the Indemnified Person shall be the amount of such Indemnified Person's actual Loss, net of any insurance or other recovery.

**18.1.3 Indemnity Procedures.** Promptly after receipt by an Indemnified Person of any claim or notice of the commencement of any action or administrative or legal proceeding or investigation as to which the indemnity provided for in Article 18.1 may apply, the Indemnified Person shall notify the Indemnifying Party of such fact. Any failure of or delay in such notification shall not affect a Party's indemnification obligation unless such failure or delay is materially prejudicial to the Indemnifying Party.

The Indemnifying Party shall have the right to assume the defense thereof with counsel designated by such Indemnifying Party and reasonably satisfactory to the Indemnified Person. If the defendants in any such action include one or more Indemnified Persons and the Indemnifying Party and if the Indemnified Person reasonably concludes that there may be legal defenses available to it and/or other Indemnified Persons which are different from or additional to those available to the Indemnifying Party, the Indemnified Person shall have the right to select separate counsel to assert such legal defenses and to otherwise participate in the defense of such action on its own behalf. In such instances, the Indemnifying Party shall only be required to pay the fees and expenses of one additional attorney to represent an Indemnified Person or Indemnified Persons having such differing or additional legal defenses.

The Indemnified Person shall be entitled, at its expense, to participate in any such action, suit or proceeding, the defense of which has been assumed by the Indemnifying Party. Notwithstanding the foregoing, the Indemnifying Party (i) shall not be entitled to assume and control the defense of any such action, suit or proceedings if and to the extent that, in

the opinion of the Indemnified Person and its counsel, such action, suit or proceeding involves the potential imposition of criminal liability on the Indemnified Person, or there exists a conflict or adversity of interest between the Indemnified Person and the Indemnifying Party, in which event the Indemnifying Party shall pay the reasonable expenses of the Indemnified Person, and (ii) shall not settle or consent to the entry of any judgment in any action, suit or proceeding without the consent of the Indemnified Person, which shall not be reasonably withheld, conditioned or delayed.

**18.2 Consequential Damages.** Other than the Liquidated Damages heretofore described, in no event shall a Party be liable under any provision of this LGIA for any losses, damages, costs or expenses for any special, indirect, incidental, consequential, or punitive damages, including but not limited to loss of profit or revenue, loss of the use of equipment, cost of capital, cost of temporary equipment or services, whether based in whole or in part in contract, in tort, including negligence, strict liability, or any other theory of liability; provided, however, that damages for which a Party may be liable to the other Party under another agreement will not be considered to be special, indirect, incidental, or consequential damages hereunder.

**18.3 Insurance.** The Interconnecting Transmission Owner and the Interconnection Customer shall, at their own expense, maintain in force throughout the period of this LGIA, and until released by the other Party(ies), the following minimum insurance coverages, with insurers authorized to do business in the state where the Point of Interconnection is located:

**18.3.1** Employers' Liability and Workers' Compensation Insurance providing statutory benefits in accordance with the laws and regulations of the state in which the Point of Interconnection is located.

**18.3.2** Commercial General Liability Insurance including premises and operations, personal injury, broad form property damage, broad form blanket contractual liability coverage (including coverage for the contractual indemnification) products and completed operations coverage, coverage for explosion, collapse and underground hazards, independent contractors coverage, coverage for pollution to the extent normally available

and punitive damages to the extent normally available and a cross liability endorsement, with minimum limits of One Million Dollars (\$1,000,000) per occurrence/One Million Dollars (\$1,000,000) aggregate combined single limit for personal injury, bodily injury, including death, and property damage.

- 18.3.3** Comprehensive Automobile Liability Insurance for coverage of owned and non-owned and hired vehicles, trailers or semi-trailers designed for travel on public roads, with a minimum, combined single limit of One Million Dollars (\$1,000,000) per occurrence for bodily injury, including death, and property damage.
- 18.3.4** Excess Public Liability Insurance over and above the Employers' Liability Commercial General Liability and Comprehensive Automobile Liability Insurance coverage, with a minimum combined single limit of Twenty Million Dollars (\$20,000,000) per occurrence/Twenty Million Dollars (\$20,000,000) aggregate.
- 18.3.5** The Commercial General Liability Insurance, Comprehensive Automobile Insurance and Excess Public Liability Insurance policies shall name the other Party(ies), its parent, associated and Affiliate companies and their respective directors, officers, agents, servants and employees ("Other Party Group") as additional insured. All policies shall contain provisions whereby the insurers waive all rights of subrogation in accordance with the provisions of this LGIA against the Other Party Group and provide thirty (30) Calendar Days advance written notice to the Other Party Group prior to anniversary date of cancellation or any material change in coverage or condition.
- 18.3.6** The Commercial General Liability Insurance, Comprehensive Automobile Liability Insurance and Excess Public Liability Insurance policies shall contain provisions that specify that the policies are primary and shall apply to such extent without consideration for other policies separately carried and shall state that each insured is provided coverage as though a separate policy had been issued to each, except the insurer's liability shall not be increased beyond the amount for which the insurer would have been liable had only

one insured been covered. Each Party shall be responsible for its respective deductibles or retentions.

- 18.3.7** The Commercial General Liability Insurance, Comprehensive Automobile Liability Insurance and Excess Public Liability Insurance policies, if written on a Claims First Made Basis, shall be maintained in full force and effect for two (2) years after termination of this LGIA, which coverage may be in the form of tail coverage or extended reporting period coverage if agreed by the Parties.
- 18.3.8** The requirements contained herein as to the types and limits of all insurance to be maintained by the Parties are not intended to and shall not in any manner, limit or qualify the liabilities and obligations assumed by the Parties under this LGIA.
- 18.3.9** Within ten (10) days following execution of this LGIA, and as soon as practicable after the end of each fiscal year or at the renewal of the insurance policy and in any event within ninety (90) days thereafter, each Party shall provide certification of all insurance required in this LGIA, executed by each insurer or by an authorized representative of each insurer.
- 18.3.10** Notwithstanding the foregoing, each Party may self-insure to meet the minimum insurance requirements of Articles 18.3.2 through 18.3.8 to the extent it maintains a self-insurance program, provided that such Party's senior secured debt is rated at investment grade, or better, by Standard & Poor's and that its self-insurance program meets the minimum insurance requirements of Articles 18.3.2 through 18.3.8. For any period of time that a Party's senior secured debt is unrated by Standard & Poor's or is rated at less than investment grade by Standard & Poor's, such Party shall comply with the insurance requirements applicable to it under Articles 18.3.2 through 18.3.9. In the event that a Party is permitted to self-insure pursuant to this Article, it shall notify the other Party(ies) that it meets the requirements to self-insure and that its self-insurance program meets the minimum insurance requirements in a manner consistent with that specified in Article 18.3.9.

**18.3.11** The Parties agree to report to each other in writing as soon as practical all accidents or occurrences resulting in injuries to any person, including death, and any property damage arising out of this LGIA.

## **ARTICLE 19. ASSIGNMENT**

**19.1 Assignment.** This LGIA may be assigned by any Party only with the written consent of the other Parties; provided that the Parties may assign this LGIA without the consent of the other Parties to any Affiliate of the assigning Party with an equal or greater credit rating and with the legal authority and operational ability to satisfy the obligations of the assigning Party under this LGIA; and provided further that the Interconnection Customer shall have the right to assign this LGIA, without the consent of the Interconnecting Transmission Owner or System Operator, for collateral security purposes to aid in providing financing for the Large Generating Facility, provided that the Interconnection Customer will promptly notify the Interconnecting Transmission Owner and System Operator of any such assignment. Any financing arrangement entered into by the Interconnection Customer pursuant to this Article will provide that prior to or upon the exercise of the secured party's, trustee's or mortgagee's assignment rights pursuant to said arrangement, the secured creditor, the trustee or mortgagee will notify the Interconnecting Transmission Owner and System Operator of the date and particulars of any such exercise of assignment right(s), including providing the Interconnecting Transmission Owner with proof that it meets the requirements of Articles 11.5 and 18.3. Any attempted assignment that violates this Article is void and ineffective. Any assignment under this LGIA shall not relieve a Party of its obligations, nor shall a Party's obligations be enlarged, in whole or in part, by reason thereof. Where required, consent to assignment will not be unreasonably withheld, conditioned or delayed.

## **ARTICLE 20. SEVERABILITY**

**20.1 Severability.** If any provision in this LGIA is finally determined to be invalid, void or unenforceable by any court or other Governmental Authority having jurisdiction, such determination shall not invalidate, void or make unenforceable any other provision, agreement or

covenant of this LGIA; provided that if the Interconnection Customer (or any third party, but only if such third party is not acting at the direction of the Interconnecting Transmission Owner) seeks and obtains such a final determination with respect to any provision of the Alternate Option (Article 5.1.2), or the Negotiated Option (Article 5.1.4), then none of these provisions shall thereafter have any force or effect and the Parties' rights and obligations shall be governed solely by the Standard Option (Article 5.1.1).

## **ARTICLE 21. COMPARABILITY**

- 21.1 Comparability.** The Parties will comply with all applicable comparability and code of conduct laws, rules and regulations, as amended from time to time.

## **ARTICLE 22. CONFIDENTIALITY**

- 22.1 Confidentiality.** Confidential Information shall include, without limitation, all information governed by the ISO New England Information Policy, all information obtained from third parties under confidentiality agreements, all information relating to a Party's technology, research and development, business affairs, and pricing, and any information supplied by a Party to another prior to the execution of this LGIA.

Information is Confidential Information only if it is clearly designated or marked in writing as confidential on the face of the document, or, if the information is conveyed orally or by inspection, if the Party providing the information orally informs the Party receiving the information that the information is confidential.

If requested by a Party, the other Party(ies) shall provide, in writing, the basis for asserting that the information referred to in this Article warrants confidential treatment, and the requesting Party may disclose such writing to the appropriate Governmental Authority. Each Party shall be responsible for the costs associated with affording confidential treatment to its information.

**22.1.1 Term.** During the term of this LGIA, and for a period of three (3) years after the expiration or termination of this LGIA, except as otherwise provided in this Article 22, each Party shall hold in confidence and shall not disclose to any person Confidential Information.

**22.1.2 Scope.** Confidential Information shall not include information that the receiving Party can demonstrate: (1) is generally available to the public other than as a result of a disclosure by the receiving Party; (2) was in the lawful possession of the receiving Party on a non-confidential basis before receiving it from the disclosing Party; (3) was supplied to the receiving Party without restriction by a third party, who, to the knowledge of the receiving Party after due inquiry, was under no obligation to the disclosing Party to keep such information confidential; (4) was independently developed by the receiving Party without reference to Confidential Information of the disclosing Party; (5) is, or becomes, publicly known, through no wrongful act or omission of the receiving Party or Breach of this LGIA; or (6) is required, in accordance with Article 22.1.7 of the LGIA, Order of Disclosure, to be disclosed by any Governmental Authority or is otherwise required to be disclosed by law or subpoena, or is necessary in any legal proceeding establishing rights and obligations under this LGIA. Information designated as Confidential Information will no longer be deemed confidential if the Party that designated the information as confidential notifies the other Party(ies) that it no longer is confidential.

**22.1.3 Release of Confidential Information.** A Party shall not release or disclose Confidential Information to any other person, except to its Affiliates (limited by the Standards of Conduct requirements), subcontractors, employees, consultants, or to parties who may be or are considering providing financing to or equity participation with Interconnection Customer, or to potential purchasers or assignees of Interconnection Customer, on a need-to-know basis in connection with this LGIA, unless such person has first been advised of the confidentiality provisions of this Article 22 and has agreed to comply with such provisions. Notwithstanding the foregoing, a Party providing Confidential Information to any person shall remain primarily responsible for any release of Confidential Information in contravention of this Article 22.

**22.1.4 Rights.** Each Party retains all rights, title, and interest in the Confidential Information that each Party discloses to the other Party(ies). The disclosure by each Party to the other Party(ies) of Confidential Information shall not be deemed a waiver by a Party or any other person or entity of the right to protect the Confidential Information from public disclosure.

**22.1.5 No Warranties.** By providing Confidential Information, a Party does not make any warranties or representations as to its accuracy or completeness. In addition, by supplying Confidential Information, a Party does not obligate itself to provide any particular information or Confidential Information to the other Party(ies) nor to enter into any further agreements or proceed with any other relationship or joint venture.

**22.1.6 Standard of Care.** Each Party shall use at least the same standard of care to protect Confidential Information it receives as it uses to protect its own Confidential Information from unauthorized disclosure, publication or dissemination. Each Party may use Confidential Information solely to fulfill its obligations to the other Party(ies) under this LGIA or its regulatory requirements.

**22.1.7 Order of Disclosure.** If a court or a Governmental Authority or entity with the right, power, and apparent authority to do so requests or requires a Party, by subpoena, oral deposition, interrogatories, requests for production of documents, administrative order, or otherwise, to disclose Confidential Information, that Party shall provide the other Party(ies) with prompt notice of such request(s) or requirement(s) so that the other Party(ies) may seek an appropriate protective order or waive compliance with the terms of this LGIA. Notwithstanding the absence of a protective order or waiver, the Party may disclose such Confidential Information which, in the opinion of its counsel, the Party is legally compelled to disclose. Each Party will use Reasonable Efforts to obtain reliable assurance that confidential treatment will be accorded any Confidential Information so furnished.



**22.1.8 Termination of Agreement.** Upon termination of this LGIA for any reason, each Party shall, within ten (10) Calendar Days of receipt of a written request from the other Party(ies), use Reasonable Efforts to destroy, erase, or delete (with such destruction, erasure, and deletion certified in writing to the other Party(ies)) or return to the other Party(ies), without retaining copies thereof, any and all written or electronic Confidential Information received from the other Party(ies).

**22.1.9 Remedies.** The Parties agree that monetary damages would be inadequate to compensate a Party for the other Party's(ies') Breach of its obligations under this Article 22. Each Party accordingly agrees that the other Party(ies) shall be entitled to equitable relief, by way of injunction or otherwise, if the first Party Breaches or threatens to Breach its obligations under this Article 22, which equitable relief shall be granted without bond or proof of damages, and the receiving Parties shall not plead in defense that there would be an adequate remedy at law. Such remedy shall not be deemed an exclusive remedy for the Breach of this Article 22, but shall be in addition to all other remedies available at law or in equity. The Parties further acknowledge and agree that the covenants contained herein are necessary for the protection of legitimate business interests and are reasonable in scope. No Party, however, shall be liable for indirect, incidental, or consequential or punitive damages of any nature or kind resulting from or arising in connection with this Article 22.

**22.1.10 Disclosure to the Commission, its Staff, or a State.** Notwithstanding anything in this Article 22 to the contrary, and pursuant to 18 CFR. section 1b.20, if the Commission or its staff, during the course of an investigation or otherwise, requests information from one of the Parties that is otherwise required to be maintained in confidence pursuant to this LGIA, the Party shall provide the requested information to the Commission or its staff, within the time provided for in the request for information. In providing the information to the Commission or its staff, the Party must, consistent with 18 CFR section 388.112, request that the information be treated as confidential and non-public by the Commission and its staff and that the information be withheld from public disclosure. Parties are prohibited from notifying the other Party(ies) to this LGIA prior

to the release of the Confidential Information to the Commission or its staff. The Party shall notify the other Party(ies) to the LGIA when it is notified by the Commission or its staff that a request to release Confidential Information has been received by the Commission, at which time any of the Parties may respond before such information would be made public, pursuant to 18 CFR section 388.112. Requests from a state regulatory body conducting a confidential investigation shall be treated in a similar manner if consistent with the applicable state rules and regulations.

**22.1.11** Subject to the exception in Article 22.1.10, any information that a Party claims is competitively sensitive, commercial or financial information under this LGIA (“Confidential Information”) shall not be disclosed by the other Party(ies) to any person not employed or retained by the other Party(ies), except to the extent disclosure is (i) required by law; (ii) reasonably deemed by the disclosing Party to be required to be disclosed in connection with a dispute between or among the Parties, or the defense of litigation or dispute; (iii) otherwise permitted by consent of the other Party(ies), such consent not to be unreasonably withheld; or (iv) necessary to fulfill its obligations under this LGIA or as a transmission service provider or a Control Area operator including disclosing the Confidential Information to an RTO or ISO or to a regional or national reliability organization. The Party asserting confidentiality shall notify the other Party(ies) in writing of the information it claims is confidential. Prior to any disclosures of the other Parties’ Confidential Information under this subparagraph, or if any third party or Governmental Authority makes any request or demand for any of the information described in this subparagraph, the disclosing Party agrees to promptly notify the other Party(ies) in writing and agrees to assert confidentiality and cooperate with the other Party(ies) in seeking to protect the Confidential Information from public disclosure by confidentiality agreement, protective order or other reasonable measures.

## **ARTICLE 23. ENVIRONMENTAL RELEASES**

**23.1** Each Party shall notify the other Party(ies), first orally and then in writing, of the release of any Hazardous Substances, any asbestos or lead abatement activities, or any type of remediation

activities related to the Large Generating Facility or the Interconnection Facilities, each of which may reasonably be expected to affect the other Party(ies). The notifying Party shall: (i) provide the notice as soon as practicable, provided such Party makes a good faith effort to provide the notice no later than twenty-four (24) hours after such Party becomes aware of the occurrence; and (ii) promptly furnish to the other Party(ies) copies of any publicly available reports filed with any Governmental Authorities addressing such events.

## **ARTICLE 24. INFORMATION REQUIREMENTS**

**24.1 Information Acquisition.** Subject to any applicable confidentiality restrictions, including, but not limited to, codes of conduct, each Party shall submit specific information regarding the electrical characteristics of their respective facilities to each other as described below and in accordance with Applicable Reliability Standards.

**24.2 Information Submission by System Operator and Interconnecting Transmission Owner.** The initial information submission by System Operator and Interconnecting Transmission Owner shall occur no later than one hundred eighty (180) Calendar Days prior to the Initial Synchronization Date and shall include information necessary to allow the Interconnection Customer to select equipment and meet any system protection and stability requirements, unless otherwise mutually agreed to by the Parties. On a monthly basis Interconnecting Transmission Owner shall provide Interconnection Customer a status report on the construction and installation of Interconnecting Transmission Owner's Interconnection Facilities and Network Upgrades, including, but not limited to, the following information: (1) progress to date; (2) a description of the activities since the last report; (3) a description of the action items for the next period; and (4) the delivery status of equipment ordered.

**24.3 Updated Information Submission by Interconnection Customer.** The updated information submission by the Interconnection Customer, including manufacturer information, shall occur no later than one hundred eighty (180) Calendar Days prior to the Initial Synchronization Date. Interconnection Customer shall submit a completed copy of the Large Generating Facility data

requirements contained in Appendix 1 to the LGIP. It shall also include any additional information provided to Interconnecting Transmission Owner and System Operator for the Interconnection Feasibility Study, Interconnection System Impact Study and Interconnection Facilities Study. Information in this submission shall be the most current Large Generating Facility design or expected performance data. Information submitted for stability models shall be compatible with Interconnecting Transmission Owner and System Operator standard models. If there is no compatible model, the Interconnection Customer will work with a consultant mutually agreed to by the Parties to develop and supply a standard model and associated information.

If the Interconnection Customer's data is different from what was originally provided to Interconnecting Transmission Owner pursuant to the Interconnection Study Agreement between Interconnecting Transmission Owner and Interconnection Customer, then the System Operator will review it and conduct appropriate studies, as needed, at the Interconnection Customer's cost, to determine the impact on the New England Transmission System based on the actual data submitted pursuant to this Article 24.3. The Interconnection Customer shall not begin Trial Operation until such studies are completed.

**24.4 Information Supplementation.** Prior to the Commercial Operation Date, the Parties shall supplement their information submissions described above in this Article 24 with any and all "as-built" Large Generating Facility information and "as-tested" performance information that differs from the initial submissions or, alternatively, written confirmation that no such differences exist. The Interconnection Customer shall conduct tests on the Large Generating Facility as required by Good Utility Practice such as an open circuit "step voltage" test on the Large Generating Facility to verify proper operation of the Large Generating Facility's automatic voltage regulator.

Unless otherwise agreed, the test conditions shall include: (1) Large Generating Facility at synchronous speed; (2) automatic voltage regulator on and in voltage control mode; and (3) a five percent change in Large Generating Facility terminal voltage initiated by a change in the voltage regulators reference voltage. Interconnection Customer shall provide validated test recordings showing the responses of Large Generating Facility terminal and field voltages. In the event that direct recordings of these voltages is impractical, recordings of other voltages or currents that

mirror the response of the Large Generating Facility's terminal or field voltage are acceptable if information necessary to translate these alternate quantities to actual Large Generating Facility terminal or field voltages is provided. Large Generating Facility testing shall be conducted and results provided to the Interconnecting Transmission Owner for each individual generating unit in a station.

The Interconnection Customer shall provide the Interconnecting Transmission Owner and System Operator with any information changes due to proposed equipment replacement, repair, or adjustment. Interconnecting Transmission Owner shall provide the Interconnection Customer and System Operator with any information changes due to proposed equipment replacement, repair or adjustment in the directly connected substation or any adjacent Interconnecting Transmission Owner-owned substation that may affect the Interconnection Customer's Interconnection Facilities equipment ratings, protection or operating requirements. The Parties shall provide such information in accordance with Article 5.19 of this Agreement.

## **ARTICLE 25. INFORMATION ACCESS AND AUDIT RIGHTS**

- 25.1 Information Access.** Each Party (the "disclosing Party") shall make available to the other Parties information that is in the possession of the disclosing Party and is necessary in order for the other Party(ies) to: (i) verify the costs incurred by the disclosing Party for which the other Party(ies) are responsible under this LGIA; and (ii) carry out its obligations and responsibilities under this LGIA. The Parties shall not use such information for purposes other than those set forth in this Article 25.1 and to enforce their rights under this LGIA.
- 25.2 Reporting of Non-Force Majeure Events.** Each Party (the "notifying Party") shall notify the other Party(ies) when the notifying Party becomes aware of its inability to comply with the provisions of this LGIA for a reason other than a Force Majeure event. The Parties agree to cooperate with each other and provide necessary information regarding such inability to comply, including the date, duration, reason for the inability to comply, and corrective actions taken or planned to be taken with respect to such inability to comply. Notwithstanding the foregoing,

notification, cooperation or information provided under this Article shall not entitle the Party receiving such notification to allege a cause for anticipatory Breach of this LGIA.

**25.3 Audit Rights.** Subject to the requirements of confidentiality under Article 22 of this LGIA, each Party shall have the right, during normal business hours, and upon prior reasonable notice to the other Party(ies), to audit at its own expense the other Party's(ies') accounts and records pertaining to a Party's performance or a Party's satisfaction of obligations under this LGIA. Such audit rights shall include audits of the other Party's(ies') costs, calculation of invoiced amounts, the efforts to allocate responsibility for the provision of reactive support to the New England Transmission System, the efforts to allocate responsibility for interruption or reduction of generation on the New England Transmission System, and each Party's actions in an Emergency Condition. Any audit authorized by this Article shall be performed at the offices where such accounts and records are maintained and shall be limited to those portions of such accounts and records that relate to each Party's performance and satisfaction of obligations under this LGIA. Each Party shall keep such accounts and records for a period equivalent to the audit rights periods described in Article 25.4.

**25.4 Audit Rights Periods.**

**25.4.1 Audit Rights Period for Construction-Related Accounts and Records.** Accounts and records related to the design, engineering, procurement, and construction of Interconnecting Transmission Owner's Interconnection Facilities and Network Upgrades shall be subject to audit for a period of twenty-four (24) months following Interconnecting Transmission Owner's issuance of a final invoice in accordance with Article 12.2.

**25.4.2 Audit Rights Period for All Other Accounts and Records.** Accounts and records related to a Party's performance or satisfaction of all obligations under this LGIA other than those described in Article 25.4.1 shall be subject to audit as follows: (i) for an audit relating to cost obligations, the applicable audit rights period shall be twenty-four (24) months after the auditing Party's receipt of an invoice giving rise to such cost obligations;

and (ii) for an audit relating to all other obligations, the applicable audit rights period shall be twenty-four (24) months after the event for which the audit is sought.

- 25.5 Audit Results.** If an audit by a Party determines that an overpayment or an underpayment has occurred, a notice of such overpayment or underpayment shall be given to the other Party(ies) together with those records from the audit which support such determination.

## **ARTICLE 26. SUBCONTRACTORS**

- 26.1 General.** Nothing in this LGIA shall prevent a Party from utilizing the services of any subcontractor as it deems appropriate to perform its obligations under this LGIA; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this LGIA in providing such services and each Party shall remain primarily liable to the other Party(ies) for the performance of such subcontractor.
- 26.2 Responsibility of Principal.** The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this LGIA. The hiring Party shall be fully responsible to the other Party(ies) for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made; provided, however, that in no event shall the Interconnecting Transmission Owner be liable for the actions or inactions of the Interconnection Customer or its subcontractors with respect to obligations of the Interconnection Customer under Article 5 of this LGIA. Any applicable obligation imposed by this LGIA upon the hiring Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.
- 26.3 No Limitation by Insurance.** The obligations under this Article 26 will not be limited in any way by any limitation of subcontractor's insurance.

## **ARTICLE 27. DISPUTES**

- 27.1 Submission.** In the event a Party has a dispute, or asserts a claim, that arises out of or in connection with this LGIA or its performance, such Party (the "disputing Party") shall provide

the other Party(ies) with written notice of the dispute or claim (“Notice of Dispute”). Such dispute or claim shall be referred to a designated senior representative of each Party for resolution on an informal basis as promptly as practicable after receipt of the Notice of Dispute by the other Party(ies). In the event the designated representatives are unable to resolve the claim or dispute through unassisted or assisted negotiations within thirty (30) Calendar Days of the other Party’s(ies’) receipt of the Notice of Dispute, such claim or dispute may, upon mutual agreement of the Parties, be submitted to arbitration and resolved in accordance with the arbitration procedures set forth below. In the event the Parties do not agree to submit such claim or dispute to arbitration, each Party may exercise whatever rights and remedies it may have in equity or at law consistent with the terms of this LGIA.

**27.2 External Arbitration Procedures.** Any arbitration initiated under this LGIA shall be conducted before a single neutral arbitrator appointed by the Parties. If the Parties fail to agree upon a single arbitrator within ten (10) Calendar Days of the submission of the dispute to arbitration, each Party shall choose one arbitrator who shall sit on a three-member arbitration panel. The arbitrator so chosen by the System Operator shall chair the arbitration panel. In either case, the arbitrators shall be knowledgeable in electric utility matters, including electric transmission and bulk power issues, and shall not have any current or past substantial business or financial relationships with any party to the arbitration (except prior arbitration). The arbitrator(s) shall provide each of the Parties an opportunity to be heard and, except as otherwise provided herein, shall conduct the arbitration in accordance with the Commercial Arbitration Rules of the American Arbitration Association (“Arbitration Rules”) and any applicable Commission regulations or RTO rules; provided, however, in the event of a conflict between the Arbitration Rules and the terms of this Article 27, the terms of this Article 27 shall prevail

**27.3 Arbitration Decisions.** Unless otherwise agreed by the Parties, the arbitrator(s) shall render a decision within ninety (90) Calendar Days of appointment and shall notify the Parties in writing of such decision and the reasons therefore. The arbitrator(s) shall be authorized only to interpret and apply the provisions of this LGIA and shall have no power to modify or change any provision of this Agreement in any manner. The decision of the arbitrator(s) shall be final and binding upon the Parties, and judgment on the award may be entered in any court having jurisdiction.



The decision of the arbitrator(s) may be appealed solely on the grounds that the conduct of the arbitrator(s), or the decision itself, violated the standards set forth in the Federal Arbitration Act or the Administrative Dispute Resolution Act. The final decision of the arbitrator must also be filed with the Commission if it affects jurisdictional rates, terms and conditions of service, Interconnection Facilities, or Network Upgrades.

- 27.4 Costs.** Each Party shall be responsible for its own costs incurred during the arbitration process and for the following costs, if applicable: (1) the cost of the arbitrator chosen by the Party to sit on the three member panel; or (2) a pro rata share of the cost of a single arbitrator chosen by the Parties.

## **ARTICLE 28. REPRESENTATIONS, WARRANTIES AND COVENANTS**

- 28.1 General.** Each Party makes the following representations, warranties and covenants:

**28.1.1 Good Standing.** Such Party is duly organized, validly existing and in good standing under the laws of the state in which it is organized, formed, or incorporated, as applicable; that it is qualified to do business in the state or states in which the Large Generating Facility, Interconnection Facilities and Network Upgrades owned by such Party, as applicable, are located; and that it has the corporate power and authority to own its properties, to carry on its business as now being conducted and to enter into this LGIA and carry out the transactions contemplated hereby and perform and carry out all covenants and obligations on its part to be performed under and pursuant to this LGIA.

**28.1.2 Authority.** Such Party has the right, power and authority to enter into this LGIA, to become a Party hereto and to perform its obligations hereunder. This LGIA is a legal, valid and binding obligation of such Party, enforceable against such Party in accordance with its terms, except as the enforceability thereof may be limited by applicable bankruptcy, insolvency, reorganization or other similar laws affecting creditors' rights generally and by general equitable principles (regardless of whether enforceability is sought in a proceeding in equity or at law).

**28.1.3 No Conflict.** The execution, delivery and performance of this LGIA does not violate or conflict with the organizational or formation documents, or bylaws or operating agreement, of such Party, or any judgment, license, permit, order, material agreement or instrument applicable to or binding upon such Party or any of its assets.

**28.1.4 Consent and Approval.** Such Party has sought or obtained, or, in accordance with this LGIA will seek or obtain, each consent, approval, authorization, order, or acceptance by any Governmental Authority in connection with the execution, delivery and performance of this LGIA, and it will provide to any Governmental Authority notice of any actions under this LGIA that are required by Applicable Laws and Regulations.

## **ARTICLE 29. [OMITTED]**

## **ARTICLE 30. MISCELLANEOUS**

**30.1 Binding Effect.** This LGIA and the rights and obligations hereof shall be binding upon and shall inure to the benefit of the successors and assigns of the Parties hereto.

**30.2 Conflicts.** In the event of a conflict between the body of this LGIA and any attachment, appendices or exhibits hereto, the terms and provisions of the body of this LGIA shall prevail and be deemed the final intent of the Parties.

**30.3 Rules of Interpretation.** This LGIA, unless a clear contrary intention appears, shall be construed and interpreted as follows: (1) the singular number includes the plural number and vice versa; (2) reference to any person includes such person's successors and assigns but, in the case of a Party, only if such successors and assigns are permitted by this LGIA, and reference to a person in a particular capacity excludes such person in any other capacity or individually; (3) reference to any agreement (including this LGIA), document, instrument or tariff means such agreement, document, instrument, or tariff as amended or modified and in effect from time to time in accordance with the terms thereof and, if applicable, the terms hereof; (4) reference to any

Applicable Laws and Regulations means such Applicable Laws and Regulations as amended, modified, codified, or reenacted, in whole or in part, and in effect from time to time, including, if applicable, rules and regulations promulgated thereunder; (5) unless expressly stated otherwise, reference to any Article, Section or Appendix means such Article of this LGIA or such Appendix of this LGIA, or such Section of the LGIP or such Appendix of the LGIP, as the case may be; (6) “hereunder”, “hereof”, “herein”, “hereto” and words of similar import shall be deemed references to this LGIA as a whole and not to any particular Article or other provision hereof or thereof; (7) “including” (and with correlative meaning “include”) means including without limiting the generality of any description preceding such term; and (8) relative to the determination of any period of time, “from” means “from and including”, “to” means “to but excluding” and “through” means “through and including”.

**30.4 Entire Agreement.** Except for the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents, this LGIA, including all Appendices and Schedules attached hereto, constitutes the entire agreement between the Parties with reference to the subject matter hereof, and supersedes all prior and contemporaneous understandings or agreements, oral or written, between the Parties with respect to the subject matter of this LGIA. Except for the ISO New England Operating Documents, Applicable Reliability Standards, any applicable tariffs, related facilities agreements, or successor documents, there are no other agreements, representations, warranties, or covenants which constitute any part of the consideration for, or any condition to, any Party’s compliance with its obligations under this LGIA.

**30.5 No Third Party Beneficiaries.** This LGIA is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and, where permitted, their assigns.

**30.6 Waiver.** The failure of a Party to this LGIA to insist, on any occasion, upon strict performance of any provision of this LGIA will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.

Any waiver at any time by a Party of its rights with respect to this LGIA shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, or duty of this LGIA. Termination or Default of this LGIA for any reason by the Interconnection Customer shall not constitute a waiver of the Interconnection Customer's legal rights to obtain an interconnection from the Interconnecting Transmission Owner. Any waiver of this LGIA shall, if requested, be provided in writing.

**30.7 Headings.** The descriptive headings of the various Articles of this LGIA have been inserted for convenience of reference only and are of no significance in the interpretation or construction of this LGIA.

**30.8 Multiple Counterparts.** This LGIA may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

**30.9 Amendment.** The Parties may by mutual agreement amend this LGIA by a written instrument duly executed by the Parties.

**30.10 Modification by the Parties.** The Parties may by mutual agreement amend the Appendices to this LGIA by a written instrument duly executed by all of the Parties. Such amendment shall become effective and a part of this LGIA upon satisfaction of all Applicable Laws and Regulations.

**30.11 Reservation of Rights.** Consistent with Section 11.3 of the LGIP, Interconnecting Transmission Owner and System Operator shall have the right to make unilateral filings with the Commission to modify this LGIA with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation under section 205 or any other applicable provision of the Federal Power Act and the Commission's rules and regulations thereunder, and Interconnection Customer shall have the right to make a unilateral filing with the Commission to modify this LGIA pursuant

to section 206 or any other applicable provision of the Federal Power Act and the Commission's rules and regulations thereunder; provided that each Party shall have the right to protest any such filing by the other Parties and to participate fully in any proceeding before the Commission in which such modifications may be considered. In the event of disagreement on terms and conditions of the LGIA related to the costs of upgrades to such Interconnecting Transmission Owner's transmission facilities, the anticipated schedule for the construction of such upgrades, any financial obligations of Interconnecting Transmission Owner, and any provisions related to physical impacts of the interconnection on Interconnecting Transmission Owner's transmission facilities or other assets, then the standard applicable under Section 205 of the Federal Power Act shall apply only to Interconnecting Transmission Owner's position on such terms and conditions. Nothing in this LGIA shall limit the rights of the Parties or of the Commission under sections 205 or 206 of the Federal Power Act and the Commission's rules and regulations thereunder, except to the extent that the Parties otherwise mutually agree as provided herein.

**30.12 No Partnership.** This LGIA shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon any Party. No Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Parties.

**IN WITNESS WHEREOF**, the Parties have executed this LGIA in triplicate originals, each of which shall constitute and be an original effective Agreement between the Parties.

**ISO New England Inc. (System Operator)**

By:

Title:

Date:

***[Insert Name of]* (Interconnecting Transmission Owner)**

By:

Title:

Date:

***[Insert name of]* (Interconnection Customer)**

By:

Title:

Date:

## **APPENDICES TO LGIA**

Appendix A	Interconnection Facilities, Network Upgrades and Distribution Upgrades
Appendix B	Milestones
Appendix C	Interconnection Details
Appendix D	Security Arrangements Details
Appendix E	Commercial Operation Date
Appendix F	Addresses for Delivery of Notices and Billings
Appendix G	Interconnection Requirements for a Wind Generating Plant

## APPENDIX A TO LGIA

### Interconnection Facilities, Network Upgrades and Distribution Upgrades

#### 1. Interconnection Facilities:

- a. **Point of Interconnection and Point of Change of Ownership.** The Point of Interconnection shall be at the point where *[insert description of location]*. See Appendix A-*[insert]*, which drawing is attached hereto and made part hereof.

The Point of Change of Ownership shall be at the point where *[insert description of location]*. See Appendix A – *[insert]*, which drawing is attached hereto and made part hereof.

If not located at the Point of Interconnection, the metering point(s) shall be located at: *[insert location]*.

- b. **Interconnection Customer's Interconnection Facilities (including metering equipment).** The Interconnection Customer shall construct *[insert Interconnection Customer's Interconnection Facilities]*. See Appendix A-*[insert]*.
- c. **Interconnecting Transmission Owner's Interconnection Facilities (including metering equipment).** The Interconnecting Transmission Owner shall construct *[insert Interconnecting Transmission Owner's Interconnection Facilities, including any Cluster Enabling Transmission Upgrades]*. See Appendix –*[insert]*.

#### 2. Network Upgrades:

- a. **Stand Alone Network Upgrades.** *[insert Stand Alone Network Upgrades]*.



- b. **Other Network Upgrades.** *[insert Other Network Upgrades, including any Cluster Enabling Transmission Upgrades]*.
- 3. **Distribution Upgrades.** *[insert Distribution Upgrades]*
- 4. **Affected System Upgrades.** *[insert Affected System Upgrades]*
- 5. **Long Lead Facility-Related Upgrades.**

The Interconnection Customer's Large Generating Facility is associated with a Long Lead Facility, in accordance with Section 3.2.3 of the LGIP. Pursuant to Section 4.1 of the LGIP, the Interconnection Customer shall be responsible for the following upgrades in the event that the Long Lead Facility achieves Commercial Operation and obtains a Capacity Supply Obligation in accordance with Section III.13.1 of the Tariff:

*[insert list of upgrades]*

If the Interconnection Customer fails to cause these upgrades to be in-service prior to the commencement of the Long Lead Facility's Capacity Commitment Period, the Interconnection Customer shall be deemed to be in Breach of this LGIA in accordance with Article 17.1, and the System Operator will initiate all necessary steps to terminate this LGIA, in accordance with Article 2.3.

- 6. **Contingent Facilities:** *[insert list of Contingent Facilities]*

7. **Post-Forward Capacity Auction Re-study Upgrade Obligations.** *[insert any change in upgrade obligations that result from re-study conducted post receiving a Capacity Supply Obligation through a Forward Capacity Auction.]*

## APPENDIX B TO LGIA

### Milestones

- 1. Selected Option Pursuant to Article 5.1:** Interconnection Customer selects the *[insert]*.  
Options as described in Articles 5.1.*[insert]*, 5.1.*[insert]*, and 5.1.*[insert]* ] shall not apply to this LGIA.
- 2. Milestones and Other Requirements for all Large Generating Facilities:** The description and entries listed in the following table establish the required Milestones in accordance with the provisions of the LGIP and this LGIA. The referenced section of the LGIP or article of the LGIA should be reviewed by each Party to understand the requirements of each milestone.

Item No.	Milestone Description	Responsible Party	Date	LGIP/LGIA Reference
1	Provide evidence of continued Site Control to System Operator, or \$250,000 non-refundable deposit to Interconnecting Transmission Owner	Interconnection Customer	Within 15 BD of final LGIA receipt	§ 11.3.1.1 of LGIP
2	Provide evidence of one or more milestones specified in § 11.3 of LGIP	Interconnection Customer	Within 15 BD of final LGIA receipt	§ 11.3.1.2 of LGIP
3	Commit to a schedule for payment of upgrades	Interconnection Customer	Within 15 BD of final LGIA receipt	§ 11.3.1.2 of LGIP
4	Provide either (1) evidence of Major Permits or (2) refundable deposit to Interconnecting Transmission Owner	Interconnection Customer	If (1) Within 15 BD of final LGIA receipt or if (2) At time of LGIA execution	§ 11.3.1.2 of LGIP

5	Provide certificate of insurance	Interconnection Customer and Interconnecting Transmission Owner	Within 10 Calendar Days of execution of LGIA	§ 18.3.9 of LGIA
6	Provide siting approval for Generating Facility and Interconnection Facilities to Interconnecting Transmission Owner	Interconnection Customer	As may be agreed to by the Parties	§ 7.5 of LGIP
7A	Receive Governmental Authority approval for any facilities requiring regulatory approval	Interconnection Customer and/or Interconnecting Transmission Owner	If needed, as may be agreed to by the Parties	§ 5.6.1 of LGIA
7B	Obtain necessary real property rights and rights-of-way for the construction of a discrete aspect of the Interconnecting Transmission Owner's Interconnection Facilities and Network Upgrades	Interconnection Customer and/or Interconnecting Transmission Owner	If needed, as may be agreed to by the Parties	§ 5.6.2 of LGIA
7C	Provide to Interconnecting Transmission Owner written authorization to proceed with design, equipment procurement and construction	Interconnection Customer	As may be agreed to by the Parties	§ 5.5.2 and § 5.6.3 of LGIA

7D	Provide System Operator evidence of proceeding with design, equipment procurement, and construction	Interconnection Customer	As may be agreed to by the Parties	§ 5.2 of LGIA
7E	Provide quarterly written progress reports	Interconnection Customer and Interconnecting Transmission Owner	15 Calendar Days after the end of each quarter beginning the quarter that includes the date for Milestone 7C and ending when the entire Large Generating Facility and all required Interconnection Facilities and Network Upgrades are in place	§ 5.7 of LGIA
8	Provision of Security to Interconnecting Transmission Owner pursuant to Section 11.5 of LGIA	Interconnection Customer	At least 30 Calendar Days prior to design, procurement and construction	§§ 5.5.3 and 5.6.4 of LGIA
9	Provision of Security Associated with Tax Liability to Interconnecting Transmission Owner	Interconnection Customer	As may be agreed to by the Parties	§ 5.17.3 of LGIA

	pursuant to Section 5.17.3 of LGIA			
10A	Commit to the ordering of long lead time material for Interconnection Facilities and Network Upgrades	Interconnection Customer	As may be agreed to by the Parties	§ 7.5 of LGIP
10B	Commit to ordering of long lead time material for Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to be constructed by Interconnection Customer	Interconnection Customer	As may be agreed to by the Parties	§ 5.2 of LGIA
11A	Provide initial design, engineering and specification for Interconnection Customer's Interconnection Facilities to Interconnecting Transmission Owner	Interconnection Customer	180 Calendar Days prior to Initial Synchronization Date	§ 5.10.1 of LGIA § 7.5 of LGIP
11B	Provide comments on initial design, engineering and specification for Interconnection Customer's Interconnection Facilities	Interconnecting Transmission Owner	Within 30 Calendar Days of receipt	§ 5.10.1 of LGIA § 7.5 of LGIP
11C	Provide to Interconnecting Transmission Owner initial design, engineering and	Interconnection Customer	As may be agreed to by the Parties	§ 5.2 LGIA

	specification for Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to be constructed by the Interconnection Customer			
11D	Provide to Interconnection Customer comments on initial design, engineering and specification for Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to be constructed by the Interconnection Customer	Interconnecting Transmission Owner	As may be agreed to by the Parties	§ 5.2 of LGIA
12A	Provide final design, engineering and specification for Interconnection Customer's Interconnection Facilities to Interconnecting Transmission Owner	Interconnection Customer	90 Calendar Days prior to Initial Synchronization Date	§ 5.10.1 of LGIA § 7.5 of LGIP
12B	Provide comments on final design, engineering and specification for	Interconnecting Transmission Owner	Within 30 Calendar Days of receipt	§ 5.10.1 of LGIA § 7.5 of LGIP

	Interconnection Customer's Interconnection Facilities			
12C	Provide to Interconnecting Transmission Owner final design, engineering and specification for Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to be constructed by the Interconnection Customer	Interconnection Customer	As may be agreed to by the Parties	§ 5.2 of LGIA
12D	Provide to Interconnection Customer comments on final design, engineering and specification of Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to be constructed by the Interconnection Customer	Interconnecting Transmission Owner	As may be agreed to by the Parties	§ 5.2 of LGIA
13A	Deliver to Interconnecting Transmission Owner "as built" drawings, information and documents regarding Interconnection	Interconnection Customer	Within 120 Calendar Days of Commercial Operation date	§ 5.10.3 of LGIA



	Customer's Interconnection Facilities			
13B	Deliver to Interconnecting Transmission Owner "as built" drawings, information and documents regarding Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to be constructed by the Interconnection Customer	Interconnection Customer	As may be agreed to by the Parties	§ 5.2 of LGIA
14	Provide protective relay settings to Interconnecting Transmission Owner for coordination and verification	Interconnection Customer	At least 90 Calendar Days prior to Initial Synchronization Date	§§ 5.10.1 of LGIA
15A	Commencement of construction of Interconnection Facilities	Interconnecting Transmission Owner	As may be agreed to by the Parties	§ 5.6 of LGIA
15B	Commencement of construction of Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to be constructed by the Interconnection Customer	Interconnection Customer	As may be agreed to by the Parties	§ 5.2 of LGIA

16	Submit updated data “as purchased”	Interconnection Customer	No later than 180 Calendar Days prior to Initial Synchronization Date	§ 24.3 of LGIA
17	In Service Date	Interconnection Customer	Same as Interconnection Request unless subsequently modified	§ 343.1 and 4.4.5 of LGIP, § 5.1 of LGIA
18	Initial Synchronization Date	Interconnection Customer	Same as Interconnection Request unless subsequently modified	§ 3.4.1, 4.4.4, 4.4.5, and 7.5 of LGIP
19	Submit supplemental and/or updated data – “as built/as-tested”	Interconnection Customer	Prior to Commercial Operation Date	§ 24.4 of LGIA
20	Commercial Operation Date	Interconnection Customer	Same as Interconnection Request unless subsequently modified	§ 3.4.1, 4.4.4, 4.4.5, and 7.5 of LGIP
21A	Deliver to Interconnection Customer “as built” drawings, information and documents regarding Interconnecting Transmission Owner’s Interconnection Facilities	Interconnecting Transmission Owner	If requested, within 120 Calendar Days after Commercial Operation Date	§ 5.11 of LGIA

21B	Deliver to Interconnecting Transmission Owner “as built” drawings, information and documents regarding Interconnecting Transmission Owner’s Interconnection Facilities and Stand Alone Network Upgrades to be constructed by the Interconnection Customer	Interconnection Customer	As may be agreed to by the Parties	§ 5.2 of LGIA
21C	Approve and accept for operation and maintenance the Interconnecting Transmission Owner’s Interconnection Facilities and Stand Alone Network Upgrades to be constructed by the Interconnection Customer	Interconnecting Transmission Owner	As may be agreed to by the Parties	§ 5.2 of LGIA
22	Provide Interconnection Customer final cost invoices	Interconnecting Transmission Owner	Within 6 months of completion of construction of Interconnecting Transmission Owner Interconnection Facilities and Network Upgrades	§ 12.2 of LGIA

23	Transfer control of Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to Interconnecting Transmission Owner to be constructed by the Interconnection Customer	Interconnection Customer	Prior to In-Service Date	§ 5.2 of LGIA
24	Transfer ownership of Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to Interconnecting Transmission Owner to be constructed by the Interconnection Customer	Interconnection Customer	Prior to In-Service Date	§ 5.2 of LGIA

### 3. Milestones Applicable Solely for CNR Interconnection Service and Long Lead Facility

**Treatment.** In addition to the Milestones above, the following Milestones apply to Interconnection Customers requesting CNR Interconnection Service and/or Long Lead Facility Treatment:

Item No.	Milestone Description	Responsible Party	Date	LGIP/LGIA Reference
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1	If Long Lead Facility, all dates by which Critical Path Schedule upgrades will be submitted to System Operator (end date for New Capacity Show of Interest Submission)	Interconnection Customer		§ 3.2.3 of LGIP
2	If Long Lead Facility, dates by which Long Lead Facility Deposits will be provided to System Operator (each deadline for which New Generating Capacity Resource would be required to provide financial assurance under § III.13.1.9 of the Tariff)	Interconnection Customer		§ 3.2.3 of LGIP
3	If Long Lead Facility, Capacity Commitment Period (not to exceed the Commercial Operation Date)	Interconnection Customer		§ 1 and 3.2 of LGIP
4	Submit necessary requests for participation in the Forward Capacity Auction associated with the Generating Facility's requested Commercial Operation Date, in accordance with Section III.13 of the Tariff	Interconnection Customer		§ 3.2.1.3 of LGIP
5	Participate in a CNR Group Study	Interconnection Customer		§ 3.2.1.3 of LGIP
6	Qualify and receive a Capacity Supply Obligation in accordance with Section III.13 of the Tariff	Interconnection Customer		§ 3.2.1.3 of LGIP
7	Complete a re-study of the applicable Interconnection Study to determine the cost responsibility for facilities and upgrades necessary to accommodate the	System Operator		§ 3.2.1.3 of LGIP

	Interconnection Request based on the results of the Forward Capacity Auction or Reconfiguration Auction or bilateral transaction through which the Interconnection Customer received a Capacity Supply Obligation			
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## APPENDIX C TO LGIA

### Interconnection Details

#### 1. Description of Interconnection:

Interconnection Customer shall install a [insert] MW facility, rated at [insert]MW gross and [insert] MW net, with all studies performed at or below these outputs. The Generating Facility is comprised of [insert] units in a [insert description of facility type - combined cycle, wind farm, etc.] rated at: [insert] MW each, and will located at [insert location].

The Large Generating Facility shall receive:

Network Resource Interconnection Service for the NR Capability at a level not to exceed [insert gross and net] MW for Summer, and [insert gross and net] MW for Winter.

Capacity Network Resource Interconnection Service for: (i) the NR Capability at a level not to exceed [insert gross and net at or above 50 degrees F] MW for Summer and [insert gross and net at or above 0 degrees F] MW for Winter; and (ii) the CNR Capability at [insert net] MW for Summer and [insert net] MW for Winter, which shall not exceed [insert the maximum net MW electrical output of the Generating Facility at an ambient temperature at or above 90 degrees F for summer and at or above 20 degrees F for winter.]

#### 2. Detailed Description of Generating Facility and Generator Step-Up Transformer, if applicable:

Generator Data	
Number of Generators	
Manufacturer	
Model	

Designation of Generator(s)	
Excitation System Manufacturer	
Excitation System Model	
Voltage Regulator Manufacturer	
Voltage Regulator Model	
<b>Generator Ratings</b>	
Greatest Unit Gross and Net MW Output at Ambient Temperature at or above 90 Degrees F	
Greatest Unit Gross and Net MW Output at Ambient Temperature at or above 50 Degrees F	
Greatest Unit Gross and Net MW Output at Ambient Temperature at or above 20 Degrees F	
Greatest Unit Gross and Net MW Output at Ambient Temperature at or above zero Degrees F	
Station Service Load For Each Unit	
Overexcited Reactive Power at Rated MVA and Rated Power Factor	
Underexcited Reactive Power at Rated MVA and Rated Power Factor	
<b>Generator Short Circuit and Stability Data</b>	
Generator MVA rating	
Generator AC Resistance	
Subtransient Reactance (saturated)	
Subtransient Reactance (unsaturated)	
Transient Reactance (saturated)	
Negative sequence reactance	



Transformer Data	
Number of units	
Self Cooled Rating	
Maximum Rating	
Winding Connection (LV/LV/HV)	
Fixed Taps	
Z1 primary to secondary at self cooled rating	
Z1 primary to tertiary at self cooled rating	
Z1 secondary to tertiary at self cooled rating	
Positive Sequence X/R ratio primary to secondary	
Z0 primary to secondary at self cooled rating	
Z0 primary to tertiary at self cooled rating	
Z0 secondary to tertiary at self cooled rating	
Zero Sequence X/R ratio primary to tertiary	

### **~~3. Meteorological and Forced Outage Data Requirements for a Generating Facility that is an Intermittent Power Resource:~~**

~~An Interconnection Customer whose Generating Facility is an Intermittent Power Resource having wind as the energy resource (referred to herein as “Wind Plant”) will be required to provide the following meteorological and forced outage data to the System Operator in the manner specified in the ISO New England Operating Documents. Capitalized terms in this Appendix C.3 that are not defined in Section 1 of the Agreement shall have the meanings specified in the ISO New England Operating Documents.~~

#### **~~A. Static Plant Data~~**

~~Below are the static plant data requirements that describe the physical layout of the Wind Plant and any associated meteorological equipment as well as data relevant to the design and operation of the Wind Plant. The static plant data must be supplied to the System Operator in the manner specified in the ISO~~

~~New England Operating Documents. The Interconnection Customer must keep the static plant data current and must inform the System Operator of any proposed datapoints changes.~~

~~1) Wind Plant:~~

~~a) Wind Turbine tower center coordinates (i.e., latitude and longitude in WGS84 DD MM SS.SS using GPS WAAS, or comparable, methodology) and ground elevation of turbines (in meters, to one decimal place).~~

~~b) Number of turbines.~~

~~c) Turbine model(s) including IEC wind class.~~

~~d) Density dependent turbine nominal power curves for each type of turbine in the plant for standard test conditions (e.g., air density equaling 1.225 kg/m<sup>3</sup>) and for three additional values of density (for which the density values must be supplied): one power curve for normal operation at the long term average density expected for the plant and one power curve each for normal operation at approximately 85% (+/- 10%) and approximately 115% (+/- 10%), respectively of the expected long term average Wind Plant air density.~~

~~e) Hub height(s) (in meters to one decimal place).~~

~~f) Maximum plant nameplate capacity (in MW to two decimal places).~~

~~g) Cut in wind speed(s) and time constants (if any, e.g., wind speed must be above 3.4 m/s for at least 5 minutes, etc.).~~

~~h) Cut out wind speed(s) and time constants (if any).~~

~~i) Cut back in wind speed(s) and time constants (if any).~~

~~j) Cold temperature cutoff threshold(s) (in Degrees C to one decimal place).~~

~~k) High temperature cutoff threshold(s) (in Degrees C to one decimal place).~~

~~l) Any cold weather operation packages and their effects on wind turbine operational envelope (e.g. blade and/or gearbox heaters, etc. that extends cold temperature cut out to below xx degrees, etc.).~~

~~m) Wind turbine icing behavior:~~

~~i. Triggers for icing related shutdowns (e.g., temperatures, relative humidities, out of balance conditions, etc.).~~

~~ii. Triggers for release from icing related shutdowns (e.g., manual reset, temperatures, hysteresis, etc.).~~

~~n) For all plant wind speed and direction measuring devices (i.e., nacelle level wind measuring devices):~~

- i. ~~Equipment type (i.e., model specifications and operating principle e.g. make and model type, measurement heights) and calibration curves and/or reports.~~
- ii. ~~Dimensions and/or site plan of any nearby potential obstructions that would substantially reduce the quality of the data and the mitigation measures employed (e.g., diagram of location with respect to the nacelle and rotor).~~
- o) ~~Descriptions of any permitting or administrative restrictions such as requirements to reduce or to cease power production during certain hours or during certain events or wind conditions.~~
- p) ~~For model training purposes, any available historical information required by the wind power forecaster regarding plant power output, plant meteorological conditions, and conditions that may have caused power output to be below theoretical maximum power output given the experienced wind speeds may also be required to be provided.~~

2) ~~Met gathering station(s):~~

- a. ~~Center of structure(s) coordinates (using the same method listed above for turbine in the Wind Plant) and ground elevation of met station(s).~~
- b. ~~Equipment type (i.e., model specifications and operating principle e.g. make and model type, measurement heights).~~
- c. ~~Dimensions and/or site plan of any nearby potential obstructions that would substantially reduce the quality of the data (e.g., met tower dimensions and profile) and the mitigation measures employed (e.g. mounting arm dimensions and orientations).~~

## **B. Real-Time Data**

~~Below are the real-time operational and meteorological data requirements for Wind Plant operators that must be provided to the System Operator. The real-time operational and meteorological data must be electronically and automatically transmitted to the System Operator over a secure network using the protocol specified in the ISO New England Operating Documents. This information is required with a high degree of accuracy and reliability.~~

1) ~~Availability:~~

The Wind Plant operator's real time data transfer process and data gathering equipment shall be designated to operate at all times.

## 2) Required Data:

a) At a minimum, nacelle level wind speed and wind direction measurements must be provided from the highest wind turbine (i.e., wind turbine hub elevation in terms of elevation above mean sea level) and a minimum of one wind turbine at the maximal value of each of the four true cardinal directions (i.e., the farthest true North, South, East, and West) in each Wind Turbine Group within the plant. Additionally, the wind turbine nearest the capacity-weighted centroid of the Wind Plant must also report wind speeds and directions. If any wind turbine within a Wind Turbine Group satisfies more than one of these conditions then it may be used to fulfill all conditions that it satisfies (e.g., if the highest wind turbine in a Wind Turbine Group is also the farthest North and the farthest East, it may be used to supply data for all three of these categories). Where more than one turbine satisfies these conditions, preference should be given to those turbines that will be least affected by Wind Plant wake effect from the prevailing wind direction(s). Finally, where a Wind Turbine Group contains 10 or less wind turbines only the nacelle-level data from the highest wind turbine nacelle is required. The locations of wind turbines with nacelle-level equipment providing data must be referenced to the Static Plant Data supplied locations.

b) Ambient temperature, air pressure and relative humidity must be measured, at a minimum, at one location within the plant (preferably as near to the capacity-weighted centroid of the Wind Plant as possible) whose height above ground may be in the range of 2 m to 10 m (or up to 30 m above mean sea level for offshore Wind Plants) and the measurement height above ground (or mean sea level for offshore Wind Plants) must be stated to within 10 cm.

## 3) Frequency

Minimum frequencies of the real time data Wind Plant operators must provide are specified in the ISO New England Operating Documents.

## C. Outage Coordination

Wind Plants shall submit daily outages in advance to perform routine maintenance work, which in many cases may have no effect on their overall MW capability. Therefore:

- ~~1) All Wind Plants must submit Wind Plant Future Availability to the System Operator.~~
- ~~2) If the Wind Plant does not have a Capacity Supply Obligation in accordance with Market Rule 1, Section III of the Tariff, and is not a Qualified Generator Reactive Resource, only Wind Plant Future Availability must be reported to the System Operator.~~
- ~~3) Any Wind Plant that does have a Capacity Supply Obligation in accordance with Market Rule 1, Section III of the Tariff, or that is a Qualified Generator Reactive Resource, must report Wind Plant Future Availability, and also submit an outage request to the System Operator only when the outage will derate the plant to the point that the available nameplate is less than its Capacity Supply Obligation and/or Qualified VARs.~~

**43. Other Description of Interconnection Plan and Facilities:**

*[Insert any other description relating to the Generating Facility, including, but not limited to switchyard, protection equipment, step-up transformer to the extent not described in Appendix A.]*

## **APPENDIX D TO LGIA**

### **Security Arrangements Details**

Infrastructure security of the New England Transmission System equipment and operations and control hardware and software is essential to ensure day-to-day New England Transmission System reliability and operational security. The Commission will expect System Operator, Interconnecting Transmission Owners, market participants, and Interconnection Customers interconnected to the New England Transmission System to comply with the recommendations offered by the Critical Infrastructure Protection Committee and, eventually, best practice recommendations from NERC. All public utilities will be expected to meet basic standards for system infrastructure and operational security, including physical, operational, and cyber-security practices.

## **APPENDIX E TO LGIA**

### **Commercial Operation Date**

This Appendix E is a part of the LGIA between System Operator Interconnecting, Transmission Owner and Interconnection Customer.

[Date]

[Interconnecting Transmission Owner; Address]

[to be supplied]

Generator Interconnections  
Transmission Planning Department  
ISO New England Inc.  
One Sullivan Road  
Holyoke, MA 01040-2841

Re: \_\_\_\_\_ Large Generating Facility

Dear \_\_\_\_\_:

On [Date] [Interconnection Customer] has completed Trial Operation of Unit No. \_\_\_\_\_. This letter confirms that [Interconnection Customer] commenced commercial operation of Unit No. \_\_\_\_\_ at the Large Generating Facility, effective as of [Date plus one day].

Thank you.

[Signature]

[Interconnection Customer Representative]



## **APPENDIX F TO LGIA**

### **Addresses for Delivery of Notices and Billings Notices:**

System Operator:

Generator Interconnections  
Transmission Planning Department  
ISO New England Inc.  
One Sullivan Road  
Holyoke, MA 01040-2841

With copy to:

Billing Department  
ISO New England Inc.  
One Sullivan Road  
Holyoke, MA 01040-2841

Interconnecting Transmission Owner:

*[To be supplied.]*

Interconnection Customer:

*[To be supplied.]*

### **Billings and Payments:**

System Operator:

Generator Interconnections  
Transmission Planning Department  
ISO New England Inc.  
One Sullivan Road  
Holyoke, MA 01040-2841

With copy to:  
Billing Department  
ISO New England Inc.  
One Sullivan Road  
Holyoke, MA 01040-2841

Interconnecting Transmission Owner:

*[To be supplied.]*

Interconnection Customer:

*[To be supplied.]*

**Alternative Forms of Delivery of Notices (telephone, facsimile or email):**

System Operator:

Facsimile: (413) 540-4203

E-mail: [geninterconn@iso-ne.com](mailto:geninterconn@iso-ne.com)

With copy to:

Facsimile: (413) 535-4024

E-mail: [billingdept@iso-ne.com](mailto:billingdept@iso-ne.com)

Interconnecting Transmission Owner:

*[To be supplied.]*

Interconnection Customer:

*[To be supplied.]*

DUNS Numbers:

Interconnection Customer: [To be supplied]

Interconnecting Transmission Owner: [To be supplied]

## **APPENDIX G TO LGIA**

### **Interconnection Requirements For A Wind and Inverter-Based Generating Facilities**

Appendix G sets forth requirements and provisions specific to wind and inverter-based Generating Facilities. All other requirements of this LGIA continue to apply to wind and inverter-based Generating Facility interconnections.

#### **A. Technical Standards Applicable to Wind and Inverter-Based Generating Facility**

##### **i. Low Voltage Ride-Through (LVRT) Capability**

Wind and inverter-based Generating Facilities shall be able to remain online during voltage disturbances up to the time periods and associated voltage levels set forth in the standard below. The LVRT standard provides for a transition period standard and a post-transition period standard.

##### **Transition Period LVRT Standard**

The transition period standard applies to wind generating plants subject to FERC Order 661 that have either: (i) interconnection agreements signed and filed with the Commission, filed with the Commission in unexecuted form, or filed with the Commission as non-conforming agreements between January 1, 2006 and December 31, 2006, with a scheduled in-service date no later than December 31, 2007, or (ii) wind generating turbines subject to a wind turbine procurement contract executed prior to December 31, 2005, for delivery through 2007.

1. Wind generating plants are required to remain in-service during three-phase faults with normal clearing (which is a time period of approximately 4 – 9 cycles) and single line to ground faults with delayed clearing, and subsequent post-fault voltage recovery to prefault voltage unless clearing the fault effectively disconnects the generator from the system. The clearing time requirement for a three-phase fault will be specific to the wind generating plant substation location, as determined by and documented by the System Operator and Interconnecting Transmission Owner. The maximum clearing time the wind generating plant shall be required to withstand for a three-phase fault shall be 9 cycles at a voltage as low as 0.15 p.u., as measured at the high side of the wind

generating plant step-up transformer (i.e. the transformer that steps the voltage up to the transmission interconnection voltage or “GSU”), after which, if the fault remains following the location-specific normal clearing time for three-phase faults, the wind generating plant may disconnect from the transmission system.

2. This requirement does not apply to faults that would occur between the wind generator terminals and the high side of the GSU or to faults that would result in a voltage lower than 0.15 per unit on the high side of the GSU serving the facility.
3. Wind generating plants may be tripped after the fault period if this action is intended as part of a special protection system.
4. Wind generating plants may meet the LVRT requirements of this standard by the performance of the generators or by installing additional equipment (e.g., Static VAR Compensator, etc.) within the wind generating plant or by a combination of generator performance and additional equipment.
5. Existing individual wind generator units that are, or have been, interconnected to the network at the same location at the effective date of the Appendix G LVRT. Standard are exempt from meeting the Appendix G LVRT Standard for the remaining life of the existing generation equipment. Existing individual wind generator units that are replaced are required to meet the Appendix G LVRT Standard.

#### **Post-transition Period LVRT Standard**

All wind Generating Facilities subject to FERC Order No. 661 and not covered by the transition period described above , as well as inverter-based Generating Facilities must meet the following requirements:

1. Wind and inverter-based Generating Facilities are required to remain in-service during three-phase faults with normal clearing (which is a time period of approximately 4 – 9 cycles) and single line to ground faults with delayed clearing, and subsequent post-fault

voltage recovery to prefault voltage unless clearing the fault effectively disconnects the generator from the system. The clearing time requirement for a three-phase fault will be specific to the wind or inverter-based Generating Facility substation location, as determined by and documented by the System Operator and Interconnecting Transmission Owner. The maximum clearing time the wind or inverter-based Generating Facility shall be required to withstand for a three-phase fault shall be 9 cycles after which, if the fault remains following the location-specific normal clearing time for three-phase faults, the wind or inverter-based Generating Facility may disconnect from the transmission system. Wind and inverter-based Generating Facilities shall remain interconnected during such a fault on the transmission system for a voltage level as low as zero volts, as measured at the high voltage side of the wind or inverter-based Generating Facility GSU.

2. This requirement does not apply to faults that would occur between the wind or inverter-based Generating Facility terminals and the high side of the GSU.
3. Wind and inverter-based Generating Facilities may be tripped after the fault period if this action is intended as part of a special protection system.
4. Wind and inverter-based Generating Facilities may meet the LVRT requirements of this standard by the performance of the generators or by installing additional equipment (e.g., Static VAr Compensator) within the wind or inverter-based Generating Facility or by a combination of generator performance and additional equipment.
5. Existing individual wind generator units that are, or have been, interconnected to the network at the same location at the effective date of the Appendix G LVRT Standard are exempt from meeting the Appendix G LVRT Standard for the remaining life of the existing generation equipment. Existing individual wind generator units that are replaced are required to meet the Appendix G LVRT Standard.

**ii. Power Factor Design Criteria (Reactive Power)**

1. A newly interconnecting non-synchronous Generating Facility, and any subsequent modifications thereto, for which the Interconnection System Impact Study commences after October 5, 2016 shall maintain dynamic reactive capability over the power factor range of 0.95 leading to 0.95 lagging, at continuous rated power output, measured at the high-side of the station transformer or at the Point of the Interconnection if there is no station transformer. This power factor range standard shall be dynamic and can be met using, for example, power electronics designed to supply this level of reactive capability (taking into account any limitations due to voltage level, real power output, etc.) or fixed and switched capacitors (provided the use of such capacitors is solely for the purpose of offsetting collector system losses and is found to meet all of the requirements specified in the Interconnection System Impact Study), or a combination of the two.
2. A wind Generating Facility, and any subsequent modifications thereto, for which the Interconnection System Impact Study commenced after April 17, 2016 but before October 5, 2016 shall maintain dynamic reactive capability over the power factor range of 0.95 leading to 0.95 lagging, at continuous rated power output, measured at the high-side of the station transformer or at the Point of Interconnection if there is no station transformer.
3. A wind Generating Facility, and any subsequent modifications thereto, for which the Interconnection System Impact Study commenced before April 17, 2016 shall maintain a power factor within the range of 0.95 leading to 0.95 lagging, measured at the Point of Interconnection as defined in this LGIA, if the Interconnection System Impact Study shows that such a requirement is necessary to ensure safety or reliability. For a wind Generating Facility for which the Interconnection System Impact Study commences before April 17, 2016, the power factor range standard can be met by using, for example, power electronics designed to supply this level of reactive capability (taking into account any limitations due to voltage level, real power output, etc.) or fixed and switched capacitors if agreed to by the System Operator and Interconnecting Transmission Owner, or a combination of the two.
4. A non-wind non-synchronous Generating Facility, and any subsequent modifications thereto, for which the Interconnection System Impact Study commenced before October 5, 2016 shall meet the power factor requirements of Article 9.6.1.1 of the LGIA.

5. The Interconnection Customer shall not disable power factor equipment while the wind Generating Facility is in operation.
6. Wind Generating Facilities shall also be able to provide sufficient additional dynamic voltage support in lieu of the power system stabilizer and automatic voltage regulation at the generator excitation system if the Interconnection System Impact Study shows this to be required for system safety or reliability.

**iii. Supervisory Control and Data Acquisition (SCADA) Capability**

Wind and inverter-based Generating Facilities shall provide SCADA capability to transmit data and receive instructions from the System Operator and Local Control Center to protect system reliability. The System Operator, Interconnecting Transmission Owner and the wind or inverter-based Generating Facility Interconnection Customer shall determine what SCADA information is essential for the proposed wind or inverter-based Generating Facility, taking into account the size of the plant and its characteristics, location, and importance in maintaining generation resource adequacy and transmission system reliability in its area.



## **APPENDIX 7**

### **INTERCONNECTION PROCEDURES FOR WIND GENERATION**

Appendix 7 sets forth procedures specific to a wind generating plant. All other requirements of this LGIP continue to apply to wind generating plant interconnections.

#### **A. Special Procedures Applicable to Wind Generating Plants**

The wind generating plant Interconnection Customer, in completing the Interconnection Request required by Section 3.4 of this LGIP, may provide to the System Operator a set of preliminary electrical design specifications depicting the wind generating plant as a single equivalent generator. Upon satisfying these and other applicable Interconnection Request conditions, the wind generating plant may enter the queue and receive the base case data as provided for in this LGIP.

No later than six months after submitting an Interconnection Request completed in this manner, the wind generating plant Interconnection Customer must submit completed detailed electrical design specifications and other data (including collector system layout data) needed to allow the System Operator to complete the Interconnection System Impact Study.

## **STANDARD MARKET DESIGN**

### **III.1 Market Operations**

#### **III.1.1 Introduction.**

This Market Rule 1 sets forth the scheduling, other procedures, and certain general provisions applicable to the operation of the New England Markets within the New England Control Area. The ISO shall operate the New England Markets in compliance with NERC, NPCC and ISO reliability criteria. The ISO is the Counterparty for agreements and transactions with its Customers (including assignments involving Customers), including bilateral transactions described in Market Rule 1, and sales to the ISO and/or purchases from the ISO of energy, reserves, Ancillary Services, capacity, demand/load response, FTRs and other products, paying or charging (if and as applicable) its Customers the amounts produced by the pertinent market clearing process or through the other pricing mechanisms described in Market Rule 1. The bilateral transactions to which the ISO is the Counterparty (subject to compliance with the requirements of Section III.1.4) include, but are not limited to, Internal Bilaterals for Load, Internal Bilaterals for Market for Energy, Annual Reconfiguration Transactions, Capacity Supply Obligation Bilaterals, Capacity Load Obligation Bilaterals, Capacity Performance Bilaterals, and the transactions described in Sections III.9.4.1 (internal bilateral transactions that transfer Forward Reserve Obligations), and III.13.1.6 (Self-Supplied FCA Resources). Notwithstanding the foregoing, the ISO will not act as Counterparty for the import into the New England Control Area, for the use of Publicly Owned Entities, of: (1) energy, capacity, and ancillary products associated therewith, to which the Publicly Owned Entities are given preference under Articles 407 and 408 of the project license for the New York Power Authority's Niagara Project; and (2) energy, capacity, and ancillary products associated therewith, to which Publicly Owned Entities are entitled under Article 419 of the project license for the New York Power Authority's Franklin D. Roosevelt – St. Lawrence Project. This Market Rule 1 addresses each of the three time frames pertinent to the daily operation of the New England Markets: "Pre-scheduling" as specified in Section III.1.9, "Scheduling" as specified in III.1.10, and "Dispatch" as specified in III.1.11. This Market Rule 1 became effective on February 1, 2005.

#### **III.1.2 [Reserved.]**

#### **III.1.3 Definitions.**

Whenever used in Market Rule 1, in either the singular or plural number, capitalized terms shall have the meanings specified in Section I of the Tariff. Terms used in Market Rule 1 that are not defined in Section

I shall have the meanings customarily attributed to such terms by the electric utility industry in New England or as defined elsewhere in the ISO New England Filed Documents. Terms used in Market Rule 1 that are defined in Section I are subject to the 60% Participant Vote threshold specified in Section 11.1.2 of the Participants Agreement.

**III.1.3.1**                    **[Reserved.]**

**III.1.3.2**                    **[Reserved.]**

**III.1.3.3**                    **[Reserved.]**

**III.1.4**                    **Requirements for Certain Transactions.**

**III.1.4.1**                    **ISO Settlement of Certain Transactions.**

The ISO will settle, and act as Counterparty to, the transactions described in Section III.1.4.2 if the transactions (and their related transactions) conform to, and the transacting Market Participants comply with, the requirements specified in Section III.1.4.3.

**III.1.4.2**                    **Transactions Subject to Requirements of Section III.1.4.**

Transactions that must conform to the requirements of Section III.1.4 include: Internal Bilaterals for Load, Internal Bilaterals for Market for Energy, Annual Reconfiguration Transactions, Capacity Supply Obligation Bilaterals, Capacity Load Obligation Bilaterals, Capacity Performance Bilaterals, and the transactions described in Sections III.9.4.1 (internal bilateral transactions that transfer Forward Reserve Obligations), and III.13.1.6 (Self-Supplied FCA Resources). The foregoing are referred to collectively as “Section III.1.4 Transactions,” and individually as a “Section III.1.4 Transaction.” Transactions that conform to the standards are referred to collectively as “Section III.1.4 Conforming Transactions,” and individually as a “Section III.1.4 Conforming Transaction.”

**III.1.4.3**                    **Requirements for Section III.1.4 Conforming Transactions.**

(a) To qualify as a Section III.1.4 Conforming Transaction, a Section III.1.4 Transaction must constitute an exchange for an off-market transaction (a “Related Transaction”), where the Related Transaction:

- (i) is not cleared or settled by the ISO as Counterparty;
- (ii) is a spot, forward or derivatives contract that contemplates the transfer of energy or a MW obligation to or from a Market Participant;

- (iii) involves commercially appropriate obligations that impose a duty to transfer electricity or a MW obligation from the seller to the buyer, or from the buyer to the seller, with performance taking place within a reasonable time in accordance with prevailing cash market practices; and
  - (iv) is not contingent on either party to carry out the Section III.1.4 Transaction.
- (b) In addition, to qualify as a Section III.1.4 Conforming Transaction:
- (i) the Section III.1.4 Transaction must be executed between separate beneficial owners or separate parties trading for independently controlled accounts;
  - (ii) the Section III.1.4 Transaction and the Related Transaction must be separately identified in the records of the parties to the transactions; and
  - (iii) the Section III.1.4 Transaction must be separately identified in the records of the ISO.
- (c) As further requirements:
- (i) each party to the Section III.1.4 Transaction and Related Transaction must maintain, and produce upon request of the ISO, records demonstrating compliance with the requirements of Sections III.1.4.3(a) and (b) for the Section III.1.4 Transaction, the Related Transaction and any other transaction that is directly related to, or integrated in any way with, the Related Transaction, including the identity of the counterparties and the material economic terms of the transactions including their price, tenor, quantity and execution date; and
  - (ii) each party to the Section III.1.4 Transaction must be a Market Participant that meets all requirements of the ISO New England Financial Assurance Policy.

### **III.1.5 Resource Auditing.**

#### **III.1.5.1 Claimed Capability Audits.**

##### **III.1.5.1.1 General Audit Requirements.**

- (a) The following types of Claimed Capability Audits may be performed:
  - (i) An Establish Claimed Capability Audit establishes the Generator Asset's ability to respond to ISO Dispatch Instructions and to maintain performance at a specified output level for a specified duration.
  - (ii) A Seasonal Claimed Capability Audit determines a Generator Asset's capability to perform under specified summer and winter conditions for a specified duration.

- (iii) A Seasonal DR Audit determines the ability of a Demand Response Resource to perform during specified months for a specified duration.
- (iv) An ISO-Initiated Claimed Capability Audit is conducted by the ISO to verify the Generator Asset's Establish Claimed Capability Audit value or the Demand Response Resource's Seasonal DR Audit value.
- (b) The Claimed Capability Audit value of a Generator Asset shall reflect any limitations based upon the interdependence of common elements between two or more Generator Assets such as: auxiliaries, limiting operating parameters, and the deployment of operating personnel.
- (c) The Claimed Capability Audit value of gas turbine, combined cycle, and pseudo-combined cycle assets shall be normalized to standard 90° (summer) and 20° (winter) temperatures.
- (d) The Claimed Capability Audit value for steam turbine assets with steam exports, combined cycle, or pseudo-combined cycle assets with steam exports where steam is exported for uses external to the electric power facility, shall be normalized to the facility's Seasonal Claimed Capability steam demand.
- (e) A Claimed Capability Audit may be denied or rescheduled by the ISO if its performance will jeopardize the reliable operation of the electrical system.

#### **III.1.5.1.2 Establish Claimed Capability Audit.**

- (a) An Establish Claimed Capability Audit may be performed only by a Generator Asset.
- (b) The time and date of an Establish Claimed Capability Audit shall be unannounced.
- (c) For a newly commercial Generator Asset:
  - (i) An Establish Claimed Capability Audit will be scheduled by the ISO within five Business Days of the commercial operation date for all Generator Assets except:
    - 1. Non-intermittent daily cycle hydro;
    - 2. Non-intermittent net-metered, or special qualifying facilities that do not elect to audit as described in Section III.1.5.1.3; and
    - 3. Intermittent Generator Assets
  - (ii) The Establish Claimed Capability Audit values for both summer and winter shall equal the mean net real power output demonstrated over the duration of the audit, as reflected in hourly revenue metering data, normalized for temperature and steam exports.
  - (iii) The Establish Claimed Capability Audit values shall be effective as of the commercial operation date of the Generator Asset.
- (d) For Generator Assets with an Establish Claimed Capability Audit value:

- (i) An Establish Claimed Capability Audit may be performed at the request of a Market Participant in order to support a change in the summer and winter Establish Claimed Capability Audit values for a Generator Asset.
- (ii) An Establish Claimed Capability Audit shall be performed within five Business Days of the date of the request.
- (iii) The Establish Claimed Capability Audit values for both summer and winter shall equal the mean net real power output demonstrated over the duration of the audit, as reflected in hourly revenue metering data, normalized for temperature and steam exports.
- (iv) The Establish Claimed Capability Audit values become effective one Business Day following notification of the audit results to the Market Participant by the ISO.
- (v) A Market Participant may cancel an audit request prior to issuance of the audit Dispatch Instruction.
- (e) An Establish Claimed Capability Audit value may not exceed the maximum interconnected flow specified in the Network Resource Capability for the resource associated with the Generator Asset.
- (f) Establish Claimed Capability Audits shall be performed on non-NERC holiday weekdays between 0800 and 2200.
- (g) To conduct an Establish Claimed Capability Audit, the ISO shall:
  - (i) Initiate an Establish Claimed Capability Audit by issuing a Dispatch Instruction ordering the Generator Asset's net output to increase from the current operating level to its Real-Time High Operating Limit.
  - (ii) Indicate when issuing the Dispatch Instruction that an audit will be conducted.
  - (iii) Begin the audit with the first full clock hour after sufficient time has been allowed for the asset to ramp, based on its offered ramp rate from its current operating point to reach its Real-Time High Operating Limit.
- (h) An Establish Claimed Capability Audit shall be performed for the following contiguous duration:

<b>Duration Required for an Establish Claimed Capability Audit</b>	
<b>Type</b>	<b>Claimed Capability Audit Duration (Hrs)</b>
Steam Turbine (Includes Nuclear)	4
Combined Cycle	4
Integrated Coal Gasification Combustion Cycle	4
Pressurized Fluidized Bed Combustion	4

Combustion Gas Turbine	1
Internal Combustion Engine	1
Hydraulic Turbine – Reversible (Electric Storage)	2
Hydraulic Turbine – Other	
Hydro-Conventional Daily Pondage	2
Hydro-Conventional Run of River	
Hydro-Conventional Weekly	
Wind	2
Photovoltaic	
Fuel Cell	
Other Electric Storage (Excludes Hydraulic Turbine - Reversible)	2

- (i) The ISO, in consultation with the Market Participant, will determine the contiguous audit duration for a Generator Asset of a type not listed in Section III.1.5.1.2(h).

### **III.1.5.1.3. Seasonal Claimed Capability Audits.**

- (a) A Seasonal Claimed Capability Audit may be performed only by a Generator Asset.
- (b) A Seasonal Claimed Capability Audit must be conducted by all Generator Assets except:
- (i) Non-intermittent daily hydro; and
  - (ii) Intermittent, net-metered, and special qualifying facilities. Non-intermittent net-metered and special qualifying facilities may elect to perform Seasonal Claimed Capability Audits pursuant to Section III.1.7.11(c)(iv).
- (c) An Establish Claimed Capability Audit or ISO-Initiated Claimed Capability Audit that meets the requirements of a Seasonal Claimed Capability Audit in this Section III.1.5.1.3 may be used to fulfill a Generator Asset's Seasonal Claimed Capability Audit obligation.
- (d) Except as provided in Section III.1.5.1.3(n) below, a summer Seasonal Claimed Capability Audit must be conducted:
- (i) At least once every Capability Demonstration Year;
  - (ii) Either (1) at a mean ambient temperature during the audit that is greater than or equal to 80 degrees Fahrenheit at the location of the Generator Asset, or (2) during an ISO-announced summer Seasonal Claimed Capability Audit window.
- (e) A winter Seasonal Claimed Capability Audit must be conducted:

- (i) At least once in the previous three Capability Demonstration Years, except that a newly commercial Generator Asset which becomes commercial on or after:
  - (1) September 1 and prior to December 31 shall perform a winter Seasonal Claimed Capability Audit prior to the end of that Capability Demonstration Year.
  - (2) January 1 shall perform a winter Seasonal Claimed Capability Audit prior to the end of the next Capability Demonstration Year.
- (ii) Either (1) at a mean ambient temperature during the audit that is less than or equal to 32 degrees Fahrenheit at the location of the Generator Asset, or (2) during an ISO-announced winter Seasonal Claimed Capability Audit window.
- (f) A Seasonal Claimed Capability Audit shall be performed by operating the Generator Asset for the audit time period and submitting to the ISO operational data that meets the following requirements:
  - (i) The Market Participant must notify the ISO of its request to use the dispatch to satisfy the Seasonal Claimed Capability Audit requirement by 5:00 p.m. on the fifth Business Day following the day on which the audit concludes.
  - (ii) The notification must include the date and time period of the demonstration to be used for the Seasonal Claimed Capability Audit and other relevant operating data.
- (g) The Seasonal Claimed Capability Audit value (summer or winter) will be the mean net real power output demonstrated over the duration of the audit, as reflected in hourly revenue metering data, normalized for temperature and steam exports.
- (h) The Seasonal Claimed Capability Audit value (summer or winter) shall be the most recent audit data submitted to the ISO meeting the requirements of this Section III.1.5.1.3. In the event that a Market Participant fails to submit Seasonal Claimed Capability Audit data to meet the timing requirements in Section III.1.5.1.3(d) and (e), the Seasonal Claimed Capability Audit value for the season shall be set to zero.
- (i) The Seasonal Claimed Capability Audit value shall become effective one Business Day following notification of the audit results to the Market Participant by the ISO.
- (j) A Seasonal Claimed Capability Audit shall be performed for the following contiguous duration:

<b>Duration Required for a Seasonal Claimed Capability Audit</b>	
<b>Type</b>	<b>Claimed Capability Audit Duration (Hrs)</b>
Steam Turbine (Includes Nuclear)	2
Combined Cycle	2



Integrated Coal Gasification Combustion Cycle	2
Pressurized Fluidized Bed Combustion	2
Combustion Gas Turbine	1
Internal Combustion Engine	1
Hydraulic Turbine-Reversible (Electric Storage)	2
Hydraulic Turbine-Other	
Hydro-Conventional Weekly	2
Fuel Cell	1
Other Electric Storage (Excludes Hydraulic Turbine - Reversible)	2

- (k) A Generator Asset that is on a planned outage that was approved in the ISO's annual maintenance scheduling process during all hours that meet the temperature requirements for a Seasonal Claimed Capability Audit that is to be performed by the asset during that Capability Demonstration Year shall:
- (i) Submit to the ISO, prior to September 10, an explanation of the circumstances rendering it incapable of meeting these auditing requirements;
  - (ii) Have its Seasonal Claimed Capability Audit value for the season set to zero; and
  - (iii) Perform the required Seasonal Claimed Capability Audit on the next available day that meets the Seasonal Claimed Capability Audit temperature requirements.
- (l) A Generator Asset that does not meet the auditing requirements of this Section III.1.5.1.3 because (1) every time the temperature requirements were met at the Generator Asset's location the ISO denied the request to operate to full capability, or (2) the temperature requirements were not met at the Generator Asset's location during the Capability Demonstration Year during which the asset was required to perform a Seasonal Claimed Capability Audit during the hours 0700 to 2300 for each weekday excluding those weekdays that are defined as NERC holidays, shall:
- (i) Submit to the ISO, prior to September 10, an explanation of the circumstances rendering it incapable of meeting these temperature requirements, including verifiable temperature data;
  - (ii) Retain the current Seasonal Claimed Capability Audit value for the season; and
  - (iii) Perform the required Seasonal Claimed Capability Audit during the next Capability Demonstration Year.
- (m) The ISO may issue notice of a summer or winter Seasonal Claimed Capability Audit window for some or all of the New England Control Area if the ISO determines that weather forecasts indicate that temperatures during the audit window will meet the summer or winter Seasonal

Claimed Capability Audit temperature requirements. A notice shall be issued at least 48 hours prior to the opening of the audit window. Any audit performed during the announced audit window shall be deemed to meet the temperature requirement for the summer or winter audit. In the event that five or more audit windows for the summer Seasonal Claimed Capability Audit temperature requirement, each of at least a four hour duration between 0700 and 2300 and occurring on a weekday excluding those weekdays that are defined as NERC holidays, are not opened for a Generator Asset prior to August 15 during a Capability Demonstration Year, a two-week audit window shall be opened for that Generator Asset to perform a summer Seasonal Claimed Capability Audit, and any audit performed by that Generator Asset during the open audit window shall be deemed to meet the temperature requirement for the summer Seasonal Claimed Capability Audit. The open audit window shall be between 0700 and 2300 each day during August 15 through August 31.

- (n) A Market Participant that is required to perform testing on a Generator Asset that is in addition to a summer Seasonal Claimed Capability Audit may notify the ISO that the summer Seasonal Claimed Capability Audit was performed in conjunction with this additional testing, provided that:
  - (i) The notification shall be provided at the time the Seasonal Claimed Capability Audit data is submitted under Section III.1.5.1.3(f).
  - (ii) The notification explains the nature of the additional testing and that the summer Seasonal Claimed Capability Audit was performed while the Generator Asset was online to perform this additional testing.
  - (iii) The summer Seasonal Claimed Capability Audit and additional testing are performed during the months of June, July or August between the hours of 0700 and 2300.
  - (iv) In the event that the summer Seasonal Claimed Capability Audit does not meet the temperature requirements of Section III.1.5.1.3(d)(ii), the summer Seasonal Claimed Capability Audit value may not exceed the summer Seasonal Claimed Capability Audit value from the prior Capability Demonstration Year.
  - (v) This Section III.1.5.1.3(n) may be utilized no more frequently than once every three Capability Demonstration Years for a Generator Asset.
- (o) The ISO, in consultation with the Market Participant, will determine the contiguous audit duration for a Generator Asset of a type not listed in Section III.1.5.1.3(j).

#### **III.1.5.1.3.1 Seasonal DR Audits.**

- (a) A Seasonal DR Audit may be performed only by a Demand Response Resource.

- (b) A Seasonal DR Audit shall be performed for 12 contiguous five-minute intervals.
- (c) A summer Seasonal DR Audit must be conducted by all Demand Response Resources:
  - (i) At least once every Capability Demonstration Year;
  - (ii) During the months of April through November;
- (d) A winter Seasonal DR Audit must be conducted by all Demand Response Resources:
  - (i) At least once every Capability Demonstration Year;
  - (ii) During the months of December through March.
- (e) A Seasonal DR Audit may be performed either:
  - (i) At the request of a Market Participant as described in subsection (f) below; or
  - (ii) By the Market Participant designating a period of dispatch after the fact as described in subsection (g) below.
- (f) If a Market Participant requests a Seasonal DR Audit:
  - (i) The ISO shall perform the Seasonal DR Audit at an unannounced time between 0800 and 2200 on non-NERC holiday weekdays within five Business Days of the date of the request.
  - (ii) The ISO shall initiate the Seasonal DR Audit by issuing a Dispatch Instruction ordering the Demand Response Resource to its Maximum Reduction.
  - (iii) The ISO shall indicate when issuing the Dispatch Instruction that an audit will be conducted.
  - (iv) The ISO shall begin the audit with the start of the first five-minute interval after sufficient time has been allowed for the resource to ramp, based on its Demand Reduction Offer parameters, to its Maximum Reduction.
  - (v) A Market Participant may cancel an audit request prior to issuance of the audit Dispatch Instruction.
- (g) If the Seasonal DR Audit is performed by the designation of a period of dispatch after the fact, the designated period must meet all of the requirements in this Section III.1.5.1.3.1 and:
  - (i) The Market Participant must notify the ISO of its request to use the dispatch to satisfy the Seasonal DR Audit requirement by 5:00 p.m. on the fifth Business Day following the day on which the audit concludes.
  - (ii) The notification must include the date and time period of the demonstration to be used for the Seasonal DR Audit.
  - (iii) The demonstration period may begin with the start of any five-minute interval after the completion of the Demand Response Resource Notification Time.
  - (iv) A CLAIM10 audit or CLAIM30 audit that meets the requirements of a Seasonal DR Audit as provided in this Section III.1.5.1.3.1 may be used to fulfill the Seasonal DR Audit obligation of a Demand Response Resource.

- (h) An ISO-Initiated Claimed Capability Audit fulfils the Seasonal DR Audit obligation of a Demand Response Resource.
- (i) Each Demand Response Asset associated with a Demand Response Resource is evaluated during the Seasonal DR Audit of the Demand Response Resource.
- (j) Any Demand Response Asset on a forced or scheduled curtailment as defined in Section III.8.3 is assessed a zero audit value.
- (k) The Seasonal DR Audit value (summer or winter) of a Demand Response Resource resulting from the Seasonal DR Audit shall be the sum of the average demand reductions demonstrated during the audit by each of the Demand Response Resource's constituent Demand Response Assets.
- (l) If a Demand Response Asset is added to or removed from a Demand Response Resource between audits, the Demand Response Resource's capability shall be updated to reflect the inclusion or exclusion of the audit value of the Demand Response Asset, such that at any point in time the summer or winter Seasonal DR Audit value of a Demand Response Resource shall equal the sum of the most recent valid like-season audit values of its constituent Demand Response Assets.
- (m) The Seasonal DR Audit value shall become effective one calendar day following notification of the audit results to the Market Participant by the ISO.
- (n) The summer or winter audit value of a Demand Response Asset shall be set to zero at the end of the Capability Demonstration Year if the Demand Response Asset did not perform a Seasonal DR Audit for that season as part of a Demand Response Resource during that Capability Demonstration Year.
- (o) For a Demand Response Asset that was associated with a "Real-Time Demand Response Resource" or a "Real-Time Emergency Generation Resource," as those terms were defined prior to June 1, 2018, any valid result from an audit conducted prior to June 1, 2018 shall continue to be valid on June 1, 2018, and shall retain the same expiration date.

#### **III.1.5.1.4. ISO-Initiated Claimed Capability Audits.**

- (a) An ISO-Initiated Claimed Capability Audit may be performed by the ISO at any time.
- (b) An ISO-Initiated Claimed Capability Audit value shall replace either the summer or winter Seasonal DR Audit value for a Demand Response Resource and shall replace both the winter and summer Establish Claimed Capability Audit values for a Generator Asset, normalized for temperature and steam exports, except:

- (i) The Establish Claimed Capability Audit values for a Generator Asset may not exceed the maximum interconnected flow specified in the Network Resource Capability for that resource.
- (ii) An ISO-Initiated Claimed Capability Audit value for a Generator Asset shall not set the winter Establish Claimed Capability Audit value unless the ISO-Initiated Claimed Capability Audit was performed at a mean ambient temperature that is less than or equal to 32 degrees Fahrenheit at the Generator Asset location.
- (c) If for a Generator Asset a Market Participant submits pressure and relative humidity data for the previous Establish Claimed Capability Audit and the current ISO-Initiated Claimed Capability Audit, the Establish Claimed Capability Audit values derived from the ISO-Initiated Claimed Capability Audit will be normalized to the pressure of the previous Establish Claimed Capability Audit and a relative humidity of 64%.
- (d) The audit values derived from the ISO-Initiated Claimed Capability Audit shall become effective one Business Day following notification of the audit results to the Market Participant by the ISO.
- (e) To conduct an ISO-Initiated Claimed Capability Audit, the ISO shall:
  - (i) Initiate an ISO-Initiated Claimed Capability Audit by issuing a Dispatch Instruction ordering the Generator Asset to its Real-Time High Operating Limit or the Demand Response Resource to its Maximum Reduction.
  - (ii) Indicate when issuing the Dispatch Instruction that an audit will be conducted.
  - (iii) For Generator Assets, begin the audit with the first full clock hour after sufficient time has been allowed for the Generator Asset to ramp, based on its offered ramp rate, from its current operating point to its Real-Time High Operating Limit.
  - (iv) For Demand Response Resources, begin the audit with the first five-minute interval after sufficient time has been allowed for the resource to ramp, based on its Demand Reduction Offer parameters, to its Maximum Reduction.
- (f) An ISO-Initiated Claimed Capability Audit shall be performed for the following contiguous duration:

<b>Duration Required for an ISO-Initiated Claimed Capability Audit</b>	
<b>Type</b>	<b>Claimed Capability Audit Duration (Hrs)</b>
Steam Turbine (Includes Nuclear)	4
Combined Cycle	4

Integrated Coal Gasification Combustion Cycle	4
Pressurized Fluidized Bed Combustion	4
Combustion Gas Turbine	1
Internal Combustion Engine	1
Hydraulic Turbine – Reversible (Electric Storage)	2
Hydraulic Turbine – Other	
Hydro-Conventional Daily Pondage	2
Hydro-Conventional Run of River	
Hydro-Conventional Weekly	
Wind	2
Photovoltaic	
Fuel Cell	
Other Electric Storage (Excludes Hydraulic Turbine – Reversible)	2
Demand Response Resource	1

- (g) The ISO, in consultation with the Market Participant, will determine the contiguous audit duration for an Asset or Resource type not listed in Section III.1.5.1.4(f).

### III.1.5.2 ISO-Initiated Parameter Auditing.

- (a) The ISO may perform an audit of any Supply Offer, Demand Reduction Offer or other operating parameter that impacts the ability of a Generator Asset or Demand Response Resource to provide real-time energy or reserves.
- (b) Generator audits shall be performed using the following methods for the relevant parameter:
- (i) **Economic Maximum Limit.** The Generator Asset shall be evaluated based upon its ability to achieve the current offered Economic Maximum Limit value, through a review of historical dispatch data or based on a response to a current ISO-issued Dispatch Instruction.
  - (ii) **Manual Response Rate.** The Generator Asset shall be evaluated based upon its ability to respond to Dispatch Instructions at its offered Manual Response Rate, including hold points and changes in Manual Response Rates.
  - (iii) **Start-Up Time.** The Generator Asset shall be evaluated based upon its ability to achieve the offered Start-Up Time.
  - (iv) **Notification Time.** The Generator Asset shall be evaluated based upon its ability to close its output breaker within its offered Notification Time.

- (v) **CLAIM10.** The Generator Asset shall be evaluated based upon its ability to reach its CLAIM10 in accordance with Section III.9.5.
  - (vi) **CLAIM30.** The Generator Asset shall be evaluated based upon its ability to reach its CLAIM30 in accordance with Section III.9.5.
  - (vii) **Automatic Response Rate.** The Generator Asset shall be analyzed, based upon a review of historical performance data, for its ability to respond to four-second electronic Dispatch Instructions.
  - (viii) **Dual Fuel Capability.** A Generator Asset that is capable of operating on multiple fuels may be required to audit on a specific fuel, as set out in Section III.1.5.2(f).
- (c) Demand Response Resource audits shall be performed using the following methods:
- (i) **Maximum Reduction.** The Demand Response Resource shall be evaluated based upon its ability to achieve the current offered Maximum Reduction value, through a review of historical dispatch data or based on a response to a current Dispatch Instruction.
  - (ii) **Demand Response Resource Ramp Rate.** The Demand Response Resource shall be evaluated based upon its ability to respond to Dispatch Instructions at its offered Demand Response Resource Ramp Rate.
  - (iii) **Demand Response Resource Start-Up Time.** The Demand Response Resource shall be evaluated based upon its ability to achieve its Minimum Reduction within the offered Demand Response Resource Start-Up Time, in response to a Dispatch Instruction and after completing its Demand Response Resource Notification Time.
  - (iv) **Demand Response Resource Notification Time.** The Demand Response Resource shall be evaluated based upon its ability to start reducing demand within its offered Demand Response Resource Notification Time, from the receipt of a Dispatch Instruction when the Demand Response Resource was not previously reducing demand.
  - (v) **CLAIM10.** The Demand Response Resource shall be evaluated based upon its ability to reach its CLAIM10 in accordance with Section III.9.5.
  - (vi) **CLAIM30.** The Demand Response Resource shall be evaluated based upon its ability to reach its CLAIM30 in accordance with Section III.9.5.
- (d) To conduct an audit based upon historical data, the ISO shall:
- (i) Obtain data through random sampling of generator or Demand Response Resource performance in response to Dispatch Instructions; or
  - (ii) Obtain data through continual monitoring of generator or Demand Response Resource performance in response to Dispatch Instructions.

- (e) To conduct an unannounced audit, the ISO shall initiate the audit by issuing a Dispatch Instruction ordering the Generator Asset or Demand Response Resource to change from the current operating level to a level that permits the ISO to evaluate the performance of the Generator Asset or Demand Response Resource for the parameters being audited.
- (f) To conduct an audit of the capability of a Generator Asset described in Section III.1.5.2(b)(viii) to run on a specific fuel:
  - (i) The ISO shall notify the Lead Market Participant if a Generator Asset is required to undergo an audit on a specific fuel. The ISO, in consultation with the Lead Market Participant, shall develop a plan for the audit.
  - (ii) The Lead Market Participant will have the ability to propose the time and date of the audit within the ISO's prescribed time frame and must notify the ISO at least five Business Days in advance of the audit, unless otherwise agreed to by the ISO and the Lead Market Participant.
- (g) To the extent that the audit results indicate a Market Participant is providing Supply Offer, Demand Reduction Offer or other operating parameter values that are not representative of the actual capability of the Generator Asset or Demand Response Resource, the values for the Generator Asset or Demand Response Resource shall be restricted to those values that are supported by the audit.
- (h) In the event that a Generator Asset or Demand Response Resource has had a parameter value restricted:
  - (i) The Market Participant may submit a restoration plan to the ISO to restore that parameter.

The restoration plan shall:

    1. Provide an explanation of the discrepancy;
    2. Indicate the steps that the Market Participant will take to re-establish the parameter's value;
    3. Indicate the timeline for completing the restoration; and
    4. Explain the testing that the Market Participant will undertake to verify restoration of the parameter value upon completion.
  - (ii) The ISO shall:
    1. Accept the restoration plan if implementation of the plan, including the testing plan, is reasonably likely to support the proposed change in the parameter value restriction;
    2. Coordinate with the Market Participant to perform required testing upon completion of the restoration; and
    3. Modify the parameter value restriction following completion of the restoration plan, based upon tested values.



### **III.1.5.3 Reactive Capability Audits.**

- (a) Two types of Reactive Capability Audits may be performed:
  - (i) A lagging Reactive Capability Audit, which is an audit that measures a Reactive Resource's ability to provide reactive power to the transmission system at a specified real power output or consumption.
  - (ii) A leading Reactive Capability Audit, which is an audit that measures a Reactive Resource's ability to absorb reactive power from the transmission system at a specified real power output or consumption.
- (b) The ISO shall develop a list of Reactive Resources that must conduct Reactive Capability Audits. The list shall include Reactive Resources that: (i) have a gross individual nameplate rating greater than 20 MVA; (ii) are directly connected, or are connected through equipment designed primarily for delivering real or reactive power to an interconnection point, to the transmission system at a voltage of 100 kV or above; and (iii) are not exempted from providing voltage control by the ISO. Additional criteria to be used in adding a Reactive Resource to the list includes, but is not limited to, the effect of the Reactive Resource on System Operating Limits, Interconnection Reliability Operating Limits, and local area voltage limits during the following operating states: normal, emergency, and system restoration.
- (c) Unless otherwise directed by the ISO, Reactive Resources that are required to perform Reactive Capability Audits shall perform both a lagging Reactive Capability Audit and a leading Reactive Capability Audit.
- (d) All Reactive Capability Audits shall meet the testing conditions specified in the ISO New England Operating Documents.
- (e) The Reactive Capability Audit value of a Reactive Resource shall reflect any limitations based upon the interdependence of common elements between two or more Reactive Resources such as: auxiliaries, limiting operating parameters, and the deployment of operating personnel.
- (f) A Reactive Capability Audit may be denied or rescheduled by the ISO if conducting the Reactive Capability Audit could jeopardize the reliable operation of the electrical system.
- (g) Reactive Capability Audits shall be conducted at least every five years, unless otherwise required by the ISO. The ISO may require a Reactive Resource to conduct Reactive Capability Audits more often than every five years if:
  - (i) there is a change in the Reactive Resource that may affect the reactive power capability of the Reactive Resource;
  - (ii) there is a change in electrical system conditions that may affect the achievable reactive power output or absorption of the Reactive Resource; or

- (iii) historical data shows that the amount of reactive power that the Reactive Resource can provide to or absorb from the transmission system is higher or lower than the latest audit data.
- (h) A Lead Market Participant or Transmission Owner may request a waiver of the requirement to conduct a Reactive Capability Audit for its Reactive Resource. The ISO, at its sole discretion, shall determine whether and for how long a waiver may be granted.

**III.1.6 [Reserved.]**

**III.1.6.1 [Reserved.]**

**III.1.6.2 [Reserved.]**

**III.1.6.3 [Reserved.]**

**III.1.6.4 ISO New England Manuals and ISO New England Administrative Procedures.**

The ISO shall prepare, maintain and update the ISO New England Manuals and ISO New England Administrative Procedures consistent with the ISO New England Filed Documents. The ISO New England Manuals and ISO New England Administrative Procedures shall be available for inspection by the Market Participants, regulatory authorities with jurisdiction over the ISO or any Market Participant, and the public.

**III.1.7 General.**

**III.1.7.1 Provision of Market Data to the Commission.**

The ISO will electronically deliver to the Commission, on an ongoing basis and in a form and manner consistent with its collection of data and in a form and manner acceptable to the Commission, data related to the markets that it administers, in accordance with the Commission's regulations.

**III.1.7.2 [Reserved.]**

**III.1.7.3 Agents.**

A Market Participant may participate in the New England Markets through an agent, provided that such Market Participant informs the ISO in advance in writing of the appointment of such agent. A Market Participant using an agent shall be bound by all of the acts or representations of such agent with respect to transactions in the New England Markets, and shall ensure that any such agent complies with the

requirements of the ISO New England Manuals and ISO New England Administrative Procedures and the ISO New England Filed Documents.

**III.1.7.4 [Reserved.]**

**III.1.7.5 Transmission Constraint Penalty Factors.**

In the Day-Ahead Energy Market, the Transmission Constraint Penalty Factor for an interface constraint is \$10,000/MWh and the Transmission Constraint Penalty Factor for all other transmission constraints is \$30,000/MWh. In the Real-Time Energy Market, the Transmission Constraint Penalty Factor for any transmission constraint is \$30,000/MWh. Transmission Constraint Penalty Factors are not used in calculating Locational Marginal Prices.

**III.1.7.6 Scheduling and Dispatching.**

- (a) The ISO shall schedule Day-Ahead and schedule and dispatch in Real-Time Resources economically on the basis of least-cost, security-constrained dispatch and the prices and operating characteristics offered by Market Participants. The ISO shall schedule and dispatch sufficient Resources of the Market Participants to serve the New England Markets energy purchase requirements under normal system conditions of the Market Participants and meet the requirements of the New England Control Area for ancillary services provided by such Resources. The ISO shall use a joint optimization process to serve Real-Time Energy Market energy requirements and meet Real-Time Operating Reserve requirements based on a least-cost, security-constrained economic dispatch.
- (b) In the event that one or more Resources cannot be scheduled in the Day-Ahead Energy Market on the basis of a least-cost, security-constrained dispatch as a result of one or more Self-Schedule offers contributing to a transmission limit violation, the following scheduling protocols will apply:
  - (i) When a single Self-Schedule offer contributes to a transmission limit violation, the Self-Schedule offer will not be scheduled for the entire Self-Schedule period in development of Day-Ahead schedules.
  - (ii) When two Self-Schedule offers contribute to a transmission limit violation, parallel clearing solutions will be executed such that, for each solution, one of the Self-Schedule offers

will be omitted for its entire Self-Schedule period. The least cost solution will be used for purposes of determining which Resources are scheduled in the Day-Ahead Energy Market.

(iii) When three or more Self-Schedule offers contribute to a transmission limit violation, the ISO will determine the total daily MWh for each Self-Schedule offer and will omit Self-Schedule offers in their entirety, in sequence from the offer with the least total daily MWh to the offer with the greatest total MWh, stopping when the transmission limit violation is resolved.

(c) Scheduling and dispatch shall be conducted in accordance with the ISO New England Filed Documents.

(d) The ISO shall undertake, together with Market Participants, to identify any conflict or incompatibility between the scheduling or other deadlines or specifications applicable to the New England Markets, and any relevant procedures of another Control Area, or any tariff (including the Transmission, Markets and Services Tariff). Upon determining that any such conflict or incompatibility exists, the ISO shall propose tariff or procedural changes, or undertake such other efforts as may be appropriate, to resolve any such conflict or incompatibility.

#### **III.1.7.7 Energy Pricing.**

The price paid for energy, including demand reductions, bought and sold by the ISO in the New England Markets will reflect the Locational Marginal Price at each Location, determined by the ISO in accordance with the ISO New England Filed Documents. Congestion Costs, which shall be determined by differences in the Congestion Component of Locational Marginal Prices caused by constraints, shall be calculated and collected, and the resulting revenues disbursed, by the ISO in accordance with this Market Rule 1. Loss costs associated with Pool Transmission Facilities, which shall be determined by the differences in Loss Components of the Locational Marginal Prices shall be calculated and collected, and the resulting revenues disbursed, by the ISO in accordance with this Market Rule 1.

#### **III.1.7.8 Market Participant Resources.**

A Market Participant may elect to Self-Schedule its Resources in accordance with and subject to the limitations and procedures specified in this Market Rule 1 and the ISO New England Manuals.

#### **III.1.7.9 Real-Time Reserve Prices.**

The price paid by the ISO for the provision of Real-Time Operating Reserve in the New England Markets will reflect Real-Time Reserve Clearing Prices determined by the ISO in accordance with the ISO New England Filed Documents for the system and each Reserve Zone.

#### **III.1.7.10 Other Transactions.**

Market Participants may enter into internal bilateral transactions and External Transactions for the purchase or sale of energy or other products to or from each other or any other entity, subject to the obligations of Market Participants to make resources with a Capacity Supply Obligation available for dispatch by the ISO. External Transactions that contemplate the physical transfer of energy or obligations to or from a Market Participant shall be reported to and coordinated with the ISO in accordance with this Market Rule 1 and the ISO New England Manuals.

#### **III.1.7.11 Seasonal Claimed Capability of a Generating Capacity Resource.**

- (a) A Seasonal Claimed Capability value must be established and maintained for all Generating Capacity Resources. A summer Seasonal Claimed Capability is established for use from June 1 through September 30 and a winter Seasonal Claimed Capability is established for use from October 1 through May 31.
- (b) The Seasonal Claimed Capability of a Generating Capacity Resource is the sum of the Seasonal Claimed Capabilities of the Generator Assets that are associated with the Generating Capacity Resource.
- (c) The Seasonal Claimed Capability of a Generator Asset is:
  - (i) Based upon review of historical data for non-intermittent daily cycle hydro.
  - (ii) The median net real power output during reliability hours, as described in Section III.13.1.2.2.2, for (1) intermittent facilities, and (2) net-metered and special qualifying facilities that do not elect to audit, as reflected in hourly revenue metering data.
  - (iii) For non-intermittent net-metered and special qualifying facilities that elect to audit, the minimum of (1) the Generator Asset's current Seasonal Claimed Capability Audit value, as performed pursuant to Section III.1.5.1.3; (2) the Generator Asset's current Establish Claimed Capability Audit value; and (3) the median hourly availability during hours ending 2:00 p.m. through 6:00 p.m. each day of the preceding June through September for Summer and hours ending 6:00 p.m. and 7:00 p.m. each day of the preceding October through May for Winter. The hourly availability:
    - a. For a Generator Asset that is available for commitment and following Dispatch Instructions, shall be the asset's Economic Maximum Limit, as submitted or redeclared.

- b. For a Generator Asset that is off-line and not available for commitment shall be zero.
- c. For a Generator Asset that is on-line but not able to follow Dispatch Instructions, shall be the asset's metered output.
- (iv) For all other Generator Assets, the minimum of: (1) the Generator Asset's current Establish Claimed Capability Audit value and (2) the Generator Asset's current Seasonal Claimed Capability Audit value, as performed pursuant to Section III.1.5.1.3.

#### **III.1.7.12 Seasonal DR Audit Value of an Active Demand Capacity Resource.**

- (a) A Seasonal DR Audit value must be established and maintained for all Active Demand Capacity Resources. A summer Seasonal DR Audit value is established for use from April 1 through November 30 and a winter Seasonal DR Audit value is established for use from December 1 through March 31.
- (b) The Seasonal DR Audit value of an Active Demand Capacity Resource is the sum of the Seasonal DR Audit values of the Demand Response Resources that are associated with the Active Demand Capacity Resource.

**III.1.7.13 [Reserved.]**

**III.1.7.14 [Reserved.]**

**III.1.7.15 [Reserved.]**

**III.1.7.16 [Reserved.]**

#### **III.1.7.17 Operating Reserve.**

The ISO shall endeavor to procure and maintain an amount of Operating Reserve in Real-Time equal to the system and zonal Operating Reserve requirements as specified in the ISO New England Manuals and ISO New England Administrative Procedures. Reserve requirements for the Forward Reserve Market are determined in accordance with the methodology specified in Section III.9.2 of Market Rule 1. Operating Reserve requirements for Real-Time dispatch within an Operating Day are determined in accordance with Market Rule 1 and ISO New England Operating Procedure No. 8, Operating Reserve and Regulation.

#### **III.1.7.18 Ramping.**

A Generator Asset, Dispatchable Asset Related Demand, or Demand Response Resource dispatched by the ISO pursuant to a control signal appropriate to increase or decrease the Resource's megawatt output, consumption, or demand reduction level shall be able to change output, consumption, or demand

reduction at the ramping rate specified in the Offer Data submitted to the ISO for that Resource and shall be subject to sanctions for failure to comply as described in **Appendix B**.

### **III.1.7.19 Real-Time Reserve Designation.**

The ISO shall determine the Real-Time Reserve Designation for each eligible Resource in accordance with this Section III.1.7.19. The Real-Time Reserve Designation shall consist of a MW value, in no case less than zero, for each Operating Reserve product: Ten-Minute Spinning Reserve, Ten-Minute Non-Spinning Reserve, and Thirty-Minute Operating Reserve.

#### **III.1.7.19.1 Eligibility.**

To be eligible to receive a Real-Time Reserve Designation, a Resource must meet all of the criteria enumerated in this Section III.1.7.19.1. A Resource that does not meet all of these criteria is not eligible to provide Operating Reserve and will not receive a Real-Time Reserve Designation.

- (1) The Resource must be a Dispatchable Resource located within the metered boundaries of the New England Control Area and capable of receiving and responding to electronic Dispatch Instructions.
- (2) The Resource must not be part of the first contingency supply loss.
- (3) The Resource must not be designated as constrained by transmission limitations.
- (4) The Resource's Operating Reserve, if activated, must be sustainable for at least one hour from the time of activation. (This eligibility requirement does not affect a Resource's obligation to follow Dispatch Instructions, even after one hour from the time of activation.)
- (5) The Resource must comply with the applicable standards and requirements for provision and dispatch of Operating Reserve as specified in the ISO New England Manuals and ISO New England Administrative Procedures.

### **III.1.7.19.2 Calculation of Real-Time Reserve Designation.**

#### **III.1.7.19.2.1 Generator Assets.**

##### **III.1.7.19.2.1.1 On-line Generator Assets.**

The Manual Response Rate used in calculations in this section shall be the lesser of the Generator Asset's offered Manual Response Rate and its audited Manual Response Rate as described in Section III.1.5.2.

- (a) **Ten-Minute Spinning Reserve.** For an on-line Generator Asset (other than one registered as being composed of multiple generating units whose synchronized capability cannot be determined by the ISO), Ten-Minute Spinning Reserve shall be calculated as the increase in output the Generator Asset could achieve, relative to its current telemetered output, within ten minutes given its Manual Response Rate (and in no case to a level greater than its Economic Maximum Limit). For an on-line Generator Asset registered as being composed of multiple generating units whose synchronized capability cannot be determined by the ISO, Ten-Minute Spinning Reserve shall be zero.
- (b) **Ten-Minute Non-Spinning Reserve.** For an on-line Generator Asset (other than one registered as being composed of multiple generating units whose synchronized capability cannot be determined by the ISO), Ten-Minute Non-Spinning Reserve shall be zero. For an on-line Generator Asset registered as being composed of multiple generating units whose synchronized capability cannot be determined by the ISO, Ten-Minute Non-Spinning Reserve shall be calculated as the increase in output the Generator Asset could achieve, relative to its current telemetered output, within ten minutes given its Manual Response Rate (and in no case to a level greater than its Economic Maximum Limit).
- (c) **Thirty-Minute Operating Reserve.** For an on-line Generator Asset, Thirty-Minute Operating Reserve shall be calculated as the increase in output the Generator Asset could achieve, relative to its current telemetered output, within thirty minutes given its Manual Response Rate (and in no case greater than its Economic Maximum Limit) minus the Ten-Minute Spinning Reserve quantity calculated for the Generator Asset pursuant to subsection (a) above and the Ten-Minute Non-Spinning Reserve quantity calculated for the Generator Asset pursuant to subsection (b) above.

#### **III.1.7.19.2.1.2 Off-line Generator Assets.**

For an off-line Generator Asset that is not a Fast Start Generator, all components of the Real-Time Reserve Designation shall be zero.

- (a) **Ten-Minute Spinning Reserve.** For an off-line Fast Start Generator, Ten-Minute Spinning Reserve shall be zero.



- (b) **Ten-Minute Non-Spinning Reserve.** For an off-line Fast Start Generator, Ten-Minute Non-Spinning Reserve shall be calculated as the minimum of the Fast Start Generator's Offered CLAIM10, its CLAIM10, and its Economic Maximum Limit (provided, however, that during the Fast Start Generator's Minimum Down Time, the Fast Start Generator's Ten-Minute Non-Spinning Reserve shall be zero, except during the last ten minutes of its Minimum Down Time, at which time the ISO will prorate the Fast Start Generator's Ten-Minute Non-Spinning Reserve to account for the remaining amount of time until the Fast Start Generator's Minimum Down Time expires).
- (c) **Thirty-Minute Operating Reserve.** For an off-line Fast Start Generator, Thirty-Minute Operating Reserve shall be calculated as: (i) the minimum of the Fast Start Generator's Offered CLAIM30, its CLAIM30, and its Economic Maximum Limit (provided, however, that during the Fast Start Generator's Minimum Down Time, the Fast Start Generator's Thirty-Minute Operating Reserve shall be zero, except during the last thirty minutes of its Minimum Down Time, at which time the ISO will prorate the Fast Start Generator's Thirty-Minute Operating Reserve to account for the remaining amount of time until the Fast Start Generator's Minimum Down Time expires), minus (ii) the Ten-Minute Non-Spinning Reserve quantity calculated for the Fast Start Generator pursuant to subsection (b) above.

#### **III.1.7.19.2.2 Dispatchable Asset Related Demand.**

##### **III.1.7.19.2.2.1 Storage DARDs.**

- (a) **Ten-Minute Spinning Reserve.** For a Storage DARD, Ten-Minute Spinning Reserve shall be calculated as the absolute value of the amount of current telemetered consumption.
- (b) **Ten-Minute Non-Spinning Reserve.** For a Storage DARD, Ten-Minute Non-Spinning Reserve shall be zero.
- (c) **Thirty-Minute Operating Reserve.** For a Storage DARD, Thirty-Minute Operating Reserve shall be zero.

##### **III.1.7.19.2.2.2 Dispatchable Asset Related Demand Other Than Storage DARDs.**

- (a) **Ten-Minute Spinning Reserve.** For a Dispatchable Asset Related Demand (other than a Storage DARD) that has no Controllable Behind-the-Meter Generation, Ten-Minute Spinning Reserve shall be calculated as the decrease in consumption that the Dispatchable Asset Related Demand could achieve, relative to its current telemetered consumption, within ten minutes given its ramp rate (and in no case to an amount less than its Minimum Consumption Limit). For a Dispatchable Asset Related Demand (other than a Storage DARD) having Controllable Behind-the-Meter Generation, Ten-Minute Spinning Reserve shall be zero.
- (b) **Ten-Minute Non-Spinning Reserve.** For a Dispatchable Asset Related Demand (other than a Storage DARD) that has no Controllable Behind-the-Meter Generation, Ten-Minute Non-Spinning Reserve shall be zero. For a Dispatchable Asset Related Demand (other than a Storage DARD) having Controllable Behind-the-Meter Generation, Ten-Minute Non-Spinning Reserve shall be calculated as the decrease in consumption that the Dispatchable Asset Related Demand could achieve, relative to its current telemetered consumption, within ten minutes given its ramp rate (and in no case to an amount less than its Minimum Consumption Limit).
- (c) **Thirty-Minute Operating Reserve.** For a Dispatchable Asset Related Demand (other than a Storage DARD) that has no Controllable Behind-the-Meter Generation, Thirty-Minute Operating Reserve shall be calculated as the decrease in consumption that the Dispatchable Asset Related Demand could achieve, relative to its current telemetered consumption, within thirty minutes given its ramp rate (and in no case to an amount less than its Minimum Consumption Limit) minus the Ten-Minute Spinning Reserve quantity calculated for the Dispatchable Asset Related Demand pursuant to subsection (a) above. For a Dispatchable Asset Related Demand (other than a Storage DARD) having Controllable Behind-the-Meter Generation, Thirty-Minute Operating Reserve shall be calculated as the decrease in consumption that the Dispatchable Asset Related Demand could achieve, relative to its current telemetered consumption, within thirty minutes given its ramp rate (and in no case to an amount less than its Minimum Consumption Limit) minus the Ten-Minute Non-Spinning Reserve quantity calculated for the Dispatchable Asset Related Demand pursuant to subsection (b) above.

### **III.1.7.19.2.3 Demand Response Resources.**

For a Demand Response Resource that does not provide one-minute telemetry to the ISO, notwithstanding any provision in this Section III.1.7.19.2.3 to the contrary, the Ten-Minute Spinning Reserve and Ten-Minute Non-Spinning Reserve components of the Real-Time Reserve Designation shall

be zero. The Demand Response Resource Ramp Rate used in calculations in this section shall be the lesser of the Resource's offered Demand Response Resource Ramp Rate and its audited Demand Response Resource Ramp Rate as described in Section III.1.5.2.

#### **III.1.7.19.2.3.1            Dispatched.**

- (a)     **Ten-Minute Spinning Reserve.** For a Demand Response Resource that is being dispatched and that has no Controllable Behind-the-Meter Generation, Ten-Minute Spinning Reserve shall be calculated as the increase in demand reduction that the Demand Response Resource could achieve, relative to the estimated current demand reduction level, within ten minutes given its Demand Response Resource Ramp Rate (and in no case greater than its Maximum Reduction). For a Demand Response Resource that is being dispatched and that has Controllable Behind-the-Meter Generation, Ten-Minute Spinning Reserve shall be zero.
- (b)     **Ten-Minute Non-Spinning Reserve.** For a Demand Response Resource that is being dispatched and that has no Controllable Behind-the-Meter Generation, Ten-Minute Non-Spinning Reserve shall be zero. For a Demand Response Resource that is being dispatched and that has Controllable Behind-the-Meter Generation, Ten-Minute Non-Spinning Reserve shall be calculated as the increase in demand reduction that the Demand Response Resource could achieve, relative to the estimated current demand reduction level, within ten minutes given its Demand Response Resource Ramp Rate (and in no case greater than its Maximum Reduction).
- (c)     **Thirty-Minute Operating Reserve.** For a Demand Response Resource that is being dispatched, Thirty-Minute Operating Reserve shall be calculated as the increase in demand reduction that the Demand Response Resource could achieve, relative to the estimated current demand reduction level, within thirty minutes given its Demand Response Resource Ramp Rate (and in no case greater than its Maximum Reduction) minus the Ten-Minute Spinning Reserve quantity calculated for the Resource pursuant to subsection (a) above and the Ten-Minute Non-Spinning Reserve quantity calculated for the Resource pursuant to subsection (b) above.

#### **III.1.7.19.2.3.2            Non-Dispatched.**

For a Demand Response Resource that is not being dispatched that is not a Fast Start Demand Response Resource, all components of the Real-Time Reserve Designation shall be zero.

- (a) **Ten-Minute Spinning Reserve.** For a Fast Start Demand Response Resource that is not being dispatched, Ten-Minute Spinning Reserve shall be zero.
- (b) **Ten-Minute Non-Spinning Reserve.** For a Fast Start Demand Response Resource that is not being dispatched, Ten-Minute Non-Spinning Reserve shall be calculated as the minimum of the Demand Response Resource's Offered CLAIM10, its CLAIM10, and its Maximum Reduction.
- (c) **Thirty-Minute Operating Reserve.** For a Fast Start Demand Response Resource that is not being dispatched, Thirty-Minute Operating Reserve shall be calculated as: (i) the minimum of the Demand Response Resource's Offered CLAIM30, its CLAIM30, and its Maximum Reduction, minus (ii) the Ten-Minute Non-Spinning Reserve quantity calculated for the Demand Response Resource pursuant to subsection (b) above.

### **III.1.7.20 Information and Operating Requirements.**

- (a) [Reserved.]
- (b) Market Participants selling from Resources within the New England Control Area shall: supply to the ISO all applicable Offer Data; report to the ISO Resources that are Self-Scheduled; report to the ISO External Transaction sales; confirm to the ISO bilateral sales to Market Participants within the New England Control Area; respond to the ISO's directives to start, shutdown or change output, consumption, or demand reduction levels of Generator Assets, DARDs, or Demand Response Resources, change scheduled voltages or reactive output levels; continuously maintain all Offer Data concurrent with on-line operating information; and ensure that, where so equipped, equipment is operated with control equipment functioning as specified in the ISO New England Manuals and ISO New England Administrative Procedures.
- (c) Market Participants selling from Resources outside the New England Control Area shall: provide to the ISO all applicable Offer Data, including offers specifying amounts of energy available, hours of availability and prices of energy and other services; respond to ISO directives to schedule delivery or change delivery schedules; and communicate delivery schedules to the source Control Area and any intermediary Control Areas.
- (d) Market Participants, as applicable, shall: respond or ensure a response to ISO directives for load management steps; report to the ISO all bilateral purchase transactions including External Transaction

purchases; and respond or ensure a response to other ISO directives such as those required during Emergency operation.

(e) Market Participant, as applicable, shall provide to the ISO requests to purchase specified amounts of energy for each hour of the Operating Day during which it intends to purchase from the Day-Ahead Energy Market.

(f) Market Participants are responsible for reporting to the ISO anticipated availability and other information concerning Generator Assets, Demand Response Resources and Dispatchable Asset Related Demands required by the ISO New England Operating Documents, including but not limited to the Market Participant's ability to procure fuel and physical limitations that could reduce Resource output or demand reduction capability for the pertinent Operating Day.

**III.1.8 [Reserved.]**

**III.1.9 Pre-scheduling.**

**III.1.9.1 Offer and Bid Caps and Cost Verification for Offers and Bids.**

**III.1.9.1.1 Cost Verification of Resource Offers.**

The incremental energy values of Supply Offers and Demand Response Resources above \$1,000/MWh for any Resource other than an External Resource are subject to the following cost verification requirements. Unless expressly stated otherwise, cost verification is utilized in all pricing, commitment, dispatch and settlement determinations. For purposes of the following requirements, Reference Levels are calculated using the procedures in Section III.A.7.5 for calculating cost-based Reference Levels.

(a) If the incremental energy value of a Resource's offer is greater than the incremental energy Reference Level value of the Resource, then the incremental energy value in the offer is replaced with the greater of the Reference Level for incremental energy or \$1,000/MWh.

(b) For purposes of the price calculations in Sections III.2.5 and III.2.7A, if the adjusted offer calculated under Section III.2.4 for a Rapid Response Pricing Asset is greater than \$1,000/MWh (after the incremental energy value is evaluated under Section III.1.9.1.1(a) above), then verification will be performed as follows using a Reference Level value calculated with the adjusted offer formulas specified in Section III.2.4.

(i) If the Reference Level value is less than or equal to \$1,000/MWh, then the adjusted offer for the Resource is set at \$1,000/MWh;

(ii) If the Reference Level value is greater than \$1,000/MWh, then the adjusted offer for the Resource is set at the lower of the Reference Level value and the adjusted offer.

#### **III.1.9.1.2 Offer and Bid Caps.**

(a) For purposes of the price calculations described in Section III.2 and for purposes of scheduling a Resource in the Day-Ahead Energy Market in accordance with Section III.1.7.6 following the commitment of the Resource, the incremental energy value of an offer is capped at \$2,000/MWh.

(b) Demand Bids shall not specify a bid price below the Energy Offer Floor or above the Demand Bid Cap.

(c) Supply Offers and Demand Reduction Offers shall not specify an offer price (for incremental energy) below the Energy Offer Floor.

(d) External Transactions shall not specify a price below the External Transaction Floor or above the External Transaction Cap.

(e) Increment Offers and Decrement Bids shall not specify an offer or bid price below the Energy Offer Floor or above the Virtual Cap.

**III.1.9.2 [Reserved.]**

**III.1.9.3 [Reserved.]**

**III.1.9.4 [Reserved.]**

**III.1.9.5 [Reserved.]**

**III.1.9.6 [Reserved.]**

#### **III.1.9.7 Market Participant Responsibilities.**

Market Participants authorized and intending to request market-based Start-Up Fees and No-Load Fee in their Offer Data shall submit a specification of such fees to the ISO for each Generator Asset as to which the Market Participant intends to request such fees. Any such specification shall identify the applicable period and be submitted on or before the applicable deadline and shall remain in effect unless otherwise modified in accordance with Section III.1.10.9. The ISO shall reject any request for Start-Up Fees and No-Load Fee in a Market Participant's Offer Data that does not conform to the Market Participant's specification on file with the ISO.

**III.1.9.8 [Reserved.]**

### **III.1.10**

### **Scheduling.**

#### **III.1.10.1**

#### **General.**

(a) The ISO shall administer scheduling processes to implement a Day-Ahead Energy Market and a Real-Time Energy Market.

(b) The Day-Ahead Energy Market shall enable Market Participants to purchase and sell energy through the New England Markets at Day-Ahead Prices and enable Market Participants to submit External Transactions conditioned upon Congestion Costs not exceeding a specified level. Market Participants whose purchases and sales and External Transactions are scheduled in the Day-Ahead Energy Market shall be obligated to purchase or sell energy or pay Congestion Costs and costs for losses, at the applicable Day-Ahead Prices for the amounts scheduled.

(c) In the Real-Time Energy Market,

(i) Market Participants that deviate from the amount of energy purchases or sales scheduled in the Day-Ahead Energy Market shall replace the energy not delivered with energy from the Real-Time Energy Market or an internal bilateral transaction and shall pay for such energy not delivered, net of any internal bilateral transactions, at the applicable Real-Time Price, unless otherwise specified by this Market Rule 1, and

(ii) Non-Market Participant Transmission Customers shall be obligated to pay Congestion Costs and costs for losses for the amount of the scheduled transmission uses in the Real-Time Energy Market at the applicable Real-Time Congestion Component and Loss Component price differences, unless otherwise specified by this Market Rule 1.

(d) The following scheduling procedures and principles shall govern the commitment of Resources to the Day-Ahead Energy Market and the Real-Time Energy Market over a period extending from one week to one hour prior to the Real-Time dispatch. Scheduling encompasses the Day-Ahead and hourly scheduling process, through which the ISO determines the Day-Ahead Energy Market schedule and determines, based on changing forecasts of conditions and actions by Market Participants and system constraints, a plan to serve the hourly energy and reserve requirements of the New England Control Area in the least costly manner, subject to maintaining the reliability of the New England Control Area.

Scheduling of External Transactions in the Real-Time Energy Market is subject to Section II.44 of the OATT.

(e) If the ISO's forecast for the next seven days projects a likelihood of Emergency Condition, the ISO may commit, for all or part of such seven day period, to the use of Generator Assets or Demand Response Resources with Notification Time greater than 24 hours as necessary in order to alleviate or mitigate such Emergency, in accordance with the Market Participants' binding Supply Offers or Demand Reduction Offers.

### **III.1.10.1A Energy Market Scheduling.**

Market Participants may submit offers and bids in the Day-Ahead Energy Market until 10:30 a.m. on the day before the Operating Day for which transactions are being scheduled, or such other deadline as may be specified by the ISO in order to comply with the practical requirements and the economic and efficiency objectives of the scheduling process specified in this Market Rule 1.

(a) **Locational Demand Bids** – Each Market Participant may submit to the ISO specifications of the amount and location of its customer loads and/or energy purchases to be included in the Day-Ahead Energy Market for each hour of the next Operating Day, such specifications to comply with the requirements set forth in the ISO New England Manuals and ISO New England Administrative Procedures. Each Market Participant shall inform the ISO of (i) the prices, if any, at which it desires not to include its load in the Day-Ahead Energy Market rather than pay the Day-Ahead Price, (ii) hourly schedules for Resources Self-Scheduled by the Market Participant; and (iii) the Decrement Bid at which each such Self-Scheduled Resource will disconnect or reduce output, or confirmation of the Market Participant's intent not to reduce output. Price-sensitive Demand Bids and Decrement Bids must be greater than zero MW and shall not exceed the Demand Bid Cap and Virtual Cap.

(b) **External Transactions** – All Market Participants shall submit to the ISO schedules for any External Transactions involving use of Generator Assets or the New England Transmission System as specified below, and shall inform the ISO whether the transaction is to be included in the Day-Ahead Energy Market. Any Market Participant that elects to include an External Transaction in the Day-Ahead Energy Market may specify the price (such price not to exceed the maximum price that may be specified in the ISO New England Manuals and ISO New England Administrative Procedures), if any, at which it will be curtailed rather than pay Congestion Costs. The foregoing price specification shall apply to the price difference between the Locational Marginal Prices for specified External Transaction source and



sink points in the Day-Ahead scheduling process only. Any Market Participant that deviates from its Day-Ahead External Transaction schedule or elects not to include its External Transaction in the Day-Ahead Energy Market shall be subject to Congestion Costs in the Real-Time Energy Market in order to complete any such scheduled External Transaction. Scheduling of External Transactions shall be conducted in accordance with the specifications in the ISO New England Manuals and ISO New England Administrative Procedures and the following requirements:

- (i) Market Participants shall submit schedules for all External Transaction purchases for delivery within the New England Control Area from Resources outside the New England Control Area;
  - (ii) Market Participants shall submit schedules for External Transaction sales to entities outside the New England Control Area from Resources within the New England Control Area;
  - (iii) In the Day-Ahead Energy Market, if the sum of all submitted Self-Scheduled External Transaction purchases less External Transaction sales exceeds the import capability associated with the applicable External Node, the offer prices for all Self-Scheduled External Transaction purchases at the applicable External Node shall be set equal to the Energy Offer Floor;
  - (iv) In the Day-Ahead Energy Market, if the sum of all submitted Self-Scheduled External Transaction sales less External Transaction purchases exceeds the export capability associated with the applicable External Node, the offer prices for all Self-Scheduled External Transaction sales at the applicable External Node shall be set equal to the External Transaction Cap;
  - (v) The ISO shall not consider Start-Up Fees, No-Load Fees, Notification Times or any other inter-temporal parameters in scheduling or dispatching External Transactions.
- (c) **Generator Asset Supply Offers** – Market Participants selling into the New England Markets from Generator Assets may submit Supply Offers for the supply of energy for the following Operating Day.

Such Supply Offers:

- (i) Shall specify the Resource and Blocks (price and quantity of Energy) for each hour of the Operating Day for each Resource offered by the Market Participant to the ISO. The prices and quantities in a Block may each vary on an hourly basis;
  - (ii) If based on energy from a Generator Asset internal to the New England Control Area, may specify, for Supply Offers, a Start-Up Fee and No-Load Fee for each hour of the Operating Day. Start-Up Fee and No-Load Fee may vary on an hourly basis;
  - (iii) Shall specify, for Supply Offers from a dual-fuel Generator Asset, the fuel type. The fuel type may vary on an hourly basis. A Market Participant that submits a Supply Offer using the higher cost fuel type must satisfy the consultation requirements for dual-fuel Generator Assets in Section III.A.3 of Appendix A;
  - (iv) Shall specify a Minimum Run Time to be used for commitment purposes that does not exceed 24 hours;
  - (v) Supply Offers shall constitute an offer to submit the Generator Asset to the ISO for commitment and dispatch in accordance with the terms of the Supply Offer, where such Supply Offer, with regard to operating limits, shall specify changes, including to the Economic Maximum Limit, Economic Minimum Limit and Emergency Minimum Limit, from those submitted as part of the Resource's Offer Data to reflect the physical operating characteristics and/or availability of the Resource (except that for a Limited Energy Resource, the Economic Maximum Limit may be revised to reflect an energy (MWh) limitation), which offer shall remain open through the Operating Day for which the Supply Offer is submitted; and
  - (vi) Shall, in the case of a Supply Offer from a Generator Asset associated with an Electric Storage Facility, also meet the requirements specified in Section III.1.10.6.
- (d) **DARD Demand Bids** – Market Participants participating in the New England Markets with Dispatchable Asset Related Demands may submit Demand Bids for the consumption of energy for the following Operating Day.

Such Demand Bids:

(i) Shall specify the Dispatchable Asset Related Demand and Blocks (price and Energy quantity pairs) for each hour of the Operating Day for each Dispatchable Asset Related Demand offered by the Market Participant to the ISO. The prices and quantities in a Block may each vary on an hourly basis;

(ii) Shall constitute an offer to submit the Dispatchable Asset Related Demand to the ISO for commitment and dispatch in accordance with the terms of the Demand Bid, where such Demand Bid, with regard to operating limits, shall specify changes, including to the Maximum Consumption Limit and Minimum Consumption Limit, from those submitted as part of the Resource's Offer Data to reflect the physical operating characteristics and/or availability of the Resource;

(iii) Shall specify a Minimum Consumption Limit that is less than or equal to its Nominated Consumption Limit; and

(iv) Shall, in the case of a Demand Bid from a Storage DARD, also meet the requirements specified in Section III.1.10.6.

(e) **Demand Response Resource Demand Reduction Offers** – Market Participants selling into the New England Markets from Demand Response Resources may submit Demand Reduction Offers for the supply of energy for the following Operating Day. A Demand Reduction Offer shall constitute an offer to submit the Demand Response Resource to the ISO for commitment and dispatch in accordance with the terms of the Demand Reduction Offer. Demand Reduction Offers:

(i) Shall specify the Demand Response Resource and Blocks (price and demand reduction quantity pairs) for each hour of the Operating Day. The prices and demand reduction quantities may vary on an hourly basis.

(ii) Shall not specify a price that is below the Demand Reduction Threshold Price in effect for the Operating Day. For purposes of clearing the Day-Ahead and Real-Time Energy Markets and calculating Day-Ahead and Real-Time Locational Marginal Prices and Real-Time Reserve Clearing Prices, any price specified below the Demand Reduction Threshold price in effect for the Operating Day will be considered to be equal to the Demand Reduction Threshold Price for the Operating Day.

(iii) Shall not include average avoided peak transmission or distribution losses in the demand reduction quantity.

(iv) May specify an Interruption Cost for each hour of the Operating Day, which may vary on an hourly basis.

(v) Shall specify a Minimum Reduction Time to be used for scheduling purposes that does not exceed 24 hours.

(vi) Shall specify a Maximum Reduction amount no greater than the sum of the Maximum Interruptible Capacities of the Demand Response Resource's operational Demand Response Assets.

(vii) Shall specify changes to the Maximum Reduction and Minimum Reduction from those submitted as part of the Demand Response Resource's Offer Data to reflect the physical operating characteristics and/or availability of the Demand Response Resource.

(f) **Demand Reduction Threshold Price** – The Demand Reduction Threshold Price for each month shall be determined through an analysis of a smoothed, historic supply curve for the month. The historic supply curve shall be derived from Real-Time generator and import Offer Data (excluding Coordinated External Transactions) for the same month of the previous year. The ISO may adjust the Offer Data to account for significant changes in generator and import availability or other significant changes to the historic supply curve. The historic supply curve shall be calculated as follows:

(a) Each generator and import offer Block (i.e., each price-quantity pair offered in the Real-Time Energy Market) for each day of the month shall be compiled and sorted in ascending order of price to create an unsmoothed supply curve.

(b) An unsmoothed supply curve for the month shall be formed from the price and cumulative quantity of each offer Block.

(c) A non-linear regression shall be performed on a sampled portion of the unsmoothed supply curve to produce an increasing, convex, smooth approximation of the supply curve.

- (d) A historic threshold price  $P_{th}$  shall be determined as the point on the smoothed supply curve beyond which the benefit to load from the reduced LMP resulting from the demand reduction of Demand Response Resources exceeds the cost to load associated with compensating Demand Response Resources for demand reduction.
- (e) The Demand Reduction Threshold Price for the upcoming month shall be determined by the following formula:

$$DRTP = P_{th}X - \frac{FPI_c}{FPI_h}$$

where  $FPI_h$  is the historic fuel price index for the same month of the previous year, and  $FPI_c$  is the fuel price index for the current month.

The historic and current fuel price indices used to establish the Demand Reduction Threshold Price for a month shall be based on the lesser of the monthly natural gas or heating oil fuel indices applicable to the New England Control Area, as calculated three business days before the start of the month preceding the Demand Reduction Threshold Price's effective date.

The ISO will post the Demand Reduction Threshold Price, along with the index-based fuel price values used in establishing the Demand Reduction Threshold Price, on its website by the 15<sup>th</sup> day of the month preceding the Demand Reduction Threshold Price's effective date.

(g) **Subsequent Operating Days** – Each Supply Offer, Demand Reduction Offer, or Demand Bid by a Market Participant of a Resource shall remain in effect for subsequent Operating Days until superseded or canceled except in the case of an External Transaction purchase, in which case, the Supply Offer shall remain in effect for the applicable Operating Day and shall not remain in effect for subsequent Operating Days. Hourly overrides of a Supply Offer, a Demand Reduction Offer, or a Demand Bid shall remain in effect only for the applicable Operating Day.

(h) **Load Estimate** – The ISO shall post on the internet the total hourly loads including Decrement Bids scheduled in the Day-Ahead Energy Market, as well as the ISO's estimate of the Control Area hourly load for the next Operating Day.

(i) **Prorated Supply** – In determining Day-Ahead schedules, in the event of multiple marginal Supply Offers, Demand Reduction Offers, Increment Offers and/or External Transaction purchases at a pricing location, the ISO shall clear the marginal Supply Offers, Demand Reduction Offers, Increment Offers and/or External Transaction purchases proportional to the amount of energy (MW) from each marginal offer and/or External Transaction at the pricing location. The Economic Maximum Limits, Economic Minimum Limits, Minimum Reductions and Maximum Reductions are not used in determining the amount of energy (MW) in each marginal Supply Offer or Demand Reduction Offer to be cleared on a pro-rated basis. However, the Day-Ahead schedules resulting from the pro-ration process will reflect Economic Maximum Limits, Economic Minimum Limits, Minimum Reductions and Maximum Reductions.

(j) **Prorated Demand** – In determining Day-Ahead schedules, in the event of multiple marginal Demand Bids, Decrement Bids and/or External Transaction sales at a pricing location, the ISO shall clear the marginal Demand Bids, Decrement Bids and/or External Transaction sales proportional to the amount of energy (MW) from each marginal bid and/or External Transaction at the pricing location.

(k) **Virtuals** – All Market Participants may submit Increment Offers and/or Decrement Bids that apply to the Day-Ahead Energy Market only. Such offers and bids must comply with the requirements set forth in the ISO New England Manuals and ISO New England Administrative Procedures and must specify amount, location and price, if any, at which the Market Participant desires to purchase or sell energy in the Day-Ahead Energy Market.

#### **III.1.10.2 Pool-Scheduled Resources.**

Pool-Scheduled Resources are those Resources for which Market Participants submitted Supply Offers, Demand Reduction Offers, or Demand Bids in the Day-Ahead Energy Market and which the ISO scheduled in the Day-Ahead Energy Market as well as Generator Assets, DARDs or Demand Response Resources committed by the ISO subsequent to the Day-Ahead Energy Market. Such Resources shall be committed to provide or consume energy in the Real-Time dispatch unless the schedules for such Resources are revised pursuant to Sections III.1.10.9 or III.1.11. Pool-Scheduled Resources shall be governed by the following principles and procedures.

(a) Pool-Scheduled Resources shall be selected by the ISO on the basis of the prices offered for energy supply or consumption and related services, Start-Up Fees, No-Load Fees, Interruption Cost and the specified operating characteristics, offered by Market Participants.

(b) The ISO shall optimize the dispatch of energy from Limited Energy Resources by request to minimize the as-bid production cost for the New England Control Area. In implementing the use of Limited Energy Resources, the ISO shall use its best efforts to select the most economic hours of operation for Limited Energy Resources, in order to make optimal use of such Resources in the Day-Ahead Energy Market consistent with the Supply Offers and Demand Reduction Offers of other Resources, the submitted Demand Bids and Decrement Bids and Operating Reserve and Replacement Reserve requirements.

(c) Market Participants offering energy from facilities with fuel or environmental limitations may submit data to the ISO that is sufficient to enable the ISO to determine the available operating hours of such facilities.

(d) Market Participants shall make available their Pool-Scheduled Resources to the ISO for coordinated operation to supply the needs of the New England Control Area for energy and ancillary services.

#### **III.1.10.3 Self-Scheduled Resources.**

A Resource that is Self-Scheduled shall be governed by the following principles and procedures. The minimum duration of a Self-Schedule for a Generator Asset or DARD shall not result in the Generator Asset or DARD operating for less than its Minimum Run Time. A Generator Asset that is online as a result of a Self-Schedule will be dispatched above its Economic Minimum Limit based on the economic merit of its Supply Offer. A DARD that is consuming as a result of a Self-Schedule may be dispatched above its Minimum Consumption Limit based on the economic merit of its Demand Bid. A Demand Response Resource shall not be Self-Scheduled.

#### **III.1.10.4 External Resources.**

Market Participants with External Resources may submit External Transactions as detailed in Section III.1.10.7 and Section III.1.10.7.A of this Market Rule 1.

#### **III.1.10.5 Dispatchable Asset Related Demand.**

(a) External Transactions that are sales to an external Control Area are not eligible to be Dispatchable Asset Related Demands.

(b) A Market Participant with a Dispatchable Asset Related Demand in the New England Control Area must:

- (i) notify the ISO of any outage (including partial outages) that may reduce the Dispatchable Asset Related Demand's ability to respond to Dispatch Instructions and the expected return date from the outage;
- (ii) in accordance with the ISO New England Manuals and Operating Procedures, perform audit tests and submit the results to the ISO or provide to the ISO appropriate historical production data;
- (iii) abide by the ISO maintenance coordination procedures; and
- (iv) provide information reasonably requested by the ISO, including the name and location of the Dispatchable Asset Related Demand.

#### **III.1.10.6 Electric Storage**

A storage facility is a facility that is capable of receiving electricity from the grid and storing the energy for later injection of electricity back to the grid. A storage facility may participate in the New England Markets as described below.

(a) A storage facility that satisfies the requirements of this subsection (a) may participate in the New England Markets as an Electric Storage Facility. An Electric Storage Facility shall:

- (i) comprise one or more storage facilities at the same point of interconnection;
- (ii) have the ability to inject at least 0.1 MW and consume at least 0.1 MW;
- (iii) be directly metered;
- (iv) be registered as, and subject to all rules applicable to, a dispatchable Generator Asset;
- (v) be registered as, and subject to all rules applicable to, a DARD that represents the same equipment as the Generator Asset;
- (vi) settle its injection of electricity to the grid as a Generator Asset and its receipt of electricity from the grid as a DARD;
- (vii) not be precluded from providing retail services so long as it is able to fulfill its wholesale Energy Market and Forward Capacity Market obligations including, but not limited to, satisfying meter data reporting requirements and notifying the ISO of any changes to operational capabilities; and
- (viii) meet the requirements of either a Binary Storage Facility or a Continuous Storage Facility, as described in subsections (b) and (c) below.



(b) A storage facility that satisfies the requirements of this subsection (b) may participate in the New England Markets as a Binary Storage Facility. A Binary Storage Facility shall:

- (i) satisfy the requirements applicable to an Electric Storage Facility; and
- (ii) offer its Generator Asset and DARD into the Energy Market as Rapid Response Pricing Assets; and
- (iii) be issued Dispatch Instructions in a manner that ensures the facility is not required to consume and inject simultaneously.

(c) A storage facility that satisfies the requirements of this subsection (c) may participate in the New England Markets as a Continuous Storage Facility. A Continuous Storage Facility shall:

- (i) satisfy the requirements applicable to an Electric Storage Facility;
- (ii) be registered as, may provide Regulation as, and is subject to all rules applicable to, an ATRR that represents the same equipment as the Generator Asset and DARD;
- (iii) be capable of transitioning between the facility's maximum output and maximum consumption (and vice versa) in ten minutes or less;
- (iv) not utilize storage capability that is shared with another Generator Asset, DARD or ATRR;
- (v) specify in Supply Offers a zero MW value for Economic Minimum Limit and Emergency Minimum Limit (except for Generator Assets undergoing Facility and Equipment Testing or auditing); a zero time value for Minimum Run Time, Minimum Down Time, Notification Time, and Start-Up Time; and a zero cost value for Start-Up Fee and No-Load Fee;
- (vi) specify in Demand Bids a zero MW value for Minimum Consumption Limit (except for DARDs undergoing Facility and Equipment Testing or auditing) and a zero time value for Minimum Run Time and Minimum Down Time;
- (vii) be Self-Scheduled in the Day-Ahead Energy Market and Real-Time Energy Market, and operate in an on-line state, unless the facility is declared unavailable by the Market Participant; and
- (viii) be issued a combined dispatch control signal equal to the Desired Dispatch Point (of the Generator Asset) minus the Desired Dispatch Point (of the DARD) plus the AGC SetPoint (of the ATRR).

(d) A storage facility shall comply with all applicable registration, metering, and accounting rules including, but not limited to, the following:

- (i) A Market Participant wishing to purchase energy from the ISO-administered wholesale markets must first, jointly with its Host Participant, register one or more wholesale Load Assets with the ISO as described in ISO New England Manual M-28 and ISO New England Manual M-RPA; where the Market Participant wishes to register an Electric Storage Facility, the registered Load Asset must be a DARD.
  - (ii) A storage facility's charging energy shall not qualify as, or be billed to, a Storage DARD if that facility's charging energy is included in another Load Asset. A storage facility registered as a DARD will be charged the nodal Locational Marginal Price by the ISO and the Market Participant will not pay twice for the same charging energy.
  - (iii) The registration and metering of all Assets must comply with ISO New England Operating Procedure No. 14 and ISO New England Operating Procedure No. 18, including with the requirement that an Asset's revenue metering must comply with the accuracy requirements found in ISO New England Operating Procedure No. 18.
  - (iv) Pursuant to ISO New England Manual M-28, the Assigned Meter Reader, the Host Participant, and the ISO provide the data for use in the daily settlement process within the timelines described in the manual. The data may be five-minute interval data, and may be no more than hourly data, as described in Section III.3.2 and in ISO New England Manual M-28.
  - (v) Based on the Metered Quantity For Settlement and the Locational Marginal Price in the settlement interval, the ISO shall conduct all Energy Market accounting pursuant to Section III.3.2.1.
- (e) A facility registered as a dispatchable Generator Asset, an ATRR, and a DARD that each represent the same equipment must participate as a Continuous Storage Facility.
- (f) A storage facility not participating as an Electric Storage Facility may, if it satisfies the associated requirements, be registered as a Generator Asset (including a Settlement Only Resource) for settlement of its injection of electricity to the grid and as an Asset Related Demand for settlement of its wholesale load.
- (g) A storage facility may, if it satisfies the associated requirements, be registered as a Demand Response Asset. (As described in Section III.8.1.1, a Demand Response Asset and a Generator Asset may not be registered at the same end-use customer facility unless the Generator Asset is separately metered

and reported and its output does not reduce the load reported at the Retail Delivery Point of the Demand Response Asset.)

- (h) A storage device may, if it satisfies the associated requirements, be registered as a component of either an On-Peak Demand Resource or a Seasonal Peak Demand Resource.
- (i) A storage facility may, if it satisfies the associated requirements, provide Regulation pursuant to Section III.14.

#### **III.1.10.7 External Transactions.**

The provisions of this Section III.1.10.7 do not apply to Coordinated External Transactions.

- (a) Market Participants that submit an External Transaction in the Day-Ahead Energy Market must also submit a corresponding External Transaction in the Real-Time Energy Market in order to be eligible for scheduling in the Real-Time Energy Market. Priced External Transactions for the Real-Time Energy Market must be submitted by the offer submission deadline for the Day-Ahead Energy Market.
- (b) Priced External Transactions submitted in both the Day-Ahead Energy Market and the Real-Time Energy Market will be treated as Self-Scheduled External Transactions in the Real-Time Energy Market for the associated megawatt amounts that cleared the Day-Ahead Energy Market, unless the Market Participant modifies the price component of its Real-Time offer during the Re-Offer Period.
- (c) Any External Transaction, or portion thereof, submitted to the Real-Time Energy Market that did not clear in the Day-Ahead Energy Market will not be scheduled in Real-Time if the ISO anticipates that the External Transaction would create or worsen an Emergency. External Transactions cleared in the Day-Ahead Energy Market and associated with a Real-Time Energy Market submission will continue to be scheduled in Real-Time prior to and during an Emergency, until the procedures governing the Emergency, as set forth in ISO New England Operating Procedure No. 9, require a change in schedule.
- (d) External Transactions submitted to the Real-Time Energy Market must contain the associated e-Tag ID and transmission reservation, if required, at the time the transaction is submitted to the Real-Time Energy Market.
- (e) [Reserved.]

(f) External Transaction sales meeting all of the criteria for any of the transaction types described in (i) through (iv) below receive priority in the scheduling and curtailment of transactions as set forth in Section II.44 of the OATT. External Transaction sales meeting all of the criteria for any of the transaction types described in (i) through (iv) below are referred to herein and in the OATT as being supported in Real-Time.

(i) Capacity Export Through Import Constrained Zone Transactions:

(1) The External Transaction is exporting across an external interface located in an import-constrained Capacity Zone that cleared in the Forward Capacity Auction with price separation, as determined in accordance with Section III.12.4 and Section III.13.2.3.4 of Market Rule 1;

(2) The External Transaction is directly associated with an Export Bid or Administrative Export De-List Bid that cleared in the Forward Capacity Auction, and the megawatt amount of the External Transaction is less than or equal to the megawatt amount of the cleared Export Bid;

(3) The External Node associated with the cleared Export Bid or Administrative Export De-List Bid is connected to the import-constrained Capacity Zone, and is not connected to a Capacity Zone that is not import-constrained;

(4) The Resource, or portion thereof, that is associated with the cleared Export Bid or Administrative Export De-List Bid is not located in the import-constrained Capacity Zone;

(5) The External Transaction has been submitted and cleared in the Day-Ahead Energy Market;

(6) A matching External Transaction has also been submitted into the Real-Time Energy Market by the end of the Re-Offer Period for Self-Scheduled External Transactions, and, in accordance with Section III.1.10.7(a), by the offer submission deadline for the Day-Ahead Energy Market for priced External Transactions.

(ii) FCA Cleared Export Transactions:

(1) The External Transaction sale is exporting to an External Node that is connected only to an import-constrained Reserve Zone;

(2) The External Transaction sale is directly associated with an Export Bid or an Administrative Export De-List Bid that cleared in the Forward Capacity Auction, and the megawatt amount of the External Transaction is less than or equal to the megawatt amount of the cleared Export Bid;

(3) The Resource, or portion thereof, without a Capacity Supply Obligation associated with the Export Bid or Administrative Export De-List Bid is located outside the import-constrained Reserve Zone;

(4) The External Transaction sale is submitted and cleared in the Day-Ahead Energy Market;

(5) A matching External Transaction has also been submitted into the Real-Time Energy Market by the end of the Re-Offer Period for Self-Scheduled External Transactions, and, in accordance with Section III.1.10.7(a), by the offer submission deadline for the Day-Ahead Energy Market for priced External Transactions.

(iii) Same Reserve Zone Export Transactions:

(1) A Resource, or portion thereof, without a Capacity Supply Obligation is associated with the External Transaction sale, and the megawatt amount of the External Transaction is less than or equal to the portion of the Resource without a Capacity Supply Obligation;

(2) The External Node of the External Transaction sale is connected only to the same Reserve Zone in which the associated Resource, or portion thereof, without a Capacity Supply Obligation is located;

(3) The Resource, or portion thereof, without a Capacity Supply Obligation is Self-Scheduled in the Real-Time Energy Market and online at a megawatt level greater than or equal to the External Transaction sale's megawatt amount;

(4) Neither the External Transaction sale nor the portion of the Resource without a Capacity Supply Obligation is required to offer into the Day-Ahead Energy Market.

(iv) Unconstrained Export Transactions:

(1) A Resource, or portion thereof, without a Capacity Supply Obligation is associated with the External Transaction sale, and the megawatt amount of the External Transaction is less than or equal to the portion of the Resource without a Capacity Supply Obligation;

(2) The External Node of the External Transaction sale is not connected only to an import-constrained Reserve Zone;

(3) The Resource, or portion thereof, without a Capacity Supply Obligation is not separated from the External Node by a transmission interface constraint as determined in Sections III.12.2.1(b) and III.12.2.2(b) of Market Rule 1 that was binding in the Forward Capacity Auction in the direction of the export;

(4) The Resource, or portion thereof, without a Capacity Supply Obligation is Self-Scheduled in the Real-Time Energy Market and online at a megawatt level greater than or equal to the External Transaction sale's megawatt amount;

(5) Neither the External Transaction sale, nor the portion of the Resource without a Capacity Supply Obligation is required to offer into the Day-Ahead Energy Market.

(g) Treatment of External Transaction sales in ISO commitment for local second contingency protection.

(i) Capacity Export Through Import Constrained Zone Transactions and FCA Cleared Export Transactions: The transaction's export demand that clears in the Day-Ahead Energy Market will be explicitly considered as load in the exporting Reserve Zone by the ISO when committing Resources to provide local second contingency protection for the associated Operating Day.

(ii) The export demand of External Transaction sales not meeting the criteria in (i) above is not considered by the ISO when planning and committing Resources to provide local second contingency protection, and is assumed to be zero.

(iii) Same Reserve Zone Export Transactions and Unconstrained Export Transactions: If a Resource, or portion thereof, without a Capacity Supply Obligation is committed to be online during the Operating Day either through clearing in the Day-Ahead Energy Market or through Self-Scheduling subsequent to the Day-Ahead Energy Market and a Same Reserve Zone Export Transaction or Unconstrained Export Transaction is submitted before the end of the Re-Offer Period designating that Resource as supporting the transaction, the ISO will not utilize the portion of the Resource without a Capacity Supply Obligation supporting the export transaction to meet local second contingency protection requirements. The eligibility of Resources not meeting the foregoing criteria to be used to meet local second contingency protection requirements shall be in accordance with the relevant provisions of the ISO New England System Rules.

(h) Allocation of costs to Capacity Export Through Import Constrained Zone Transactions and FCA Cleared Export Transactions: Market Participants with Capacity Export Through Import Constrained Zone Transactions and FCA Cleared Export Transactions shall incur a proportional share of the charges described below, which are allocated to Market Participants based on Day-Ahead Load Obligation or Real-Time Load Obligation. The share shall be determined by including the Day-Ahead Load Obligation or Real-Time Load Obligation associated with the External Transaction, as applicable, in the total Day-Ahead Load Obligation or Real-Time Load Obligation for the appropriate Reliability Region, Reserve Zone, or Load Zone used in each cost allocation calculation:

(i) NCPC for Local Second Contingency Protection Resources allocated within the exporting Reliability Region, pursuant to Section III.F.3.3.

(ii) Forward Reserve Market charges allocated within the exporting Load Zone, pursuant to Section III.9.9.

(iii) Real-Time Reserve Charges allocated within the exporting Load Zone, pursuant to Section III.10.3.

(i) When action is taken by the ISO to reduce External Transaction sales due to a system wide capacity deficient condition or the forecast of such a condition, and an External Transaction sale designates a Resource, or portion of a Resource, without a Capacity Supply Obligation, to support the transaction, the ISO will review the status of the designated Resource. If the designated Resource is Self-Scheduled and online at a megawatt level greater than or equal to the External Transaction sale, that External Transaction sale will not be reduced until such time as Regional Network Load within the New England Control Area is also being reduced. When reductions to such transactions are required, the affected transactions shall be reduced pro-rata.

(j) Market Participants shall submit External Transactions as megawatt blocks with intervals of one hour at the relevant External Node. External Transactions will be scheduled in the Day-Ahead Energy Market as megawatt blocks for hourly durations. The ISO may dispatch External Transactions in the Real-Time Energy Market as megawatt blocks for periods of less than one hour, to the extent allowed pursuant to inter-Control Area operating protocols.

#### **III.1.10.7.A Coordinated Transaction Scheduling.**

The provisions of this Section III.1.10.7.A apply to Coordinated External Transactions, which are implemented at the New York Northern AC external Location.

(a) Market Participants that submit a Coordinated External Transaction in the Day-Ahead Energy Market must also submit a corresponding Coordinated External Transaction, in the form of an Interface Bid, in the Real-Time Energy Market in order to be eligible for scheduling in the Real-Time Energy Market.

(b) An Interface Bid submitted in the Real-Time Energy Market shall specify a duration consisting of one or more consecutive 15-minute increments. An Interface Bid shall include a bid price, a bid quantity, and a bid direction for each 15-minute increment. The bid price may be positive or negative. An Interface Bid may not be submitted or modified later than 75 minutes before the start of the clock hour for which it is offered.

(c) Interface Bids are cleared in economic merit order for each 15-minute increment, based upon the forecasted real-time price difference across the external interface. The total quantity of Interface Bids cleared shall determine the external interface schedule between New England and the adjacent Control Area. The total quantity of Interface Bids cleared shall depend upon, among other factors, bid production



costs of resources in both Control Areas, the Interface Bids of all Market Participants, transmission system conditions, and any real-time operating limits necessary to ensure reliable operation of the transmission system.

(d) All Coordinated External Transactions submitted either to the Day-Ahead Energy Market or the Real-Time Energy Market must contain the associated e-Tag ID at the time the transaction is submitted.

(e) Any Coordinated External Transaction, or portion thereof, submitted to the Real-Time Energy Market will not be scheduled in Real-Time if the ISO anticipates that the External Transaction would create or worsen an Emergency, unless the procedures governing the Emergency, as set forth in ISO New England Operating Procedure No. 9, permit the transaction to be scheduled.

#### **III.1.10.8 ISO Responsibilities.**

(a) The ISO shall use its best efforts to determine (i) the least-cost means of satisfying hourly purchase requests for energy, the projected hourly requirements for Operating Reserve, Replacement Reserve and other ancillary services of the Market Participants, including the reliability requirements of the New England Control Area, of the Day-Ahead Energy Market, and (ii) the least-cost means of satisfying the Operating Reserve, Replacement Reserve and other ancillary service requirements for any portion of the load forecast of the ISO for the Operating Day in excess of that scheduled in the Day-Ahead Energy Market. In making these determinations, the ISO shall take into account: (i) the ISO's forecasts of New England Markets and New England Control Area energy requirements, giving due consideration to the energy requirement forecasts and purchase requests submitted by Market Participants for the Day-Ahead Energy Market; (ii) the offers and bids submitted by Market Participants; (iii) the availability of Limited Energy Resources; (iv) the capacity, location, and other relevant characteristics of Self-Scheduled Resources; (v) the requirements of the New England Control Area for Operating Reserve and Replacement Reserve, as specified in the ISO New England Manuals and ISO New England Administrative Procedures; (vi) the requirements of the New England Control Area for Regulation and other ancillary services, as specified in the ISO New England Manuals and ISO New England Administrative Procedures; (vii) the benefits of avoiding or minimizing transmission constraint control operations, as specified in the ISO New England Manuals and ISO New England Administrative Procedures; and (viii) such other factors as the ISO reasonably concludes are relevant to the foregoing determination. The ISO shall develop a Day-Ahead Energy schedule based on the applicable portions of the foregoing determination, and shall determine the Day-Ahead Prices resulting from such schedule. (b)

Not later than 1:30 p.m. of the day before each Operating Day, or such earlier deadline as may be

specified by the ISO in the ISO New England Manuals and ISO New England Administrative Procedures or such later deadline as necessary to account for software failures or other events, the ISO shall: (i) post the aggregate Day-Ahead Energy schedule; (ii) post the Day-Ahead Prices; and (iii) inform the Market Participants of their scheduled injections and withdrawals. In the event of an Emergency, the ISO will notify Market Participants as soon as practicable if the Day-Ahead Energy Market can not be operated.

(c) Following posting of the information specified in Section III.1.10.8(b), the ISO shall revise its schedule of Resources to reflect updated projections of load, conditions affecting electric system operations in the New England Control Area, the availability of and constraints on limited energy and other Resources, transmission constraints, and other relevant factors.

(d) Market Participants shall pay and be paid for the quantities of energy scheduled in the Day-Ahead Energy Market at the Day-Ahead Prices.

#### **III.1.10.9 Hourly Scheduling.**

(a) Following the initial posting by the ISO of the Locational Marginal Prices resulting from the Day-Ahead Energy Market, and subject to the right of the ISO to schedule and dispatch Resources and to direct that schedules be changed to address an actual or potential Emergency, a Resource Re-Offer Period shall exist from the time of the posting specified in Section III.1.10.8(b) until 2:00 p.m. on the day before each Operating Day or such other Re-Offer Period as necessary to account for software failures or other events. During the Re-Offer Period, Market Participants may submit revisions to Supply Offers, revisions to Demand Reduction Offers, and revisions to Demand Bids for any Dispatchable Asset Related Demand. Resources scheduled subsequent to the closing of the Re-Offer Period shall be settled at the applicable Real-Time Prices, and shall not affect the obligation to pay or receive payment for the quantities of energy scheduled in the Day-Ahead Energy Market at the applicable Day-Ahead Prices.

(b) During the Re-Offer Period, Market Participants may submit revisions to the price of priced External Transactions. External Transactions scheduled subsequent to the closing of the Re-Offer Period shall be settled at the applicable Real-Time Prices, and shall not affect the obligation to pay or receive payment for the quantities of energy scheduled in the Day-Ahead Energy Market at the applicable Day-Ahead Prices. A submission during the Re-Offer Period for any portion of a transaction that was cleared in the Day-Ahead Energy Market is subject to the provisions in Section III.1.10.7. A Market Participant may request to Self-Schedule an External Transaction and adjust the schedule on an hour-to-hour basis or request to reduce the quantity of a priced External Transaction. The ISO must be notified of the request not later than 60 minutes prior to the hour in which the adjustment is to take effect. The External

Transaction re-offer provisions of this Section III.1.10.9(b) shall not apply to Coordinated External Transactions, which are submitted pursuant to Section III.1.10.7.A.

(c) Following the completion of the initial Reserve Adequacy Analysis and throughout the Operating Day, a Market Participant may modify certain Supply Offer or Demand Bid parameters for a Generator Asset or a Dispatchable Asset Related Demand on an hour-to-hour basis, provided that the modification is made no later than 30 minutes prior to the beginning of the hour for which the modification is to take effect:

- (i) For a Generator Asset, the Start-Up Fee, the No-Load Fee, the fuel type (for dual-fuel Generator Assets), and the quantity and price pairs of its Blocks may be modified.
- (ii) For a Dispatchable Asset Related Demand, the quantity and price pairs of its Blocks may be modified.

(d) Following the completion of the initial Reserve Adequacy Analysis and throughout the Operating Day, a Market Participant may not modify any of the following Demand Reduction Offer parameters: price and demand reduction quantity pairs, Interruption Cost, Demand Response Resource Start-Up Time, Demand Response Resource Notification Time, Minimum Reduction Time, and Minimum Time Between Reductions.

(e) During the Operating Day, a Market Participant may request to Self-Schedule a Generator Asset or Dispatchable Asset Related Demand or may request to cancel a Self-Schedule for a Generator Asset or Dispatchable Asset Related Demand. The ISO will honor the request so long as it will not cause or worsen a reliability constraint. If the ISO is able to honor a Self-Schedule request, a Generator Asset will be permitted to come online at its Economic Minimum Limit and a Dispatchable Asset Related Demand will be dispatched to its Minimum Consumption Limit. A Market Participant may not request to Self-Schedule a Demand Response Resource. A Market Participant may cancel the Self-Schedule of a Continuous Storage Generator Asset or a Continuous Storage DARD only by declaring the facility unavailable.

(f) During the Operating Day, in the event that in a given hour a Market Participant seeks to modify a Supply Offer or Demand Bid after the deadline for modifications specified in Section III.1.10.9(c), then:

- (i) the Market Participant may request that a Generator Asset be dispatched above its Economic Minimum Limit at a specified output. The ISO will honor the request so long as it will not cause or worsen a reliability constraint. If the ISO is able to honor the

request, the Generator Asset will be dispatched as though it had offered the specified output for the hour in question at the Energy Offer Floor.

- (ii) the Market Participant may request that a Dispatchable Asset Related Demand be dispatched above its Minimum Consumption Limit at a specified value. The ISO will honor the request so long as it will not cause or worsen a reliability constraint. If the ISO is able to honor the request, the Dispatchable Asset Related Demand will be dispatched at or above the requested amount for the hour in question.
- (g) During the Operating Day, in any interval in which a Generator Asset is providing Regulation, the upper limit of its energy dispatch range shall be reduced by the amount of Regulation Capacity, and the lower limit of its energy dispatch range shall be increased by the amount of Regulation Capacity. Any such adjustment shall not affect the Real-Time Reserve Designation.
- (h) During the Operating Day, in any interval in which a Continuous Storage ATRR is providing Regulation, the upper limit of the associated Generator Asset's energy dispatch range shall be reduced by the Regulation High Limit, and the associated DARD's consumption dispatch range shall be reduced by the Regulation Low Limit. Any such adjustment shall not affect the Real-Time Reserve Designation.
- (i) For each hour in the Operating Day, as soon as practicable after the deadlines specified in the foregoing subsection of this Section III.1.10, the ISO shall provide Market Participants and parties to External Transactions with any revisions to their schedules for the hour.

### **III.1.11 Dispatch.**

The following procedures and principles shall govern the dispatch of the Resources available to the ISO.

#### **III.1.11.1 Resource Output or Consumption and Demand Reduction.**

The ISO shall have the authority to direct any Market Participant to adjust the output, consumption or demand reduction of any Dispatchable Resource within the operating characteristics specified in the Market Participant's Offer Data, Supply Offer, Demand Reduction Offer or Demand Bid. The ISO may cancel its selection of, or otherwise release, Pool-Scheduled Resources. The ISO shall adjust the output, consumption or demand reduction of Resources as necessary: (a) for both Dispatchable Resources and Non-Dispatchable Resources, to maintain reliability, and subject to that constraint, for Dispatchable Resources, (b) to minimize the cost of supplying the energy, reserves, and other services required by the

Market Participants and the operation of the New England Control Area; (c) to balance supply and demand, maintain scheduled tie flows, and provide frequency support within the New England Control Area; and (d) to minimize unscheduled interchange that is not frequency related between the New England Control Area and other Control Areas.

#### **III.1.11.2 Operating Basis.**

In carrying out the foregoing objectives, the ISO shall conduct the operation of the New England Control Area and shall, in accordance with the ISO New England Manuals and ISO New England Administrative Procedures, (i) utilize available Operating Reserve and replace such Operating Reserve when utilized; and (ii) monitor the availability of adequate Operating Reserve.

#### **III.1.11.3 Dispatchable Resources.**

With the exception of Settlement Only Resources, Generator Assets that meet the size criteria to be Settlement Only Resources, External Transactions, nuclear-powered Resources and ~~photovoltaic-solar~~ Resources, all Resources must be Dispatchable Resources in the Energy Market and meet the technical specifications in ISO New England Operating Procedure No. 14 and ISO New England Operating Procedure No. 18 for dispatchability.

A Market Participant that does not meet the requirement for a Dispatchable Resource to be dispatchable in the Energy Market because the Resource is not connected to a remote terminal unit meeting the requirements of ISO New England Operating Procedure No. 18 shall take the following steps:

1. By January 15, 2017, the Market Participant shall submit to the ISO a circuit order form for the primary and secondary communication paths for the remote terminal unit.
2. The Market Participant shall work diligently with the ISO to ensure the Resource is able to receive and respond to electronic Dispatch Instructions within twelve months of the circuit order form submission.

A Market Participant that does not meet the requirement for a Dispatchable Resource to be dispatchable in the Energy Market by the deadline set forth above shall provide the ISO with a written plan for remedying the deficiencies, and shall identify in the plan the specific actions to be taken and a reasonable timeline for rendering the Resource dispatchable. The Market Participant shall complete the remediation in accordance with and under the timeline set forth in the written plan. Until a Resource is dispatchable, it may only be Self-Scheduled in the Real-Time Energy Market and shall otherwise be treated as a Non-Dispatchable Resource.

Dispatchable Resources in the Energy Market are subject to the following requirements:

- (a) The ISO shall optimize the dispatch of energy from Limited Energy Resources by request to minimize the as-bid production cost for the New England Control Area. In implementing the use of Limited Energy Resources, the ISO shall use its best efforts to select the most economic hours of operation for Limited Energy Resources, in order to make optimal use of such Resources consistent with the dynamic load-following requirements of the New England Control Area and the availability of other Resources to the ISO.
- (b) The ISO shall implement the dispatch of energy from Dispatchable Resources and the designation of Real-Time Operating Reserve to Dispatchable Resources, including the dispatchable portion of Resources which are otherwise Self-Scheduled, by sending appropriate signals and instructions to the entity controlling such Resources. Each Market Participant shall ensure that the entity controlling a Dispatchable Resource offered or made available by that Market Participant complies with the energy dispatch signals and instructions transmitted by the ISO.
- (c) The ISO shall have the authority to modify a Market Participant's operational related Offer Data for a Dispatchable Resource if the ISO observes that the Market Participant's Resource is not operating in accordance with such Offer Data. The ISO shall modify such operational related Offer Data based on observed performance and such modified Offer Data shall remain in effect until either (i) the affected Market Participant requests a test to be performed, and coordinates the testing pursuant to the procedures specified in the ISO New England Manuals, and the results of the test justify a change to the Market Participant's Offer Data or (ii) the ISO observes, through actual performance, that modification to the Market Participant's Offer Data is justified.
- (d) Market Participants shall exert all reasonable efforts to operate, or ensure the operation of, their Dispatchable Resources in the New England Control Area as close to dispatched output, consumption or demand reduction levels as practical, consistent with Good Utility Practice.
- (e) Settlement Only Resources are not eligible to be DNE Dispatchable Generators.

Wind and hydro Intermittent Power Resources that are not Settlement Only Resources are required to receive and respond to Do Not Exceed Dispatch Points, except as follows:

- (i) A wind or hydro Intermittent Power Resource not capable of receiving and responding to electronic Dispatch Instructions will be manually dispatched.

(ii) A Market Participant may elect, but is not required, to have a wind or hydro Intermittent Power Resource that is less than 5 MW and is connected through transmission facilities rated at less than 115 kV be dispatched as a DNE Dispatchable Generator.

(iii) A Market Participant with a hydro Intermittent Power Resource that is able to operate within a dispatchable range and is capable of responding to Dispatch Instructions to increase or decrease output within its dispatchable range may elect to have that resource dispatched as a DDP Dispatchable Resource.

(f) The ISO may request that dual-fuel Generator Assets that normally burn natural gas voluntarily take all necessary steps (within the limitations imposed by the operating limitations of their installed equipment and their environmental and operating permits) to prepare to switch to secondary fuel in anticipation of natural gas supply shortages. The ISO may request that Market Participants with dual-fuel Generator Assets that normally burn natural gas voluntarily switch to a secondary fuel in anticipation of natural gas supply shortages. The ISO may communicate with Market Participants with dual-fuel Generator Assets that normally burn natural gas to verify whether the Market Participants have switched or are planning to switch to an alternate fuel.

#### **III.1.11.4 Emergency Condition.**

If the ISO anticipates or declares an Emergency Condition, all External Transaction sales out of the New England Control Area that are not backed by a Resource may be interrupted, in accordance with the ISO New England Manuals, in order to serve load and Operating Reserve in the New England Control Area.

#### **III.1.11.5 Dispatchability Requirements for Intermittent Power Resources.**

(a) Intermittent Power Resources that are Dispatchable Resources with Supply Offers that do not clear in the Day-Ahead Energy Market and are not committed by the ISO prior to or during the Operating Day must be Self-Scheduled in the Real-Time Energy Market at the Resource's Economic Minimum Limit in order to operate in Real-Time.

(b) ~~(b)~~ Intermittent Power Resources that are not Settlement Only Resources, are not Dispatchable Resources, and are not committed by the ISO prior to or during the Operating Day must be Self-Scheduled in the Real-Time Energy Market with the Resource's Economic Maximum Limit and Economic Minimum Limit redeclared to the same value in order to operate in Real-Time. Redclarations must be updated throughout the Operating Day to reflect actual operating capabilities.

(c) Wind and solar Generator Assets that are not Settlement Only Resources shall electronically transmit meteorological and forced outage data, as specified below, to the ISO, over a secure

network, using the protocol specified in the ISO Operating Documents, for the development and deployment of wind and solar power production forecasts.

Wind Generator Assets that are not Settlement Only Resources shall provide the ISO with the following site-specific meteorological and forced outage data in the manner described in the ISO Operating Documents:

- (i) at least once every 30 seconds: wind speed, and wind direction;
- (ii) at least once every 5 minutes: ambient air temperature, standard deviation of ambient air temperature, ambient air pressure, standard deviation of ambient air pressure, ambient air relative humidity, and standard deviation of ambient air relative humidity;
- (iii) at least once every 5 minutes: Real-Time High Operating Limit, Wind High Limit, wind turbine counts; and
- (iv) at least once every hour at the top of the hour for the next 48 hours and by 1000 each day for the next 49 to 168 hours: Wind Plant Future Availability.

Solar Generator Assets that are not Settlement Only Resources shall provide the ISO with the following site-specific meteorological and forced outage data in the manner described in the ISO Operating Documents:

- (i) at least once every 5 minutes: ambient air temperature, standard deviation of ambient air temperature, ambient air pressure, standard deviation of ambient air pressure, ambient air relative humidity, standard deviation of ambient air relative humidity, irradiance, wind speed, and wind direction;
- (ii) at least once every 5 minutes: Real-Time High Operating Limit, and Solar High Limit; and
- (iii) at least once every hour at the top of the hour for the next 48 hours and by 1000 each day for the next 49 to 168 hours: Solar Plant Future Availability.



#### **III.1.11.6 Non-Dispatchable Resources.**

Non-Dispatchable Resources are subject to the following requirements:

- (a) The ISO shall have the authority to modify a Market Participant's operational related Offer Data for a Non-Dispatchable Resource if the ISO observes that the Market Participant's Resource is not operating in accordance with such Offer Data. The ISO shall modify such operational related Offer Data based on observed performance and such modified Offer Data shall remain in effect until either (i) the affected Market Participant requests a test to be performed and coordinates the testing pursuant to the procedures specified in the ISO New England Manuals, and the results of the test justify a change to the Market Participant's Offer Data or (ii) the ISO observes, through actual performance, that modification to the Market Participant's Offer Data is justified.
  
- (b) Market Participants with Non-Dispatchable Resources shall exert all reasonable efforts to operate or ensure the operation of their Resources in the New England Control Area as close to dispatched levels as practical when dispatched by the ISO for reliability, consistent with Good Utility Practice.

## **I.2 Rules of Construction; Definitions**

### **I.2.1 Rules of Construction:**

In this Tariff, unless otherwise provided herein:

- (a) words denoting the singular include the plural and vice versa;
- (b) words denoting a gender include all genders;
- (c) references to a particular part, clause, section, paragraph, article, exhibit, schedule, appendix or other attachment shall be a reference to a part, clause, section, paragraph, or article of, or an exhibit, schedule, appendix or other attachment to, this Tariff;
- (d) the exhibits, schedules and appendices attached hereto are incorporated herein by reference and shall be construed with an as an integral part of this Tariff to the same extent as if they were set forth verbatim herein;
- (e) a reference to any statute, regulation, proclamation, ordinance or law includes all statutes, regulations, proclamations, amendments, ordinances or laws varying, consolidating or replacing the same from time to time, and a reference to a statute includes all regulations, policies, protocols, codes, proclamations and ordinances issued or otherwise applicable under that statute unless, in any such case, otherwise expressly provided in any such statute or in this Tariff;
- (f) a reference to a particular section, paragraph or other part of a particular statute shall be deemed to be a reference to any other section, paragraph or other part substituted therefor from time to time;
- (g) a definition of or reference to any document, instrument or agreement includes any amendment or supplement to, or restatement, replacement, modification or novation of, any such document, instrument or agreement unless otherwise specified in such definition or in the context in which such reference is used;
- (h) a reference to any person (as hereinafter defined) includes such person's successors and permitted assigns in that designated capacity;
- (i) any reference to "days" shall mean calendar days unless "Business Days" (as hereinafter defined) are expressly specified;
- (j) if the date as of which any right, option or election is exercisable, or the date upon which any amount is due and payable, is stated to be on a date or day that is not a Business Day, such right, option or election may be exercised, and such amount shall be deemed due and payable, on the next succeeding Business Day with the same effect as if the same was exercised or made on such date or day (without, in the case of any such payment, the payment or accrual of any interest or

other late payment or charge, provided such payment is made on such next succeeding Business Day);

- (k) words such as “hereunder,” “hereto,” “hereof” and “herein” and other words of similar import shall, unless the context requires otherwise, refer to this Tariff as a whole and not to any particular article, section, subsection, paragraph or clause hereof; and a reference to “include” or “including” means including without limiting the generality of any description preceding such term, and for purposes hereof the rule of *ejusdem generis* shall not be applicable to limit a general statement, followed by or referable to an enumeration of specific matters, to matters similar to those specifically mentioned.

### **I.2.2. Definitions:**

In this Tariff, the terms listed in this section shall be defined as described below:

**Active Demand Capacity Resource** is one or more Demand Response Resources located within the same Dispatch Zone, that is registered with the ISO, assigned a unique resource identification number by the ISO, and participates in the Forward Capacity Market to fulfill a Market Participant’s Capacity Supply Obligation pursuant to Section III.13 of Market Rule 1.

**Actual Capacity Provided** is the measure of capacity provided during a Capacity Scarcity Condition, as described in Section III.13.7.2.2 of Market Rule 1.

**Actual Load** is the consumption at the Retail Delivery Point for the hour.

**Additional Resource Blackstart O&M Payment** is defined and calculated as specified in Section 5.1.2 of Schedule 16 to the OATT.

**Additional Resource Specified-Term Blackstart Capital Payment** is defined and calculated as specified in Section 5.1.2 of Schedule 16 to the OATT.

**Additional Resource Standard Blackstart Capital Payment** is defined and calculated as specified in Section 5.1.2 of Schedule 16 to the OATT.

**Administrative Costs** are those costs incurred in connection with the review of Applications for transmission service and the carrying out of System Impact Studies and Facilities Studies.

**Administrative Export De-List Bid** is a bid that may be submitted in a Forward Capacity Auction by certain Existing Generating Capacity Resources subject to a multi-year contract to sell capacity outside of the New England Control Area during the associated Capacity Commitment Period, as described in Section III.13.1.2.3.1.4 of Market Rule 1.

**Administrative Sanctions** are defined in Section III.B.4.1.2 of Appendix B of Market Rule 1.

**ADR Neutrals** are one or more firms or individuals identified by the ISO with the advice and consent of the Participants Committee that are prepared to act as neutrals in ADR proceedings under Appendix D to Market Rule 1.

**Advance** is defined in Section IV.A.3.2 of the Tariff.

**Affected Party**, for purposes of the ISO New England Billing Policy, is defined in Section 6.3.5 of the ISO New England Billing Policy.

**Affiliate** is any person or entity that controls, is controlled by, or is under common control by another person or entity. For purposes of this definition, "control" means the possession, directly or indirectly, of the authority to direct the management or policies of an entity. A voting interest of ten percent or more shall create a rebuttable presumption of control.

**AGC** is automatic generation control.

**AGC SetPoint** is the desired output signal for a Resource providing Regulation that is produced by the AGC system as frequently as every four seconds.

**AGC SetPoint Deadband** is a deadband expressed in megawatts that is applied to changing values of the AGC SetPoint for generating units.

**Allocated Assessment** is a Covered Entity's right to seek and obtain payment and recovery of its share in any shortfall payments under Section 3.3 or Section 3.4 of the ISO New England Billing Policy.

**Alternative Dispute Resolution (ADR)** is the procedure set forth in Appendix D to Market Rule 1.

**Alternative Technology Regulation Resource (ATRR)** is one or more facilities capable of providing Regulation that have been registered in accordance with the Asset Registration Process. An Alternative Technology Regulation Resource is eligible to participate in the Regulation Market.

**Ancillary Services** are those services that are necessary to support the transmission of electric capacity and energy from resources to loads while maintaining reliable operation of the New England Transmission System in accordance with Good Utility Practice.

**Announced Schedule 1 EA Amount, Announced Schedule 2 EA Amount, Announced Schedule 3 EA Amount** are defined in Section IV.B.2.2 of the Tariff.

**Annual Transmission Revenue Requirements** are the annual revenue requirements of a PTO's PTF or of all PTOs' PTF for purposes of the OATT shall be the amount determined in accordance with Attachment F to the OATT.

**Annual Reconfiguration Transaction** is a bilateral transaction that may be used in accordance with Section III.13.5.4 of Market Rule 1 to specify a price when a Capacity Supply Obligation is transferred using supply offers and demand bids in Annual Reconfiguration Auctions.

**Applicants**, for the purposes of the ISO New England Financial Assurance Policy, are entities applying for Market Participant status or for transmission service from the ISO.

**Application** is a written request by an Eligible Customer for transmission service pursuant to the provisions of the OATT.

**Asset** is a Generator Asset, a Demand Response Asset, a component of an On-Peak Demand Resource or Seasonal Peak Demand Resource, a Load Asset (including an Asset Related Demand), an Alternative Technology Regulation Resource, or a Tie-Line Asset.

**Asset Registration Process** is the ISO business process for registering an Asset.

**Asset Related Demand** is a Load Asset that has been discretely modeled within the ISO's dispatch and settlement systems, settles at a Node, has been registered in accordance with the Asset Registration

Process, and is made up of either: (1) one or more individual end-use metered customers receiving service from the same point or points of electrical supply with an aggregate average hourly load of 1 MW or greater during the 12 months preceding its registration or (2) one or more storage facilities with an aggregate consumption capability of at least 1 MW.

**Asset Related Demand Bid Block-Hours** are Block-Hours assigned to the Lead Market Participant for each Asset Related Demand bid. Blocks of the bid in effect for each hour will be totaled to determine the daily quantity of Asset Related Demand Bid Block-Hours. In the case that a Resource has a Real-Time unit status of “unavailable” for an entire day, that day will not contribute to the quantity of Asset Related Demand Bid Block-Hours. However, if the Resource has at least one hour of the day with a unit status of “available,” the entire day will contribute to the quantity of Asset Related Demand Bid Block-Hours.

**Asset-Specific Going Forward Costs** are the net costs of an asset that is part of an Existing Generating Capacity Resource, calculated for the asset in the same manner as the net costs of Existing Generating Capacity Resources as described in Section III.13.1.2.3.2.1.1.1 (for an asset with a Static De-List Bid or an Export Bid) or Section III.13.1.2.3.2.1.1.2 (for an asset with a Permanent De-List Bid or Retirement De-List Bid).

**Assigned Meter Reader** reports to the ISO the hourly and monthly MWh associated with the Asset. These MWh are used for settlement. The Assigned Meter Reader may designate an agent to help fulfill its Assigned Meter Reader responsibilities; however, the Assigned Meter Reader remains functionally responsible to the ISO.

**Auction Revenue Right (ARR)** is a right to receive FTR Auction Revenues in accordance with Appendix C of Market Rule 1.

**Auction Revenue Right Allocation (ARR Allocation)** is defined in Section 1 of Appendix C of Market Rule 1.

**Auction Revenue Right Holder (ARR Holder)** is an entity which is the record holder of an Auction Revenue Right (excluding an Incremental ARR) in the register maintained by the ISO.

**Authorized Commission** is defined in Section 3.3 of the ISO New England Information Policy.

**Authorized Person** is defined in Section 3.3 of the ISO New England Information Policy.

**Automatic Response Rate** is the response rate, in MW/Minute, at which a Market Participant is willing to have a Regulation Resource change its output or consumption while providing Regulation between the Regulation High Limit and Regulation Low Limit.

**Average Hourly Load Reduction** is either: (i) the sum of the On-Peak Demand Resource's electrical energy reduction during Demand Resource On-Peak Hours in the month divided by the number of Demand Resource On-Peak Hours in the month; or (ii) the sum of the Seasonal Peak Demand Resource's electrical energy reduction during Demand Resource Seasonal Peak Hours in the month divided by the number of Demand Resource Seasonal Peak Hours in the month. The On-Peak Demand Resource's or Seasonal Peak Demand Resource's electrical energy reduction and Average Hourly Load Reduction shall be determined consistent with the resource's Measurement and Verification Plan, which shall be reviewed by the ISO to ensure consistency with the measurement and verification requirements, as described in Section III.13.1.4.3 of Market Rule 1 and the ISO New England Manuals.

**Average Hourly Output** is either: (i) the sum of the On-Peak Demand Resource's electrical energy output during Demand Resource On-Peak Hours in the month divided by the number of Demand Resource On-Peak Hours in the month; or (ii) the sum of the Seasonal Peak Demand Resource's electrical energy output during Demand Resource Seasonal Peak Hours in the month divided by the number of Demand Resource Seasonal Peak Hours in the month. Electrical energy output and Average Hourly Output shall be determined consistent with the resource's Measurement and Verification Plan, which shall be reviewed by the ISO to ensure consistency with the measurement and verification requirements, as described in Section III.13.1.4.3 of Market Rule 1 and the ISO New England Manuals.

**Average Monthly PER** is calculated in accordance with Section III.13.7.1.2.2 of Market Rule 1.

**Backstop Transmission Solution** is a solution proposed: (i) to address a reliability or market efficiency need identified by the ISO in a Needs Assessment reported by the ISO pursuant to Section 4.1(i) of Attachment K to the ISO OATT, (ii) by the PTO or PTOs with an obligation under Schedule 3.09(a) of the TOA to address the identified need; and (iii) in circumstances in which the competitive solution process specified in Section 4.3 of Attachment K to the ISO OATT will be utilized.

**Bankruptcy Code** is the United States Bankruptcy Code.

**Bankruptcy Event** occurs when a Covered Entity files a voluntary or involuntary petition in bankruptcy or commences a proceeding under the United States Bankruptcy Code or any other applicable law concerning insolvency, reorganization or bankruptcy by or against such Covered Entity as debtor.

**Bilateral Contract (BC)** is any of the following types of contracts: Internal Bilateral for Load, Internal Bilateral for Market for Energy, and External Transactions.

**Bilateral Contract Block-Hours** are Block-Hours assigned to the seller and purchaser of an Internal Bilateral for Load, Internal Bilateral for Market for Energy and External Transactions; provided, however, that only those contracts which apply to the Real-Time Energy Market will accrue Block-Hours.

**Binary Storage DARD** is a DARD that participates in the New England Markets as part of a Binary Storage Facility, as described in Section III.1.10.6 of Market Rule 1.

**Binary Storage Facility** is a type of Electric Storage Facility, as described in Section III.1.10.6 of Market Rule 1.

**Blackstart Capability Test** is the test, required by ISO New England Operating Documents, of a resource's capability to provide Blackstart Service.

**Blackstart Capital Payment** is the annual compensation, as calculated pursuant to Section 5.1, or as referred to in Section 5.2, of Schedule 16 to the OATT, for a Designated Blackstart Resource's Blackstart Equipment capital costs associated with the provision of Blackstart Service (excluding the capital costs associated with compliance with NERC Critical Infrastructure Protection Reliability Standards as part of Blackstart Service).

**Blackstart Equipment** is any equipment that is solely necessary to enable the Designated Blackstart Resource to provide Blackstart Service and is not required to provide other products or services under the Tariff.

**Blackstart O&M Payment** is the annual Blackstart O&M compensation calculated under either Section 5.1 or 5.2 of Schedule 16 of the OATT, as applicable.



**Blackstart Owner** is the Market Participant who is authorized on behalf of the Generator Owner(s) to offer or operate the resource as a Designated Blackstart Resource and is authorized to commit the resource to provide Blackstart Service.

**Blackstart Service** is the Ancillary Service described in Section II.47 of the Tariff and Schedule 16 of the OATT.

**Blackstart Service Commitment** is the commitment by a Blackstart Owner for its resource to provide Blackstart Service and the acceptance of that commitment by the ISO, in the manner detailed in ISO New England Operating Procedure No. 11 – Designated Blackstart Resource Administration (OP 11), and which includes a commitment to provide Blackstart Service established under Operating Procedure 11 – Designated Blackstart Resource Administration (OP11).

**Blackstart Service Minimum Criteria** are the minimum criteria that a Blackstart Owner and its resource must meet in order to establish and maintain a resource as a Designated Blackstart Resource.

**Blackstart Standard Rate Payment** is the formulaic rate of monthly compensation, as calculated pursuant to Section 5 of Schedule 16 to the OATT, paid to a Blackstart Owner for the provision of Blackstart Service from a Designated Blackstart Resource.

**Blackstart Station** is comprised of (i) a single Designated Blackstart Resource or (ii) two or more Designated Blackstart Resources that share Blackstart Equipment.

**Blackstart Station-specific Rate Payment** is the Commission-approved compensation, as calculated pursuant to Section 5.2 of Schedule 16 to the OATT, paid to a Blackstart Owner on a monthly basis for the provision of Blackstart Service by Designated Blackstart Resources located at a specific Blackstart Station.

**Blackstart Station-specific Rate Capital Payment** is a component of the Blackstart Station-specific Rate Payment that reflects a Blackstart Station's capital Blackstart Equipment costs associated with the provision of Blackstart Service (excluding the capital costs associated with compliance with NERC Critical Infrastructure Protection Reliability Standards as part of Blackstart Service).

**Block** is defined as follows: (1) With respect to Bilateral Contracts, a Bilateral Contract administered by the ISO for an hour; (2) with respect to Supply Offers administered by the ISO, a quantity with a related price for Energy (Supply Offers for Energy may contain multiple sets of quantity and price pairs for each hour); (3) with respect to Demand Bids administered by the ISO, a quantity with a related price for Energy (Demand Bids for Energy may contain multiple sets of quantity and price pairs for each hour); (4) with respect to Increment Offers administered by the ISO, a quantity with a related price for Energy (Increment Offers for Energy may contain multiple sets of quantity and price pairs for each hour); (5) with respect to Decrement Bids administered by the ISO, a quantity with a related price for Energy (Decrement Bids for Energy may contain multiple sets of quantity and price pairs for each hour); (6) with respect to Asset Related Demand bids administered by the ISO, a quantity with a related price for Energy (Asset Related Demand bids may contain multiple sets of quantity and price pairs for each hour); and (7) with respect to Demand Reduction Offers administered by the ISO, a quantity of reduced demand with a related price (Demand Reduction Offers may contain multiple sets of quantity and price pairs for the day).

**Block-Hours** are the number of Blocks administered for a particular hour.

**Budget and Finance Subcommittee** is a subcommittee of the Participants Committee, the responsibilities of which are specified in Section 8.4 of the Participants Agreement.

**Business Day** is any day other than a Saturday or Sunday or ISO holidays as posted by the ISO on its website.

**Cancelled Start NCPC Credit** is an NCPC Credit calculated pursuant to Appendix F to Market Rule 1.

**Capability Demonstration Year** is the one year period from September 1 through August 31.

**Capacity Acquiring Resource** is a resource that is seeking to acquire a Capacity Supply Obligation through: (1) a Capacity Supply Obligation Bilateral, as described in Section III.13.5.1, or; (2) an annual or monthly reconfiguration auction, as described in Section III.13.4.

**Capacity Balancing Ratio** is a ratio used in calculating the Capacity Performance Payment in the Forward Capacity Market, as described in Section III.13.7.2.3 of Market Rule 1.

**Capacity Base Payment** is the portion of revenue received in the Forward Capacity Market as described in Section III.13.7.1 of Market Rule 1.

**Capacity Capability Interconnection Standard** has the meaning specified in Schedule 22, Schedule 23, and Schedule 25 of the OATT.

**Capacity Clearing Price** is the clearing price for a Capacity Zone for a Capacity Commitment Period resulting from the Forward Capacity Auction conducted for that Capacity Commitment Period, as determined in accordance with Section III.13.2.7 of Market Rule 1.

**Capacity Commitment Period** is the one-year period from June 1 through May 31 for which obligations are assumed and payments are made in the Forward Capacity Market.

**Capacity Cost (CC)** is one of four forms of compensation that may be paid to resources providing VAR Service under Schedule 2 of the OATT.

**Capacity Export Through Import Constrained Zone Transaction** is defined in Section III.1.10.7(f)(i) of Market Rule 1.

**Capacity Load Obligation** is the quantity of capacity for which a Market Participant is financially responsible as described in Section III.13.7.5.2 of Market Rule 1.

**Capacity Load Obligation Acquiring Participant** is a load serving entity or any other Market Participant seeking to acquire a Capacity Load Obligation through a Capacity Load Obligation Bilateral, as described in Section III.13.5.2 of Market Rule 1.

**Capacity Network Import Capability (CNI Capability)** is as defined in Section I of Schedule 25 of the OATT.

**Capacity Network Import Interconnection Service (CNI Interconnection Service)** is as defined in Section I of Schedule 25 of the OATT.

**Capacity Load Obligation Bilateral** is a bilateral contract through which a Market Participant may transfer all or a portion of its Capacity Load Obligation to another entity, as described in Section III.13.5 of Market Rule 1.

**Capacity Load Obligation Transferring Participant** is an entity that has a Capacity Load Obligation and is seeking to shed such obligation through a Capacity Load Obligation Bilateral, as described in Section III.13.5.2 of Market Rule 1.

**Capacity Network Resource (CNR)** is defined in Section I of Schedule 22 and Attachment 1 to Schedule 23 of the OATT.

**Capacity Network Resource Interconnection Service (CNR Interconnection Service)** is defined in Section I of Schedule 22 and Attachment 1 to Schedule 23 of the OATT.

**Capacity Performance Bilateral** is a transaction for transferring Capacity Performance Score, as described in Section III.13.5.3 of Market Rule 1.

**Capacity Performance Payment** is the performance-dependent portion of revenue received in the Forward Capacity Market, as described in Section III.13.7.2 of Market Rule 1.

**Capacity Performance Payment Rate** is a rate used in calculating Capacity Performance Payments, as described in Section III.13.7.2.5 of Market Rule 1.

**Capacity Performance Score** is a figure used in determining Capacity Performance Payments, as described in Section III.13.7.2.4 of Market Rule 1.

**Capacity Rationing Rule** addresses whether offers and bids in a Forward Capacity Auction may be rationed, as described in Section III.13.2.6 of Market Rule 1.

**Capacity Scarcity Condition** is a period during which performance is measured in the Forward Capacity Market, as described in Section III.13.7.2.1 of Market Rule 1.

**Capacity Scarcity Condition** is a period during which performance is measured in the Forward Capacity Market, as described in Section III.13.7.2.1 of Market Rule 1.

**Capacity Supply Obligation** is an obligation to provide capacity from a resource, or a portion thereof, to satisfy a portion of the Installed Capacity Requirement that is acquired through a Forward Capacity Auction in accordance with Section III.13.2, a reconfiguration auction in accordance with Section III.13.4, or a Capacity Supply Obligation Bilateral in accordance with Section III.13.5.1 of Market Rule 1.

**Capacity Supply Obligation Bilateral** is a bilateral contract through which a Market Participant may transfer all or a part of its Capacity Supply Obligation to another entity, as described in Section III.13.5.1 of Market Rule 1.

**Capacity Transfer Rights (CTRs)** are calculated in accordance with Section III.13.7.5.4.

**Capacity Transferring Resource** is a resource that has a Capacity Supply Obligation and is seeking to shed such obligation, or a portion thereof, through: (1) a Capacity Supply Obligation Bilateral, as described in Section III.13.5.1, or; (2) an annual or monthly reconfiguration auction, as described in Section III.13.4.

**Capacity Zone** is a geographic sub-region of the New England Control Area as determined in accordance with Section III.12.4 of Market Rule 1.

**Capacity Zone Demand Curves** are the demand curves used in the Forward Capacity Market for a Capacity Zone as specified in Sections III.13.2.2.2 and III.13.2.2.3.

**Capital Funding Charge (CFC)** is defined in Section IV.B.2 of the Tariff.

**CARL Data** is Control Area reliability data submitted to the ISO to permit an assessment of the ability of an external Control Area to provide energy to the New England Control Area in support of capacity offered to the New England Control Area by that external Control Area.

**Category B Designated Blackstart Resource** has the same meaning as Designated Blackstart Resource.

**Charge** is a sum of money due from a Covered Entity to the ISO, either in its individual capacity or as billing and collection agent for NEPOOL pursuant to the Participants Agreement.

**CLAIM10** is the value, expressed in megawatts, calculated pursuant to Section III.9.5.3 of the Tariff.

**CLAIM30** is the value, expressed in megawatts, calculated pursuant to Section III.9.5.3 of the Tariff.

**Claimed Capability Audit** is performed to determine the real power output capability of a Generator Asset or the demand reduction capability of a Demand Response Resource.

**Cluster Enabling Transmission Upgrade (CETU)** has the meaning specified in Section I of Schedule 22, Attachment 1 to Schedule 23, and Section I of Schedule 25 of the OATT.

**Cluster Enabling Transmission Upgrade Regional Planning Study (CRPS)** has the meaning specified in Section I of Schedule 22, Attachment 1 to Schedule 23, and Section I of Schedule 25 of the OATT.

**Cluster Entry Deadline** has the meaning specified in Section I of Schedule 22, Attachment 1 to Schedule 23, and Section I of Schedule 25 of the OATT.

**Cluster Interconnection System Impact Study (CSIS)** has the meaning specified in Section I of Schedule 22, Attachment 1 to Schedule 23, and Section I of Schedule 25 of the OATT.

**Clustering** has the meaning specified in Section I of Schedule 22, Attachment 1 to Schedule 23, and Section I of Schedule 25 of the OATT.

**CNR Capability** is defined in Section I of Schedule 22 and Attachment 1 to Schedule 23 of the OATT.

**Coincident Peak Contribution** is a Market Participant's share of the New England Control Area coincident peak demand for the prior calendar year as determined prior to the start of each Capacity Commitment Period, which reflects the sum of the prior year's annual coincident peak contributions of the customers served by the Market Participant at each Load Asset. Daily Coincident Peak Contribution values shall be submitted by the Assigned Meter Reader or Host Participant by the meter reading deadline to the ISO.

**Commercial Capacity** is capacity that has achieved FCM Commercial Operation.

**Commission** is the Federal Energy Regulatory Commission.

**Commitment Period** is (i) for a Day-Ahead Energy Market commitment, a period of one or more contiguous hours for which a Resource is cleared in the Day-Ahead Energy Market, and (ii) for a Real-Time Energy Market commitment, the period of time for which the ISO indicates the Resource is being committed when it issues the Dispatch Instruction. If the ISO does not indicate the period of time for which the Resource is being committed in the Real-Time Energy Market, then the Commitment Period is the Minimum Run Time for an offline Resource and one hour for an online Resource.

**Common Costs** are those costs associated with a Station that are avoided only by the clearing of the Static De-List Bids, the Permanent De-List Bids, or the Retirement De-List Bids of all the Existing Generating Capacity Resources comprising the Station.

**Completed Application** is an Application that satisfies all of the information and other requirements of the OATT, including any required deposit.

**Compliance Effective Date** is the date upon which the changes in the predecessor NEPOOL Open Access Transmission Tariff which have been reflected herein to comply with the Commission's Order of April 20, 1998 became effective.

**Composite FCM Transaction** is a transaction for separate resources seeking to participate as a single composite resource in a Forward Capacity Auction in which multiple Designated FCM Participants provide capacity, as described in Section III.13.1.5 of Market Rule 1.

**Conditional Qualified New Resource** is defined in Section III.13.1.1.2.3(f) of Market Rule 1.

**Confidential Information** is defined in Section 2.1 of the ISO New England Information Policy, which is Attachment D to the Tariff.

**Confidentiality Agreement** is Attachment 1 to the ISO New England Billing Policy.

**Congestion** is a condition of the New England Transmission System in which transmission limitations prevent unconstrained regional economic dispatch of the power system. Congestion is the condition that results in the Congestion Component of the Locational Marginal Price at one Location being different

from the Congestion Component of the Locational Marginal Price at another Location during any given hour of the dispatch day in the Day-Ahead Energy Market or Real-Time Energy Market.

**Congestion Component** is the component of the nodal price that reflects the marginal cost of congestion at a given Node or External Node relative to the reference point. When used in connection with Zonal Price and Hub Price, the term Congestion Component refers to the Congestion Components of the nodal prices that comprise the Zonal Price and Hub Price weighted and averaged in the same way that nodal prices are weighted to determine Zonal Price and averaged to determine the Hub Price.

**Congestion Cost** is the cost of congestion as measured by the difference between the Congestion Components of the Locational Marginal Prices at different Locations and/or Reliability Regions on the New England Transmission System.

**Congestion Paying LSE** is, for the purpose of the allocation of FTR Auction Revenues to ARR Holders as provided for in Appendix C of Market Rule 1, a Market Participant or Non-Market Participant Transmission Customer that is responsible for paying for Congestion Costs as a Transmission Customer paying for Regional Network Service under the Transmission, Markets and Services Tariff, unless such Transmission Customer has transferred its obligation to supply load in accordance with ISO New England System Rules, in which case the Congestion Paying LSE shall be the Market Participant supplying the transferred load obligation. The term Congestion Paying LSE shall be deemed to include, but not be limited to, the seller of internal bilateral transactions that transfer Real-Time Load Obligations under the ISO New England System Rules.

**Congestion Revenue Fund** is the amount available for payment of target allocations to FTR Holders from the collection of Congestion Cost.

**Congestion Shortfall** means congestion payments exceed congestion charges during the billing process in any billing period.

**Continuous Storage ATRR** is an ATRR that participates in the New England Markets as part of a Continuous Storage Facility, as described in Section III.1.10.6 of Market Rule 1.

**Continuous Storage DARD** is a DARD that participates in the New England Markets as part of a Continuous Storage Facility, as described in Section III.1.10.6 of Market Rule 1.



**Continuous Storage Generator Asset** is a Generator Asset that participates in the New England Markets as part of a Continuous Storage Facility, as described in Section III.1.10.6 of Market Rule 1.

**Continuous Storage Facility** is a type of Electric Storage Facility, as described in Section III.1.10.6 of Market Rule 1.

**Control Agreement** is the document posted on the ISO website that is required if a Market Participant's cash collateral is to be invested in BlackRock funds.

**Control Area** is an electric power system or combination of electric power systems to which a common automatic generation control scheme is applied in order to:

- (1) match, at all times, the power output of the generators within the electric power system(s) and capacity and energy purchased from entities outside the electric power system(s), with the load within the electric power system(s);
- (2) maintain scheduled interchange with other Control Areas, within the limits of Good Utility Practice;
- (3) maintain the frequency of the electric power system(s) within reasonable limits in accordance with Good Utility Practice and the criteria of the applicable regional reliability council or the North American Electric Reliability Corporation; and
- (4) provide sufficient generating capacity to maintain operating reserves in accordance with Good Utility Practice.

**Controllable Behind-the-Meter Generation** means generation whose output can be controlled located at the same facility as a DARD or a Demand Response Asset, excluding: (1) generators whose output is separately metered and reported and (2) generators that cannot operate electrically synchronized to, and that are operated only when the facility loses its supply of power from, the New England Transmission System, or when undergoing related testing.

**Coordinated External Transaction** is an External Transaction at an external interface for which the enhanced scheduling procedures in Section III.1.10.7.A are implemented. A transaction to wheel energy into, out of or through the New England Control Area is not a Coordinated External Transaction.

**Coordinated Transaction Scheduling** means the enhanced scheduling procedures set forth in Section III.1.10.7.A.

**Correction Limit** means the date that is one hundred and one (101) calendar days from the last Operating Day of the month to which the data applied. As described in Section III.3.6.1 of Market Rule 1, this will be the period during which meter data corrections must be submitted unless they qualify for submission as a Requested Billing Adjustment under Section III.3.7 of Market Rule 1.

**Cost of Energy Consumed (CEC)** is one of four forms of compensation that may be paid to resources providing VAR Service under Schedule 2 of the OATT.

**Cost of Energy Produced (CEP)** is one of four forms of compensation that may be paid to resources providing VAR Service under Schedule 2 of the OATT.

**Cost of New Entry (CONE)** is the estimated cost of new entry (\$/kW-month) for a capacity resource that is determined by the ISO for each Forward Capacity Auction pursuant to Section III.13.2.4.

**Counterparty** means the status in which the ISO acts as the contracting party, in its name and own right and not as an agent, to an agreement or transaction with a Customer (including assignments involving Customers) involving sale to the ISO, and/or purchase from the ISO, of Regional Transmission Service and market and other products and services, and other transactions and assignments involving Customers, all as described in the Tariff.

**Covered Entity** is defined in the ISO New England Billing Policy.

**Credit Coverage** is third-party credit protection obtained by the ISO in the form of credit insurance coverage.

**Credit Qualifying** means a Rated Market Participant that has an Investment Grade Rating and an Unrated Market Participant that satisfies the Credit Threshold.

**Credit Threshold** consists of the conditions for Unrated Market Participants outlined in Section II.B.2 of the ISO New England Financial Assurance Policy.

**Critical Energy Infrastructure Information (CEII)** is defined in Section 3.0(j) of the ISO New England Information Policy, which is Attachment D to the Tariff.

**Current Ratio** is, on any date, all of a Market Participant's or Non-Market Participant Transmission Customer's current assets divided by all of its current liabilities, in each case as shown on the most recent financial statements provided by such Market Participant or Non-Market Participant Transmission Customer to the ISO.

**Curtailement** is a reduction in the dispatch of a transaction that was scheduled, using transmission service, in response to a transfer capability shortage as a result of system reliability conditions.

**Customer** is a Market Participant, a Transmission Customer or another customer of the ISO.

**Data Reconciliation Process** means the process by which meter reconciliation and data corrections that are discovered by Governance Participants after the Invoice has been issued for a particular month or that are discovered prior to the issuance of the Invoice for the relevant month but not included in that Invoice or in the other Invoices for that month and are reconciled by the ISO on an hourly basis based on data submitted to the ISO by the Host Participant Assigned Meter Reader or Assigned Meter Reader.

**Day-Ahead** is the calendar day immediately preceding the Operating Day.

**Day-Ahead Adjusted Load Obligation** is defined in Section III.3.2.1(a) of Market Rule 1.

**Day-Ahead Congestion Revenue** is defined in Section III.3.2.1(i) of Market Rule 1.

**Day-Ahead Demand Reduction Obligation** is defined in Section III.3.2.1(a) of Market Rule 1.

**Day-Ahead Energy Market** means the schedule of commitments for the purchase or sale of energy, purchase of demand reductions, payment of Congestion Costs, payment for losses developed by the ISO as a result of the offers and specifications submitted in accordance with Section III.1.10 of Market Rule 1.

**Day-Ahead Energy Market Congestion Charge/Credit** is defined in Section III.3.2.1(f) of Market Rule 1.

**Day-Ahead Energy Market Energy Charge/Credit** is defined in Section III.3.2.1(f) of Market Rule 1.

**Day-Ahead Energy Market Loss Charge/Credit** is defined in Section III.3.2.1(f) of Market Rule 1.

**Day-Ahead Energy Market NCPC Credit** is an NCPC Credit calculated pursuant to Appendix F to Market Rule 1.

**Day-Ahead External Transaction Export and Decrement Bid NCPC Credit** is an NCPC Credit calculated pursuant to Appendix F to Market Rule 1.

**Day-Ahead External Transaction Import and Increment Offer NCPC Credit** is an NCPC Credit calculated pursuant to Appendix F to Market Rule 1.

**Day-Ahead Generation Obligation** is defined in Section III.3.2.1(a) of Market Rule 1.

**Day-Ahead Load Obligation** is defined in Section III.3.2.1(a) of Market Rule 1.

**Day-Ahead Locational Adjusted Net Interchange** is defined in Section III.3.2.1(a) of Market Rule 1.

**Day-Ahead Loss Charges or Credits** is defined in Section III.3.2.1(k) of Market Rule 1.

**Day-Ahead Loss Revenue** is defined in Section III.3.2.1(j) of Market Rule 1.

**Day-Ahead Prices** means the Locational Marginal Prices resulting from the Day-Ahead Energy Market.

**DDP Dispatchable Resource** is any Dispatchable Resource that the ISO dispatches using Desired Dispatch Points in the Resource's Dispatch Instructions.

**Debt-to-Total Capitalization Ratio** is, on any date, a Market Participant's or Non-Market Participant Transmission Customer's total debt (including all current borrowings) divided by its total shareholders' equity plus total debt, in each case as shown on the most recent financial statements provided by such Market Participant or Non-Market Participant Transmission Customer to the ISO.

**Decrement Bid** means a bid to purchase energy at a specified Location in the Day-Ahead Energy Market which is not associated with a physical load. An accepted Decrement Bid results in scheduled load at the specified Location in the Day-Ahead Energy Market.

**Default Amount** is all or any part of any amount due to be paid by any Covered Entity that the ISO, in its reasonable opinion, believes will not or has not been paid when due (other than in the case of a payment dispute for any amount due for transmission service under the OATT).

**Default Period** is defined in Section 3.3.h(i) of the ISO New England Billing Policy.

**Delivering Party** is the entity supplying capacity and/or energy to be transmitted at Point(s) of Receipt under the OATT.

**Demand Bid** means a request to purchase an amount of energy, at a specified Location, or an amount of energy at a specified price, that is associated with a physical load. A cleared Demand Bid in the Day-Ahead Energy Market results in scheduled load at the specified Location. Demand Bids submitted for use in the Real-Time Energy Market are specific to Dispatchable Asset Related Demands only.

**Demand Bid Block-Hours** are the Block-Hours assigned to the submitting Customer for each Demand Bid.

**Demand Bid Cap** is \$2,000/MWh.

**Demand Capacity Resource** means an Existing Demand Capacity Resource or a New Demand Capacity Resource. There are three Demand Capacity Resource types: Active Demand Capacity Resources, On-Peak Demand Resources, and Seasonal Peak Demand Resources.

**Demand Designated Entity** is the entity designated by a Market Participant to receive Dispatch Instructions for Demand Response Resources in accordance with the provisions set forth in ISO New England Operating Procedure No. 14.

**Demand Reduction Offer** is an offer by a Market Participant with a Demand Response Resource to reduce demand.

**Demand Reduction Offer Block-Hours** are Block-Hours assigned to the Lead Market Participant for each Demand Reduction Offer. Blocks of the Demand Reduction Offer in effect for each hour will be totaled to determine the quantity of Demand Reduction Offer Block-Hours for a given day. In the case that a Resource has a Real-Time unit status of “unavailable” for the entire day, that day will not contribute to the quantity of Demand Reduction Offer Block-Hours. However, if the Resource has at least one hour of the day with a unit status of “available,” the entire day will contribute to the quantity of Demand Reduction Offer Block-Hours.

**Demand Reduction Threshold Price** is a minimum offer price calculated pursuant to Section III.1.10.1A(f).

**Demand Resource On-Peak Hours** are hours ending 1400 through 1700, Monday through Friday on non-Demand Response Holidays during the months of June, July, and August and hours ending 1800 through 1900, Monday through Friday on non-Demand Response Holidays during the months of December and January.

**Demand Resource Seasonal Peak Hours** are those hours in which the actual, real-time hourly load, as measured using real-time telemetry (adjusted for transmission and distribution losses, and excluding load associated with Exports and Storage DARDs) for Monday through Friday on non-Demand Response Holidays, during the months of June, July, August, December, and January, as determined by the ISO, is equal to or greater than 90% of the most recent 50/50 system peak load forecast, as determined by the ISO, for the applicable summer or winter season.

**Demand Response Asset** is an asset comprising the demand reduction capability of an individual end-use customer at a Retail Delivery Point or the aggregated demand reduction capability of multiple end-use customers from multiple delivery points (as described in Section III.8.1.1(f)) that has been registered in accordance with III.8.1.1.

**Demand Response Available** is the capability of the Demand Response Resource, in whole or in part, at any given time, to reduce demand in response to a Dispatch Instruction.

**Demand Response Baseline** is the expected baseline demand of an individual end-use metered customer or group of end-use metered customers as determined pursuant to Section III.8.2.

**Demand Response Holiday** is New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, and Christmas Day. If the holiday falls on a Saturday, the holiday will be observed on the preceding Friday; if the holiday falls on a Sunday, the holiday will be observed on the following Monday.

**Demand Response Resource** is an individual Demand Response Asset or aggregation of Demand Response Assets within a DRR Aggregation Zone that has been registered in accordance with Section III.8.1.2.

**Demand Response Resource Notification Time** is the period of time between the receipt of a startup Dispatch Instruction and the time the Demand Response Resource starts reducing demand.

**Demand Response Resource Ramp Rate** is the average rate, expressed in MW per minute, at which the Demand Response Resource can reduce demand.

**Demand Response Resource Start-Up Time** is the period of time between the time a Demand Response Resource starts reducing demand at the conclusion of the Demand Response Resource Notification Time and the time the resource can reach its Minimum Reduction and be ready for further dispatch by the ISO.

**Designated Agent** is any entity that performs actions or functions required under the OATT on behalf of the ISO, a Transmission Owner, a Schedule 20A Service Provider, an Eligible Customer, or a Transmission Customer.

**Designated Blackstart Resource** is a resource that meets the eligibility requirements specified in Schedule 16 of the OATT, which includes any resource referred to previously as a Category B Designated Blackstart Resource.

**Designated Entity** is the entity designated by a Market Participant to receive Dispatch Instructions for a Generator Asset and/or Dispatchable Asset Related Demand in accordance with the provisions set forth in ISO New England Operating Procedure No. 14.

**Designated FCM Participant** is any Lead Market Participant, including any Provisional Member that is a Lead Market Participant, transacting in any Forward Capacity Auction, reconfiguration auctions or

Capacity Supply Obligation Bilateral for capacity that is otherwise required to provide additional financial assurance under the ISO New England Financial Assurance Policy.

**Designated FTR Participant** is a Market Participant, including FTR-Only Customers, transacting in the FTR Auction that is otherwise required to provide additional financial assurance under the ISO New England Financial Assurance Policy.

**Desired Dispatch Point (DDP)** means the control signal, expressed in megawatts, transmitted to direct the output, consumption, or demand reduction level of each Generator Asset, Dispatchable Asset Related Demand, or Demand Response Resource dispatched by the ISO in accordance with the asset's Offer Data.

**Direct Assignment Facilities** are facilities or portions of facilities that are constructed for the sole use/benefit of a particular Transmission Customer requesting service under the OATT or a Generator Owner requesting an interconnection. Direct Assignment Facilities shall be specified in a separate agreement among the ISO, Interconnection Customer and Transmission Customer, as applicable, and the Transmission Owner whose transmission system is to be modified to include and/or interconnect with the Direct Assignment Facilities, shall be subject to applicable Commission requirements, and shall be paid for by the Customer in accordance with the applicable agreement and the Tariff.

**Directly Metered Assets** are specifically measured by OP-18 compliant metering as currently described in Section IV (Metering and Recording for Settlements) of OP-18. Directly Metered Assets include all Tie-Line Assets, all Generator Assets, as well as some Load Assets. Load Assets for which the Host Participant is not the Assigned Meter Reader are considered Directly Metered Assets. In addition, the Host Participant Assigned Meter Reader determines which additional Load Assets are considered Directly Metered Assets and which ones are considered Profiled Load Assets based upon the Host Participant Assigned Meter Reader reporting systems and process by which the Host Participant Assigned Meter Reader allocates non-PTF losses.

**Disbursement Agreement** is the Rate Design and Funds Disbursement Agreement among the PTOs, as amended and restated from time to time.

**Dispatch Instruction** means directions given by the ISO to Market Participants, which may include instructions to start up, shut down, raise or lower generation, curtail or restore loads from Demand Response Resources, change External Transactions, or change the status or consumption of a



Dispatchable Asset Related Demand in accordance with the Supply Offer, Demand Bid, or Demand Reduction Offer parameters. Such instructions may also require a change to the operation of a Pool Transmission Facility. Such instructions are given through either electronic or verbal means.

**Dispatch Zone** means a subset of Nodes located within a Load Zone established by the ISO for each Capacity Commitment Period pursuant to Section III.12.4A.

**Dispatchable Asset Related Demand (DARD)** is an Asset Related Demand that is capable of having its energy consumption modified in Real-Time in response to Dispatch Instructions. A DARD must be capable of receiving and responding to electronic Dispatch Instructions, must be able to increase or decrease energy consumption between its Minimum Consumption Limit and Maximum Consumption Limit in accordance with Dispatch Instructions, and must meet the technical requirements specified in the ISO New England Operating Procedures and Manuals.

**Dispatchable Resource** is any Generator Asset, Dispatchable Asset Related Demand, Demand Response Resource, or, with respect to the Regulation Market only, Alternative Technology Regulation Resource, that, during the course of normal operation, is capable of receiving and responding to electronic Dispatch Instructions in accordance with the parameters contained in the Resource's Supply Offer, Demand Bid, Demand Reduction Offer or Regulation Service Offer. A Resource that is normally classified as a Dispatchable Resource remains a Dispatchable Resource when it is temporarily not capable of receiving and responding to electronic Dispatch Instructions.

**Dispute Representatives** are defined in 6.5.c of the ISO New England Billing Policy.

**Disputed Amount** is a Covered Entity's disputed amount due on any fully paid monthly Invoice and/or any amount believed to be due or owed on a Remittance Advice, as defined in Section 6 of the ISO New England Billing Policy.

**Disputing Party**, for the purposes of the ISO New England Billing Policy, is any Covered Entity seeking to recover a Disputed Amount.

**Distributed Generation** means generation directly connected to end-use customer load and located behind the end-use customer's Retail Delivery Point that reduces the amount of energy that would otherwise have been produced on the electricity network in the New England Control Area, provided that

the facility's Net Supply Capability is (i) less than 5 MW or (ii) less than or equal to the Maximum Facility Load, whichever is greater.

**DRR Aggregation Zone** is a Dispatch Zone entirely within a single Reserve Zone or Rest of System or, where a Dispatch Zone is not entirely within a single Reserve Zone or Rest of System, each portion of the Dispatch Zone demarcated by the Reserve Zone boundary.

**Do Not Exceed (DNE) Dispatchable Generator** is any Generator Asset that is dispatched using Do Not Exceed Dispatch Points in its Dispatch Instructions and meets the criteria specified in Section III.1.11.3(e). Do Not Exceed Dispatchable Generators are Dispatchable Resources.

**Do Not Exceed Dispatch Point** is a Dispatch Instruction indicating a maximum output level that a DNE Dispatchable Generator must not exceed.

**Dynamic De-List Bid** is a bid that may be submitted by Existing Generating Capacity Resources, Existing Import Capacity Resources, and Existing Demand Capacity Resources in the Forward Capacity Auction below the Dynamic De-List Bid Threshold, as described in Section III.13.2.3.2(d) of Market Rule 1.

**Dynamic De-List Bid Threshold** is the price specified in Section III.13.1.2.3.1.A of Market Rule 1 associated with the submission of Dynamic De-List Bids in the Forward Capacity Auction.

**EA Amount** is defined in Section IV.B.2.2 of the Tariff.

**Early Amortization Charge (EAC)** is defined in Section IV.B.2 of the Tariff.

**Early Amortization Working Capital Charge (EAWCC)** is defined in Section IV.B.2 of the Tariff.

**Early Payment Shortfall Funding Amount (EPSF Amount)** is defined in Section IV.B.2.4 of the Tariff.

**Early Payment Shortfall Funding Charge (EPSFC)** is defined in Section IV.B.2 of the Tariff.

**EAWW Amount** is defined in Section IV.B.2.3 of the Tariff.

**EBITDA-to-Interest Expense Ratio** is, on any date, a Market Participant's or Non-Market Participant Transmission Customer's earnings before interest, taxes, depreciation and amortization in the most recent fiscal quarter divided by that Market Participant's or Non-Market Participant Transmission Customer's expense for interest in that fiscal quarter, in each case as shown on the most recent financial statements provided by such Market Participant or Non-Market Participant Transmission Customer to the ISO.

**Economic Dispatch Point** is the output, reduction, or consumption level to which a Resource would have been dispatched, based on the Resource's Supply Offer, Demand Reduction Offer, or Demand Bid and the Real-Time Price, and taking account of any operating limits, had the ISO not dispatched the Resource to another Desired Dispatch Point.

**Economic Maximum Limit or Economic Max** is the maximum available output, in MW, of a Generator Asset that a Market Participant offers to supply in the Day-Ahead Energy Market or Real-Time Energy Market, as reflected in the Generator Asset's Offer Data. This represents the highest MW output a Market Participant has offered for a Generator Asset for economic dispatch. A Market Participant must maintain an up-to-date Economic Maximum Limit (and where applicable, must provide the ISO with any telemetry required by ISO New England Operating Procedure No. 18 to allow the ISO to maintain an updated Economic Maximum Limit) for all hours in which a Generator Asset has been offered into the Day-Ahead Energy Market or Real-Time Energy Market.

**Economic Minimum Limit or Economic Min** is (a) for a Generator Asset with an incremental heat rate, the maximum of: (i) the lowest sustainable output level as specified by physical design characteristics, environmental regulations or licensing limits; and (ii) the lowest sustainable output level at which a one MW increment increase in the output level would not decrease the incremental cost, calculated based on the incremental heat rate, of providing an additional MW of output, and (b) for a Generator Asset without an incremental heat rate, the lowest sustainable output level that is consistent with the physical design characteristics of the Generator Asset and with meeting all environmental regulations and licensing limits, and (c) for a Generator Asset undergoing Facility and Equipment Testing or auditing, the level to which the Generator Asset requests and is approved to operate or is directed to operate for purposes of completing the Facility and Equipment Testing or auditing, and (d) for Non-Dispatchable Resources the output level at which a Market Participant anticipates its Non-Dispatchable Resource will be available to operate based on fuel limitations, physical design characteristics, environmental regulations or licensing limits.

**Economic Study** is defined in Section 4.1(b) of Attachment K to the OATT.

**Effective Offer** is the Supply Offer, Demand Reduction Offer, or Demand Bid that is used for NCPC calculation purposes as specified in Section III.F.1(a).

**EFT** is electronic funds transfer.

**Elective Transmission Upgrade** is defined in Section I of Schedule 25 of the OATT.

**Elective Transmission Upgrade Interconnection Customer** is defined in Schedule 25 of the OATT.

**Electric Reliability Organization (ERO)** is defined in 18 C.F.R. § 39.1.

**Electric Storage Facility** is a storage facility that participates in the New England Markets as described in Section III.1.10.6 of Market Rule 1.

**Eligible Customer** is: (i) Any entity that is engaged, or proposes to engage, in the wholesale or retail electric power business is an Eligible Customer under the OATT. (ii) Any electric utility (including any power marketer), Federal power marketing agency, or any other entity generating electric energy for sale or for resale is an Eligible Customer under the OATT. Electric energy sold or produced by such entity may be electric energy produced in the United States, Canada or Mexico. However, with respect to transmission service that the Commission is prohibited from ordering by Section 212(h) of the Federal Power Act, such entity is eligible only if the service is provided pursuant to a state requirement that the Transmission Owner with which that entity is directly interconnected or the distribution company having the service territory in which that entity is located (if that entity is a retail customer) offer the unbundled transmission service or Local Delivery Service, or pursuant to a voluntary offer of such service by the Transmission Owner with which that entity is directly interconnected or the distribution company having the service territory in which that entity is located (if that entity is a retail customer). (iii) Any end user taking or eligible to take unbundled transmission service or Local Delivery Service pursuant to a state requirement that the Transmission Owner with which that end user is directly interconnected or the distribution company having the service territory in which that entity is located (if that entity is a retail customer) offer the transmission service or Local Delivery Service, or pursuant to a voluntary offer of such service by the Transmission Owner with which that end user is directly interconnected, or the

distribution company having the service territory in which that entity is located (if that entity is a retail customer) is an Eligible Customer under the OATT.

**Eligible FTR Bidder** is an entity that has satisfied applicable financial assurance criteria, and shall not include the auctioneer, its Affiliates, and their officers, directors, employees, consultants and other representatives.

**Emergency** is an abnormal system condition on the bulk power systems of New England or neighboring Control Areas requiring manual or automatic action to maintain system frequency, or to prevent the involuntary loss of load, equipment damage, or tripping of system elements that could adversely affect the reliability of an electric system or the safety of persons or property; or a fuel shortage requiring departure from normal operating procedures in order to minimize the use of such scarce fuel; or a condition that requires implementation of Emergency procedures as defined in the ISO New England Manuals.

**Emergency Condition** means an Emergency has been declared by the ISO in accordance with the procedures set forth in the ISO New England Manuals and ISO New England Administrative Procedures.

**Emergency Energy** is energy transferred from one control area operator to another in an Emergency.

**Emergency Minimum Limit or Emergency Min** means the minimum output, in MWs, that a Generator Asset can deliver for a limited period of time without exceeding specified limits of equipment stability and operating permits.

**EMS** is energy management system.

**End-of-Round Price** is the lowest price associated with a round of a Forward Capacity Auction, as described in Section III.13.2.3.1 of Market Rule 1.

**End User Participant** is defined in Section 1 of the Participants Agreement.

**Energy** is power produced in the form of electricity, measured in kilowatthours or megawatthours.

**Energy Administration Service (EAS)** is the service provided by the ISO, as described in Schedule 2 of Section IV.A of the Tariff.

**Energy Component** means the Locational Marginal Price at the reference point.

**Energy Efficiency** is installed measures (e.g., products, equipment, systems, services, practices and/or strategies) on end-use customer facilities that reduce the total amount of electrical energy needed, while delivering a comparable or improved level of end-use service. Such measures include, but are not limited to, the installation of more energy efficient lighting, motors, refrigeration, HVAC equipment and control systems, envelope measures, operations and maintenance procedures, and industrial process equipment.

**Energy Imbalance Service** is the form of Ancillary Service described in Schedule 4 of the OATT.

**Energy Market** is, collectively, the Day-Ahead Energy Market and the Real-Time Energy Market.

**Energy Non-Zero Spot Market Settlement Hours** are the sum of the hours for which the Customer has a positive or negative Real-Time System Adjusted Net Interchange or for which the Customer has a positive or negative Real-Time Demand Reduction Obligation as determined by the ISO settlement process for the Energy Market.

**Energy Offer Floor** is negative \$150/MWh.

**Energy Transaction Units (Energy TUs)** are the sum for the month for a Customer of Bilateral Contract Block-Hours, Demand Bid Block-Hours, Asset Related Demand Bid Block-Hours, Supply Offer Block-Hours, Demand Reduction Offer Block-Hours, and Energy Non-Zero Spot Market Settlement Hours.

**Equipment Damage Reimbursement** is the compensation paid to the owner of a Designated Blackstart Resource as specified in Section 5.5 of Schedule 16 to the OATT.

**Equivalent Demand Forced Outage Rate (EFORD)** means the portion of time a unit is in demand, but is unavailable due to forced outages.

**Estimated Capacity Load Obligation** is, for the purposes of the ISO New England Financial Assurance Policy, a Market Participant's share of Zonal Capacity Obligation from the latest available month, adjusted as appropriate to account for any relevant Capacity Load Obligation Bilaterals, HQICCs, and Self-Supplied FCA Resource designations for the applicable month.

**Establish Claimed Capability Audit** is the audit performed pursuant to Section III.1.5.1.2.

**Excepted Transaction** is a transaction specified in Section II.40 of the Tariff for the applicable period specified in that Section.

**Existing Capacity Qualification Deadline** is a deadline, specified in Section III.13.1.10 of Market Rule 1, for submission of certain qualification materials for the Forward Capacity Auction, as discussed in Section III.13.1 of Market Rule 1.

**Existing Capacity Qualification Package** is information submitted for certain existing resources prior to participation in the Forward Capacity Auction, as described in Section III.13.1 of Market Rule 1.

**Existing Capacity Resource** is any resource that does not meet any of the eligibility criteria to participate in the Forward Capacity Auction as a New Capacity Resource.

**Existing Capacity Retirement Deadline** is a deadline, specified in Section III.13.1.10 of Market Rule 1, for submission of certain qualification materials for the Forward Capacity Auction, as discussed in Section III.13.1 of Market Rule 1.

**Existing Capacity Retirement Package** is information submitted for certain existing resources prior to participation in the Forward Capacity Auction, as described in Section III.13.1 of Market Rule 1.

**Existing Demand Capacity Resource** is a type of Demand Capacity Resource participating in the Forward Capacity Market, as defined in Section III.13.1.4.2 of Market Rule 1.

**Existing Generating Capacity Resource** is a type of resource participating in the Forward Capacity Market, as defined in Section III.13.1.2.1 of Market Rule 1.

**Existing Import Capacity Resource** is a type of resource participating in the Forward Capacity Market, as defined in Section III.13.1.3.1 of Market Rule 1.

**Expedited Study Request** is defined in Section II.34.7 of the OATT.

**Export-Adjusted LSR** is as defined in Section III.12.4(b)(ii).

**Export Bid** is a bid that may be submitted by certain resources in the Forward Capacity Auction to export capacity to an external Control Area, as described in Section III.13.1.2.3.1.3 of Market Rule 1.

**Exports** are Real-Time External Transactions, which are limited to sales from the New England Control Area, for exporting energy out of the New England Control Area.

**External Elective Transmission Upgrade (External ETU)** is defined in Section I of Schedule 25 of the OATT.

**External Market Monitor** means the person or entity appointed by the ISO Board of Directors pursuant to Section III.A.1.2 of Appendix A of Market Rule 1 to carry out the market monitoring and mitigation functions specified in Appendix A and elsewhere in Market Rule 1.

**External Node** is a proxy bus or buses used for establishing a Locational Marginal Price for energy received by Market Participants from, or delivered by Market Participants to, a neighboring Control Area or for establishing Locational Marginal Prices associated with energy delivered through the New England Control Area by Non-Market Participants for use in calculating Non-Market Participant Congestion Costs and loss costs.

**External Resource** means a generation resource located outside the metered boundaries of the New England Control Area.

**External Transaction** is the import of external energy into the New England Control Area by a Market Participant or the export of internal energy out of the New England Control Area by a Market Participant in the Day-Ahead Energy Market and/or Real-Time Energy Market, or the wheeling of external energy through the New England Control Area by a Market Participant or a Non-Market Participant in the Real-Time Energy Market.

**External Transaction Cap** is \$2,000/MWh for External Transactions other than Coordinated External Transactions and \$1,000/MWh for Coordinated External Transactions.



**External Transaction Floor** is the Energy Offer Floor for External Transactions other than Coordinated External Transactions and negative \$1,000/MWh for Coordinated External Transactions.

**External Transmission Project** is a transmission project comprising facilities located wholly outside the New England Control Area and regarding which an agreement has been reached whereby New England ratepayers will support all or a portion of the cost of the facilities.

**Facilities Study** is an engineering study conducted pursuant to the OATT by the ISO (or, in the case of Local Service or interconnections to Local Area Facilities as defined in the TOA, by one or more affected PTOs) or some other entity designated by the ISO in consultation with any affected Transmission Owner(s), to determine the required modifications to the PTF and Non-PTF, including the cost and scheduled completion date for such modifications, that will be required to provide a requested transmission service or interconnection on the PTF and Non-PTF.

**Facility and Equipment Testing** means operation of a Resource to evaluate the functionality of the facility or equipment utilized in the operation of the facility.

**Failure to Maintain Blackstart Capability** is a failure of a Blackstart Owner or Designated Blackstart Resource to meet the Blackstart Service Minimum Criteria or Blackstart Service obligations, but does not include a Failure to Perform During a System Restoration event.

**Failure to Perform During a System Restoration** is a failure of a Blackstart Owner or Designated Blackstart Resource to follow ISO or Local Control Center dispatch instructions or perform in accordance with the dispatch instructions or the Blackstart Service Minimum Criteria and Blackstart Service obligations, described within the ISO New England Operating Documents, during a restoration of the New England Transmission System.

**Fast Start Demand Response Resource** is a Demand Response Resource that meets the following criteria: (i) Minimum Reduction Time does not exceed one hour; (ii) Minimum Time Between Reductions does not exceed one hour; (iii) Demand Response Resource Start-Up Time plus Demand Response Resource Notification Time does not exceed 30 minutes; (iv) has personnel available to respond to Dispatch Instructions or has automatic remote response capability; and (v) is capable of receiving and acknowledging a Dispatch Instruction electronically.

**Fast Start Generator** means a Generator Asset that the ISO can dispatch to an on-line or off-line state through electronic dispatch and that meets the following criteria: (i) Minimum Run Time does not exceed one hour; (ii) Minimum Down Time does not exceed one hour; (iii) cold Notification Time plus cold Start-Up Time does not exceed 30 minutes; (iv) available for dispatch (when it is either in an on-line or off-line state) and manned or has automatic remote dispatch capability; and (v) capable of receiving and acknowledging a start-up or shut-down Dispatch Instruction electronically.

**FCA Cleared Export Transaction** is defined in Section III.1.10.7(f)(ii) of Market Rule 1.

**FCA Qualified Capacity** is the Qualified Capacity that is used in a Forward Capacity Auction.

**FCM Capacity Charge Requirements** are calculated in accordance with Section VII.C of the ISO New England Financial Assurance Policy.

**FCM Charge Rate** is calculated in accordance with Section VII.C of the ISO New England Financial Assurance Policy.

**FCM Commercial Operation** is defined in Section III.13.3.8 of Market Rule 1.

**FCM Deposit** is calculated in accordance with Section VII.B.1 of the ISO New England Financial Assurance Policy.

**FCM Financial Assurance Requirements** are described in Section VII of the ISO New England Financial Assurance Policy.

**Final Forward Reserve Obligation** is calculated in accordance with Section III.9.8(a) of Market Rule 1.

**Financial Assurance Default** results from a Market Participant or Non-Market Participant Transmission Customer's failure to comply with the ISO New England Financial Assurance Policy.

**Financial Assurance Obligations** relative to the ISO New England Financial Assurance Policy are determined in accordance with Section III.A(v) of the ISO New England Financial Assurance Policy.

**Financial Transmission Right (FTR)** is a financial instrument that evidences the rights and obligations specified in Sections III.5.2.2 and III.7 of the Tariff.

**Firm Point-To-Point Service** is service which is arranged for and administered between specified Points of Receipt and Delivery in accordance with Part II.C of the OATT.

**Firm Transmission Service** is Regional Network Service, Through or Out Service, service for Excepted Transactions, firm MTF Service, firm OTF Service, and firm Local Service.

**Flexible DNE Dispatchable Generator** is any DNE Dispatchable Generator that meets the following criteria: (i) Minimum Run Time does not exceed one hour; (ii) Minimum Down Time does not exceed one hour; and (iii) cold Notification Time plus cold Start-Up Time does not exceed 30 minutes.

**Force Majeure** - An event of Force Majeure means any act of God, labor disturbance, act of the public enemy or terrorists, war, invasion, insurrection, riot, fire, storm or flood, ice, explosion, breakage or accident to machinery or equipment, any curtailment, order, regulation or restriction imposed by governmental military or lawfully established civilian authorities, or any other cause beyond the control of the ISO, a Transmission Owner, a Schedule 20A Service Provider, or a Customer, including without limitation, in the case of the ISO, any action or inaction by a Customer, a Schedule 20A Service Provider, or a Transmission Owner, in the case of a Transmission Owner, any action or inaction by the ISO, any Customer, a Schedule 20A Service Provider, or any other Transmission Owner, in the case of a Schedule 20A Service Provider, any action or inaction by the ISO, any Customer, a Transmission Owner, or any other Schedule 20A Service Provider, and, in the case of a Transmission Customer, any action or inaction by the ISO, a Schedule 20A Service Provider, or any Transmission Owner.

**Formal Warning** is defined in Section III.B.4.1.1 of Appendix B of Market Rule 1.

**Formula-Based Sanctions** are defined in Section III.B.4.1.3 of Appendix B of Market Rule 1.

**Forward Capacity Auction (FCA)** is the annual Forward Capacity Market auction process described in Section III.13.2 of Market Rule 1.

**Forward Capacity Auction Starting Price** is calculated in accordance with Section III.13.2.4 of Market Rule 1.

**Forward Capacity Market (FCM)** is the forward market for procuring capacity in the New England Control Area, as described in Section III.13 of Market Rule 1.

**Forward Energy Inventory Election** is the total MWh value for which a Market Participant elects to be compensated at the forward rate in the inventoried energy program as described in Section III.K.1(d) of Market Rule 1.

**Forward LNG Inventory Election** is the portion of a Market Participant's Forward Energy Inventory Election attributed to liquefied natural gas in the inventoried energy program as described in Section III.K.1(d) of Market Rule 1.

**Forward Reserve** means TMNSR and TMOR purchased by the ISO on a forward basis on behalf of Market Participants as provided for in Section III.9 of Market Rule 1.

**Forward Reserve Assigned Megawatts** is the amount of Forward Reserve, in megawatts, that a Market Participant assigns to eligible Forward Reserve Resources to meet its Forward Reserve Obligation as defined in Section III.9.4.1 of Market Rule 1.

**Forward Reserve Auction** is the periodic auction conducted by the ISO in accordance with Section III.9 of Market Rule 1 to procure Forward Reserve.

**Forward Reserve Auction Offers** are offers to provide Forward Reserve to meet system and Reserve Zone requirements as submitted by a Market Participant in accordance with Section III.9.3 of Market Rule 1.

**Forward Reserve Charge** is a Market Participant's share of applicable system and Reserve Zone Forward Reserve costs attributable to meeting the Forward Reserve requirement as calculated in accordance with Section III.9.9 of Market Rule 1.

**Forward Reserve Clearing Price** is the clearing price for TMNSR or TMOR, as applicable, for the system and each Reserve Zone resulting from the Forward Reserve Auction as defined in Section III.9.4 of Market Rule 1.

**Forward Reserve Credit** is the credit received by a Market Participant that is associated with that Market Participant's Final Forward Reserve Obligation as calculated in accordance with Section III.9.8 of Market Rule 1.

**Forward Reserve Delivered Megawatts** are calculated in accordance with Section III.9.6.5 of Market Rule 1.

**Forward Reserve Delivery Period** is defined in Section III.9.1 of Market Rule 1.

**Forward Reserve Failure-to-Activate Megawatts** are calculated in accordance with Section III.9.7.2(a) of Market Rule 1.

**Forward Reserve Failure-to-Activate Penalty** is the penalty associated with a Market Participant's failure to activate Forward Reserve when requested to do so by the ISO and is defined in Section III.9.7.2 of Market Rule 1.

**Forward Reserve Failure-to-Activate Penalty Rate** is specified in Section III.9.7.2 of Market Rule 1.

**Forward Reserve Failure-to-Reserve**, as specified in Section III.9.7.1 of Market Rule 1, occurs when a Market Participant's Forward Reserve Delivered Megawatts for a Reserve Zone in an hour is less than that Market Participant's Forward Reserve Obligation for that Reserve Zone in that hour. Under these circumstances the Market Participant pays a penalty based upon the Forward Reserve Failure-to-Reserve Penalty Rate and that Market Participant's Forward Reserve Failure-to-Reserve Megawatts.

**Forward Reserve Failure-to-Reserve Megawatts** are calculated in accordance with Section III.9.7.1(a) of Market Rule 1.

**Forward Reserve Failure-to-Reserve Penalty** is the penalty associated with a Market Participant's failure to reserve Forward Reserve and is defined in Section III.9.7.1 of Market Rule 1.

**Forward Reserve Failure-to-Reserve Penalty Rate** is specified in Section III.9.7.1(b)(ii) of Market Rule 1.

**Forward Reserve Fuel Index** is the index or set of indices used to calculate the Forward Reserve Threshold Price as defined in Section III.9.6.2 of Market Rule 1.

**Forward Reserve Heat Rate** is the heat rate as defined in Section III.9.6.2 of Market Rule 1 that is used to calculate the Forward Reserve Threshold Price.

**Forward Reserve Market** is a market for forward procurement of two reserve products, Ten-Minute Non-Spinning Reserve (TMNSR) and Thirty-Minute Operating Reserve (TMOR).

**Forward Reserve MWs** are those megawatts assigned to specific eligible Forward Reserve Resources which convert a Forward Reserve Obligation into a Resource-specific obligation.

**Forward Reserve Obligation** is a Market Participant's amount, in megawatts, of Forward Reserve that cleared in the Forward Reserve Auction and adjusted, as applicable, to account for bilateral transactions that transfer Forward Reserve Obligations.

**Forward Reserve Obligation Charge** is defined in Section III.10.4 of Market Rule 1.

**Forward Reserve Offer Cap** is \$9,000/megawatt-month.

**Forward Reserve Payment Rate** is defined in Section III.9.8 of Market Rule 1.

**Forward Reserve Procurement Period** is defined in Section III.9.1 of Market Rule 1.

**Forward Reserve Qualifying Megawatts** refer to all or a portion of a Forward Reserve Resource's capability offered into the Real-Time Energy Market at energy offer prices above the applicable Forward Reserve Threshold Price that are calculated in accordance with Section III.9.6.4 of Market Rule 1.

**Forward Reserve Resource** is a Resource that meets the eligibility requirements defined in Section III.9.5.2 of Market Rule 1 that has been assigned Forward Reserve Obligation by a Market Participant.

**Forward Reserve Threshold Price** is the minimum price at which assigned Forward Reserve Megawatts are required to be offered into the Real-Time Energy Market as calculated in Section III.9.6.2 of Market Rule 1.

**FTR Auction** is the periodic auction of FTRs conducted by the ISO in accordance with Section III.7 of Market Rule 1.

**FTR Auction Revenue** is the revenue collected from the sale of FTRs in FTR Auctions. FTR Auction Revenue is payable to FTR Holders who submit their FTRs for sale in the FTR Auction in accordance with Section III.7 of Market Rule 1 and to ARR Holders and Incremental ARR Holders in accordance with Appendix C of Market Rule 1.

**FTR Credit Test Percentage** is calculated in accordance with Section III.B.1(b) of the ISO New England Financial Assurance Policy.

**FTR Financial Assurance Requirements** are described in Section VI of the ISO New England Financial Assurance Policy.

**FTR Holder** is an entity that acquires an FTR through the FTR Auction to Section III.7 of Market Rule 1 and registers with the ISO as the holder of the FTR in accordance with Section III.7 of Market Rule 1 and applicable ISO New England Manuals.

**FTR-Only Customer** is a Market Participant that transacts in the FTR Auction and that does not participate in other markets or programs of the New England Markets. References in this Tariff to a “Non-Market Participant FTR Customers” and similar phrases shall be deemed references to an FTR-Only Customer.

**FTR Settlement Risk Financial Assurance** is an amount of financial assurance required by a Designated FTR Participant for each bid submission into an FTR Auction and for each bid awarded to the individual participant in an FTR Auction. This amount is calculated pursuant to Section VI.A of the ISO New England Financial Assurance Policy.

**GADS Data** means data submitted to the NERC for collection into the NERC’s Generating Availability Data System (GADS).

**Gap Request for Proposals (Gap RFP)** is defined in Section III.11 of Market Rule 1.

**Gas Day** means a period of 24 consecutive hours beginning at 0900 hrs Central Time.

**Generating Capacity Resource** means a New Generating Capacity Resource or an Existing Generating Capacity Resource.

**Generator Asset** is a device (or a collection of devices) that is capable of injecting real power onto the grid that has been registered as a Generator Asset in accordance with the Asset Registration Process.

**Generator Imbalance Service** is the form of Ancillary Service described in Schedule 10 of the OATT.

**Generator Interconnection Related Upgrade** is an addition to or modification of the New England Transmission System (pursuant to Section II.47.1, Schedule 22 or Schedule 23 of the OATT) to effect the interconnection of a new generating unit or an existing generating unit whose energy capability or capacity capability is being materially changed and increased whether or not the interconnection is being effected to meet the Capacity Capability Interconnection Standard or the Network Capability Interconnection Standard. As to Category A Projects (as defined in Schedule 11 of the OATT), a Generator Interconnection Related Upgrade also includes an upgrade beyond that required to satisfy the Network Capability Interconnection Standard (or its predecessor) for which the Generator Owner has committed to pay prior to October 29, 1998.

**Generator Owner** is the owner, in whole or part, of a generating unit whether located within or outside the New England Control Area.

**Good Utility Practice** means any of the practices, methods and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather includes all acceptable practices, methods, or acts generally accepted in the region, including those practices required by Federal Power Act Section 215(a)(4).

**Governance Only Member** is defined in Section 1 of the Participants Agreement.



**Governance Participant** is defined in the Participants Agreement.

**Governing Documents**, for the purposes of the ISO New England Billing Policy, are the Transmission, Markets and Services Tariff and ISO Participants Agreement.

**Governing Rating** is the lowest corporate rating from any Rating Agency for that Market Participant, or, if the Market Participant has no corporate rating, then the lowest rating from any Rating Agency for that Market Participant's senior unsecured debt.

**Grandfathered Agreements (GAs)** is a transaction specified in Section II.45 for the applicable period specified in that Section.

**Grandfathered Intertie Agreement (GIA)** is defined pursuant to the TOA.

**Handy-Whitman Index of Public Utility Construction Costs** is the Total Other Production Plant index shown in the Cost Trends of Electric Utility Construction for the North Atlantic Region as published in the Handy-Whitman Index of Public Utility Construction Costs.

**Highgate Transmission Facilities (HTF)** are existing U. S.-based transmission facilities covered under the Agreement for Joint Ownership, Construction and Operation of the Highgate Transmission Interconnection dated as of August 1, 1984 including (1) the whole of a 200 megawatt high-voltage, back-to-back, direct-current converter facility located in Highgate, Vermont and (2) a 345 kilovolt transmission line within Highgate and Franklin, Vermont (which connects the converter facility at the U.S.-Canadian border to a Hydro-Quebec 120 kilovolt line in Bedford, Quebec). The HTF include any upgrades associated with increasing the capacity or changing the physical characteristics of these facilities as defined in the above stated agreement dated August 1, 1984 until the Operations Date, as defined in the TOA. The current HTF rating is a nominal 225 MW. The HTF are not defined as PTF. Coincident with the Operations Date and except as stipulated in Schedules, 9, 12, and Attachment F to the OATT, HTF shall be treated in the same manner as PTF for purposes of the OATT and all references to PTF in the OATT shall be deemed to apply to HTF as well. The treatment of the HTF is not intended to establish any binding precedent or presumption with regard to the treatment for other transmission facilities within the New England Transmission System (including HVDC, MTF, or Control Area Interties) for purposes of the OATT.

**Host Participant or Host Utility** is a Market Participant or a Governance Participant transmission or distribution provider that reconciles the loads within the metering domain with OP-18 compliant metering.

**Hourly Charges** are defined in Section 1.3 of the ISO New England Billing Policy.

**Hourly PER** is calculated in accordance with Section III.13.7.1.2.1 of Market Rule 1.

**Hourly Requirements** are determined in accordance with Section III.A(i) of the ISO New England Financial Assurance Policy.

**Hourly Shortfall NCPC Credit** is an NCPC Credit calculated pursuant to Appendix F to Market Rule 1.

**Hub** is a specific set of pre-defined Nodes for which a Locational Marginal Price will be calculated for the Day-Ahead Energy Market and Real-Time Energy Market and which can be used to establish a reference price for energy purchases and the transfer of Day-Ahead Adjusted Load Obligations and Real-Time Adjusted Load Obligations and for the designation of FTRs.

**Hub Price** is calculated in accordance with Section III.2.8 of Market Rule 1.

**HQ Interconnection Capability Credit (HQICC)** is a monthly value reflective of the annual installed capacity benefits of the Phase I/II HVDC-TF, as determined by the ISO, using a standard methodology on file with the Commission, in conjunction with the setting of the Installed Capacity Requirement. An appropriate share of the HQICC shall be assigned to an IRH if the Phase I/II HVDC-TF support costs are paid by that IRH and such costs are not included in the calculation of the Regional Network Service rate. The share of HQICC allocated to such an eligible IRH for a month is the sum in kilowatts of (1)(a) the IRH's percentage share, if any, of the Phase I Transfer Capability times (b) the Phase I Transfer Credit, plus (2)(a) the IRH's percentage share, if any, of the Phase II Transfer Capability, times (b) the Phase II Transfer Credit. The ISO shall establish appropriate HQICCs to apply for an IRH which has such a percentage share.

**Import Capacity Resource** means an Existing Import Capacity Resource or a New Import Capacity Resource offered to provide capacity in the New England Control Area from an external Control Area.

**Inadvertent Energy Revenue** is defined in Section III.3.2.1(o) of Market Rule 1.

**Inadvertent Energy Revenue Charges or Credits** is defined in Section III.3.2.1(p) of Market Rule 1.

**Inadvertent Interchange** means the difference between net actual energy flow and net scheduled energy flow into or out of the New England Control Area.

**Increment Offer** means an offer to sell energy at a specified Location in the Day-Ahead Energy Market which is not associated with a physical supply. An accepted Increment Offer results in scheduled supply at the specified Location in the Day-Ahead Energy Market.

**Incremental ARR** is an ARR provided in recognition of a participant-funded transmission system upgrade pursuant to Appendix C of this Market Rule.

**Incremental ARR Holder** is an entity which is the record holder of an Incremental Auction Revenue Right in the register maintained by the ISO.

**Incremental Cost of Reliability Service** is described in Section III.13.2.5.2.5.2 of Market Rule 1.

**Independent Transmission Company (ITC)** is a transmission entity that assumes certain responsibilities in accordance with Section 10.05 of the Transmission Operating Agreement and Attachment M to the OATT, subject to the acceptance or approval of the Commission and a finding of the Commission that the transmission entity satisfies applicable independence requirements.

**Information Request** is a request from a potential Disputing Party submitted in writing to the ISO for access to Confidential Information.

**Initial Market Participant Financial Assurance Requirement** is calculated for new Market Participants and Returning Market Participants, other than an FTR-Only Customer or a Governance Only Member, according to Section IV of the ISO New England Financial Assurance Policy.

**Installed Capacity Requirement** means the level of capacity required to meet the reliability requirements defined for the New England Control Area, as described in Section III.12 of Market Rule 1.

**Interchange Transactions** are transactions deemed to be effected under Market Rule 1.

**Interconnecting Transmission Owner** has the meaning specified in Section I of Schedule 22, Attachment 1 to Schedule 23, and Section I of Schedule 25 of the OATT.

**Interconnection Agreement** is the “Large Generator Interconnection Agreement”, the “Small Generator Interconnection Agreement”, or the “Elective Transmission Upgrade Interconnection Agreement” pursuant to Schedules 22, 23 or 25 of the ISO OATT or an interconnection agreement approved by the Commission prior to the adoption of the Interconnection Procedures.

**Interconnection Customer** has the meaning specified in Section I of Schedule 22, Attachment 1 to Schedule 23, and Section I of Schedule 25 of the OATT.

**Interconnection Feasibility Study Agreement** has the meaning specified in Section I of Schedule 22, Attachment 1 to Schedule 23, or Section I of Schedule 25 of the OATT.

**Interconnection Procedure** is the “Large Generator Interconnection Procedures”, the “Small Generator Interconnection Procedures”, or the “Elective Transmission Upgrade Interconnection Procedures” pursuant to Schedules 22, 23, and 25 of the ISO OATT.

**Interconnection Reliability Operating Limit (IROL)** has the meaning specified in the Glossary of Terms Used in NERC Reliability Standards.

**Interconnection Request** has the meaning specified in Section I of Schedule 22, Attachment 1 to Schedule 23, or Section I of Schedule 25 of the OATT.

**Interconnection Rights Holder(s) (IRH)** has the meaning given to it in Schedule 20A to Section II of this Tariff.

**Interconnection System Impact Study Agreement** has the meaning specified in Section I of Schedule 22, Attachment 1 to Schedule 23 and Section I of Schedule 25 of the OATT.

**Interest** is interest calculated in the manner specified in Section II.8.3.

**Interface Bid** is a unified real-time bid to simultaneously purchase and sell energy on each side of an external interface for which the enhanced scheduling procedures in Section III.1.10.7.A are implemented.

**Intermittent Power Resource** is a wind, solar, run of river hydro or other renewable resource that does not have control over its net power output.

**Internal Bilateral for Load** is an internal bilateral transaction under which the buyer receives a reduction in Real-Time Load Obligation and the seller receives a corresponding increase in Real-Time Load Obligation in the amount of the sale, in MWs. An Internal Bilateral for Load transaction is only applicable in the Real-Time Energy Market.

**Internal Bilateral for Market for Energy** is an internal bilateral transaction for Energy which applies in the Day-Ahead Energy Market and Real-Time Energy Market or just the Real-Time Energy Market under which the buyer receives a reduction in Day-Ahead Adjusted Load Obligation and Real-Time Adjusted Load Obligation and the seller receives a corresponding increase in Day-Ahead Adjusted Load Obligation and Real-Time Adjusted Load Obligation in the amount of the sale, in MWs.

**Internal Elective Transmission Upgrade (Internal ETU)** is defined in Section I of Schedule 25 of the OATT.

**Internal Market Monitor** means the department of the ISO responsible for carrying out the market monitoring and mitigation functions specified in Appendix A and elsewhere in Market Rule 1.

**Interregional Planning Stakeholder Advisory Committee (IPSAC)** is the committee described as such in the Northeast Planning Protocol.

**Interregional Transmission Project** is a transmission project located within the New England Control Area and one or more of the neighboring transmission planning regions.

**Interruption Cost** is the amount, in dollars, that must be paid to a Market Participant each time the Market Participant's Demand Response Resource is scheduled or dispatched in the New England Markets to reduce demand.

**Inventoried Energy Day** is an Operating Day that occurs in the months of December, January, or February during the winters of 2023-2024 and 2024-2025 (inventoried energy program) and for which the average of the high temperature and the low temperature on that Operating Day, as measured and reported by the National Weather Service at Bradley International Airport in Windsor Locks, Connecticut, is less than or equal to 17 degrees Fahrenheit, as described in Section III.K.3.1 of Market Rule 1.

**Investment Grade Rating**, for a Market (other than an FTR-Only Customer) or Non-Market Participant Transmission Customer, is either (a) a corporate investment grade rating from one or more of the Rating Agencies, or (b) if the Market Participant or Non-Market Participant Transmission Customer does not have a corporate rating from one of the Rating Agencies, then an investment grade rating for the Market Participant's or Non-Market Participant Transmission Customer's senior unsecured debt from one or more of the Rating Agencies.

**Invoice** is a statement issued by the ISO for the net Charge owed by a Covered Entity pursuant to the ISO New England Billing Policy.

**Invoice Date** is the day on which the ISO issues an Invoice.

**ISO** means ISO New England Inc.

**ISO Charges**, for the purposes of the ISO New England Billing Policy, are both Non-Hourly Charges and Hourly Charges.

**ISO Control Center** is the primary control center established by the ISO for the exercise of its Operating Authority and the performance of functions as an RTO.

**ISO-Initiated Claimed Capability Audit** is the audit performed pursuant to Section III.1.5.1.4.

**ISO New England Administrative Procedures** means procedures adopted by the ISO to fulfill its responsibilities to apply and implement ISO New England System Rules.

**ISO New England Billing Policy** is Exhibit ID to Section I of the Transmission, Markets and Services Tariff.

**ISO New England Filed Documents** means the Transmission, Markets and Services Tariff, including but not limited to Market Rule 1, the Participants Agreement, the Transmission Operating Agreement or other documents that affect the rates, terms and conditions of service.

**ISO New England Financial Assurance Policy** is Exhibit IA to Section I of the Transmission, Markets and Services Tariff.

**ISO New England Information Policy** is the policy establishing guidelines regarding the information received, created and distributed by Market Participants and the ISO in connection with the settlement, operation and planning of the System, as the same may be amended from time to time in accordance with the provisions of this Tariff. The ISO New England Information Policy is Attachment D to the Transmission, Markets and Services Tariff.

**ISO New England Manuals** are the manuals implementing Market Rule 1, as amended from time to time in accordance with the Participants Agreement. Any elements of the ISO New England Manuals that substantially affect rates, terms, and/or conditions of service shall be filed with the Commission under Section 205 of the Federal Power Act.

**ISO New England Operating Documents** are the Tariff and the ISO New England Operating Procedures.

**ISO New England Operating Procedures (OPs)** are the ISO New England Planning Procedures and the operating guides, manuals, procedures and protocols developed and utilized by the ISO for operating the ISO bulk power system and the New England Markets.

**ISO New England Planning Procedures** are the procedures developed and utilized by the ISO for planning the ISO bulk power system.

**ISO New England System Rules** are Market Rule 1, the ISO New England Information Policy, the ISO New England Administrative Procedures, the ISO New England Manuals and any other system rules, procedures or criteria for the operation of the New England Transmission System and administration of the New England Markets and the Transmission, Markets and Services Tariff.

**ITC Agreement** is defined in Attachment M to the OATT.

**ITC Rate Schedule** is defined in Section 3.1 of Attachment M to the OATT.

**ITC System** is defined in Section 2.2 of Attachment M to the OATT.

**ITC System Planning Procedures** is defined in Section 15.4 of Attachment M to the OATT.

**Joint ISO/RTO Planning Committee (JIPC)** is the committee described as such in the Northeastern Planning Protocol.

**Late Payment Account** is a segregated interest-bearing account into which the ISO deposits Late Payment Charges due from ISO Charges and interest owed from participants for late payments that are collected and not distributed to the Covered Entities, until the Late Payment Account Limit is reached, under the ISO New England Billing Policy and penalties collected under the ISO New England Financial Assurance Policy.

**Late Payment Account Limit** is defined in Section 4.2 of the ISO New England Billing Policy.

**Late Payment Charge** is defined in Section 4.1 of the ISO New England Billing Policy.

**Lead Market Participant**, for purposes other than the Forward Capacity Market, is the entity authorized to submit Supply Offers, Demand Bids or Demand Reduction Offers for a Resource and to whom certain Energy TUs are assessed under Schedule 2 of Section IV.A of the Tariff. For purposes of the Forward Capacity Market, the Lead Market Participant is the entity designated to participate in that market on behalf of an Existing Capacity Resource or a New Capacity Resource.

**Limited Energy Resource** means a Generator Asset that, due to design considerations, environmental restriction on operations, cyclical requirements, such as the need to recharge or refill or manage water flow, or fuel limitations, are unable to operate continuously at full output on a daily basis.

**Load Asset** means a physical load that has been registered in accordance with the Asset Registration Process. A Load Asset can be an Asset Related Demand, including a Dispatchable Asset Related Demand.



**Load Management** means measures (e.g., products, equipment, systems, services, practices and/or strategies) on end-use customer facilities that curtail electrical usage or shift electrical usage while delivering a comparable or acceptable level of end-use service. Such measures include, but are not limited to, energy management systems, load control end-use cycling, load curtailment strategies, and energy storage that curtails or shifts electrical usage by means other than generating electricity.

**Load Shedding** is the systematic reduction of system demand by temporarily decreasing load.

**Load Zone** is a Reliability Region, except as otherwise provided for in Section III.2.7 of Market Rule 1.

**Local Area Facilities** are defined in the TOA.

**Local Benefit Upgrade(s) (LBU)** is an upgrade, modification or addition to the transmission system that is: (i) rated below 115kV or (ii) rated 115kV or above and does not meet all of the non-voltage criteria for PTF classification specified in the OATT.

**Local Control Centers** are those control centers in existence as of the effective date of the OATT (including the CONVEX, REMVEC, Maine and New Hampshire control centers) or established by the PTOs in accordance with the TOA that are separate from the ISO Control Center and perform certain functions in accordance with the OATT and the TOA.

**Local Delivery Service** is the service of delivering electric energy to end users. This service is subject to state jurisdiction regardless of whether such service is provided over local distribution or transmission facilities. An entity that is an Eligible Customer under the OATT is not excused from any requirements of state law, or any order or regulation issued pursuant to state law, to arrange for Local Delivery Service with the Participating Transmission Owner and/or distribution company providing such service and to pay all applicable charges associated with such service, including charges for stranded costs and benefits.

**Local Network** is defined as the transmission facilities constituting a local network as identified in Attachment E, as such Attachment may be modified from time to time in accordance with the Transmission Operating Agreement.

**Local Network Load** is the load that a Network Customer designates for Local Network Service under Schedule 21 to the OATT.

**Local Network RNS Rate** is the rate applicable to Regional Network Service to effect a delivery to load in a particular Local Network, as determined in accordance with Schedule 9 to the OATT.

**Local Network Service (LNS)** is the network service provided under Schedule 21 and the Local Service Schedules to permit the Transmission Customer to efficiently and economically utilize its resources to serve its load.

**Local Point-To-Point Service (LPTP)** is Point-to-Point Service provided under Schedule 21 of the OATT and the Local Service Schedules to permit deliveries to or from an interconnection point on the PTF.

**Local Public Policy Transmission Upgrade** is any addition and/or upgrade to the New England Transmission System with a voltage level below 115kV that is required in connection with the construction of a Public Policy Transmission Upgrade approved for inclusion in the Regional System Plan pursuant to Attachment K to the ISO OATT or included in a Local System Plan in accordance with Appendix 1 to Attachment K.

**Local Resource Adequacy Requirement** is calculated pursuant to Section III.12.2.1.1.

**Local Second Contingency Protection Resources** are those Resources identified by the ISO on a daily basis as necessary for the provision of Operating Reserve requirements and adherence to NERC, NPCC and ISO reliability criteria over and above those Resources required to meet first contingency reliability criteria within a Reliability Region.

**Local Service** is transmission service provided under Schedule 21 and the Local Service Schedules thereto.

**Local Service Schedule** is a PTO-specific schedule to the OATT setting forth the rates, charges, terms and conditions applicable to Local Service.

**Local Sourcing Requirement (LSR)** is a value calculated as described in Section III.12.2.1 of Market Rule 1.

**Local System Planning (LSP)** is the process defined in Appendix 1 of Attachment K to the OATT.

**Localized Costs** are costs that the ISO, with advisory input from the Reliability Committee, determines in accordance with Schedule 12C of the OATT shall not be included in the Pool-Supported PTF costs recoverable under this OATT, or in costs allocated to Regional Network Load according to Section 6 of Schedule 12. If there are any Localized Costs, the ISO shall identify them in the Regional System Plan.

**Location** is a Node, External Node, Load Zone, DRR Aggregation Zone, or Hub.

**Locational Marginal Price (LMP)** is defined in Section III.2 of Market Rule 1. The Locational Marginal Price for a Node is the nodal price at that Node; the Locational Marginal Price for an External Node is the nodal price at that External Node; the Locational Marginal Price for a Load Zone, DRR Aggregation Zone or Reliability Region is the Zonal Price for that Load Zone, DRR Aggregation Zone or Reliability Region, respectively; and the Locational Marginal Price for a Hub is the Hub Price for that Hub.

**Long Lead Time Facility (Long Lead Facility)** has the meaning specified in Section I of Schedule 22 and Schedule 25 of the OATT.

**Long-Term** is a term of one year or more.

**Long-Term Transmission Outage** is a long-term transmission outage scheduled in accordance with ISO New England Operating Procedure No. 3.

**Loss Component** is the component of the nodal LMP at a given Node or External Node on the PTF that reflects the cost of losses at that Node or External Node relative to the reference point. The Loss Component of the nodal LMP at a given Node on the non-PTF system reflects the relative cost of losses at that Node adjusted as required to account for losses on the non-PTF system already accounted for through tariffs associated with the non-PTF. When used in connection with Hub Price or Zonal Price, the term Loss Component refers to the Loss Components of the nodal LMPs that comprise the Hub Price or Zonal Price, which Loss Components are averaged or weighted in the same way that nodal LMPs are averaged to determine Hub Price or weighted to determine Zonal Price.

**Loss of Load Expectation (LOLE)** is the probability of disconnecting non-interruptible customers due to a resource deficiency.

**Lost Opportunity Cost (LOC)** is one of four forms of compensation that may be paid to resources providing VAR Service under Schedule 2 of the OATT.

**LSE** means load serving entity.

**Lump Sum Blackstart Payment** is defined and calculated as specified in Section 5.4 of Schedule 16 to the OATT.

**Lump Sum Blackstart Capital Payment** is defined and calculated as specified in Section 5.4 of Schedule 16 to the OATT.

**Manual Response Rate** is the rate, in MW/Minute, at which the output of a Generator Asset, or the consumption of a Dispatchable Asset Related Demand, is capable of changing.

**Marginal Loss Revenue Load Obligation** is defined in Section III.3.2.1(b) of Market Rule 1.

**Marginal Reliability Impact** is the change, with respect to an increment of capacity supply, in expected unserved energy due to resource deficiency, as measured in hours per year.

**Market Credit Limit** is a credit limit for a Market Participant's Financial Assurance Obligations (except FTR Financial Assurance Requirements) established for each Market Participant in accordance with Section II.C of the ISO New England Financial Assurance Policy.

**Market Credit Test Percentage** is calculated in accordance with Section III.B.1(a) of the ISO New England Financial Assurance Policy.

**Market Efficiency Transmission Upgrade** is defined as those additions and upgrades that are not related to the interconnection of a generator, and, in the ISO's determination, are designed to reduce bulk power system costs to load system-wide, where the net present value of the reduction in bulk power system costs to load system-wide exceeds the net present value of the cost of the transmission addition or upgrade. For purposes of this definition, the term "bulk power system costs to load system-wide"

includes, but is not limited to, the costs of energy, capacity, reserves, losses and impacts on bilateral prices for electricity.

**Market Participant** is a participant in the New England Markets (including a FTR-Only Customer) that has executed a Market Participant Service Agreement, or on whose behalf an unexecuted Market Participant Service Agreement has been filed with the Commission.

**Market Participant Financial Assurance Requirement** is defined in Section III of the ISO New England Financial Assurance Policy.

**Market Participant Obligations** is defined in Section III.B.1.1 of Appendix B of Market Rule 1.

**Market Participant Service Agreement (MPSA)** is an agreement between the ISO and a Market Participant, in the form specified in Attachment A or Attachment A-1 to the Tariff, as applicable.

**Market Rule 1** is ISO Market Rule 1 and appendices set forth in Section III of this ISO New England Inc. Transmission, Markets and Services Tariff, as it may be amended from time to time.

**Market Violation** is a tariff violation, violation of a Commission-approved order, rule or regulation, market manipulation, or inappropriate dispatch that creates substantial concerns regarding unnecessary market inefficiencies.

**Material Adverse Change** is any change in financial status including, but not limited to a downgrade to below an Investment Grade Rating by any Rating Agency, being placed on credit watch with negative implication by any Rating Agency if the Market Participant or Non-Market Participant Transmission Customer does not have an Investment Grade Rating, a bankruptcy filing or other insolvency, a report of a significant quarterly loss or decline of earnings, the resignation of key officer(s), the sanctioning of the Market Participant or Non-Market Participant Transmission Customer or any of its Principles imposed by the Federal Energy Regulatory Commission, the Securities Exchange Commission, any exchange monitored by the National Futures Association, or any state entity responsible for regulating activity in energy markets; the filing of a material lawsuit that could materially adversely impact current or future financial results; a significant change in the Market Participant's or Non-Market Participant Transmission Customer's credit default spreads; or a significant change in market capitalization.

**Material Adverse Impact** is defined, for purposes of review of ITC-proposed plans, as a proposed facility or project will be deemed to cause a “material adverse impact” on facilities outside of the ITC System if: (i) the proposed facility or project causes non-ITC facilities to exceed their capabilities or exceed their thermal, voltage or stability limits, consistent with all applicable reliability criteria, or (ii) the proposed facility or project would not satisfy the standards set forth in Section I.3.9 of the Transmission, Markets and Services Tariff. This standard is intended to assure the continued service of all non-ITC firm load customers and the ability of the non-ITC systems to meet outstanding transmission service obligations.

**Maximum Capacity Limit** is a value calculated as described in Section III.12.2.2 of Market Rule 1.

**Maximum Consumption Limit** is the maximum amount, in MW, available for economic dispatch from a DARD and is based on the physical characteristics as submitted as part of the DARD’s Offer Data. A Market Participant must maintain an up-to-date Maximum Consumption Limit (and where applicable, must provide the ISO with any telemetry required by ISO New England Operating Procedure No. 18 to allow the ISO to maintain an updated Maximum Consumption Limit) for all hours in which a DARD has been offered into the Day-Ahead Energy Market or Real-Time Energy Market.

**Maximum Daily Consumption Limit** is the maximum amount of megawatt-hours that a Storage DARD expects to be able to consume in the next Operating Day.

**Maximum Facility Load** is the highest demand of an end-use customer facility since the start of the prior calendar year (or, if unavailable, an estimate thereof), where the demand evaluated is established by adding metered demand measured at the Retail Delivery Point and the output of all generators located behind the Retail Delivery Point in the same time intervals.

**Maximum Interruptible Capacity** is an estimate of the maximum demand reduction and Net Supply that a Demand Response Asset can deliver, as measured at the Retail Delivery Point.

**Maximum Load** is the highest demand since the start of the prior calendar year (or, if unavailable, an estimate thereof), as measured at the Retail Delivery Point.

**Maximum Number of Daily Starts** is the maximum number of times that a Binary Storage DARD or a Generator Asset can be started or that a Demand Response Resource can be interrupted in the next Operating Day under normal operating conditions.

**Maximum Reduction** is the maximum available demand reduction, in MW, of a Demand Response Resource that a Market Participant offers to deliver in the Day-Ahead Energy Market or Real-Time Energy Market, as reflected in the Demand Response Resource's Demand Reduction Offer.

**Measure Life** is the estimated time an On-Peak Demand Resource or Seasonal Peak Demand Resource measure will remain in place, or the estimated time period over which the facility, structure, equipment or system in which a measure is installed continues to exist, whichever is shorter. Suppliers of On-Peak Demand Resources or Seasonal Peak Demand Resources comprised of an aggregation of measures with varied Measures Lives shall determine and document the Measure Life either: (i) for each type of measure with a different Measure Life and adjust the aggregate performance based on the individual measure life calculation in the portfolio; or (ii) as the average Measure Life for the aggregated measures as long as the demand reduction capability of the resource is greater than or equal to the amount that cleared in the Forward Capacity Auction or reconfiguration auction for the entire Capacity Commitment Period, and the demand reduction capability for an Existing On-Peak Demand Resource or Existing Seasonal Peak Demand Resource is not over-stated in a subsequent Capacity Commitment Period. Measure Life shall be determined consistent with the resource's Measurement and Verification Plan, which shall be reviewed by the ISO to ensure consistency with the measurement and verification requirements of Market Rule 1 and the ISO New England Manuals.

**Measurement and Verification Documents** mean the measurement and verification documents described in Section 13.1.4.3.1 of Market Rule 1 that are submitted by On-Peak Demand Resources and Seasonal Peak Demand Resources, which include Measurement and Verification Plans, Updated Measurement and Verification Plans, Measurement and Verification Summary Reports, and Measurement and Verification Reference Reports.

**Measurement and Verification Plan** means the measurement and verification plan submitted by an On-Peak Demand Resource or Seasonal Peak Demand Resource as part of the qualification process for the Forward Capacity Auction pursuant to the requirements of Section III.13.1.4.3 of Market Rule 1 and the ISO New England Manuals.

**Measurement and Verification Reference Reports** are optional reports submitted by On-Peak Demand Resources or Seasonal Peak Demand Resources during the Capacity Commitment Period subject to the schedule in the Measurement and Verification Plan and consistent with the schedule and reporting standards set forth in the ISO New England Manuals. Measurement and Verification Reference Reports update the prospective demand reduction capability of the On-Peak Demand Resource or Seasonal Peak Demand Resource project based on measurement and verification studies performed during the Capacity Commitment Period.

**Measurement and Verification Summary Report** is the monthly report submitted by an On-Peak Demand Resource or Seasonal Peak Demand Resource with the monthly settlement report for the Forward Capacity Market, which documents the total demand reduction capability for all On-Peak Demand Resources and Seasonal Peak Demand Resources in operation as of the end of the previous month.

**MEPCO Grandfathered Transmission Service Agreement (MG TSA)** is a MEPCO long-term firm point-to-point transmission service agreement with a POR or POD at the New Brunswick border and a start date prior to June 1, 2007 where the holder has elected, by written notice delivered to MEPCO within five (5) days following the filing of the settlement agreement in Docket Nos. ER07-1289 and EL08-56 or by September 1, 2008 (whichever is later), MG TSA treatment as further described in Section II.45.1.

**Merchant Transmission Facilities (MTF)** are the transmission facilities owned by MTOs, defined and classified as MTF pursuant to Schedule 18 of the OATT, over which the ISO shall exercise Operating Authority in accordance with the terms set forth in a MTOA or Attachment K to the OATT, rated 69 kV or above and required to allow energy from significant power sources to move freely on the New England Transmission System.

**Merchant Transmission Facilities Provider (MTF Provider)** is an entity as defined in Schedule 18 of the OATT.

**Merchant Transmission Facilities Service (MTF Service)** is transmission service over MTF as provided for in Schedule 18 of the OATT.



**Merchant Transmission Operating Agreement (MTOA)** is an agreement between the ISO and an MTO with respect to its MTF.

**Merchant Transmission Owner (MTO)** is an owner of MTF.

**Meter Data Error** means an error in meter data, including an error in Coincident Peak Contribution values, on an Invoice issued by the ISO after the completion of the Data Reconciliation Process as described in the ISO New England Manuals and in Section III.3.8 of Market Rule 1.

**Meter Data Error RBA Submission Limit** means the date thirty 30 calendar days after the issuance of the Invoice containing the results of the Data Reconciliation Process as described in the ISO New England Manuals and in Section III.3.6 of Market Rule 1.

**Metered Quantity For Settlement** is defined in Section III.3.2.1.1 of Market Rule 1.

**Minimum Consumption Limit** is (a) the lowest consumption level, in MW, available for economic dispatch from a DARD and is based on the physical characteristics as submitted as part of the DARD's Offer Data, and (b) for a DARD undergoing Facility and Equipment Testing or auditing, the level to which the DARD requests and is approved to operate or is directed to operate for purposes of completing the Facility and Equipment Testing or auditing.

**Minimum Down Time** is the number of hours that must elapse after a Generator Asset or Storage DARD has been released for shutdown at or below its Economic Minimum Limit or Minimum Consumption Limit before the Generator Asset or Storage DARD can be brought online and be released for dispatch at its Economic Minimum Limit or Minimum Consumption Limit.

**Minimum Generation Emergency** means an Emergency declared by the ISO in which the ISO anticipates requesting one or more Generator Assets to operate at or below Economic Minimum Limit in order to manage, alleviate, or end the Emergency.

**Minimum Generation Emergency Credits** are those Real-Time Dispatch NCPC Credits calculated pursuant to Appendix F of Market Rule 1 for resources within a reliability region that are dispatched during a period for which a Minimum Generation Emergency has been declared.

**Minimum Reduction** is the minimum available demand reduction, in MW, of a Demand Response Resource that a Market Participant offers to deliver in the Day-Ahead Energy Market or Real-Time Energy Market, as reflected in the Demand Response Resource's Demand Reduction Offer.

**Minimum Reduction Time** is the minimum number of hours of demand reduction at or above the Minimum Reduction for which the ISO must dispatch a Demand Response Resource to reduce demand.

**Minimum Run Time** is the number of hours that a Generator Asset must remain online after it has been scheduled to reach its Economic Minimum Limit before it can be released for shutdown from its Economic Minimum Limit or the number of hours that must elapse after a Storage DARD has been scheduled to consume at its Minimum Consumption Limit before it can be released for shutdown.

**Minimum Time Between Reductions** is the number of hours that must elapse after a Demand Response Resource has received a Dispatch Instruction to stop reducing demand before the Demand Response Resource can achieve its Minimum Reduction after receiving a Dispatch Instruction to start reducing demand.

**Minimum Total Reserve Requirement**, which does not include Replacement Reserve, is the combined amount of TMSR, TMNSR, and TMOR required system-wide as described in Section III.2.7A and ISO New England Operating Procedure No. 8.

**Monthly Blackstart Service Charge** is the charge made to Transmission Customers pursuant to Section 6 of Schedule 16 to the OATT.

**Monthly Capacity Payment** is the Forward Capacity Market payment described in Section III.13.7.3 of Market Rule 1.

**Monthly Peak** is defined in Section II.21.2 of the OATT.

**Monthly PER** is calculated in accordance with Section III.13.7.1.2.2 of Market Rule 1.

**Monthly Real-Time Demand Reduction Obligation** is the absolute value of a Customer's hourly Real-Time Demand Reduction Obligation summed for all hours in a month, in MWhs.

**Monthly Real-Time Generation Obligation** is the sum, for all hours in a month, at all Locations, of a Customer's Real-Time Generation Obligation, in MWhs.

**Monthly Real-Time Load Obligation** is the absolute value of a Customer's hourly Real-Time Load Obligation summed for all hours in a month, in MWhs.

**Monthly Regional Network Load** is defined in Section II.21.2 of the OATT.

**Monthly Statement** is the first weekly Statement issued on a Monday after the tenth of a calendar month that includes both the Hourly Charges for the relevant billing period and Non-Hourly Charges for the immediately preceding calendar month.

**MRI Transition Period** is the period specified in Section III.13.2.2.1.

**MUI** is the market user interface.

**Municipal Market Participant** is defined in Section II of the ISO New England Financial Assurance Policy.

**MW** is megawatt.

**MWh** is megawatt-hour.

**Native Load Customers** are the wholesale and retail power customers of a Transmission Owner on whose behalf the Transmission Owner, by statute, franchise, regulatory requirement, or contract, has undertaken an obligation to construct and operate its system to meet the reliable electric needs of such customers.

**NCPC Charge** means the charges to Market Participants calculated pursuant to Appendix F to Market Rule 1.

**NCPC Credit** means the credits to Market Participants calculated pursuant to Appendix F to Market Rule 1.

**Needs Assessment** is defined in Section 4.1 of Attachment K to the OATT.

**NEMA**, for purposes of Section III of the Tariff, is the Northeast Massachusetts Reliability Region.

**NEMA Contract** is a contract described in Appendix C of Market Rule 1 and listed in Exhibit 1 of Appendix C of Market Rule 1.

**NEMA Load Serving Entity (NEMA LSE)** is a Transmission Customer or Congestion Paying LSE Entity that serves load within NEMA.

**NEMA or Northeast Massachusetts Upgrade**, for purposes of Section II of the Tariff, is an addition to or modification of the PTF into or within the Northeast Massachusetts Reliability Region that was not, as of December 31, 1999, the subject of a System Impact Study or application filed pursuant to Section I.3.9 of the Transmission, Markets and Services Tariff; that is not related to generation interconnections; and that will be completed and placed in service by June 30, 2004. Such upgrades include, but are not limited to, new transmission facilities and related equipment and/or modifications to existing transmission facilities and related equipment. The list of NEMA Upgrades is contained in Schedule 12A of the OATT.

**NEPOOL** is the New England Power Pool, and the entities that collectively participated in the New England Power Pool.

**NEPOOL Agreement** is the agreement among the participants in NEPOOL.

**NEPOOL GIS** is the generation information system.

**NEPOOL GIS Administrator** is the entity or entities that develop, administer, operate and maintain the NEPOOL GIS.

**NEPOOL GIS API Fees** are the one-time on-boarding fees and annual maintenance fees charged to NEPOOL by the NEPOOL GIS Administrator for each NEPOOL Participant or Market Participant that accesses the NEPOOL GIS through an application programming interface pursuant to Rule 3.9(b) of the operating rules of the NEPOOL GIS.

**NEPOOL Participant** is a party to the NEPOOL Agreement.

**NERC** is the North American Electric Reliability Corporation or its successor organization.

**NESCOE** is the New England States Committee on Electricity, recognized by the Commission as the regional state committee for the New England Control Area.

**Net Commitment Period Compensation (NCPC)** is the compensation methodology for Resources that is described in Appendix F to Market Rule 1.

**Net CONE** is an estimate of the Cost of New Entry, net of non-capacity market revenues, for a reference technology resource type and is intended to equal the amount of capacity revenue the reference technology resource would require to be economically viable given reasonable expectations of the energy and ancillary services revenues under long-term equilibrium conditions.

**Net Regional Clearing Price** is described in Section III.13.7.5 of Market Rule 1.

**Net Supply** is energy injected into the transmission or distribution system at a Retail Delivery Point.

**Net Supply Capability** is the maximum Net Supply a facility is physically and contractually able to inject into the transmission or distribution system at its Retail Delivery Point.

**Network Capability Interconnection Standard** has the meaning specified in Section I of Schedule 22, Attachment 1 to Schedule 23, and Section I of Schedule 25 of the OATT.

**Network Customer** is a Transmission Customer receiving RNS or LNS.

**Network Import Capability (NI Capability)** is defined in Section I of Schedule 25 of the OATT.

**Network Import Interconnection Service (NI Interconnection Service)** is defined in Section I of Schedule 25 of the OATT.

**Network Resource** is defined as follows: (1) With respect to Market Participants, (a) any generating resource located in the New England Control Area which has been placed in service prior to the Compliance Effective Date (including a unit that has lost its capacity value when its capacity value is

restored and a deactivated unit which may be reactivated without satisfying the requirements of Section II.46 of the OATT in accordance with the provisions thereof) until retired; (b) any generating resource located in the New England Control Area which is placed in service after the Compliance Effective Date until retired, provided that (i) the Generator Owner has complied with the requirements of Sections II.46 and II.47 and Schedules 22 and 23 of the OATT, and (ii) the output of the unit shall be limited in accordance with Sections II.46 and II.47 and Schedules 22 and 23, if required; and (c) any generating resource or combination of resources (including bilateral purchases) located outside the New England Control Area for so long as any Market Participant has an Ownership Share in the resource or resources which is being delivered to it in the New England Control Area to serve Regional Network Load located in the New England Control Area or other designated Regional Network Loads contemplated by Section II.18.3 of the OATT taking Regional Network Service. (2) With respect to Non-Market Participant Transmission Customers, any generating resource owned, purchased or leased by the Non-Market Participant Transmission Customer which it designates to serve Regional Network Load.

**New Brunswick Security Energy** is defined in Section III.3.2.6A of Market Rule 1.

**New Capacity Offer** is an offer in the Forward Capacity Auction to provide capacity from a New Generating Capacity Resource, New Import Capacity Resource or New Demand Capacity Resource.

**New Capacity Qualification Deadline** is a deadline, specified in Section III.13.1.10 of Market Rule 1, for submission of certain qualification materials for the Forward Capacity Auction, as discussed in Section III.13.1 of Market Rule 1.

**New Capacity Qualification Package** is information submitted by certain new resources prior to participation in the Forward Capacity Auction, as described in Section III.13.1 of Market Rule 1.

**New Capacity Resource** is a resource (i) that never previously received any payment as a capacity resource including any capacity payment pursuant to the market rules in effect prior to June 1, 2010 and that has not cleared in any previous Forward Capacity Auction; or (ii) that is otherwise eligible to participate in the Forward Capacity Auction as a New Capacity Resource.

**New Capacity Show of Interest Form** is described in Section III.13.1.1.2.1 of Market Rule 1.

**New Capacity Show of Interest Submission Window** is the period of time during which a Project Sponsor may submit a New Capacity Show of Interest Form or a New Demand Capacity Resource Show of Interest Form, as described in Section III.13.1.10 of Market Rule 1.

**New Demand Capacity Resource** is a type of Demand Capacity Resource participating in the Forward Capacity Market, as defined in Section III.13.1.4.1 of Market Rule 1.

**New Demand Capacity Resource Qualification Package** is the information that a Project Sponsor must submit, in accordance with Section III.13.1.4.1.1.2 of Market Rule 1, for each resource that it seeks to offer in the Forward Capacity Auction as a New Demand Capacity Resource.

**New Demand Capacity Resource Show of Interest Form** is described in Section III.13.1.4.1.1.1 of Market Rule 1.

**New England Control Area** is the Control Area for New England, which includes PTF, Non-PTF, MTF and OTF. The New England Control Area covers Connecticut, Rhode Island, Massachusetts, New Hampshire, Vermont, and part of Maine (i.e., excluding the portions of Northern Maine and the northern portion of Eastern Maine which are in the Maritimes Control Area).

**New England Markets** are markets or programs for the purchase of energy, capacity, ancillary services, demand response services or other related products or services (including Financial Transmission Rights) that are delivered through or useful to the operation of the New England Transmission System and that are administered by the ISO pursuant to rules, rates, or agreements on file from time to time with the Federal Energy Regulatory Commission.

**New England System Restoration Plan** is the plan that is developed by ISO, in accordance with NERC Reliability Standards, NPCC regional criteria and standards, ISO New England Operating Documents and ISO operating agreements, to facilitate the restoration of the New England Transmission System following a partial or complete shutdown of the New England Transmission System.

**New England Transmission System** is the system of transmission facilities, including PTF, Non-PTF, OTF and MTF, within the New England Control Area under the ISO's operational jurisdiction.

**New Generating Capacity Resource** is a type of resource participating in the Forward Capacity Market, as described in Section III.13.1.1.1 of Market Rule 1.

**New Import Capacity Resource** is a type of resource participating in the Forward Capacity Market, as defined in Section III.13.1.3.4 of Market Rule 1.

**New Resource Offer Floor Price** is defined in Section III.A.21.2.

**NMPTC** means Non-Market Participant Transmission Customer.

**NMPTC Credit Threshold** is described in Section V.A.2 of the ISO New England Financial Assurance Policy.

**NMPTC Financial Assurance Requirement** is an amount of additional financial assurance for Non-Market Participant Transmission Customers described in Section V.D of the ISO New England Financial Assurance Policy.

**Node** is a point on the New England Transmission System at which LMPs are calculated.

**No-Load Fee** is the amount, in dollars per hour, for a Generator Asset that must be paid to Market Participants with an Ownership Share in the Generator Asset for being scheduled in the New England Markets, in addition to the Start-Up Fee and price offered to supply energy, for each hour that the Generator Asset is scheduled in the New England Markets.

**Nominated Consumption Limit** is the consumption level specified by the Market Participant for a Dispatchable Asset Related Demand as adjusted in accordance with the provisions of Section III.13.7.5.1.3.

**Non-Commercial Capacity** is the capacity of a New Capacity Resource or an Existing Capacity Resource, or portion thereof, that has not achieved FCM Commercial Operation.

**Non-Commercial Capacity Cure Period** is the time period described in Section VII.D of the ISO New England Financial Assurance Policy.



**Non-Commercial Capacity Financial Assurance Amount (Non-Commercial Capacity FA Amount)** is the financial assurance amount held on Non-Commercial Capacity cleared in a Forward Capacity Auction as calculated in accordance with Section VII.B.2 of the ISO New England Financial Assurance Policy.

**Non-Designated Blackstart Resource Study Cost Payments** are the study costs reimbursed under Section 5.3 of Schedule 16 of the OATT.

**Non-Dispatchable Resource** is any Resource that does not meet the requirements to be a Dispatchable Resource.

**Non-Hourly Charges** are defined in Section 1.3 of the ISO New England Billing Policy.

**Non-Hourly Requirements** are determined in accordance with Section III.A(ii) of the ISO New England Financial Assurance Policy, which is Exhibit 1A of Section I of the Tariff.

**Non-Incumbent Transmission Developer** is a Qualified Transmission Project Sponsor that: (i) is not currently a PTO; (ii) has a transmission project listed in the RSP Project List; and (iii) has executed a Non-Incumbent Transmission Developer Operating Agreement. “Non-Incumbent Transmission Developer” also includes a PTO that proposes the development of a transmission facility not located within or connected to its existing electric system; however, because such a PTO is a party to the TOA, it is not required to enter into a Non-Incumbent Transmission Developer Operating Agreement.

**Non-Incumbent Transmission Developer Operating Agreement (or NTDOA)** is an agreement between the ISO and a Non-Incumbent Transmission Developer in the form specified in Attachment O to the OATT that sets forth their respective rights and responsibilities to each other with regard to proposals for and construction of certain transmission facilities.

**Non-Market Participant** is any entity that is not a Market Participant.

**Non-Market Participant Transmission Customer** is any entity which is not a Market Participant but is a Transmission Customer.

**Non-Municipal Market Participant** is defined in Section II of the ISO New England Financial Assurance Policy.

**Non-PTF Transmission Facilities (Non-PTF)** are the transmission facilities owned by the PTOs that do not constitute PTF, OTF or MTF.

**Non-Qualifying** means a Market Participant that is not a Credit Qualifying Market Participant.

**Notice of RBA** is defined in Section 6.3.2 of the ISO New England Billing Policy.

**Notification Time** is the time required for a Generator Asset to synchronize to the system from the time a startup Dispatch Instruction is received from the ISO.

**Northeastern Planning Protocol** is the Amended and Restated Northeastern ISO/RTO Planning Coordination Protocol on file with the Commission and posted on the ISO website at the following URL: [www.iso-ne.com/static-assets/documents/2015/07/northeastern\\_protocol\\_dmeast.doc](http://www.iso-ne.com/static-assets/documents/2015/07/northeastern_protocol_dmeast.doc).

**NPCC** is the Northeast Power Coordinating Council.

**Obligation Month** means a time period of one calendar month for which capacity payments are issued and the costs associated with capacity payments are allocated.

**Offer Data** means the scheduling, operations planning, dispatch, new Resource, and other data, including Generator Asset, Dispatchable Asset Related Demand, and Demand Response Resource operating limits based on physical characteristics, and information necessary to schedule and dispatch Generator Assets, Dispatchable Asset Related Demands, and Demand Response Resources for the provision or consumption of energy, the provision of other services, and the maintenance of the reliability and security of the transmission system in the New England Control Area, and specified for submission to the New England Markets for such purposes by the ISO.

**Offer Review Trigger Prices** are the prices specified in Section III.A.21.1 of Market Rule 1 associated with the submission of New Capacity Offers in the Forward Capacity Auction.

**Offered CLAIM10** is a Supply Offer value or a Demand Reduction Offer value between 0 and the CLAIM10 of the resource that represents the amount of TMNSR available either from an off-line Fast Start Generator or from a Fast Start Demand Response Resource that has not been dispatched.

**Offered CLAIM30** is a Supply Offer value or a Demand Reduction Offer value between 0 and the CLAIM30 of the resource that represents the amount of TMOR available either from an off-line Fast Start Generator or from a Fast Start Demand Response Resource that has not been dispatched.

**On-Peak Demand Resource** is a type of Demand Capacity Resource and means installed measures (e.g., products, equipment, systems, services, practices and/or strategies) on end-use customer facilities that reduce the total amount of electrical energy consumed during Demand Resource On-Peak Hours, while delivering a comparable or acceptable level of end-use service. Such measures include Energy Efficiency, Load Management, and Distributed Generation.

**Open Access Same-Time Information System (OASIS)** is the ISO information system and standards of conduct responding to requirements of 18 C.F.R. §37 of the Commission's regulations and all additional requirements implemented by subsequent Commission orders dealing with OASIS.

**Open Access Transmission Tariff (OATT)** is Section II of the ISO New England Inc. Transmission, Markets and Services Tariff.

**Operating Authority** is defined pursuant to a MTOA, an OTOA, the TOA or the OATT, as applicable.

**Operating Data** means GADS Data, data equivalent to GADS Data, CARL Data, metered load data, or actual system failure occurrences data, all as described in the ISO New England Operating Procedures.

**Operating Day** means the calendar day period beginning at midnight for which transactions on the New England Markets are scheduled.

**Operating Reserve** means Ten-Minute Spinning Reserve (TMSR), Ten-Minute Non-Spinning Reserve (TMNSR) and Thirty-Minute Operating Reserve (TMOR).

**Operations Date** is February 1, 2005.

**OTF Service** is transmission service over OTF as provided for in Schedule 20.

**Other Transmission Facility (OTF)** are the transmission facilities owned by Transmission Owners, defined and classified as OTF pursuant to Schedule 20, over which the ISO shall exercise Operating Authority in accordance with the terms set forth in the OTOA, rated 69 kV or above, and required to allow energy from significant power sources to move freely on the New England Transmission System. OTF classification shall be limited to the Phase I/II HVDC-TF.

**Other Transmission Operating Agreements (OTOA)** is the agreement(s) between the ISO, an OTO and/or the associated service provider(s) with respect to an OTF, which includes the HVDC Transmission Operating Agreement and the Phase I/II HVDC-TF Transmission Service Administration Agreement. With respect to the Phase I/II HVDC-TF, the HVDC Transmission Operating Agreement covers the rights and responsibilities for the operation of the facility and the Phase I/II HVDC-TF Transmission Service Administration Agreement covers the rights and responsibilities for the administration of transmission service.

**Other Transmission Owner (OTO)** is an owner of OTF.

**Ownership Share** is a right or obligation, for purposes of settlement, to a percentage share of all credits or charges associated with a Generator Asset or a Load Asset, where such facility is interconnected to the New England Transmission System.

**Participant Expenses** are defined in Section 1 of the Participants Agreement.

**Participant Required Balance** is defined in Section 5.3 of the ISO New England Billing Policy.

**Participant Vote** is defined in Section 1 of the Participants Agreement.

**Participants Agreement** is the agreement among the ISO, the New England Power Pool and Individual Participants, as amended from time to time, on file with the Commission.

**Participants Committee** is the principal committee referred to in the Participants Agreement.

**Participating Transmission Owner (PTO)** is a transmission owner that is a party to the TOA.

**Passive DR Audit** is the audit performed pursuant to Section III.13.6.1.5.4.

**Passive DR Auditing Period** is the summer Passive DR Auditing Period (June 1 to August 31) or winter Passive DR Auditing Period (December 1 to January 31) applicable to On-Peak Demand Resources and Seasonal Peak Demand Resources.

**Payment** is a sum of money due to a Covered Entity from the ISO.

**Payment Default Shortfall Fund** is defined in Section 5.1 of the ISO New England Billing Policy.

**Peak Energy Rent (PER)** is described in Section III.13.7.1.2 of Market Rule 1.

**PER Proxy Unit** is described in Section III.13.7.1.2.1 of Market Rule 1.

**Permanent De-list Bid** is a bid that may be submitted by an Existing Generating Capacity Resource, Existing Import Capacity Resource, or Existing Demand Capacity Resource in the Forward Capacity Auction to permanently remove itself from the capacity market, as described in Section III.13.1.2.3.1.5 of Market Rule 1.

**Phase I Transfer Credit** is 40% of the HQICC, or such other fraction of the HQICC as the ISO may establish.

**Phase I/II HVDC-TF** is defined in Schedule 20A to Section II of this Tariff.

**Phase I/II HVDC-TF Transfer Capability** is the transfer capacity of the Phase I/II HVDC-TF under normal operating conditions, as determined in accordance with Good Utility Practice. The “Phase I Transfer Capability” is the transfer capacity under normal operating conditions, as determined in accordance with Good Utility Practice, of the Phase I terminal facilities as determined initially as of the time immediately prior to Phase II of the Phase I/II HVDC-TF first being placed in service, and as adjusted thereafter only to take into account changes in the transfer capacity which are independent of any effect of Phase II on the operation of Phase I. The “Phase II Transfer Capability” is the difference between the Phase I/II HVDC-TF Transfer Capability and the Phase I Transfer Capability.

Determinations of, and any adjustment in, Phase I/II HVDC-TF Transfer Capability shall be made by the ISO, and the basis for any such adjustment shall be explained in writing and posted on the ISO website.

**Phase One Proposal** is a first round submission, as defined in Section 4.3 of Attachment K of the OATT, of a proposal for a Reliability Transmission Upgrade or Market Efficiency Transmission Upgrade, as applicable, by a Qualified Transmission Project Sponsor.

**Phase II Transfer Credit** is 60% of the HQICC, or such other fraction of the HQICC as the ISO may establish.

**Phase Two Solution** is a second round submission, as defined in Section 4.3 of Attachment K of the OATT, of a proposal for a Reliability Transmission Upgrade or Market Efficiency Transmission Upgrade by a Qualified Transmission Project Sponsor.

**Planning Advisory Committee** is the committee described in Attachment K of the OATT.

**Planning and Reliability Criteria** is defined in Section 3.3 of Attachment K to the OATT.

**Planning Authority** is an entity defined as such by the North American Electric Reliability Corporation.

**Point(s) of Delivery (POD)** is point(s) of interconnection where capacity and/or energy transmitted by a Transmission Customer will be made available to the Receiving Party under the OATT.

**Point of Interconnection** shall have the same meaning as that used for purposes of Schedules 22, 23 and 25 of the OATT.

**Point(s) of Receipt (POR)** is point(s) of interconnection where capacity and/or energy transmitted by a Transmission Customer will be made available by the Delivering Party under the OATT.

**Point-To-Point Service** is the transmission of capacity and/or energy on either a firm or non-firm basis from the Point(s) of Receipt to the Point(s) of Delivery under the OATT pursuant to Local Point-To-Point Service or OTF Service or MTF Service; and the transmission of capacity and/or energy from the Point(s) of Receipt to the Point(s) of Delivery under the OATT pursuant to Through or Out Service.

**Pool-Planned Unit** is one of the following units: New Haven Harbor Unit 1 (Coke Works), Mystic Unit 7, Canal Unit 2, Potter Unit 2, Wyman Unit 4, Stony Brook Units 1, 1A, 1B, 1C, 2A and 2B, Millstone Unit 3, Seabrook Unit 1 and Waters River Unit 2 (to the extent of 7 megawatts of its Summer capability and 12 megawatts of its Winter capability).

**Pool PTF Rate** is the transmission rate determined in accordance with Schedule 8 to the OATT.

**Pool RNS Rate** is the transmission rate determined in accordance with paragraph (2) of Schedule 9 of Section II of the Tariff.

**Pool-Scheduled Resources** are described in Section III.1.10.2 of Market Rule 1.

**Pool Supported PTF** is defined as: (i) PTF first placed in service prior to January 1, 2000; (ii) Generator Interconnection Related Upgrades with respect to Category A and B projects (as defined in Schedule 11), but only to the extent not paid for by the interconnecting Generator Owner; and (iii) other PTF upgrades, but only to the extent the costs therefore are determined to be Pool Supported PTF in accordance with Schedule 12.

**Pool Transmission Facility (PTF)** means the transmission facilities owned by PTOs which meet the criteria specified in Section II.49 of the OATT.

**Posting Entity** is any Market Participant or Non-Market Participant Transmission Customer providing financial security under the provisions of the ISO New England Financial Assurance Policy.

**Posture** means an action of the ISO to deviate from the jointly optimized security constrained economic dispatch for Energy and Operating Reserves solution for a Resource produced by the ISO's technical software for the purpose of maintaining sufficient Operating Reserve (both online and off-line) or for the provision of voltage or VAR support.

**Posturing Credits** are the Real-Time Posturing NCPC Credits for Generators (Other Than Limited Energy Resources) Postured for Reliability and the Real-Time Posturing NCPC Credit for Limited Energy Resources Postured for Reliability.

**Power Purchaser** is the entity that is purchasing the capacity and/or energy to be transmitted under the OATT.

**Principal** is (i) the sole proprietor of a sole proprietorship; (ii) a general partner of a partnership; (iii) a president, chief executive officer, chief operating officer or chief financial officer (or equivalent position) of an organization; (iv) a manager, managing member or a member vested with the management authority for a limited liability company or limited liability partnership; (v) any person or entity that has the power to exercise a controlling influence over an organization's activities that are subject to regulation by the Federal Energy Regulatory Commission, the Securities and Exchange Commission, the Commodity Futures Trading Commission, any exchange monitored by the National Futures Association, or any state entity responsible for regulating activity in energy markets; or (vi) any person or entity that: (a) is the direct owner of 10% or more of any class of an organization's equity securities; or (b) has directly contributed 10% or more of an organization's capital.

**Profiled Load Assets** include all Load Assets that are not directly metered by OP-18 compliant metering as currently described in Section IV (Metering and Recording for Settlements) of OP18, and some Load Assets that are measured by OP-18 compliant metering (as currently described in Section IV of OP-18) to which the Host Participant Assigned Meter Reader allocates non-PTF losses.

**Project Sponsor** is an entity seeking to have a New Generating Capacity Resource, New Import Capacity Resource or New Demand Capacity Resource participate in the Forward Capacity Market, as described in Section III.13.

**Proxy De-List Bid** is a type of bid used in the Forward Capacity Market.

**Provisional Member** is defined in Section I.68A of the Restated NEPOOL Agreement.

**PTO Administrative Committee** is the committee referred to in Section 11.04 of the TOA.

**Public Policy Requirement** is a requirement reflected in a statute enacted by, or a regulation promulgated by, the federal government or a state or local (e.g., municipal or county) government.

**Public Policy Transmission Study** is a study conducted by the ISO pursuant to the process set out in Section 4A.3 of Attachment K of the OATT, and consists of two phases: (i) an initial phase to produce a



rough estimate of the costs and benefits of concepts that could meet transmission needs driven by public policy requirements; and (ii) a follow-on phase designed to produce more detailed analysis and engineering work on transmission concepts identified in the first phase.

**Public Policy Local Transmission Study** is a study conducted by a PTO pursuant to the process set out in Section 1.6 of Attachment K Appendix 1 of the OATT, and consists of two phases: (i) an initial phase to produce an estimate of the costs and benefits of concepts that could meet transmission needs driven by public policy requirements; and (ii) a follow-on phase designed to produce more detailed analysis and engineering work on transmission concepts identified in the first phase.

**Public Policy Transmission Upgrade** is an addition and/or upgrade to the New England Transmission System that meets the voltage and non-voltage criteria for Public Policy Transmission Upgrade PTF classification specified in the OATT, and has been included in the Regional System Plan and RSP Project List as a Public Policy Transmission Upgrade pursuant to the procedures described in Section 4A of Attachment K of the OATT.

**Publicly Owned Entity** is defined in Section I of the Restated NEPOOL Agreement.

**Qualification Process Cost Reimbursement Deposit** is described in Section III.13.1.9.3 of Market Rule 1.

**Qualified Capacity** is the amount of capacity a resource may provide in the summer or winter in a Capacity Commitment Period, as determined in the Forward Capacity Market qualification processes.

**Qualified Generator Reactive Resource(s)** is any generator source of dynamic reactive power that meets the criteria specified in Schedule 2 of the OATT.

**Qualified Non-Generator Reactive Resource(s)** is any non-generator source of dynamic reactive power that meets the criteria specified in Schedule 2 of the OATT.

**Qualified Reactive Resource(s)** is any Qualified Generator Reactive Resource and/or Qualified Non-Generator Reactive Resource that meets the criteria specified in Schedule 2 of the OATT.

**Qualified Transmission Project Sponsor** is defined in Sections 4B.2 and 4B.3 of Attachment K of the OATT.

**Queue Position** has the meaning specified in Section I of Schedule 22, Attachment 1 to Schedule 23, and Section I of Schedule 25 of the OATT.

**Rapid Response Pricing Asset** is: (i) a Fast Start Generator; (ii) a Flexible DNE Dispatchable Generator; or (iii) a Binary Storage DARD with Offer Data specifying a Minimum Run Time and a Minimum Down Time not exceeding one hour each. A Rapid Response Pricing Asset shall also include a Fast Start Demand Response Resource for which the Market Participant's Offer Data meets the following criteria: (i) Minimum Reduction Time does not exceed one hour; and (ii) Demand Response Resource Notification Time plus Demand Response Resource Start-Up Time does not exceed 30 minutes.

**Rapid Response Pricing Opportunity Cost** is the NCPC Credit described in Section III.F.2.3.10.

**Rated** means a Market Participant that receives a credit rating from one or more of the Rating Agencies, or, if such Market Participant is not rated by one of the Rating Agencies, then a Market Participant that has outstanding unsecured debt rated by one or more of the Rating Agencies.

**Rating Agencies** are Standard and Poor's (S&P), Moody's, and Fitch.

**Rationing Minimum Limit** is the MW quantity for a New Generating Capacity Resource or Existing Generating Capacity Resource below which an offer or bid may not be rationed in the Forward Capacity Auction, but shall not apply to supply offers or demand bids in a substitution auction as specified in Section III.13.2.8.2 and Section III.13.2.8.3.

**RBA Decision** is a written decision provided by the ISO to a Disputing Party and to the Chair of the NEPOOL Budget and Finance Subcommittee accepting or denying a Requested Billing Adjustment within twenty Business Days of the date the ISO distributes a Notice of RBA, unless some later date is agreed upon by the Disputing Party and the ISO.

**Reactive Capability Audit** is an audit that measures the ability of a Reactive Resource to provide or absorb reactive power to or from the transmission system at a specified real power output or consumption.

**Reactive Resource** is a device that dynamically adjusts reactive power output automatically in Real-Time over a continuous range, taking into account control system response bandwidth, within a specified voltage bandwidth in response to grid voltage changes. These resources operate to maintain a set-point voltage and include, but are not limited to, Generator Assets, Dispatchable Asset Related Demands that are part of an Electric Storage Facility, and dynamic transmission devices.

**Reactive Supply and Voltage Control Service** is the form of Ancillary Service described in Schedule 2 of the OATT.

**Real-Time** is a period in the current Operating Day for which the ISO dispatches Resources for energy and Regulation, designates Resources for Regulation and Operating Reserve and, if necessary, commits additional Resources.

**Real-Time Adjusted Load Obligation** is defined in Section III.3.2.1(b) of Market Rule 1.

**Real-Time Adjusted Load Obligation Deviation** is defined in Section III.3.2.1(d) of Market Rule 1.

**Real-Time Commitment NCPC Credit** is an NCPC Credit calculated pursuant to Appendix F to Market Rule 1.

**Real-Time Congestion Revenue** is defined in Section III.3.2.1(i) of Market Rule 1.

**Real-Time Demand Reduction Obligation** is defined in Section III.3.2.1(c) of Market Rule 1.

**Real-Time Demand Reduction Obligation Deviation** is defined in Section III.3.2.1(e) of Market Rule 1.

**Real-Time Dispatch NCPC Credit** is an NCPC Credit calculated pursuant to Appendix F to Market Rule 1.

**Real-Time Energy Inventory** is a component of the spot payment that a Market Participant may receive through the inventoried energy program, as described in Section III.K.3.2.1 of Market Rule 1.

**Real-Time Energy Market** means the purchase or sale of energy, purchase of demand reductions, payment of Congestion Costs, and payment for losses for quantity deviations from the Day-Ahead Energy Market in the Operating Day and designation of and payment for provision of Operating Reserve in Real-Time.

**Real-Time Energy Market Deviation Congestion Charge/Credit** is defined in Section III.3.2.1(g) of Market Rule 1.

**Real-Time Energy Market Deviation Energy Charge/Credit** is defined in Section III.3.2.1(g) of Market Rule 1.

**Real-Time Energy Market Deviation Loss Charge/Credit** is defined in Section III.3.2.1(g) of Market Rule 1.

**Real-Time Energy Market NCPC Credits** are the Real-Time Commitment NCPC Credit and the Real-Time Dispatch NCPC Credit.

**Real-Time External Transaction NCPC Credit** is an NCPC Credit calculated pursuant to Appendix F to Market Rule 1.

**Real-Time Generation Obligation** is defined in Section III.3.2.1(b) of Market Rule 1.

**Real-Time Generation Obligation Deviation** is defined in Section III.3.2.1(d) of Market Rule 1.

**Real-Time High Operating Limit** is the maximum output, in MW, of a Generator Asset that could be achieved, consistent with Good Utility Practice, in response to an ISO request for Energy (including pursuant to Section III.13.6.4 of Market Rule 1), for each hour of the Operating Day, as reflected in the Generator Asset's Offer Data. This value is based on real-time operating conditions and the physical operating characteristics and operating permits of the facility and must be submitted for all Generator Assets (other than Settlement Only Resources).

**Real-Time Load Obligation** is defined in Section III.3.2.1(b) of Market Rule 1.

**Real-Time Load Obligation Deviation** is defined in Section III.3.2.1(d) of Market Rule 1.

**Real-Time Locational Adjusted Net Interchange** is defined in Section III.3.2.1(b) of Market Rule 1.

**Real-Time Locational Adjusted Net Interchange Deviation** is defined in Section III.3.2.1(d) of Market Rule 1.

**Real-Time Loss Revenue** is defined in Section III.3.2.1(l) of Market Rule 1.

**Real-Time Loss Revenue Charges or Credits** are defined in Section III.3.2.1(m) of Market Rule 1.

**Real-Time NCP Load Obligation** is the maximum hourly value, during a month, of a Market Participant's Real-Time Load Obligation summed over all Locations, excluding exports, in kilowatts.

**Real-Time Offer Change** is a modification to a Supply Offer pursuant to Section III.1.10.9(b).

**Real-Time Posturing NCPC Credit for Generators (Other Than Limited Energy Resources)**

**Postured for Reliability** is an NCPC Credit calculated pursuant to Appendix F to Market Rule 1.

**Real-Time Posturing NCPC Credit for Limited Energy Resources Postured for Reliability** is an NCPC Credit calculated pursuant to Appendix F to Market Rule 1.

**Real-Time Prices** means the Locational Marginal Prices resulting from the ISO's dispatch of the New England Markets in the Operating Day.

**Real-Time Reserve Charge** is a Market Participant's share of applicable system and Reserve Zone Real-Time Operating Reserve costs attributable to meeting the Real-Time Operating Reserve requirement as calculated in accordance with Section III.10 of Market Rule 1.

**Real-Time Reserve Clearing Price** is the Real-Time TMSR, TMNSR or TMOR clearing price, as applicable, for the system and each Reserve Zone that is calculated in accordance with Section III.2.7A of Market Rule 1.

**Real-Time Reserve Credit** is a Market Participant's compensation associated with that Market Participant's Resources' Reserve Quantity For Settlement as calculated in accordance with Section III.10 of Market Rule 1.

**Real-Time Reserve Designation** is the amount, in MW, of Operating Reserve designated to a Resource in Real-Time by the ISO as described in Section III.1.7.19 of Market Rule 1.

**Real-Time Reserve Opportunity Cost** is defined in Section III.2.7A(b) of Market Rule 1.

**Real-Time Synchronous Condensing NCPC Credit** is an NCPC Credit calculated pursuant to Appendix F to Market Rule 1.

**Real-Time System Adjusted Net Interchange** means, for each hour, the sum of Real-Time Locational Adjusted Net Interchange for a Market Participant over all Locations, in kilowatts.

**Receiving Party** is the entity receiving the capacity and/or energy transmitted to Point(s) of Delivery under the OATT.

**Reference Level** is defined in Section III.A.5.7 of Appendix A of Market Rule 1.

**Regional Benefit Upgrade(s) (RBU)** means a Transmission Upgrade that: (i) is rated 115kV or above; (ii) meets all of the non-voltage criteria for PTF classification specified in the OATT; and (iii) is included in the Regional System Plan as either a Reliability Transmission Upgrade or a Market Efficiency Transmission Upgrade identified as needed pursuant to Attachment K of the OATT. The category of RBU shall not include any Transmission Upgrade that has been categorized under any of the other categories specified in Schedule 12 of the OATT (e.g., an Elective Transmission Upgrade shall not also be categorized as an RBU). Any upgrades to transmission facilities rated below 115kV that were PTF prior to January 1, 2004 shall remain classified as PTF and be categorized as an RBU if, and for so long as, such upgrades meet the criteria for PTF specified in the OATT.

**Regional Network Load** is the load that a Network Customer designates for Regional Network Service under Part II.B of the OATT. The Network Customer's Regional Network Load shall include all load designated by the Network Customer (including losses) and shall not be credited or reduced for any behind-the-meter generation. A Network Customer may elect to designate less than its total load as

Regional Network Load but may not designate only part of the load at a discrete Point of Delivery. Where a Transmission Customer has elected not to designate a particular load at discrete Points of Delivery as Regional Network Load, the Transmission Customer is responsible for making separate arrangements under Part II.C of the OATT for any Point-To-Point Service that may be necessary for such non-designated load.

**Regional Network Service (RNS)** is the transmission service over the PTF described in Part II.B of the OATT, including such service which is used with respect to Network Resources or Regional Network Load that is not physically interconnected with the PTF.

**Regional Planning Dispute Resolution Process** is described in Section 12 of Attachment K to the OATT.

**Regional System Plan (RSP)** is the plan developed under the process specified in Attachment K of the OATT.

**Regional Transmission Service (RTS)** is Regional Network Service and Through or Out Service as provided over the PTF in accordance with Section II.B, Section II.C, Schedule 8 and Schedule 9 of the OATT.

**Regulation** is the capability of a specific Resource with appropriate telecommunications, control and response capability to respond to an AGC SetPoint.

**Regulation and Frequency Response Service** is the form of Ancillary Service described in Schedule 3 of the OATT. The capability of performing Regulation and Frequency Response Service is referred to as automatic generation control (AGC).

**Regulation Capacity** is the lesser of five times the Automatic Response Rate and one-half of the difference between the Regulation High Limit and the Regulation Low Limit of a Resource capable of providing Regulation.

**Regulation Capacity Requirement** is the amount of Regulation Capacity required to maintain system control and reliability in the New England Control Area as calculated and posted on the ISO website.

**Regulation Capacity Offer** is an offer by a Market Participant to provide Regulation Capacity.

**Regulation High Limit** is an offer parameter that establishes the upper bound for AGC SetPoints and is used in the determination of a Resource's Regulation Capacity.

**Regulation Low Limit** is an offer parameter that establishes the lower bound for AGC SetPoints and is used in the determination of a Resource's Regulation Capacity.

**Regulation Market** is the market described in Section III.14 of Market Rule 1.

**Regulation Resources** are those Alternative Technology Regulation Resources, Generator Assets, and Dispatchable Asset Related Demands that satisfy the requirements of Section III.14.2. Regulation Resources are eligible to participate in the Regulation Market.

**Regulation Service** is the change in output or consumption made in response to changing AGC SetPoints.

**Regulation Service Requirement** is the estimated amount of Regulation Service required to maintain system control and reliability in the New England Control Area as calculated and posted on the ISO website.

**Regulation Service Offer** is an offer by a Market Participant to provide Regulation Service.

**Related Person** is defined pursuant to Section 1.1 of the Participants Agreement.

**Related Transaction** is defined in Section III.1.4.3 of Market Rule 1.

**Reliability Administration Service (RAS)** is the service provided by the ISO, as described in Schedule 3 of Section IV.A of the Tariff, in order to administer the Reliability Markets and provide other reliability-related and informational functions.

**Reliability Committee** is the committee whose responsibilities are specified in Section 8.2.3 of the Participants Agreement.



**Reliability Markets** are, collectively, the ISO's administration of Regulation, the Forward Capacity Market, and Operating Reserve.

**Reliability Region** means any one of the regions identified on the ISO's website. Reliability Regions are intended to reflect the operating characteristics of, and the major transmission constraints on, the New England Transmission System.

**Reliability Transmission Upgrade** means those additions and upgrades not required by the interconnection of a generator that are nonetheless necessary to ensure the continued reliability of the New England Transmission System, taking into account load growth and known resource changes, and include those upgrades necessary to provide acceptable stability response, short circuit capability and system voltage levels, and those facilities required to provide adequate thermal capability and local voltage levels that cannot otherwise be achieved with reasonable assumptions for certain amounts of generation being unavailable (due to maintenance or forced outages) for purposes of long-term planning studies. Good Utility Practice, applicable reliability principles, guidelines, criteria, rules, procedures and standards of ERO and NPCC and any of their successors, applicable publicly available local reliability criteria, and the ISO System Rules, as they may be amended from time to time, will be used to define the system facilities required to maintain reliability in evaluating proposed Reliability Transmission Upgrades. A Reliability Transmission Upgrade may provide market efficiency benefits as well as reliability benefits to the New England Transmission System.

**Remittance Advice** is an issuance from the ISO for the net Payment owed to a Covered Entity where a Covered Entity's total Payments exceed its total Charges in a billing period.

**Remittance Advice Date** is the day on which the ISO issues a Remittance Advice.

**Renewable Technology Resource** is a Generating Capacity Resource or an On-Peak Demand Resource that satisfies the requirements specified in Section III.13.1.1.1.7.

**Re-Offer Period** is the period that normally occurs between the posting of the of the Day-Ahead Energy Market results and 2:00 p.m. on the day before the Operating Day during which a Market Participant may submit revised Supply Offers, revised External Transactions, or revised Demand Bids associated with Dispatchable Asset Related Demands or, revised Demand Reduction Offers associated with Demand Response Resources.

**Replacement Reserve** is described in Part III, Section VII of ISO New England Operating Procedure No. 8.

**Request for Alternative Proposals (RFAP)** is the request described in Attachment K of the OATT.

**Requested Billing Adjustment (RBA)** is defined in Section 6.1 of the ISO New England Billing Policy.

**Required Balance** is an amount as defined in Section 5.3 of the Billing Policy.

**Reseller** is a MGTSA holder that sells, assigns or transfers its rights under its MGTSA, as described in Section II.45.1(a) of the OATT.

**Reserve Adequacy Analysis** is the analysis performed by the ISO to determine if adequate Resources are committed to meet forecasted load, Operating Reserve, and security constraint requirements for the current and next Operating Day.

**Reserve Constraint Penalty Factors (RCPFs)** are rates, in \$/MWh, that are used within the Real-Time dispatch and pricing algorithm to reflect the value of Operating Reserve shortages and are defined in Section III.2.7A(c) of Market Rule 1.

**Reserve Quantity For Settlement** is defined in Section III.10.1 of Market Rule 1.

**Reserve Zone** is defined in Section III.2.7 of Market Rule 1.

**Reserved Capacity** is the maximum amount of capacity and energy that is committed to the Transmission Customer for transmission over the New England Transmission System between the Point(s) of Receipt and the Point(s) of Delivery under Part II.C or Schedule 18, 20 or 21 of the OATT, as applicable. Reserved Capacity shall be expressed in terms of whole kilowatts on a sixty-minute interval (commencing on the clock hour) basis, or, in the case of Reserved Capacity for Local Point-to-Point Service, in terms of whole megawatts on a sixty-minute interval basis.

**Resource** means a Generator Asset, a Dispatchable Asset Related Demand, an External Resource, an External Transaction, or a Demand Response Resource.

**Restated New England Power Pool Agreement (RNA)** is the Second Restated New England Power Pool Agreement, which restated for a second time by an amendment dated as of August 16, 2004 the New England Power Pool Agreement dated September 1, 1971, as the same may be amended and restated from time to time, governing the relationship among the NEPOOL members.

**Rest-of-Pool Capacity Zone** is a single Capacity Zone made up of the adjacent Load Zones that are neither export-constrained nor import-constrained.

**Rest of System** is an area established under Section III.2.7(d) of Market Rule 1.

**Retail Delivery Point** is the point on the transmission or distribution system at which the load of an end-use facility, which is metered and assigned a unique account number by the Host Participant, is measured to determine the amount of energy delivered to the facility from the transmission and distribution system. If an end-use facility is connected to the transmission or distribution system at more than one location, the Retail Delivery Point shall consist of the metered load at each connection point, summed to measure the net energy delivered to the facility in each interval.

**Retirement De-List Bid** is a bid to retire an Existing Generating Capacity Resource, Existing Import Capacity Resource, or Existing Demand Capacity Resource from all New England Markets, as described in Section III.13.1.2.3.1.5.

**Returning Market Participant** is a Market Participant, other than an FTR-Only Customer or a Governance Only Member, whose previous membership as a Market Participant was involuntarily terminated due to a Financial Assurance Default or a payment default and, since returning, has been a Market Participant for less than six consecutive months.

**Revenue Requirement** is defined in Section IV.A.2.1 of the Tariff.

**Reviewable Action** is defined in Section III.D.1.1 of Appendix D of Market Rule 1.

**Reviewable Determination** is defined in Section 12.4(a) of Attachment K to the OATT.

**RSP Project List** is defined in Section 1 of Attachment K to the OATT.

**RTEP02 Upgrade(s)** means a Transmission Upgrade that was included in the annual NEPOOL Transmission Plan (also known as the “Regional Transmission Expansion Plan” or “RTEP”) for the year 2002, as approved by ISO New England Inc.’s Board of Directors, or the functional equivalent of such Transmission Upgrade, as determined by ISO New England Inc. The RTEP02 Upgrades are listed in Schedule 12B of the OATT.

**RTO** is a regional transmission organization or comparable independent transmission organization that complies with Order No. 2000 and the Commission’s corresponding regulation.

**Same Reserve Zone Export Transaction** is defined in Section III.1.10.7(f)(iii) of Market Rule 1.

**Sanctionable Behavior** is defined in Section III.B.3 of Appendix B of Market Rule 1.

**Schedule, Schedules, Schedule 1, 2, 3, 4 and 5** are references to the individual or collective schedules to Section IV.A. of the Tariff.

**Schedule 20A Service Provider (SSP)** is defined in Schedule 20A to Section II of this Tariff.

**Scheduling Service**, for purposes of Section IV.A and Section IV.B of the Tariff, is the service described in Schedule 1 to Section IV.A of the Tariff.

**Scheduling, System Control and Dispatch Service**, for purposes of Section II of the Tariff, is the form of Ancillary Service described in Schedule 1 of the OATT.

**Seasonal Claimed Capability** is the summer or winter claimed capability of a Generator Asset or Generating Capacity Resource, and represents the maximum dependable load carrying ability of the asset or resource, excluding capacity required for station use.

**Seasonal Claimed Capability Audit** is the Generator Asset audit performed pursuant to Section III.1.5.1.3.

**Seasonal DR Audit** is the Demand Response Resource audit performed pursuant to Section III.1.5.1.3.1.

**Seasonal Peak Demand Resource** is a type of Demand Capacity Resource and shall mean installed measures (e.g., products, equipment, systems, services, practices and/or strategies) on end-use customer facilities that reduce the total amount of electrical energy consumed during Demand Resource Seasonal Peak Hours, while delivering a comparable or acceptable level of end-use service. Such measures include Energy Efficiency, Load Management, and Distributed Generation.

**Section III.1.4 Transactions** are defined in Section III.1.4.2 of Market Rule 1.

**Section III.1.4 Conforming Transactions** are defined in Section III.1.4.2 of Market Rule 1.

**Security Agreement** is Attachment 1 to the ISO New England Financial Assurance Policy.

**Selected Qualified Transmission Project Sponsor** is the Qualified Transmission Project Sponsor that proposed the Phase Two or Stage Two Solution that has been identified by the ISO as the preferred Phase Two or Stage Two Solution.

**Selected Qualified Transmission Project Sponsor Agreement** is the agreement between the ISO and a Selected Qualified Transmission Project Sponsor. The Selected Qualified Transmission Project Sponsor Agreement is provided in Attachment P to the OATT.

**Self-Schedule** is the action of a Market Participant in committing its Generator Asset or DARD, in accordance with applicable ISO New England Manuals, to provide service in an hour, whether or not in the absence of that action the Generator Asset or DARD would have been committed by the ISO to provide the service. For a Generator Asset, Self-Schedule is the action of a Market Participant in committing a Generator Asset to provide Energy in an hour at its Economic Minimum Limit, whether or not in the absence of that action the Generator Asset would have been committed by the ISO to provide the Energy. For a DARD, Self-Schedule is the action of a Market Participant in committing a DARD to consume Energy in an hour at its Minimum Consumption Limit, whether or not in the absence of that action the DARD would have been committed by the ISO to consume Energy. For an External Transaction, a Self-Schedule is a request by a Market Participant for the ISO to select the External Transaction regardless of the LMP. Demand Response Resources are not permitted to Self-Schedule.

**Self-Supplied FCA Resource** is described in Section III.13.1.6 of Market Rule 1.

**Senior Officer** means an officer of the subject entity with the title of vice president (or similar office) or higher, or another officer designated in writing to the ISO by that officer.

**Service Agreement** is a Transmission Service Agreement or an MPSA.

**Service Commencement Date** is the date service is to begin pursuant to the terms of an executed Service Agreement, or the date service begins in accordance with the sections of the OATT addressing the filing of unexecuted Service Agreements.

**Services** means, collectively, the Scheduling Service, EAS and RAS; individually, a Service.

**Settlement Financial Assurance** is an amount of financial assurance required from a Designated FTR Participant awarded a bid in an FTR Auction. This amount is calculated pursuant to Section VI.C of the ISO New England Financial Assurance Policy.

**Settlement Only Resources** are generators of less than 5 MW of maximum net output when operating at any temperature at or above zero degrees Fahrenheit, that meet the metering, interconnection and other requirements in ISO New England Operating Procedure No. 14 and that have elected Settlement Only Resource treatment as described in the ISO New England Manual for Registration and Performance Auditing.

**Shortfall Funding Arrangement**, as specified in Section 5.1 of the ISO New England Billing Policy, is a separate financing arrangement that can be used to make up any non-congestion related differences between amounts received on Invoices and amounts due for ISO Charges in any bill issued.

**Short-Term** is a period of less than one year.

**Significantly Reduced Congestion Costs** are defined in Section III.G.2.2 of Appendix G to Market Rule 1.

**SMD Effective Date** is March 1, 2003.

**Solar High Limit** is the estimated power output (MW) of a solar Generator Asset given the Real-Time solar and weather conditions, taking into account equipment outages, and absent any self-imposed

reductions in power output or any reduction in power output as a result of a Dispatch Instruction, calculated in the manner described in the ISO Operating Documents.

**Solar Plant Future Availability** is the forecasted Real-Time High Operating Limit of a solar Generator Asset, calculated in the manner described in the ISO Operating Documents.

**Solutions Study** is described in Section 4.2(b) of Attachment K to the OATT.

**Special Constraint Resource (SCR)** is a Resource that provides Special Constraint Resource Service under Schedule 19 of the OATT.

**Special Constraint Resource Service** is the form of Ancillary Service described in Schedule 19 of the OATT.

**Specified-Term Blackstart Capital Payment** is the annual compensation level, as calculated pursuant to Section 5.1 of Schedule 16 of the OATT, for a Designated Blackstart Resource's capital Blackstart Equipment costs associated with the provision of Blackstart Service (except for capital costs associated with adhering to NERC Critical Infrastructure Protection Reliability Standards as part of Blackstart Service).

**Sponsored Policy Resource** is a New Capacity Resource that: receives an out-of-market revenue source supported by a government-regulated rate, charge or other regulated cost recovery mechanism, and; qualifies as a renewable, clean or alternative energy resource under a renewable energy portfolio standard, clean energy standard, alternative energy portfolio standard, renewable energy goal, or clean energy goal enacted (either by statute or regulation) in the New England state from which the resource receives the out-of-market revenue source and that is in effect on January 1, 2018.

**Stage One Proposal** is a first round submission, as defined in Sections 4A.5 of Attachment K of the OATT, of a proposal for a Public Policy Transmission Upgrade by a Qualified Transmission Project Sponsor.

**Stage Two Solution** is a second round submission, as defined in Section 4A.5 of Attachment K of the OATT, of a proposal for a Public Policy Transmission Upgrade by a Qualified Transmission Project Sponsor.

**Standard Blackstart Capital Payment** is the annual compensation level, as calculated pursuant to Section 5.1 of Schedule 16 of the OATT, for a Designated Blackstart Resource's capital Blackstart Equipment costs associated with the provision of Blackstart Service (except for capital costs associated with adhering to NERC Critical Infrastructure Protection Reliability Standards as part of Blackstart Service).

**Start-of-Round Price** is the highest price associated with a round of a Forward Capacity Auction as described in Section III.13.2.3.1 of Market Rule 1.

**Start-Up Fee** is the amount, in dollars, that must be paid for a Generator Asset to Market Participants with an Ownership Share in the Generator Asset each time the Generator Asset is scheduled in the New England Markets to start-up.

**Start-Up Time** is the time it takes the Generator Asset, after synchronizing to the system, to reach its Economic Minimum Limit and, for dispatchable Generator Assets, be ready for further dispatch by the ISO.

**State Estimator** means the computer model of power flows specified in Section III.2.3 of Market Rule 1.

**Statements**, for the purpose of the ISO New England Billing Policy, refer to both Invoices and Remittance Advices.

**Static De-List Bid** is a bid that may be submitted by an Existing Generating Capacity Resource, Existing Import Capacity Resource, or Existing Demand Capacity Resource in the Forward Capacity Auction to remove itself from the capacity market for a one year period, as described in Section III.13.1.2.3.1.1 of Market Rule 1.

**Station** is one or more Existing Generating Capacity Resources consisting of one or more assets located within a common property boundary.

**Station Going Forward Common Costs** are the net costs associated with a Station that are avoided only by the clearing of the Static De-List Bids, the Permanent De-List Bids or the Retirement De-List Bids of all the Existing Generating Capacity Resources comprising the Station.



**Station-level Blackstart O&M Payment** is defined and calculated as specified in Section 5.1.2 of Schedule 16 to the OATT.

**Station-level Specified-Term Blackstart Capital Payment** is defined and calculated as specified in Section 5.1.2 of Schedule 16 to the OATT.

**Station-level Standard Blackstart Capital Payment** is defined and calculated as specified in Section 5.1.2 of Schedule 16 to the OATT.

**Storage DARD** is a DARD that participates in the New England Markets as part of an Electric Storage Facility, as described in Section III.1.10.6 of Market Rule 1.

**Summer ARA Qualified Capacity** is described in Section III.13.4.2.1.2.1.1.1 of Market Rule 1.

**Summer Capability Period** means one of two time periods defined by the ISO for the purposes of rating and auditing resources pursuant to Section III.9. The time period associated with the Summer Capability Period is the period of June 1 through September 30.

**Summer Intermittent Reliability Hours** are defined in Section III.13.1.2.2.2.1(c) of Market Rule 1.

**Supply Offer** is a proposal to furnish energy at a Node or Regulation from a Resource that meets the applicable requirements set forth in the ISO New England Manuals submitted to the ISO by a Market Participant with authority to submit a Supply Offer for the Resource. The Supply Offer will be submitted pursuant to Market Rule 1 and applicable ISO New England Manuals, and include a price and information with respect to the quantity proposed to be furnished, technical parameters for the Resource, timing and other matters. A Supply Offer is a subset of the information required in a Market Participant's Offer Data.

**Supply Offer Block-Hours** are Block-Hours assigned to the Lead Market Participant for each Supply Offer. Blocks of the Supply Offer in effect for each hour will be totaled to determine the quantity of Supply Offer Block-Hours for a given day. In the case that a Resource has a Real-Time unit status of "unavailable" for the entire day, that day will not contribute to the quantity of Supply Offer Block-Hours.

However, if the Resource has at least one hour of the day with a unit status of “available,” the entire day will contribute to the quantity of Supply Offer Block-Hours.

**Synchronous Condenser** is a generator that is synchronized to the grid but supplying no energy for the purpose of providing Operating Reserve or VAR or voltage support.

**System Condition** is a specified condition on the New England Transmission System or on a neighboring system, such as a constrained transmission element or flowgate, that may trigger Curtailment of Long-Term Firm MTF or OTF Service on the MTF or the OTF using the curtailment priority pursuant to Section II.44 of the Tariff or Curtailment of Local Long-Term Firm Point-to-Point Transmission Service on the non-PTF using the curtailment priority pursuant to Schedule 21 of the Tariff. Such conditions must be identified in the Transmission Customer’s Service Agreement.

**System Impact Study** is an assessment pursuant to Part II.B, II.C, II.G, Schedule 21, Schedule 22, Schedule 23, or Schedule 25 of the OATT of (i) the adequacy of the PTF or Non-PTF to accommodate a request for the interconnection of a new or materially changed generating unit or a new or materially changed interconnection to another Control Area or new Regional Network Service or new Local Service or an Elective Transmission Upgrade, and (ii) whether any additional costs may be required to be incurred in order to provide the interconnection or transmission service.

**System Operator** shall mean ISO New England Inc. or a successor organization.

**System Operating Limit (SOL)** has the meaning specified in the Glossary of Terms Used in NERC Reliability Standards.

**System-Wide Capacity Demand Curve** is the demand curve used in the Forward Capacity Market as specified in Section III.13.2.2.

**TADO** is the total amount due and owing (not including any amounts due under Section 14.1 of the RNA) at such time to the ISO, NEPOOL, the PTOs, the Market Participants and the Non-Market Participant Transmission Customers, by all PTOs, Market Participants and Non-Market Participant Transmission Customers.

**Tangible Net Worth** is the value, determined in accordance with international accounting standards or generally accepted accounting principles in the United States, of all of that entity's assets less the following: (i) assets the ISO reasonably believes to be restricted or potentially unavailable to settle a claim in the event of a default (e.g., regulatory assets, restricted assets, and Affiliate assets), net of any matching liabilities, to the extent that the result of that netting is a positive value; (ii) derivative assets, net of any matching liabilities, to the extent that the result of that netting is a positive value; (iii) the amount at which the liabilities of the entity would be shown on a balance sheet in accordance with international accounting standards or generally accepted accounting principles in the United States; (iv) preferred stock; (v) non-controlling interest; and (vi) all of that entity's intangible assets (e.g., patents, trademarks, franchises, intellectual property, goodwill and any other assets not having a physical existence), in each case as shown on the most recent financial statements provided by such entity to the ISO.

**Technical Committee** is defined in Section 8.2 of the Participants Agreement.

**Ten-Minute Non-Spinning Reserve (TMNSR)** is a form of ten-minute reserve capability, determined pursuant to Section III.1.7.19.2.

**Ten-Minute Non-Spinning Reserve Service** is the form of Ancillary Service described in Schedule 6 of the OATT.

**Ten-Minute Reserve Requirement** is the combined amount of TMSR and TMNSR required system-wide as described in Section III.2.7A and ISO New England Operating Procedure No. 8.

**Ten-Minute Spinning Reserve (TMSR)** is a form of ten-minute reserve capability, determined pursuant to Section III.1.7.19.2.

**Ten-Minute Spinning Reserve Requirement** is the amount of TMSR required system-wide as described in Section III.2.7A and ISO New England Operating Procedure No. 8.

**Ten-Minute Spinning Reserve Service** is the form of Ancillary Service described in Schedule 5 of the OATT.

**Third-Party Sale** is any sale for resale in interstate commerce to a Power Purchaser that is not designated as part of Regional Network Load or Local Network Load under the Regional Network Service or Local Network Service, as applicable.

**Thirty-Minute Operating Reserve (TMOR)** is a form of thirty-minute reserve capability, determined pursuant to Section III.1.7.19.2.

**Thirty-Minute Operating Reserve Service** is the form of Ancillary Service described in Schedule 7 of the OATT.

**Through or Out Rate (TOUT Rate)** is the rate per hour for Through or Out Service, as defined in Section II.25.2 of the OATT.

**Through or Out Service (TOUT Service)** means Point-To-Point Service over the PTF provided by the ISO with respect to a transaction that goes through the New England Control Area, as, for example, a single transaction where energy or capacity is transmitted into the New England Control Area from New Brunswick and subsequently out of the New England Control Area to New York, or a single transaction where energy or capacity is transmitted into the New England Control Area from New York through one point on the PTF and subsequently flows over the PTF prior to passing out of the New England Control Area to New York, or with respect to a transaction which originates at a point on the PTF and flows over the PTF prior to passing out of the New England Control Area, as, for example, from Boston to New York.

**Tie-Line Asset** is a physical transmission tie-line, or an inter-state or intra-state border arrangement created according to the ISO New England Manuals and registered in accordance with the Asset Registration Process.

**Total Available Amount** is the sum of the available amount of the Shortfall Funding Arrangement and the balance in the Payment Default Shortfall Fund.

**Total Blackstart Capital Payment** is the annual compensation calculated under either Section 5.1 or Section 5.2 of Schedule 16 of the OATT, as applicable.

**Total Blackstart Service Payments** is monthly compensation to Blackstart Owners or Market Participants, as applicable, and as calculated pursuant to Section 5.6 of Schedule 16 to the OATT.

**Total Reserve Requirement**, which includes Replacement Reserve, is the combined amount of TMSR, TMNSR, and TMOR required system-wide as described in Section III.2.7A and ISO New England Operating Procedure No. 8.

**Total System Capacity** is the aggregate capacity supply curve for the New England Control Area as determined in accordance with Section III.13.2.3.3 of Market Rule 1.

**Transaction Unit (TU)** is a type of billing determinant under Schedule 2 of Section IV.A of the Tariff used to assess charges to Customers.

**Transition Period:** The six-year period commencing on March 1, 1997.

**Transmission Charges**, for the purposes of the ISO New England Financial Assurance Policy and the ISO New England Billing Policy, are all charges and payments under Schedules 1, 8 and 9 of the OATT.

**Transmission Congestion Credit** means the allocated share of total Transmission Congestion Revenue credited to each holder of Financial Transmission Rights, calculated and allocated as specified in Section III.5.2 of Market Rule 1.

**Transmission Congestion Revenue** is defined in Section III.5.2.5(a) of Market Rule 1.

**Transmission Constraint Penalty Factors** are described in Section III.1.7.5 of Market Rule 1.

**Transmission Credit Limit** is a credit limit, not to be used to meet FTR Requirements, established for each Market Participant in accordance with Section II.D and each Non-Market Participant Transmission Customer in accordance with Section V.B.2 of the ISO New England Financial Assurance Policy.

**Transmission Credit Test Percentage** is calculated in accordance with Section III.B.1(c) of the ISO New England Financial Assurance Policy.

**Transmission Customer** is any Eligible Customer that (i) executes, on its own behalf or through its Designated Agent, an MPSA or TSA, or (ii) requests in writing, on its own behalf or through its Designated Agent, that the ISO, the Transmission Owner, or the Schedule 20A Service Provider, as applicable, file with the Commission, a proposed unexecuted MPSA or TSA containing terms and conditions deemed appropriate by the ISO (in consultation with the applicable PTO, OTO or Schedule 20A Service Provider) in order that the Eligible Customer may receive transmission service under Section II of this Tariff. A Transmission Customer under Section II of this Tariff includes a Market Participant or a Non-Market Participant taking Regional Network Service, Through or Out Service, MTF Service, OTF Service, Ancillary Services, or Local Service.

**Transmission Default Amount** is all or any part of any amount of Transmission Charges due to be paid by any Covered Entity that the ISO, in its reasonable opinion, believes will not or has not been paid when due.

**Transmission Default Period** is defined in Section 3.4.f of the ISO New England Billing Policy.

**Transmission Late Payment Account** is defined in Section 4.2 of the ISO New England Billing Policy.

**Transmission Late Payment Account Limit** is defined in Section 4.2 of the ISO New England Billing Policy.

**Transmission Late Payment Charge** is defined in Section 4.1 of the ISO New England Billing Policy.

**Transmission, Markets and Services Tariff (Tariff)** is the ISO New England Inc. Transmission, Markets and Services Tariff, as amended from time to time.

**Transmission Obligations** are determined in accordance with Section III.A(vi) of the ISO New England Financial Assurance Policy.

**Transmission Operating Agreement (TOA)** is the Transmission Operating Agreement between and among the ISO and the PTOs, as amended and restated from time to time.

**Transmission Owner** means a PTO, MTO or OTO.

**Transmission Provider** is the ISO for Regional Network Service and Through or Out Service as provided under Section II.B and II.C of the OATT; Cross-Sound Cable, LLC for Merchant Transmission Service as provided under Schedule 18 of the OATT; the Schedule 20A Service Providers for Phase I/II HVDC-TF Service as provided under Schedule 20A of the OATT; and the Participating Transmission Owners for Local Service as provided under Schedule 21 of the OATT.

**Transmission Requirements** are determined in accordance with Section III.A(iii) of the ISO New England Financial Assurance Policy.

**Transmission Security Analysis Requirement** shall be determined pursuant to Section III.12.2.1.2.

**Transmission Service Agreement (TSA)** is the initial agreement and any amendments or supplements thereto: (A) in the form specified in either Attachment A or B to the OATT, entered into by the Transmission Customer and the ISO for Regional Network Service or Through or Out Service; (B) entered into by the Transmission Customer with the ISO and PTO in the form specified in Attachment A to Schedule 21 of the OATT; (C) entered into by the Transmission Customer with an OTO or Schedule 20A Service Provider in the appropriate form specified under Schedule 20 of the OATT; or (D) entered into by the Transmission Customer with a MTO in the appropriate form specified under Schedule 18 of the OATT. A Transmission Service Agreement shall be required for Local Service, MTF Service and OTF Service, and shall be required for Regional Network Service and Through or Out Service if the Transmission Customer has not executed a MPSA.

**Transmission Upgrade(s)** means an upgrade, modification or addition to the PTF that becomes subject to the terms and conditions of the OATT governing rates and service on the PTF on or after January 1, 2004. This categorization and cost allocation of Transmission Upgrades shall be as provided for in Schedule 12 of the OATT.

**UDS** is unit dispatch system software.

**Unconstrained Export Transaction** is defined in Section III.1.10.7(f)(iv) of Market Rule 1.

**Uncovered Default Amount** is defined in Section 3.3(i) of the ISO New England Billing Policy.

**Uncovered Transmission Default Amounts** are defined in Section 3.4.f of the ISO New England Billing Policy.

**Unrated** means a Market Participant that is not a Rated Market Participant.

**Unsecured Covered Entity** is, collectively, an Unsecured Municipal Market Participant and an Unsecured Non-Municipal Covered Entity.

**Unsecured Municipal Default Amount** is defined in Section 3.3(i) of the ISO New England Billing Policy.

**Unsecured Municipal Market Participant** is defined in Section 3.3(h) of the ISO New England Billing Policy.

**Unsecured Municipal Transmission Default Amount** is defined in Section 3.4.f of the ISO New England Billing Policy.

**Unsecured Non-Municipal Covered Entity** is a Covered Entity that is not a Municipal Market Participant or a Non-Market Participant Transmission Customer and has a Market Credit Limit or Transmission Credit Limit of greater than \$0 under the ISO New England Financial Assurance Policy.

**Unsecured Non-Municipal Default Amount** is defined in Section 3.3(i) of the ISO New England Billing Policy.

**Unsecured Non-Municipal Transmission Default Amount** is defined in Section 3.3(i) of the ISO New England Billing Policy.

**Unsecured Transmission Default Amounts** are, collectively, the Unsecured Municipal Transmission Default Amount and the Unsecured Non-Municipal Transmission Default Amount.

**Unsettled FTR Financial Assurance** is an amount of financial assurance required from a Designated FTR Participant as calculated pursuant to Section VI.B of the ISO New England Financial Assurance Policy.



**Updated Measurement and Verification Plan** is an optional Measurement and Verification Plan that may be submitted as part of a subsequent qualification process for a Forward Capacity Auction prior to the beginning of the Capacity Commitment Period of the On-Peak Demand Resource or Seasonal Peak Demand Response project. The Updated Measurement and Verification Plan may include updated project specifications, measurement and verification protocols, and performance data as described in Section III.13.1.4.3.1.2 of Market Rule 1 and the ISO New England Manuals.

**VAR CC Rate** is the CC rate paid to Qualified Reactive Resources for VAR Service capability under Section IV.A of Schedule 2 of the OATT.

**VAR Payment** is the payment made to Qualified Reactive Resources for VAR Service capability under Section IV.A of Schedule 2 of the OATT.

**VAR Service** is the provision of reactive power voltage support to the New England Transmission System by a Qualified Reactive Resource or by other generators that are dispatched by the ISO to provide dynamic reactive power as described in Schedule 2 of the OATT.

**Virtual Cap** is \$2,000/MWh.

**Virtual Requirements** are determined in accordance with Section III.A(iv) of the ISO New England Financial Assurance Policy.

**Volt Ampere Reactive (VAR)** is a measurement of reactive power.

**Volumetric Measure (VM)** is a type of billing determinant under Schedule 2 of Section IV.A of the Tariff used to assess charges to Customers under Section IV.A of the Tariff.

**Wind High Limit** is the estimated power output (MW) of a wind Generator Asset given the Real-Time weather conditions, taking into account equipment outages, and absent any self-imposed reductions in power output or any reduction in power output as a result of a Dispatch Instruction, calculated in the manner described in the ISO Operating Documents.

**Wind Plant Future Availability** is the forecasted Real-Time High Operating Limit of a wind Generator Asset, calculated in the manner described in the ISO Operating Documents.

**Winter ARA Qualified Capacity** is described in Section III.13.4.2.1.2.1.1.2 of Market Rule 1.

**Winter Capability Period** means one of two time periods defined by the ISO for the purposes of rating and auditing resources pursuant to Section III.9. The time period associated with the Winter Capability Period is the period October 1 through May 31.

**Winter Intermittent Reliability Hours** are defined in Section III.13.1.2.2.2.2(c) of Market Rule 1.

**Year** means a period of 365 or 366 days, whichever is appropriate, commencing on, or on the anniversary of March 1, 1997. Year One is the Year commencing on March 1, 1997, and Years Two and higher follow it in sequence.

**Zonal Price** is calculated in accordance with Section III.2.7 of Market Rule 1.

**Zonal Capacity Obligation** is calculated in accordance with Section III.13.7.5.2 of Market Rule 1.

**Zonal Reserve Requirement** is the combined amount of TMSR, TMNSR, and TMOR required for a Reserve Zone as described in Section III.2.7A and ISO New England Operating Procedure No. 8.

## **SCHEDULE 22**

### **LARGE GENERATOR INTERCONNECTION PROCEDURES**

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## **SECTION I. DEFINITIONS**

The definitions contained in this section are intended to apply in the context of the generator interconnection process provided for in this Schedule 22 (and its appendices). To the extent that the definitions herein are different than those contained in Section I.2.2 of the Tariff, the definitions provided below shall control only for purposes of generator interconnections under this Schedule 22. Capitalized terms in Schedule 22 that are not defined in this Section I shall have the meanings specified in Section I.2.2 of the Tariff.

**Administered Transmission System** shall mean the PTF, the Non-PTF, and distribution facilities that are subject to the Tariff.

**Adverse System Impact** shall mean any significant negative effects on the stability, reliability or operating characteristics of the electric system.

**Affected System** shall mean any electric system that is within the Control Area, including, but not limited to, generator owned transmission facilities, or any other electric system that is not within the Control Area that may be affected by the proposed interconnection.

**Affected Party** shall mean the entity that owns, operates or controls an Affected System, or any other entity that otherwise may be a necessary party to the interconnection process.

**Affiliate** shall mean, with respect to a corporation, partnership or other entity, each such other corporation, partnership or other entity that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, such corporation, partnership or other entity.

**Applicable Laws and Regulations** shall mean all duly promulgated applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority.

**Applicable Reliability Council** shall mean the reliability council applicable to the New England Control Area.



**Applicable Reliability Standards** shall mean the requirements and guidelines of NERC, the NPCC and the New England Control Area, including publicly available local reliability requirements of Interconnecting Transmission Owners or other Affected Parties.

**At-Risk Expenditure** shall mean money expended for the development of the Generating Facility that cannot be recouped if the Interconnection Customer were to withdraw the Interconnection Request for the Generating Facility. At-Risk Expenditure may include, but is not limited to, money expended on: (i) costs of federal, state, local, regional and town permits, (ii) Site Control, (iii) site-specific design and surveys, (iv) construction activities, and (v) non-refundable deposits for major equipment components. For purposes of this definition, At-Risk Expenditure shall not include costs associated with the Interconnection Studies.

**Base Case** shall have the meaning specified in Section 2.3.

**Base Case Data** shall mean the Base Case power flow, short circuit, and stability data bases used for the Interconnection Studies by the System Operator, Interconnection Customer, Interconnecting Transmission Owner, or any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements.

**Breach** shall mean the failure of a Party to perform or observe any material term or condition of the Standard Large Generator Interconnection Agreement.

**Breaching Party** shall mean a Party that is in Breach of the Standard Large Generator Interconnection Agreement.

**Calendar Day** shall mean any day including Saturday, Sunday or a Federal Holiday.

**Capacity Capability Interconnection Standard (“CC Interconnection Standard”)** shall mean the criteria required to permit the Interconnection Customer to interconnect a Generating Facility seeking Capacity Network Resource Interconnection Service or an Elective Transmission Upgrade seeking

Capacity Network Import Interconnection Service in a manner that avoids any significant adverse effect on the reliability, stability, and operability of the New England Transmission System, including protecting against the degradation of transfer capability for interfaces affected by the Generating Facility seeking Capacity Network Resource Interconnection Service or an Elective Transmission Upgrade seeking Capacity Network Import Interconnection Service, and in a manner that ensures intra-zonal deliverability by avoidance of the redispatch of other Capacity Network Resources or Elective Transmission Upgrades with Capacity Network Import Interconnection Service, as detailed in the ISO New England Planning Procedures.

**Capacity Network Resource (“CNR”)** shall mean that portion of a Generating Facility that is interconnected to the Administered Transmission System under the Capacity Capability Interconnection Standard.

**Capacity Network Resource Capability (“CNR Capability”)** shall mean the MW quantity associated with CNR Interconnection Service, calculated as described in Section II.48 of the Tariff.

**Capacity Network Resource Group Study (“CNR Group Study”)** shall mean the study performed by the System Operator under Section III.13.1.1.2.3 of the Tariff to determine which resources qualify to participate in a Forward Capacity Auction.

**Capacity Network Resource Interconnection Service (“CNR Interconnection Service”)** shall mean the Interconnection Service selected by the Interconnection Customer to interconnect its Large Generating Facility with the Administered Transmission System in accordance with the Capacity Capability Interconnection Standard. An Interconnection Customer’s CNR Interconnection Service shall be for the megawatt amount of CNR Capability. CNR Interconnection Service does not in and of itself convey transmission service.

**Cluster Enabling Transmission Upgrade (“CETU”)** shall mean new significant transmission line infrastructure that consists of AC transmission lines and related terminal equipment having a nominal voltage rating at or above 115 kV or HVDC transmission lines and HVDC terminal equipment that is identified through the Clustering Enabling Transmission Upgrade Regional Planning Study conducted to

accommodate the Interconnection Requests for which the conditions identified in Section 4.2.1 have been triggered. The CETU shall be considered part of a Generator Interconnection Related Upgrade and be categorized as Interconnection Facilities or Network Upgrades.

**Cluster Enabling Transmission Upgrade Regional Planning Study (“CRPS”)** shall mean a study conducted by the System Operator under Attachment K, Section II of the Tariff to identify the Cluster Enabling Transmission Upgrade and associated system upgrades to enable the interconnection of Interconnection Requests for which the conditions identified in Section 4.2.1 have been triggered.

**Cluster Interconnection Facilities Study (“CFAC”)** shall mean an Interconnection Facilities Study performed using Clustering pursuant to Section 4.2.4.

**Cluster Interconnection System Impact Study (“CSIS”)** shall mean an Interconnection System Impact Study performed using Clustering pursuant to Section 4.2.3.

**Cluster Participation Deposit** shall mean the initial and additional deposit due under Sections 4.2.3.2.2 and 4.2.4.4.

**Cluster Entry Deadline** shall mean the deadline specified in Section 4.2.3.1.

**Clustering** shall mean the process whereby a group of Interconnection Requests is studied together for the purpose of conducting the Interconnection System Impact Study and Interconnection Facilities Study and for the purpose of determining cost responsibility for upgrades identified through the Clustering provisions.

**Commercial Operation** shall mean the status of a Generating Facility that has commenced generating electricity for sale, excluding electricity generated during Trial Operation.

**Commercial Operation Date** of a unit shall mean the date on which the Generating Facility commences Commercial Operation as agreed to by the Parties pursuant to Appendix E to the Standard Large Generator Interconnection Agreement.

**Confidential Information** shall mean any confidential, proprietary or trade secret information of a plan, specification, pattern, procedure, design, device, list, concept, policy or compilation relating to the present or planned business of a Party, which is designated as confidential by the Party supplying the information, whether conveyed orally, electronically, in writing, through inspection, or otherwise. Confidential Information shall include, but not be limited to, information that is confidential pursuant to the ISO New England Information Policy.

**Contingent Facilities** shall mean those unbuilt Interconnection Facilities and Network Upgrades associated with an Interconnection Request with a higher Queue Position or a transmission project that is planned or proposed for the New England Transmission System upon which the Interconnection Request's costs, timing, and study findings are dependent, and if delayed or not built, could cause a need for restudies of the Interconnection Request or a reassessment of the Interconnection Facilities and/or Network Upgrades and/or costs and timing.

**Default** shall mean the failure of a Breaching Party to cure its Breach in accordance with Article 17 of the Standard Large Generator Interconnection Agreement.

**Dispute Resolution** shall mean the procedure for resolution of a dispute between the Parties in which they will first attempt to resolve the dispute on an informal basis.

**Distribution System** shall mean the Interconnecting Transmission Owner's facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries directly from nearby generators or from interchanges with higher voltage transmission networks which transport bulk power over longer distances. The voltage levels at which distribution systems operate differ among areas.

**Distribution Upgrades** shall mean the additions, modifications, and upgrades to the Interconnecting Transmission Owner's Distribution System at or beyond the Point of Interconnection to facilitate interconnection of the Generating Facility and render the transmission service necessary to effect Interconnection Customer's wholesale sale of electricity in interstate commerce. Distribution Upgrades do not include Interconnection Facilities.

**Effective Date** shall mean the date on which the Standard Large Generator Interconnection Agreement becomes effective upon execution by the Parties subject to acceptance by the Commission or if filed unexecuted, upon the date specified by the Commission.

**Emergency Condition** shall mean a condition or situation: (1) that in the judgment of the Party making the claim is likely to endanger life or property; or (2) that, in the case of the Interconnecting Transmission Owner, is likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to the New England Transmission System, Interconnecting Transmission Owner's Interconnection Facilities or any Affected System to which the New England Transmission System is directly connected; or (3) that, in the case of Interconnection Customer, is likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Generating Facility or Interconnection Customer's Interconnection Facilities. System restoration and black start shall be considered Emergency Conditions; provided that Interconnection Customer is not obligated by the Standard Large Generator Interconnection Agreement to possess black start capability.

**Engineering & Procurement ("E&P") Agreement** shall mean an agreement that authorizes the Interconnection Customer, Interconnecting Transmission Owner and any other Affected Party to begin engineering and procurement of long lead-time items necessary for the establishment of the interconnection in order to advance the implementation of the Interconnection Request.

**Environmental Law** shall mean Applicable Laws or Regulations relating to pollution or protection of the environment or natural resources.

**Federal Power Act** shall mean the Federal Power Act, as amended, 16 U.S.C. §§ 791a et seq.

**Force Majeure** shall mean any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. A Force Majeure event does not include acts of negligence or intentional wrongdoing by the Party claiming Force Majeure.

**Generating Facility** shall mean Interconnection Customer's device for the production and/or storage for later injection of electricity identified in the Interconnection Request, but shall not include the Interconnection Customer's Interconnection Facilities.

**Governmental Authority** shall mean any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that such term does not include the System Operator, Interconnection Customer, Interconnecting Transmission Owner, or any Affiliate thereof.

**Hazardous Substances** shall mean any chemicals, materials or substances defined as or included in the definition of "hazardous substances," "hazardous wastes," "hazardous materials," "hazardous constituents," "restricted hazardous materials," "extremely hazardous substances," "toxic substances," "radioactive substances," "contaminants," "pollutants," "toxic pollutants" or words of similar meaning and regulatory effect under any applicable Environmental Law, or any other chemical, material or substance, exposure to which is prohibited, limited or regulated by any applicable Environmental Law.

**Initial Synchronization Date** shall mean the date upon which the Generating Facility is initially synchronized and upon which Trial Operation begins.

**In-Service Date** shall mean the date upon which the Interconnection Customer reasonably expects it will be ready to begin use of the Interconnecting Transmission Owner's Interconnection Facilities to obtain back feed power.

**Interconnecting Transmission Owner** shall mean a Transmission Owner that owns, leases or otherwise possesses an interest, or a Non-Incumbent Transmission Developer that is not a Participating Transmission Owner that is constructing, a portion of the Administered Transmission System at the Point

of Interconnection and shall be a Party to the Standard Large Generator Interconnection Agreement. The term Interconnecting Transmission Owner shall not be read to include the System Operator.

**Interconnecting Transmission Owner's Interconnection Facilities** shall mean all facilities and equipment owned, controlled, or operated by the Interconnecting Transmission Owner from the Point of Change of Ownership to the Point of Interconnection as identified in Appendix A to the Standard Large Generator Interconnection Agreement, including any modifications, additions or upgrades to such facilities and equipment. Interconnecting Transmission Owner's Interconnection Facilities are sole use facilities and shall not include Distribution Upgrades, Stand Alone Network Upgrades or Network Upgrades.

**Interconnection Customer** shall mean any entity, including a transmission owner or its Affiliates or subsidiaries, that interconnects or proposes to interconnect its Generating Facility with the Administered Transmission System under the Standard Large Generator Interconnection Procedures.

**Interconnection Customer's Interconnection Facilities** shall mean all facilities and equipment, as identified in Appendix A of the Standard Large Generator Interconnection Agreement, that are located between the Generating Facility and the Point of Change of Ownership, including any modification, addition, or upgrades to such facilities and equipment necessary to physically and electrically interconnect the Generating Facility to the Administered Transmission System. Interconnection Customer's Interconnection Facilities are sole use facilities.

**Interconnection Facilities** shall mean the Interconnecting Transmission Owner's Interconnection Facilities and the Interconnection Customer's Interconnection Facilities. Collectively, Interconnection Facilities include all facilities and equipment between the Generating Facility and the Point of Interconnection, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the Generating Facility to the Administered Transmission System. Interconnection Facilities are sole use facilities and shall not include Distribution Upgrades, Stand Alone Network Upgrades or Network Upgrades.

**Interconnection Facilities Study** shall mean a study conducted by the System Operator, Interconnecting Transmission Owner, or a third party consultant for the Interconnection Customer to determine a list of facilities (including Interconnecting Transmission Owner's Interconnection Facilities and Network Upgrades as identified in the Interconnection System Impact Study), the cost of those facilities, and the time required to interconnect the Generating Facility with the Administered Transmission System. The scope of the study is defined in Section 8 of the Standard Large Generator Interconnection Procedures.

**Interconnection Facilities Study Agreement** shall mean the form of agreement contained in Appendix 4 of the Standard Large Generator Interconnection Procedures for conducting the Interconnection Facilities Study.

**Interconnection Feasibility Study** shall mean a preliminary evaluation of the system impact and cost of interconnecting the Generating Facility to the Administered Transmission System, the scope of which is described in Section 6 of the Standard Large Generator Interconnection Procedures.

**Interconnection Feasibility Study Agreement** shall mean the form of agreement contained in Appendix 2 of the Standard Large Generator Interconnection Procedures for conducting the Interconnection Feasibility Study.

**Interconnection Request** shall mean an Interconnection Customer's request, in the form of Appendix 1 to the Standard Large Generator Interconnection Procedures, in accordance with the Tariff, to: (i) interconnect a new Generating Facility to the Administered Transmission System as either a CNR or a NR; (ii) make a Material Modification to a proposed Generating Facility with an outstanding Interconnection Request; (iii) increase the energy capability or capacity capability of an existing Generation Facility; (iv) make a Material Modification to the design or operating characteristics of an existing Generating Facility, including its Interconnection Facilities, that is interconnected with the Administered Transmission System; (v) commence participation in the wholesale markets by an existing Generating Facility that is interconnected with the Administered Transmission System; or (vi) change from NR Interconnection Service to CNR Interconnection Service for all or part of a Generating Facility's capability. Interconnection Request shall not include: (i) a retail customer interconnecting a new Generating Facility that will produce electric energy to be consumed only on the retail customer's site; (ii)



a request to interconnect a new Generating Facility to a distribution facility that is subject to the Tariff if the Generating Facility will not be used to make wholesale sales of electricity in interstate commerce; or (iii) a request to interconnect a Qualifying Facility (as defined by the Public Utility Regulatory Policies Act, as amended by the Energy Policy Act of 2005 and the regulations thereto), where the Qualifying Facility's owner intent is to sell 100% of the Qualifying Facility's output to its interconnected electric utility.

**Interconnection Service** shall mean the service provided by the System Operator, and the Interconnecting Transmission Owner, associated with interconnecting the Interconnection Customer's Generating Facility to the Administered Transmission System and enabling the receipt of electric energy capability and/or capacity capability from the Generating Facility at the Point of Interconnection, pursuant to the terms of the Standard Large Generator Interconnection Agreement and, if applicable, the Tariff.

**Interconnection Study** shall mean any of the following studies: the Interconnection Feasibility Study, the Interconnection System Impact Study, the Interconnection Facilities Study and the Optional Interconnection Study described in the Standard Large Generator Interconnection Procedures. Interconnection Study shall not include a CNR Group Study.

**Interconnection Study Agreement** shall mean any of the following agreements: the Interconnection Feasibility Study Agreement, the Interconnection System Impact Study Agreement, the Interconnection Facilities Study Agreement, and the Optional Interconnection Study Agreement attached to the Standard Large Generator Interconnection Procedures.

**Interconnection System Impact Study** shall mean an engineering study that evaluates the impact of the proposed interconnection on the safety and reliability of the Administered Transmission System and any other Affected System, the scope of which is described in Section 7 of the Standard Large Generator Interconnection Procedures. The study shall identify and detail the system impacts that would result if the Generating Facility were interconnected without project modifications or system modifications, focusing on Adverse System Impacts, or to study potential impacts, including but not limited to those identified in the Scoping Meeting as described in the Standard Large Generator Interconnection Procedures.

**Interconnection System Impact Study Agreement** shall mean the form of agreement contained in Appendix 3 of the Standard Large Generator Interconnection Procedures for conducting the Interconnection System Impact Study.

**IRS** shall mean the Internal Revenue Service.

**Large Generating Facility** shall mean a Generating Facility having a maximum gross capability at or above zero degrees F of more than 20 MW.

**Long Lead Time Facility (“Long Lead Facility”)** shall mean a Generating Facility or an Elective Transmission Upgrade with an Interconnection Request for Capacity Network Resource Interconnection Service or Capacity Network Import Interconnection Service, respectively, that has, as applicable, elected or requested long lead time treatment and met the eligibility criteria and requirements specified in Schedule 22 or Schedule 25 of Section II of the Tariff, respectively.

**Loss** shall mean any and all losses relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from another Party’s performance, or non-performance of its obligations under the Standard Large Generator Interconnection Agreement on behalf of the Indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the Indemnifying Party.

**Major Permits** shall be as defined in Section III.13.1.1.2.2.2(a) of the Tariff.

**Material Modification** shall mean: (i) except as expressly provided in Section 4.4.1, those modifications to the Interconnection Request, including any of the technical data provided by the Interconnection Customer in Appendix 1, Attachment A (and Attachment A-1, if applicable) to the Interconnection Request or to the interconnection configuration, requested by the Interconnection Customer, that either require significant additional study of the same Interconnection Request and could substantially change the interconnection design, or have a material impact (*i.e.*, an evaluation of the proposed modification cannot be completed in less than ten (10) Business Days) on the cost or timing of any Interconnection Studies or upgrades associated with an Interconnection Request with a later queue priority date; (ii) a

change to the design or operating characteristics of an existing Generating Facility, including its Interconnection Facilities, that is interconnected with the Administered Transmission System that may have a significant adverse effect on the reliability or operating characteristics of the New England Transmission System; (iii) a delay to the Commercial Operation Date, In-Service Date, or Initial Synchronization Date of greater than three (3) years where the reason for delay is unrelated to construction schedules or permitting which delay is beyond the Interconnection Customer's control; (iv) except as provided in Section 3.2.3.4, a withdrawal of a request for Long Lead Facility treatment; or (v) except as provided in Section 3.2.3.6, an election to participate in an earlier Forward Capacity Auction than originally anticipated.

**Metering Equipment** shall mean all metering equipment installed or to be installed at the Generating Facility pursuant to the Standard Large Generator Interconnection Agreement at the metering points, including but not limited to instrument transformers, MWh-meters, data acquisition equipment, transducers, remote terminal unit, communications equipment, phone lines, and fiber optics.

**Network Capability Interconnection Standard ("NC Interconnection Standard")** shall mean the minimum criteria required to permit the Interconnection Customer to interconnect a Generating Facility seeking Network Resource Interconnection Service or Elective Transmission Upgrade seeking Network Import Interconnection Service in a manner that avoids any significant adverse effect on the reliability, stability, and operability of the New England Transmission System, including protecting against the degradation of transfer capability for interfaces affected by the Generating Facility seeking Network Resource Interconnection Service or Elective Transmission Upgrade seeking Network Import Interconnection Service, as detailed in the ISO New England Planning Procedures.

**Network Resource ("NR")** shall mean the portion of a Generating Facility that is interconnected to the Administered Transmission System under the Network Capability Interconnection Standard.

**Network Resource Capability ("NR Capability")** shall mean the MW quantity associated with NR Interconnection Service, calculated as described in Section II.48 of the Tariff.

**Network Resource Interconnection Service (“NR Interconnection Service”)** shall mean the Interconnection Service selected by the Interconnection Customer to interconnect its Generating Facility to the Administered Transmission System in accordance with the Network Capability Interconnection Standard. An Interconnection Customer’s NR Interconnection Service shall be solely for the megawatt amount of the NR Capability requested pursuant to Section 3.1 of this LGIP. NR Interconnection Service in and of itself does not convey transmission service.

**Network Upgrades** shall mean the additions, modifications, and upgrades to the New England Transmission System required at or beyond the Point of Interconnection to accommodate the interconnection of the Large Generating Facility to the Administered Transmission System.

**Notice of Dispute** shall mean a written notice of a dispute or claim that arises out of or in connection with the Standard Large Generator Interconnection Agreement or its performance.

**Optional Interconnection Study** shall mean a sensitivity analysis based on assumptions specified by the Interconnection Customer in the Optional Interconnection Study Agreement.

**Optional Interconnection Study Agreement** shall mean the form of agreement contained in Appendix 5 of the Standard Large Generator Interconnection Procedures for conducting the Optional Interconnection Study.

**Party** shall mean the System Operator, Interconnection Customer and Interconnecting Transmission Owner or any combination of the above.

**Point of Change of Ownership** shall mean the point, as set forth in Appendix A to the Standard Large Generator Interconnection Agreement, where the Interconnection Customer’s Interconnection Facilities connect to the Interconnecting Transmission Owner’s Interconnection Facilities.

**Point of Interconnection** shall mean the point, as set forth in Appendix A to the Standard Large Generator Interconnection Agreement, where the Interconnection Facilities connect to the Administered Transmission System.

**Provisional Interconnection Service** shall mean Network Resource Interconnection Service provided by the System Operator, and the Interconnecting Transmission Owner, associated with interconnecting the Interconnection Customer's Generating Facility to the Administered Transmission System and enabling the receipt of electric energy capability from the Generating Facility at the Point of Interconnection on a limited and temporary basis, pursuant to the terms of the Provisional Large Generator Interconnection Agreement and, if applicable, the Tariff.

**Provisional Large Generator Interconnection Agreement** shall mean the Interconnection Agreement for Provisional Interconnection Service established between the System Operator, the Interconnecting Transmission Owner, and the Interconnection Customer. This agreement shall take the form of the Standard Large Generator Interconnection Agreement, modified for provisional purposes.

**Queue Position** shall mean the order of a valid request in the New England Control Area, relative to all other pending requests in the New England Control Area, that is established based upon the date and time of receipt of such request by the System Operator. Requests are comprised of interconnection requests for Generating Facilities, Elective Transmission Upgrades, requests for transmission service and notification of requests for interconnection to other electric systems, as notified by the other electric systems, that impact the Administered Transmission System. References to a "higher-queued" Interconnection Request shall mean one that has been received by System Operator (and placed in queue order) earlier than another Interconnection Request, which is referred to as "lower-queued."

**Reasonable Efforts** shall mean, with respect to an action required to be attempted or taken by a Party under the Standard Large Generator Interconnection Agreement, efforts that are timely and consistent with Good Utility Practice and are otherwise substantially equivalent to those a Party would use to protect its own interests.

**Scoping Meeting** shall mean the meeting between representatives of the System Operator, Interconnection Customer, Interconnecting Transmission Owner, or any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality

requirements, conducted for the purpose of discussing alternative interconnection options, to exchange information including any transmission data and earlier study evaluations that would be reasonably expected to impact such interconnection options, to analyze such information, and to determine the potential feasible Points of Interconnection.

**Site Control** shall mean documentation reasonably demonstrating: (a) that the Interconnection Customer is the owner in fee simple of the real property or holds an easement for which new interconnection is sought; (b) that the Interconnection Customer holds a valid written leasehold or other contractual interest in the real property for which new interconnection is sought; (c) that the Interconnection Customer holds a valid written option to purchase or a leasehold interest in the real property for which new interconnection is sought; (d) that the Interconnection Customer holds a duly executed written contract to purchase, acquire an easement, a license or a leasehold interest in the real property for which new interconnection is sought; or (e) that the Interconnection Customer has filed applications for required permits to site on federal or state property.

**Stand Alone Network Upgrades** shall mean Network Upgrades that are not part of an Affected System that an Interconnection Customer may construct without affecting day-to-day operations of the New England Transmission System during their construction. The System Operator, Interconnection Customer, and Interconnecting Transmission Owner must agree as to what constitutes Stand Alone Network Upgrades and identify them in Appendix A to the Standard Large Generator Interconnection Agreement. If the System Operator, Interconnecting Transmission Owner, and Interconnection Customer disagree about whether a particular Network Upgrade is a Stand Alone Network Upgrade, the System Operator must provide the Interconnection Customer a written technical explanation outlining why the System Operator does not consider the Network Upgrade to be a Stand Alone Network Upgrade within 15 days of its determination.

**Standard Large Generator Interconnection Agreement (“LGIA”)** shall mean the form of interconnection agreement applicable to an Interconnection Request pertaining to a Large Generating Facility, that is included in this Schedule 22 to the Tariff.

**Standard Large Generator Interconnection Procedures (“LGIP”)** shall mean the interconnection procedures applicable to an Interconnection Request pertaining to a Large Generating Facility that are included in this Schedule 22 to the Tariff.

**Study Case** shall have the meaning specified in Sections 6.2 and 7.3 of this LGIP.

**Surplus Interconnection Service** shall mean a form of Interconnection Service that allows an Interconnection Customer to use any Unused Capability of Interconnection Service established in an Interconnection Agreement for an existing Generating Facility that has achieved Commercial Operation, such that if Surplus Interconnection Service is utilized the total amount of Interconnection Service at the same Point of Interconnection would remain the same.

**System Protection Facilities** shall mean the equipment, including necessary signal protection communications equipment, required to protect (1) the New England Transmission System from faults or other electrical disturbances occurring at the Generating Facility and (2) the Generating Facility from faults or other electrical system disturbances occurring on the New England Transmission System or on other delivery systems or other generating systems to which the New England Transmission System is directly connected.

**Trial Operation** shall mean the period during which Interconnection Customer is engaged in on-site test operations and commissioning of the Generating Facility prior to Commercial Operation.

**Unused Capability** shall mean: (i) in the case of NR Interconnection Service at an existing, commercial Generating Facility, the MW quantity as determined by the Original Interconnection Customer (as defined in Section 3.3 of the LGIP), not to exceed the existing, commercial Generating Facility’s NR Interconnection Service; and (ii) in the case of CNR Interconnection Service at an existing, commercial Generating Facility, for Summer, the Summer CNR Capability minus the latest Summer Qualified Capacity, and for Winter, the Winter CNR Capability minus the latest Winter Qualified Capacity.

## **SECTION 2. SCOPE, APPLICATION AND TIME REQUIREMENTS.**

## **2.1 Application of Standard Large Generator Interconnection Procedures.**

The LGIP and LGIA shall apply to Interconnection Requests pertaining to Large Generating Facilities. Except as expressly provided in the LGIP and LGIA, nothing in the LGIP or LGIA shall be construed to limit the authority or obligations that the Interconnecting Transmission Owner or System Operator, as applicable, has with regard to ISO New England Operating Documents.

## **2.2 Comparability.**

The System Operator shall receive, process and analyze all Interconnection Requests in a timely manner as set forth in this LGIP. The System Operator and Interconnecting Transmission Owner will use the same Reasonable Efforts in processing and analyzing Interconnection Requests from all Interconnection Customers, whether the Generating Facilities are owned by the Interconnecting Transmission Owner, its subsidiaries or Affiliates, or others.

## **2.3 Base Case Data.**

System Operator shall maintain Base Case power flow, short circuit and stability databases, including all underlying assumptions, and contingency lists on a secured location on the System Operator's website. For the purposes of this provision, Base Case Data may include the electromagnetic transient network model that does not include proprietary electromagnetic transient equipment models. System Operator shall provide access to such information located on a secured location on the System Operator's website, subject to the confidentiality provisions of Section 13.1 and the ISO New England Information Policy as well as any other applicable requirement under Applicable Laws and Regulations regulating disclosure or confidentiality of such information. System Operator shall maintain network models and underlying assumptions on a secured location on the System Operator's website. Such network models and underlying assumptions should reasonably represent those used during the most recent Interconnection Study and be representative of current system conditions as of the most recent Interconnection Study. The databases and lists addressed in this Section 2.3, hereinafter referred to as Base Cases, shall include all generation projects and transmission projects that are proposed for the New England Transmission System and any Affected System and for which a transmission expansion plan has been submitted and approved by the applicable authority and which, in the sole judgment of the System Operator, may have an impact on the Interconnection Request. The Interconnection Customer, where applicable, shall



provide Base Case Data to the Interconnecting Transmission Owner and System Operator to facilitate required Interconnection Studies.

System Operator shall provide a link to the secured location on its website that contains the information required under this Section 2.3 on System Operator's OASIS site. System Operator is permitted to require that Interconnection Customers or their third party consultants, OASIS site users, and users of the secured location on System Operator's website sign a confidentiality agreement before the release of information governed by Section 13.1 or the ISO New England Information Policy, or the release of any other information that is commercially sensitive or Critical Energy Infrastructure Information.

#### **2.4 No Applicability to Transmission Service.**

Nothing in this LGIP shall constitute a request for, nor the provision of, any service except for Interconnection Service, including, but not limited to, transmission delivery service, local delivery service, distribution service, capacity service, energy service or Ancillary Services under any applicable tariff, and does not convey any right to deliver electricity to any specific customer or Point of Delivery.

#### **2.5 Time Requirements.**

Parties that must perform a specific obligation under a provision of the Standard Large Generator Interconnection Procedure or Standard Large Generator Interconnection Agreement within a specified time period shall use Reasonable Efforts to complete such obligation within the applicable time period. A Party may, in the exercise of reasonable discretion and within the time period set forth by the applicable procedure or agreement, request that the relevant Party consent to a mutually agreeable alternative time schedule, such consent not to be unreasonably withheld.

### **SECTION 3. INTERCONNECTION REQUESTS.**

#### **3.1 General.**

To initiate an Interconnection Request, an Interconnection Customer must comply with all of the requirements set forth in Section 3.4.1. The Interconnection Customer shall submit a separate Interconnection Request for each site and may submit multiple Interconnection Requests for a single site.

The Interconnection Customer must comply with the requirements specified in Section 3.4.1 for each Interconnection Request even when more than one request is submitted for a single site.

Within three (3) Business Days after its receipt of a valid Interconnection Request, System Operator shall submit a copy of the Interconnection Request to Interconnecting Transmission Owner.

At Interconnection Customer's option, System Operator, Interconnection Customer, Interconnecting Transmission Owner, and any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements, will identify alternative Point(s) of Interconnection and configurations at the Scoping Meeting to evaluate in this process and attempt to eliminate alternatives in a reasonable fashion given resources and information available. Interconnection Customer will select the definitive Point(s) of Interconnection to be studied no later than the execution of the Interconnection Feasibility Study Agreement, or the Interconnection System Impact Study Agreement if the Interconnection Customer elects not to pursue the Interconnection Feasibility Study.

System Operator shall consider requests for Interconnection Service below the Large Generating Facility capability. An Interconnection Customer that submits an Interconnection Request for Interconnection Service below the Large Generating Facility capability shall include in the Interconnection Request the proposed control technologies to restrict the Large Generating Facility's output to the requested Interconnection Service levels. These requests for Interconnection Service shall be studied at the level of Interconnection Service requested for purposes of determining necessary Interconnection Facilities, Network Upgrades, and associated costs, and the requests shall be studied at the full Generating Facility capability to ensure the acceptability of the proposed control technology to restrict the facility's output and the safety and reliability of the system, with the study costs borne by the Interconnection Customer.

Interconnection Customers may be subject to additional control technologies as well as testing and validation of those technologies consistent with Article 6 of the LGIA. The necessary control technologies and protection systems shall be established in Appendix C of the executed, or requested to be filed unexecuted, LGIA.

All deposits that must be submitted to the System Operator under this LGIP must be delivered to the System Operator's bank account by electronic transfer within the period specified in the respective provision. A deposit will not be considered received until it is in the System Operator's bank account.

### **3.2 Type of Interconnection Services and Long Lead Time Facility Treatment**

At the time the Interconnection Request is submitted, the Interconnection Customer must request either CNR Interconnection Service or NR Interconnection Service, as described in Sections 3.2.1 and 3.2.2 below. An Interconnection Customer that meets the requirements to obtain CNR Interconnection Service shall obtain NR Interconnection Service up to the NR Capability upon completion of all requirements for NR Interconnection Service, including all necessary upgrades. Upon completion of all requirements for the CNR Interconnection Service, the Interconnection Customer shall also receive CNR Interconnection Service for CNR Capability. An Interconnection Customer that meets the requirements to obtain NR Interconnection Service shall receive NR Interconnection Service for the Interconnection Customer's NR Capability. At the time the Interconnection Request is submitted, the Interconnection Customer may also request Long Lead Facility treatment in accordance with Section 3.2.3.

#### **3.2.1 Capacity Network Resource Interconnection Service**

##### **3.2.1.1 The Product.**

The System Operator must conduct the necessary studies in conjunction with the Interconnecting Transmission Owner, and with other Affected Parties as appropriate and in accordance with applicable codes of conduct and confidentiality requirements, and the Interconnecting Transmission Owner and other Affected Parties as appropriate must construct the Network Upgrades needed to interconnect the Large Generating Facility in a manner comparable to that in which CNRs are interconnected under the CC Interconnection Standard. CNR Interconnection Service allows the Interconnection Customer's Large Generating Facility to be designated as a CNR, and to participate in the New England Markets, in accordance with Market Rule 1, Section III of the Tariff, up to the CNR Capability or as otherwise provided in the Tariff, on the same basis as existing CNRs, and to be studied as a CNR on the assumption that such a designation will occur.

##### **3.2.1.2 The Studies.**

All Interconnection Studies for CNR Interconnection Service shall assure that the Interconnection Customer's Large Generating Facility satisfies the minimum characteristics required to interconnect in a manner that avoids any significant adverse effect on the reliability, stability, and operability of the New England Transmission System, including protecting against the degradation of transfer capability for interfaces affected by the unit. The CNR Group Study for CNR Interconnection Service shall assure that the Interconnection Customer's Large Generating Facility can be interconnected in a manner that ensures intra-zonal deliverability by avoidance of the redispatch of other CNRs and Elective Transmission Upgrades with CNI Interconnection Service, in accordance with the CC Interconnection Standard and as detailed in the ISO New England Planning Procedures. The System Operator, in coordination with the Interconnecting Transmission Owner, may also study the New England Transmission System under non-peak load conditions. However, upon request by the Interconnection Customer, the System Operator and as appropriate the Interconnecting Transmission Owner must explain in writing to the Interconnection Customer why the study of non-peak load conditions is required for reliability purposes.

#### **3.2.1.3 Milestones for CNR Interconnection Service.**

In addition to the requirements set forth in this LGIP, an Interconnection Customer with an Interconnection Request for CNR Interconnection Service shall complete the following milestones prior to receiving CNR Interconnection Service for the CNR Capability, such milestones to be specified in Appendix B of the LGIA, as either completed or to be completed: (i) submit the necessary requests for participation in the Forward Capacity Auction associated with the Generating Facility's requested Commercial Operation Date (except as modified pursuant to Sections 3.2.3 or 4.4 of this LGIP), in accordance with the provisions of Section III.13 of the Tariff; (ii) participate in a CNR Group Study for the Forward Capacity Auction associated with the requested Generating Facility's Commercial Operation Date; (iii) qualify and receive a Capacity Supply Obligation in accordance with Section III.13 of the Tariff; and (iv) complete a re-study of the applicable Interconnection Study and CNR Group Study after the Forward Capacity Auction, Reconfiguration Auction, or bilateral transaction through which the Interconnection Customer received a Capacity Supply Obligation to determine the cost responsibility for facilities and upgrades necessary to accommodate the Interconnection Request. The re-study shall include those CNR Interconnection Service or CNI Interconnection Service Interconnection Requests with a higher Queue Position that cleared and shall exclude any upgrades that are no longer necessary as a result of existing capacity that will be retired as of the start of the Capacity Commitment Period for which

the resource has received a Capacity Supply Obligation. With respect to (iv) above, if an Interconnection Study Agreement has been executed, the Interconnection Study associated with the Interconnection Study Agreement shall include the necessary analysis that would otherwise have been performed in a re-study. If the original Interconnection Study is complete and the final invoice has been issued, the re-study shall be performed under a new Interconnection Study Agreement. If an LGIA has been either executed or filed with the Commission in unexecuted form, then the last Interconnection Study completed for the Interconnection Customer under this LGIP shall be subject to re-study. The Appendices to the LGIA shall be amended (pursuant to Article 30 of the LGIA) to reflect CNR Capability and the results of the re-study.

### **3.2.2 Network Resource Interconnection Service**

#### **3.2.2.1 The Product.**

The System Operator must conduct the necessary studies in conjunction with the Interconnecting Transmission Owner, and with other Affected Parties as appropriate and in accordance with applicable codes of conduct and confidentiality requirements, and the Interconnecting Transmission Owner and other Affected Parties as appropriate must construct the Network Upgrades needed to interconnect the Large Generating Facility in a manner comparable to that in which Network Resources are interconnected under the NC Interconnection Standard. NR Interconnection Service allows the Interconnection Customer's Large Generating Facility to participate in the New England Markets, in accordance with the provisions of Market Rule 1, Section III of the Tariff, up to the net NR Capability or as otherwise provided in Market Rule 1, Section III of the Tariff, on the same basis as other Network Resources. Notwithstanding the above, the portion of a Large Generating Facility that has been designated as a Network Resource interconnected under the NC Interconnection Standard cannot be a capacity resource under Section III.13 of the Tariff, except pursuant to a new Interconnection Request for CNR Interconnection Service.

#### **3.2.2.2 The Studies.**

The Interconnection Studies for an Network Resource shall assure that the Interconnection Customer's Large Generating Facility satisfies the minimum characteristics required to interconnect in a manner that avoids any significant adverse effect on reliability, stability, and operability of the New England

Transmission System, including protecting against the degradation of transfer capability for interfaces affected by the unit, in accordance with the NC Interconnection Standard and as detailed in the ISO New England Planning Procedures. The System Operator, in coordination with the Interconnecting Transmission Owner, may also study the New England Transmission System under non-peak load conditions. However, upon request by the Interconnection Customer, the System Operator and as appropriate the Interconnecting Transmission Owner must explain in writing to the Interconnection Customer why the study of non-peak load conditions is required for reliability purposes.

### **3.2.2.3 Milestones for NR Interconnection Service.**

An Interconnection Customer with an Interconnection Request for NR Interconnection Service shall complete the requirements in this LGIP prior to receiving NR Interconnection Service.

## **3.2.3 Long Lead Time Facility Treatment**

### **3.2.3.1 Treatment of Long Lead Facilities.**

Long Lead Facilities receive the treatment described herein in connection with the associated request of the Interconnection Customer for CNR Interconnection Service for its Large Generating Facility or CNI Interconnection Service for its External ETU that is a controllable Merchant Transmission Facility or Other Transmission Facility. Long Lead Facility treatment provides for the Interconnection Customer's Generating Facility or controllable Merchant Transmission Facility or Other Transmission Facility External ETU, after the completion of the Interconnection System Impact Study, to be modeled in the Base Cases for the next CNR Group Study to determine whether the Long Lead Facility would have qualified or enabled the qualification of an Import Capacity Resource to participate in the Forward Capacity Auction associated with that CNR Group Study, in accordance with Section III.13.1.2 of the Tariff, but for the Long Lead Facility's development cycle (which shall include development of required transmission upgrades). If the Long Lead Facility is deemed to qualify or have enabled an associated Import Capacity Resource to qualify, the Long Lead Facility shall be included in the re-study pursuant to Section 3.2.1.3(iv) in order to determine the facilities and upgrades that would be necessary in order to accommodate the Interconnection Request of the Long Lead Facility, and for which costs the Interconnection Customer must be responsible. In order to maintain Long Lead Facility status, the Interconnection Customer must commit to the completion of these facilities and upgrades in time to allow

the Long Lead Facility to achieve its Commercial Operation Date by the start of the associated Capacity Commitment Period. In addition, the Long Lead Facility will be treated as a New Generating Capacity Resource in the case of a Generating Facility or as if an Import Capacity Resource associated with the Long Lead Facility cleared in the case of an External ETU for the sole purpose of inclusion of the Long Lead Facility in the CNR Group Studies for the Forward Capacity Auctions that precede the Forward Capacity Auction for the Capacity Commitment Period by which the Long Lead Facility is expected to have achieved Commercial Operation. If an earlier-queued Generating Facility seeking CNR Interconnection Service or an Import Capacity Resource associated with an Elective Transmission Upgrade that is seeking CNI Interconnection Service obtains a Capacity Supply Obligation in a Forward Capacity Auction prior to or simultaneous with the Forward Capacity Auction in which the Long Lead Facility or its contractual counterparty in the case of an Elective Transmission Upgrade obtains a Capacity Supply Obligation, the Long Lead Facility will be re-studied in order to determine whether any additional facilities and upgrades to those identified prior to the CNR Group Study must be completed, at the Interconnection Customer's cost, prior to its Commercial Operation Date. A Long Lead Facility's cost responsibility for the facilities necessary to accommodate the Interconnection Request shall not be impacted by a Generating Facility or an External ETU with a Queue Position lower than the Long Lead Facility or its counterparty in the case of an External ETU that clears in a Forward Capacity Auction, in accordance with Section III.13.2 of the Tariff, prior to the clearance of the Long Lead Facility.

#### **3.2.3.2 Request for Long Lead Facility Treatment.**

An Interconnection Customer requesting CNR Interconnection Service for its proposed Generating Facility or CNI Interconnection Service for its proposed controllable Merchant Transmission Facility or Other Transmission Facility External ETU, which the Interconnection Customer projects to have a development cycle that would not be completed until after the beginning of the Capacity Commitment Period associated with the next Forward Capacity Auction (after the election for the Long Lead Facility is made) may elect or request Long Lead Facility treatment in the following manner:

- (a) An Interconnection Customer proposing a Generating Facility or a controllable Merchant Transmission Facility or Other Transmission Facility External ETU with a requested CNR Interconnection Service or CNI Interconnection Service equal to or greater than 100 MW may

elect Long Lead Facility treatment at the time the Interconnection Request is submitted, together with the critical path schedule and deposits required in Section 3.2.3.3.

**(b)** An Interconnection Customer proposing a Generating Facility or a controllable Merchant Transmission Facility or Other Transmission Facility External ETU with a requested CNR Interconnection Service or CNI Interconnection Service under 100 MW may request Long Lead Facility treatment by submitting a written request to the System Operator for its review and approval, explaining why the Generating Facility or the controllable Merchant Transmission Facility or Other Transmission Facility External ETU cannot achieve Commercial Operation by the beginning of the Capacity Commitment Period associated with the next Forward Capacity Auction (after the election for Long Lead Facility treatment is made), together with the critical path schedule and deposits required in Section 3.2.3.3. In reviewing the request, the System Operator shall evaluate the feasibility of the Generating Facility or the controllable Merchant Transmission Facility or Other Transmission Facility External ETU achieving Commercial Operation to meet an earlier Capacity Commitment Period based on the information provided in the request and the critical path schedule submitted pursuant to Section 3.2.3.3, in a manner similar to that performed under Section III.13.3.2 of the Tariff. Within forty-five (45) Business Days after its receipt of the request for Long Lead Facility treatment, the System Operator shall notify the Interconnection Customer in writing whether the request has been granted or denied. If the System Operator determines that the Generating Facility or the controllable Merchant Transmission Facility or Other Transmission Facility External ETU can achieve a Commercial Operation Date prior to the beginning of the Capacity Commitment Period associated with the next Forward Capacity Auction, the Interconnection Customer's request shall be denied. The dispute resolution provisions of the LGIP in the case of a Generating Facility or the ETU IP for an External ETU are not available for disputes or claims associated with the ISO's determination to deny an Interconnection Customer's request for Long Lead Facility treatment.

**(c)** An Interconnection Customer that did not request Long Lead Facility treatment at the time the Interconnection Request was submitted, may thereafter submit a request for treatment as a Long Lead Facility, together with the critical path schedule and deposits required in Section 3.2.3.3 and, if applicable, a request for an extension of the Commercial Operation Date specified



in the Interconnection Request in accordance with Sections 4.4.4 and 4.4.5. A request for Long Lead Facility treatment that is submitted after the initial Interconnection Request will not be eligible to participate in any Forward Capacity Auction prior to the Forward Capacity Auction associated with the extended Commercial Operation Date. The Long Lead Facility will be modeled in the Base Cases for the CNR Study Group associated with the near term Forward Capacity Auction unless that CNR Study Group is underway, in which case the Long Lead Facility will be modeled in the next CNR Study Group.

### **3.2.3.3 Critical Path Schedule and Deposits for Long Lead Facility Treatment.**

At the time an Interconnection Customer submits an election or request for Long Lead Facility treatment, the Interconnection Customer must submit, together with the request:

**(1) Critical Path Schedule.** A critical path schedule, in writing, for the Long Lead Facility (with a development cycle that would not be completed until after the beginning of the Capacity Commitment Period associated with the next Forward Capacity Auction (after the election for the Long Lead Facility is made) that meets the requirements set forth in Section III.13.1.1.2.2.2 of the Tariff. The Interconnection Customer must submit annually, in writing, an updated critical path schedule to the System Operator by the closing deadline of each New Capacity Show of Interest Submission Window that precedes the Forward Capacity Auction associated with the Capacity Commitment Period by which the Long Lead Facility is expected to have achieved Commercial Operation, prior to the inclusion of the Long Lead Facility in the Base Case for the CNR Group Study associated with the corresponding New Capacity Show of Interest Submission Window. With its annual update, for each critical path schedule milestone achieved since the submission of the previous critical path schedule update, the Interconnection Customer must include in the critical path update documentation demonstrating that the milestone has been achieved by the date indicated and as otherwise described in the critical path schedule.

### **(2) Long Lead Facility Deposits.**

**(a) Deposits.** In addition to the deposits required elsewhere in the LGIP in the case of a Generating Facility or the ETU IP for External ETU, at the time of its request for Long Lead

Facility treatment, in accordance with Section 3.2.3.3, and by each deadline for which a New Generating Capacity Resource is required to provide financial assurance under Section III.13.1.9.1 of the Tariff, the Interconnection Customer must provide a separate deposit in the amount of  $0.25 * (\text{Forward Capacity Auction Starting Price } (\$/\text{kW-mo}) / 2) * \text{requested CNR Capability or CNI Capability}$ . For each calculation of the deposit, the System Operator shall use the Forward Capacity Auction Starting Price in effect for the upcoming Forward Capacity Auction at the time of that calculation, pursuant to Section III.13.2.4 of the Tariff, or the Forward Capacity Auction Starting Price for the previous Forward Capacity Auction in the case where the Forward Capacity Auction Starting Price in effect for the upcoming Forward Capacity Auction has not yet been calculated. The total amount of deposits shall not exceed the Non-Commercial Capacity Financial Assurance Amount that the Long Lead Facility would be required to provide if the Long Lead Facility or its counterparty cleared in the upcoming Forward Capacity Auction, in accordance with Section III.13.1.9.1 of the Tariff. The Long Lead Facility deposits will be fully refunded (with interest to be calculated in accordance with Section 3.7) (i) if the Interconnection Customer withdraws the Interconnection Request, pursuant to Section 3.7, within thirty (30) Calendar Days of the Scoping Meeting or of the completion of the System Impact Study (including restudy of the System Impact Study), pursuant to Section 7, or (ii) once the Long Lead Facility or its counterparty clears in a Forward Capacity Auction.

**(b) Reductions.** Ten (10) percent of the Long Lead Facility deposits collected pursuant to Section 3.2.3.3(2)(a) shall be non-refundable if the Interconnection Customer withdraws its Interconnection Request (except as provided in Section 3.2.3.3(2)(a)) after the Long Lead Facility or its counterparty fails to qualify or qualifies and fails to clear in the Forward Capacity Auction that follows the first Forward Capacity Auction for which the Long Lead Facility or its counterparty could qualify based on the Commercial Operation Date specified in the initial critical path schedule for the Long Lead Facility. An additional five (5) percent of the Long Lead Facility deposits collected pursuant to Section 3.2.3.3(2)(a) shall be non-refundable if the Interconnection Customer withdraws its Interconnection Request (except as provided in Section 3.2.3.3(2)(a)) following each subsequent Forward Capacity Auction in which the Long Lead Facility or its counterparty fails to qualify or qualifies and fails to clear such Forward Capacity Auction, not to exceed the maximum period allowed under Sections 3.4.1, 4.4.4 and 4.4.5. The

non-refundable portions of the deposits shall be credited to the revenue requirements under Schedule 1 of Section IV of the Tariff.

#### **3.2.3.4 Withdrawal and Refunds After Expenditures for Upgrades.**

An Interconnection Customer that provides documentation in the critical path schedule update to be submitted in accordance with Section 3.2.3.3(1), showing expenditures of the required amounts for upgrades identified in the Interconnection Studies for the Long Lead Facility, may submit a withdrawal of the Interconnection Request for the Long Lead Facility, in accordance with Section 3.7, at any time up to thirty (30) Calendar Days, after the Long Lead Facility's or its counterparty's failure to clear in any Forward Capacity Auction. In such instance, the Interconnection Customer shall receive a refund from the System Operator of the Long Lead Facility deposits (with interest to be calculated in accordance with Section 3.7) as adjusted pursuant to 3.2.3.3(2), if appropriate, and from the Interconnecting Transmission Owner a refund of the payments for the upgrades that exceed the costs incurred by the Interconnecting Transmission Owner. If the Interconnection Customer withdraws only its election or request for Long Lead Facility treatment, such withdrawal will be considered a Material Modification and the Long Lead Facility will lose its Queue Position unless its withdrawal occurs within one of the thirty (30)-day periods described in Section 3.2.3.3(2) of the LGIP in the case of a Generating Facility or the ETU IP for an External ETU.

#### **3.2.3.5 Additional Requirements to Maintain Long Lead Facility Treatment.**

An Interconnection Customer with a Long Lead Facility must begin payment as required by the transmission expenditure schedule for the transmission upgrade costs that have been identified in the pertinent Interconnection Studies. The Interconnection Request for CNR Interconnection Service shall be deemed withdrawn under Section 3.7 if the Interconnection Customer fails to comply with the requirements for Long Lead Facility treatment, including the milestones specified in Section 3.2.1.4. In this circumstance, the conditions specified in an Interconnection Agreement for a Generating Facility seeking CNR Interconnection Service or External ETU seeking CNI Interconnection Service that had an Interconnection Request of a Queue Position lower than the Long Lead Facility, but cleared (in the case of the Elective Transmission Upgrade, the Import Capacity Resource) in a Forward Capacity Auction prior to the Long Lead Facility, shall be removed.

### **3.2.3.6 Participation in Earlier Forward Capacity Auctions.**

An Interconnection Customer with a Long Lead Facility may, without loss of Queue Position, elect to participate in an earlier Forward Capacity Auction than originally anticipated, but only if the election to accelerate is made to the System Operator in writing within thirty (30) Calendar Days of the Scoping Meeting or within thirty (30) Calendar Days of the completion of the System Impact Study (but before the Long Lead Facility and the results of the associated System Impact Study are incorporated into the Base Cases). Otherwise, such an election shall be considered a Material Modification.

### **3.3 Utilization of Surplus Interconnection Service.**

Surplus Interconnection Service allows an existing Interconnection Customer whose Generating Facility is already interconnected to the Administered Transmission System and is in Commercial Operation to utilize or transfer Surplus Interconnection Service at the existing Generating Facility's existing Point of Interconnection. For purposes of Surplus Interconnection Service, the existing Interconnection Customer is referred to as the "Original Interconnection Customer," and the entity requesting Surplus Interconnection Service is referred to as the "Surplus Interconnection Customer." The Original Interconnection Customer or, with written consent of the Original Interconnection Customer, one of its affiliates shall have priority to utilize Surplus Interconnection Service. If the Original Interconnection Customer or one of its affiliates does not exercise this priority, then the Surplus Interconnection Service may be utilized by a third party of the Original Interconnection Customer's choosing and with the Original Interconnection Customer's written consent.

Surplus Interconnection Service may be available for any Unused Capability of Interconnection Service established in the Interconnection Agreement for the Original Interconnection Customer's Generating Facility. If the Interconnection Agreement for the Original Interconnection Customer's Generating Facility is for CNR Interconnection Service, any Surplus Interconnection Service may be for CNR Interconnection Service or NR Interconnection Service. If the Interconnection Agreement for the Original Interconnection Customer's Generating Facility is for NR Interconnection Service, any Surplus Interconnection Service shall be for NR Interconnection Service. Surplus Interconnection Service is not applicable when a new Interconnection Request for Interconnection Service or Network Upgrades would be required to implement the proposed

change to the Original Interconnection Customer's Generating Facility. Surplus Interconnection Service is also not available for a retirement or repowering of the Original Interconnection Customer's Generating Facility.

The Original Interconnection Customer shall specify the amount of Unused Capability that is available for use by the Surplus Interconnection Customer's Generating Facility. The total output of the Original Interconnection Customer's Generating Facility plus the Surplus Interconnection Customer's Generating Facility behind the same Point of Interconnection shall be limited to the maximum total amount of Interconnection Service granted to the Original Interconnection Customer as established in the Interconnection Agreement for the Original Interconnection Customer's Generating Facility. Control technology to restrict the total output of the Original Interconnection Customer's and Surplus Interconnection Customer's Generating Facilities shall be required in the case where the sum of the maximum output of the Original Interconnection Customer's Generating Facility plus the maximum output of the Surplus Interconnection Customer's Generating Facility exceeds the total amount of Interconnection Service established in the Original Interconnection Customer's Interconnection Agreement. Surplus Interconnection Service shall only be available at the existing Point of Interconnection of the Original Interconnection Customer's Generating Facility.

### **3.3.1 Surplus Interconnection Service Request**

An Original Interconnection Customer or, with the consent of the Original Interconnection Customer, its affiliate or a third party of the Original Interconnection Customer's choosing may request Surplus Interconnection Service by submitting to the System Operator a completed Surplus Interconnection Service Request Application in the form contained in Attachment C to Appendix 1 of the LGIP. The Surplus Interconnection Service Request Application shall be accompanied by the Original Interconnection Customer's written consent for the Surplus Interconnection Customer's use of Unused Capability for Surplus Interconnection Service, and the technical data called for in the form.

Studies for Surplus Interconnection Service may consist of reactive power, short circuit/fault duty, stability analyses, and/or other appropriate studies. Steady-state (thermal/voltage) analyses

may be performed as necessary to ensure that all required reliability conditions are studied. The study shall consider the full Generating Facility capability to ensure the acceptability of the proposed control technology to restrict the total output of the Original Interconnection Customer's and Surplus Interconnection Customer's Generating Facilities. If the Surplus Interconnection Service was not studied under off-peak conditions, off-peak steady state analyses shall be performed to the required level necessary to demonstrate reliable operation of the Surplus Interconnection Service. If the original Interconnection System Impact Study is not available for Surplus Interconnection Service, both off-peak and peak analysis may need to be performed for the existing Generating Facility associated with the request for Surplus Interconnection Service. The reactive power, short circuit/fault duty, stability, and steady-state analyses for Surplus Interconnection Service will identify any additional Interconnection Facilities and/or Network Upgrades necessary. Any analyses shall be performed at the Surplus Interconnection Customer's expense.

The Interconnection Agreement for the Original Interconnection Customer's Generating Facility shall be replaced by a new agreement among the System Operator, Interconnecting Transmission Owner, Original Interconnection Customer, and Surplus Interconnection Customer. The agreement shall be in the form of the most currently effective LGIA, modified to reflect the Surplus Interconnection Customer's Generating Facility and the amount of, and the terms for the use of, the Surplus Interconnection Service. The agreement shall be developed and negotiated in accordance with Section 11 of the LGIP, at the Surplus Interconnection Customer's expense.

### **3.4 Valid Interconnection Request.**

#### **3.4.1 Initiating an Interconnection Request.**

To initiate and establish a valid Interconnection Request, Interconnection Customer must submit all of the following to the System Operator in the manner specified in Appendix 1 Interconnection Request to this LGIP: (i) an initial deposit of \$50,000, (ii) a completed application in the form of Appendix 1, (iii) all information and deposits required under Section 3.2, and (iv) in the case of a request for CNR Interconnection Service, demonstration of Site Control or, in the case of a request for NR Interconnection Service, demonstration of Site Control or a posting of an additional deposit of \$10,000. Interconnection

Customer does not need to demonstrate Site Control where the Interconnection Request is for a modification to the Interconnection Customer's existing Large Generating Facility and the Interconnection Customer has certified in the Interconnection Request that it has Site Control and that the modification proposed in the Interconnection Request does not require additional real property. The portions of the deposit of \$50,000 that have not been applied as provided in this Section 3.4.1 shall be refundable if (i) the Interconnection Customer withdraws the Interconnection Request, pursuant to Section 3.7, within ten (10) Business Days of the Scoping Meeting, (ii) the Interconnection Customer that is eligible for inclusion in a CSIS withdraws the Interconnection Request, pursuant to Section 4.2.3.2.1, by the Cluster Entry Deadline, (iii) the Interconnection Customer that is eligible for inclusion in a CSIS requests, by the Cluster Entry Deadline, to be re-assigned a Queue Position at the bottom of the queue, pursuant to Section 4.2.3.2.1, in relative order with any other Interconnection Request also requesting to be re-queued pursuant to Section 4.2.3.2.1, in which case the unused balance of the deposit of \$50,000 (and any study-related deposits, if any have been submitted) shall be applied toward the re-queued Interconnection Request's initial deposit of \$50,000 and any remaining balance will be refunded, or (iv) if the Interconnection Customer executes an LGIA. Otherwise, any unused balance of the deposit of \$50,000 shall be non-refundable and applied on a pro-rata basis to offset costs incurred by Interconnection Customers with lower Queue Positions that are subject to re-study, as determined by the System Operator in accordance with the provisions of this LGIP, as a result of the withdrawal of an Interconnection Request with a higher Queue Position.

The deposit of \$50,000 shall be applied toward the costs incurred by the System Operator associated with the Interconnection Request and Long Lead Facility treatment, as well as, the costs of the Interconnection Feasibility Study and/or the Interconnection System Impact Study, including the cost of developing the study agreements and their attachments, and the cost of developing the LGIA. For Interconnection Requests that are identified for inclusion in a CRPS performed under Section 15 of Attachment K, Section II of the Tariff, the deposit of \$50,000 also shall be applied toward the costs incurred by the Interconnecting Transmission Owner in developing the cost estimates in support of the CRPS.

If, in the case of a request for NR Interconnection Service, the Interconnection Customer demonstrates Site Control within the cure period specified in Section 3.4.3 after submitting its Interconnection Request, the additional deposit of \$10,000 shall be refundable; otherwise, that deposit shall be applied as provided

in Section 3.1, including, toward the costs of any Interconnection Studies pursuant to the Interconnection Request, the cost of developing the study agreement(s) and associated attachment(s), and the cost of developing the LGIA. For Interconnection Requests that are identified for inclusion in a CRPS performed under Section 15 of Attachment K, Section II of the Tariff, the deposit also shall be applied toward the costs incurred by the Interconnecting Transmission Owner in developing the cost estimates in support of the CRPS. The portions of the deposit of \$10,000 that have not been applied as provided in this Section 3.4.1 also shall be refundable if (i) the Interconnection Customer withdraws the Interconnection Request, pursuant to Section 3.7, within ten (10) Business Days of the Scoping Meeting, (ii) the Interconnection Customer that is eligible for inclusion in a CSIS withdraws the Interconnection Request, pursuant to Section 4.2.3.2.1, by the Cluster Entry Deadline, (iii) the Interconnection Customer that is eligible for inclusion in a CSIS requests, by the Cluster Entry Deadline, to be re-assigned a Queue Position at the bottom of the queue, pursuant to Section 4.2.3.2.1, in which case the unused balance of the deposit shall be applied toward the re-queued Interconnection Request in lieu of Site Control for NR Interconnection Service, or (iv) if the Interconnection Customer executes an LGIA.

The expected Initial Synchronization Date of the new Large Generating Facility, of the increase in capacity of the existing Generating Facility, or of the implementation of the Material Modification to the existing Generating Facility shall not exceed seven (7) years from the date the Interconnection Request is received by the System Operator, unless the Interconnection Customer demonstrates that such time required to actively engineer, permit and construct the new Large Generating Facility or increase in capacity of the existing Generating Facility or implement the Material Modification to the existing Generating Facility will take longer than the seven year period. Upon such demonstration, the Initial Synchronization Date may succeed the date the Interconnection Request is received by the System Operator by a period of greater than seven (7) years so long as the Interconnection Customer, System Operator, and Interconnecting Transmission Owner agree, such agreement shall not be unreasonably withheld.

#### **3.4.2 Acknowledgment of Interconnection Request.**

System Operator shall acknowledge receipt of the Interconnection Request within five (5) Business Days of receipt of the request and attach a copy of the received Interconnection Request to the acknowledgement. With the System Operator's acknowledgement of a valid Interconnection Request, the



System Operator shall provide to the Interconnection Customer an Interconnection Feasibility Study Agreement in the form of Appendix 2 or an Interconnection System Impact Study Agreement in the form of Appendix 3.

#### **3.4.3 Deficiencies in Interconnection Request.**

An Interconnection Request will not be considered to be a valid Interconnection Request until all items in Section 3.4.1 have been received by the System Operator. If an Interconnection Request fails to meet the requirements set forth in Section 3.4.1, the System Operator shall notify the Interconnection Customer within five (5) Business Days of receipt of the initial Interconnection Request of the reasons for such failure and that the Interconnection Request does not constitute a valid request. Interconnection Customer shall provide the System Operator the additional requested information needed to constitute a valid request within ten (10) Business Days after receipt of such notice. Failure by Interconnection Customer to comply with this Section 3.4.3 shall be treated in accordance with Section 3.7.

#### **3.4.4 Scoping Meeting.**

Within ten (10) Business Days after receipt of a valid Interconnection Request, System Operator shall establish a date agreeable to Interconnection Customer, Interconnecting Transmission Owner, and any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements, for a Scoping Meeting, and such date shall be no later than thirty (30) Calendar Days from receipt of the valid Interconnection Request, unless otherwise mutually agreed upon by the Parties.

The purpose of the Scoping Meeting shall be (i) to discuss the estimated timeline for completing all applicable Interconnection Studies, and alternative interconnection options, (ii) to exchange pertinent information including any transmission data that would reasonably be expected to impact such interconnection options, (iii) to analyze such information, (iv) to determine the potential feasible Points of Interconnection, and (v) to discuss any other information necessary to facilitate the administration of the Interconnection Procedures. A PSCAD model is required for all wind and inverter-based Large Generating Facilities. If a PSCAD model is required for other Large Generating Facility types, the Parties shall discuss this at the Scoping Meeting. If the Interconnection Customer provided the technical data

called for in Appendix 1, Attachment A (and Attachment A-1, if applicable) with the Interconnection Request, the Parties shall discuss the detailed project design at the Scoping Meeting.

The Parties will bring to the meeting such technical data, including, but not limited to: (i) general facility loadings, (ii) general instability issues, (iii) information regarding general short circuit issues, (iv) general voltage issues, and (v) general reliability issues as may be reasonably required to accomplish the purpose of the meeting. The Parties will also bring to the meeting personnel and other resources as may be reasonably required to accomplish the purpose of the meeting in the time allocated for the meeting. On the basis of the meeting, Interconnection Customer shall designate its Point of Interconnection, pursuant to Section 6.1, and one or more available alternative Point(s) of Interconnection. The duration of the meeting shall be sufficient to accomplish its purpose.

Unless the Interconnection Request has been identified to be included in a CRPS or eligible for inclusion in a CSIS, within five (5) Business Days following the Scoping Meeting Interconnection Customer shall notify the System Operator, in writing, (i) of its election to pursue the Interconnection Feasibility Study or the Interconnection System Impact Study; (ii) if electing to pursue the Interconnection Feasibility Study, which of the alternate study scopes is being selected pursuant to Section 6.2; and (iii) the Point of Interconnection and any reasonable alternative Point(s) of Interconnection for inclusion in the attachment to the Interconnection Feasibility Study Agreement, or the Point of Interconnection for inclusion in the attachment to the Interconnection System Impact Study Agreement if the Interconnection Customer elects not to pursue the Interconnection Feasibility Study.

### **3.5 OASIS Posting.**

#### **3.5.1**

The System Operator will maintain on its OASIS a list of all Interconnection Requests in its Control Area. The list will identify, for each Interconnection Request: (i) the maximum summer and winter megawatt electrical output; (ii) the location by county and state; (iii) the station or transmission line or lines where the interconnection will be made; (iv) the projected Initial Synchronization Date; (v) the status of the Interconnection Request, including Queue Position; (vi) the type of Interconnection Service being requested (i.e., CNR Interconnection Service or NR Interconnection Service); and (vii) the

availability of any studies related to the Interconnection Request; (viii) the date of the Interconnection Request; (ix) the type of Generating Facility to be constructed (combined cycle, base load or combustion turbine and fuel type); and (x) for Interconnection Requests that have not resulted in a completed interconnection, an explanation as to why it was not completed. Except in the case of an Affiliate, the list will not disclose the identity of the Interconnection Customer until the Interconnection Customer executes an LGIA or requests that the System Operator and Interconnecting Transmission Owner jointly file an unexecuted LGIA with the Commission. Before participating in a Scoping Meeting with an Interconnection Customer that is also an Affiliate, the Interconnecting Transmission Owner shall post on OASIS an advance notice of its intent to do so. The System Operator shall post to its OASIS site any deviations from the study timelines set forth herein. Interconnection Study reports and Optional Interconnection Study reports shall be posted to the System Operator's OASIS site subsequent to the meeting between the System Operator, Interconnecting Transmission Owner, and Interconnection Customer to discuss the applicable study results. The System Operator shall also post any known deviations in the Large Generating Facility's Initial Synchronization Date.

### **3.5.2 Requirements to Post Interconnection Study Metrics**

The System Operator will maintain on its website summary statistics related to processing Interconnection Studies pursuant to Interconnection Requests, updated quarterly. If the System Operator posts this information on its website, a link to the information must be provided on the System Operator's OASIS site. For each calendar quarter, the System Operator must calculate and post the information detailed in Sections 3.5.2.1 through 3.5.2.4.

#### **3.5.2.1 Interconnection Feasibility Studies Processing Time.**

(A) Number of Interconnection Requests that had Interconnection Feasibility Studies completed for the System Operator's Administered Transmission System during the reporting quarter,

(B) Number of Interconnection Requests that had Interconnection Feasibility Studies completed for the System Operator's Administered Transmission System during the reporting quarter that were completed more than ninety (90) Calendar Days after receipt by System Operator of the Interconnection Customer's executed Interconnection Feasibility Study Agreement,

(C) At the end of the reporting quarter, the number of active valid Interconnection Requests with ongoing incomplete Interconnection Feasibility Studies where such Interconnection Requests had executed Interconnection Feasibility Study Agreements received by System Operator more than ninety (90) Calendar Days before the reporting quarter end,

(D) Mean time (in days), Interconnection Feasibility Studies completed for the System Operator's Administered Transmission System during the reporting quarter, from the date when System Operator received the executed Interconnection Feasibility Study Agreement to the date when System Operator provided the completed Interconnection Feasibility Study to the Interconnection Customer,

(E) Percentage of Interconnection Feasibility Studies exceeding ninety (90) Calendar Days to complete this reporting quarter, calculated as the sum of 3.5.2.1(B) plus 3.5.2.1(C) divided by the sum of 3.5.2.1(A) plus 3.5.2.1(C).

#### **3.5.2.2 Interconnection System Impact Studies Processing Time.**

(A) Number of Interconnection Requests that had Interconnection System Impact Studies completed for the System Operator's Administered Transmission System during the reporting quarter,

(B) Number of Interconnection Requests that had Interconnection System Impact Studies completed for the System Operator's Administered Transmission System during the reporting quarter that were completed more than two hundred and seventy (270) Calendar Days after receipt by System Operator of the Interconnection Customer's executed Interconnection System Impact Study Agreement,

(C) At the end of the reporting quarter, the number of active valid Interconnection Requests with ongoing incomplete System Impact Studies where such Interconnection Requests had executed Interconnection System Impact Study Agreements received by System Operator more than two

hundred and seventy (270) Calendar Days before the reporting quarter end,

(D) Mean time (in days), Interconnection System Impact Studies completed for the System Operator's Administered Transmission System during the reporting quarter, from the date when System Operator received the executed Interconnection System Impact Study Agreement to the date when System Operator provided the completed Interconnection System Impact Study to the Interconnection Customer,

(E) Percentage of Interconnection System Impact Studies exceeding two hundred and seventy (270) Calendar Days to complete this reporting quarter, calculated as the sum of 3.5.2.2(B) plus 3.5.2.2(C) divided by the sum of 3.5.2.2(A) plus 3.5.2.2(C).

### **3.5.2.3 Interconnection Facilities Studies Processing Time.**

(A) Number of Interconnection Requests that had Interconnection Facilities Studies that are completed for the System Operator's Administered Transmission System during the reporting quarter,

(B) Number of Interconnection Requests that had Interconnection Facilities Studies that are completed for the System Operator's Administered Transmission System during the reporting quarter that were completed more than ninety (90) Calendar Days for no more than +/- 20 percent cost estimate or one hundred eighty (180) Calendar Days for +/- 10 percent cost estimate after receipt by System Operator of the Interconnection Customer's executed Interconnection Facilities Study Agreement,

(C) At the end of the reporting quarter, the number of active valid Interconnection Requests with ongoing incomplete Interconnection Facilities Studies where such Interconnection Requests had executed Interconnection Facilities Studies Agreement received by System Operator more than ninety (90) Calendar Days for no more than +/- 20 percent cost estimate or one hundred eighty (180) Calendar Days for +/- 10 percent cost estimate before the reporting quarter end,

(D) Mean time (in days), for Interconnection Facilities Studies completed for the System Operator's Administered Transmission System during the reporting quarter, calculated from the date when System Operator received the executed Interconnection Facilities Study Agreement to the date when System Operator provided the completed Interconnection Facilities Study to the Interconnection Customer,

(E) Percentage of delayed Interconnection Facilities Studies this reporting quarter, calculated as the sum of 3.5.2.3(B) plus 3.5.2.3(C) divided by the sum of 3.5.2.3(A) plus 3.5.2.3(C).

#### **3.5.2.4 Interconnection Requests Withdrawn from Interconnection Queue.**

(A) Number of Interconnection Requests withdrawn from System Operator's interconnection queue during the reporting quarter,

(B) Number of Interconnection Requests withdrawn from System Operator's interconnection queue during the reporting quarter before completion of any Interconnection Studies or execution of any Interconnection Study Agreements,

(C) Number of Interconnection Requests withdrawn from System Operator's interconnection queue during the reporting quarter before completion of an Interconnection System Impact Study,

(D) Number of Interconnection Requests withdrawn from System Operator's interconnection queue during the reporting quarter before completion of an Interconnection Facility Study,

(E) Number of Interconnection Requests withdrawn from System Operator's interconnection queue after execution of an LGIA or Interconnection Customer requests the filing of an unexecuted LGIA,

(F) Mean time (in days), for all withdrawn Interconnection Requests, from the date when the request was determined to be valid to when System Operator received the request to withdraw from the queue.

3.5.3 System Operator is required to post on its website the measures in paragraph 3.5.2.1(A) through paragraph 3.5.2.4(F) for each calendar quarter within 30 days of the end of the calendar quarter. System Operator will keep the quarterly measures posted on its website for three calendar years with the first required report to be the first quarter of 2020. If System Operator retains this information on its website, a link to the information must be provided on System Operator's OASIS site.

3.5.4 In the event that any of the values calculated in paragraphs 3.5.2.1(E), 3.5.2.2(E) or 3.5.2.3(E) exceeds 25 percent for two consecutive calendar quarters, System Operator will have to comply with the measures below for the next four consecutive calendar quarters and must continue reporting this information until System Operator reports four consecutive calendar quarters without the values calculated in 3.5.2.1(E), 3.5.2.2(E) or 3.5.2.3(E) exceeding 25 percent for two consecutive calendar quarters:

(i) System Operator must submit a report to the Commission describing the reason for each study or group of clustered studies pursuant to an Interconnection Request that exceeded its deadline (*i.e.*, 45, 90 or 180 days) for completion (excluding any allowance for Reasonable Efforts). System Operator must describe the reasons for each study delay and any steps taken to remedy these specific issues and, if applicable, prevent such delays in the future. The report must be filed at the Commission within 45 days of the end of the calendar quarter.

(ii) System Operator shall aggregate the total number of employee hours and third party consultant hours expended towards Interconnection Studies for its Administered Transmission System that quarter and post on its website. If System Operator posts this information on its website, a link to the information must be provided on System Operator's OASIS site. This information is to be posted within 30 days of the end of the calendar quarter.

### **3.6 Coordination with Affected Systems.**

The System Operator will coordinate the conduct of any studies required to determine the impact of the Interconnection Request on Affected Systems with Affected Parties and, if possible, include those results

(if available) in its applicable Interconnection Study within the time frame specified in this LGIP. The System Operator will include such Affected Parties in all meetings held with the Interconnection Customer as required by this LGIP. The Interconnection Customer will cooperate with the System Operator and Interconnecting Transmission Owner in all matters related to the conduct of studies and the determination of modifications to Affected Systems. The Interconnection Customer shall be responsible for the costs associated with the studies or portions of studies associated with the Affected Systems. Payment and refunds associated with the costs of such studies will be coordinated between the Interconnection Customer and the Affected Party(ies) unless such costs are included in the costs of the Interconnection Study, in which case, the Affected Party(ies) shall provide System Operator on a monthly basis, and in the form and format specified by the System Operator, invoices for the work conducted on the respective Interconnection Study each month and shall include in such invoices all employee hours and third party consultant hours, including subcontractor hours, expended toward the Interconnection Studies.

The System Operator shall seek the cooperation of all Affected Parties in all matters related to the conduct of studies and the determination of modifications to Affected Systems. Nothing in the foregoing is intended to authorize the Interconnection Customer to receive interconnection, related facilities or other services on an Affected System, and provision of such services must be handled through separate arrangements with Affected Party(ies).

### **3.7 Withdrawal.**

The Interconnection Customer may withdraw its Interconnection Request at any time by written notice of such withdrawal to System Operator, which System Operator will transmit to Interconnecting Transmission Owner and any Affected Parties. In addition, if the Interconnection Customer fails to adhere to all requirements of this LGIP, except as provided in Section 13.5 (Disputes), the System Operator shall deem the Interconnection Request to be withdrawn and shall provide written notice to the Interconnection Customer of the deemed withdrawal and an explanation of the reasons for such deemed withdrawal. Except as otherwise provided elsewhere in this LGIP, upon receipt of such written notice, the Interconnection Customer shall have fifteen (15) Business Days in which to either respond with information or actions that cure the deficiency or to notify the System Operator of its intent to pursue



Dispute Resolution, and System Operator shall notify Interconnecting Transmission Owner and any Affected Parties of the same.

Withdrawal shall result in the loss of the Interconnection Customer's Queue Position. If an Interconnection Customer disputes the withdrawal and loss of its Queue Position, then during Dispute Resolution, the System Operator may eliminate the Interconnection Customer's Interconnection Request from the queue until such time that the outcome of Dispute Resolution would restore its Queue Position. An Interconnection Customer that withdraws or is deemed to have withdrawn its Interconnection Request shall pay to System Operator, Interconnecting Transmission Owner, and any Affected Parties all costs prudently incurred with respect to that Interconnection Request prior to System Operator's receipt of notice described above. The Interconnection Customer must pay all monies due before it is allowed to obtain any Interconnection Study data or results.

The System Operator shall update the OASIS Queue Position posting. Except as otherwise provided elsewhere in this LGIP, the System Operator and the Interconnecting Transmission Owner shall arrange to refund to the Interconnection Customer any portion of the Interconnection Customer's deposit or study payments that exceeds the costs incurred, including interest calculated in accordance with section 35.19a(a)(2) of the Commission's regulations, or arrange to charge to the Interconnection Customer any amount of such costs incurred that exceed the Interconnection Customer's deposit or study payments, including interest calculated in accordance with section 35.19a(a)(2) of the Commission's regulations. In the event of such withdrawal, System Operator, subject to the confidentiality provisions of Section 13.1 and the ISO New England Information Policy, as well as any other applicable requirement under Applicable Laws and Regulations regulating the disclosure or confidentiality of such information, shall provide, at Interconnection Customer's request, all information developed for any completed study conducted up to the date of withdrawal of the Interconnection Request.

### **3.8 Identification of Contingent Facilities.**

System Operator shall identify Contingent Facilities before the execution of the LGIA by reviewing the Interconnection Facilities and Network Upgrades associated with an Interconnection Request with a higher Queue Position or the list of transmission projects planned or proposed for the New England

Transmission System to identify those upgrades that are not yet in service but upon which the Interconnection Request's costs, timing, and study findings are dependent, and if delayed or not built, could cause a need for restudies of the Interconnection Request or a reassessment of the Interconnection Facilities and/or Network Upgrades and/or costs and timing. Planned or proposed upgrades will be identified as Contingent Facilities for an Interconnection Request if the absence of those upgrades would cause additional Adverse System Impacts to be identified in the System Impact Study, using the same conditions as those used in the System Impact Study. The thresholds for identification of Adverse System Impact for the purpose of identifying Contingent Facilities will be as follows: (i) an increase in the flow in an element by at least two percent of the element's rating and that causes that flow to exceed that element's appropriate thermal rating by more than two percent where the appropriate thermal rating is the normal rating with all lines in service and the long time emergency or short time emergency rating after a contingency; (ii) a change of at least one percent in a voltage that causes a voltage level that is higher or lower than the appropriate high or low rating by more than one percent; (iii) an increase of at least a one percent change in the short circuit current experienced by an element and that causes a short circuit stress that is higher than an element's interrupting or withstand capability; or (iv) the introduction of a violation of stability criteria. Contingent Facilities that are identified during the evaluation of the Interconnection Request shall be documented in the Interconnection System Impact Study report or the LGIA for the Large Generating Facility. System Operator shall also provide, upon request of the Interconnection Customer, the estimated Interconnection Facility and/or Network Upgrade costs and estimated in-service completion time for each identified Contingent Facilities when this information is readily available and not commercially sensitive.

## **SECTION 4. QUEUE POSITION.**

### **4.1 General.**

System Operator shall assign a Queue Position based upon the date and time of receipt of the valid Interconnection Request; provided that, if the sole reason an Interconnection Request is not valid is the lack of required information on the application form in Appendix 1 to this LGIP, and Interconnection Customer provides such information in accordance with Section 3.4.3, then System Operator shall assign Interconnection Customer a Queue Position based on the date the application form was originally submitted.

Except as otherwise provided in this Section 4.1, the Queue Position of each Interconnection Request will be used to determine: (i) the order of performing the Interconnection Studies; (ii) the order in which Interconnection Requests will be eligible for inclusion in the CSIS and CFAC; (iii) the order in which Interconnection Requests for CNR Interconnection Service and CNI Interconnection Service will be included in the CNR Group Study; and (iv) the cost responsibility for the facilities and upgrades necessary to accommodate the Interconnection Request. A higher queued Interconnection Request is one that has been placed “earlier” in the queue in relation to another Interconnection Request that is lower queued.

A CSIS and CFAC shall include the Interconnection Requests that were identified as eligible to participate in the CSIS and CFAC and met the associated requirements for inclusion in said studies in accordance with Section 4.2 of this LGIP. An Interconnection Request included in a cluster shall consider a higher queued Interconnection Request not included in the cluster. A lower queued Interconnection Request that is not included in the cluster shall consider all of the higher queued Interconnection Requests that are part of the cluster.

#### **4.1.1 Order of Interconnection Requests in the CNR Group Study**

Participation in a CNR Group Study shall be a prerequisite to achieve CNR Interconnection Service and CNI Interconnection Service. The CNR Group Study (to be conducted in accordance with Section III.13.1.1.2.3 of the Tariff) shall include all Interconnection Requests for CNR Interconnection Service and CNI Interconnection Service that have an associated New Capacity Show of Interest Form that was submitted during the New Capacity Show of Interest Submission Window for the purpose of qualification for participation in the same Forward Capacity Auction for a Capacity Commitment Period, in accordance with Section III.13.1.1.2 of the Tariff, as well as Long Lead Facilities in accordance with Section 3.2.3. Where a CNR Interconnection Service or CNI Interconnection Service Interconnection Request with a lower Queue Position is associated with a New Capacity Show of Interest Form that was submitted for qualification to participate in a particular Forward Capacity Auction for a Capacity Commitment Period and another CNR Interconnection Service or CNI Interconnection Service Interconnection Request with a higher Queue Position is not associated with a New Capacity Show of Interest Form that was submitted

for qualification until a subsequent Forward Capacity Auction, the CNR Interconnection Service or CNI Interconnection Service Interconnection Request with the lower Queue Position will be included in the CNR Group Study prior to the CNR Interconnection Service or the CNI Interconnection Service Interconnection Request with the higher Queue Position.

However, where an Interconnection Customer with a CNR Interconnection Service Interconnection Request submits a New Capacity Show of Interest Form for qualification to participate in a particular Forward Capacity Auction for a Capacity Commitment Period and identifies in that New Capacity Show of Interest Form one or more Elective Transmission Upgrade Interconnection Request(s) for an Internal ETU that is not already included in the network model pursuant to Section III.12 of the Tariff for the particular Forward Capacity Auction, the CNR Interconnection Request will be included in the CNR Group Study at the lowest of the CNR Interconnection Request's or its associated Elective Transmission Upgrade Interconnection Request(s) for the Internal ETU's Queue Position. Where multiple Interconnection Customers' CNR Interconnection Service Interconnection Requests are associated with the same lower Queue Position for an Elective Transmission Upgrade Interconnection Request for an Internal ETU in the CNR Group Study, the CNR Interconnection Request's Queue Position will be used as the tie breaker to dictate the relative order in which the CNR Interconnection Service Interconnection Request will be included in the CNR Group Study.

An Interconnection Customer with a Generating Facility or that is associated with an Import Capacity Resource in the case of an Elective Transmission Upgrade that is treated as a Conditional Qualified New Resource, in accordance with Section III.13.1.1.2.3(f) of the Tariff, may be responsible for the facilities and upgrades associated with an overlapping CNR Interconnection Service or CNI Interconnection Service Interconnection Request having a higher Queue Position if the Conditional Qualified New Resource obtains a Capacity Supply Obligation through a Forward Capacity Auction under Section III.13.2.5 of the Tariff.

An Interconnection Customer with a lower queued CNR Interconnection Service Interconnection Request for a Generating Facility or CNI Interconnection Service Interconnection Request for an Elective Transmission Upgrade that has achieved Commercial Operation and obtained CNR Interconnection Service or CNI Interconnection Service, respectively, may be responsible for additional facilities and

upgrades if the related higher queued CNR Interconnection Service or CNI Interconnection Service Interconnection Request for a Long Lead Facility achieves Commercial Operation and obtains CNR Interconnection Service or CNI Interconnection Service, respectively. In such circumstance, Appendix A to the Interconnection Agreement for the lower queued CNR Interconnection Service or CNI Interconnection Service Interconnection Request shall specify the facilities and upgrades for which the Interconnection Customer shall be responsible if the higher queued CNR Interconnection Service or CNI Interconnection Service Interconnection Request for a Long Lead Facility achieves Commercial Operation and obtains CNR Interconnection Service or CNI Interconnection Service, respectively.

## **4.2 Clustering.**

Clustering Interconnection Studies shall be conducted in such a manner to ensure the efficient implementation of the applicable Regional System Plan in light of the New England Transmission System's capabilities for the time period under study. The System Operator may study an Interconnection Request serially to the extent warranted by Good Utility Practice based upon the electrical remoteness of the proposed Large Generating Facility.

### **4.2.1 Triggers for Studying Interconnection Requests in Clusters.**

At the discretion of the System Operator, Interconnection Requests will be studied in clusters for the purpose of the Interconnection System Impact Study and the Interconnection Facilities Study when the combination of the following circumstances is present in the interconnection queue: (a) there are two (2) or more Interconnection Requests without completed Interconnection System Impact Studies in the same electrical part of the New England Control Area based on the requested Point of Interconnection, and (b) the System Operator determined that none of the Interconnection Requests identified in (a) of this Section 4.2.1 will be able to interconnect, either individually or on a cluster basis, without the use of common significant new transmission line infrastructure rated at or above 115 kV AC or HVDC.

### **4.2.2 Notice of Initiation of Cluster Studies.**

When the combination of the triggers specified in Section 4.2.1 of this LGIP are present in the interconnection queue, the System Operator will provide notice to the Planning Advisory Committee of the initiation of a cluster for studying certain Interconnection Requests under the Regional System Planning Process in accordance with Section 15.1 of Attachment K, Section II of the Tariff. The System

Operator also will provide notice to the Interconnection Customers with Interconnection Requests identified in Section 4.2.1 of this LGIP, and at the time the System Operator notifies the Planning Advisory Committee of the initiation of a cluster, all study work for these Interconnection Requests will be suspended and they will proceed under Section 4.2 of this LGIP. The System Operator will conduct Clustering in two phases. In the first phase, the System Operator will perform a CRPS to identify the CETU and associated system upgrades to enable the interconnection of potentially all of the resources proposed in the Interconnection Requests considered in Section 4.2.1 of this LGIP, consistent with Section 15.2 of Attachment K. In the second phase, the System Operator will conduct a CSIS and a CFAC to study the Interconnection Requests identified through the CRPS that have elected to participate in the CSIS together with the identified CETU and associated system upgrades, in accordance with this LGIP.

Within sixty (60) Calendar Days of the System Operator's notice to the Planning Advisory Committee of the initiation of the use of Clustering for studying certain Interconnection Requests under the Regional System Planning Process in accordance with Section 15.1 of Attachment K, Section II of the Tariff, Interconnection Customers with Interconnection Requests identified in Section 4.2.1 shall submit the technical data called for in Appendix 1, Attachment A (and Attachment A-1, if applicable), to support the conduct of the CRPS.

#### **4.2.3 Cluster Interconnection System Impact Study.**

##### **4.2.3.1 Notice of Cluster Interconnection System Impact Study Entry Deadline.**

At the same time the System Operator issues the final CRPS report to the Planning Advisory Committee in accordance with Section 15.4 of Attachment K, the System Operator will provide notice of the entry deadline for the CSIS (the "Cluster Entry Deadline") to the Interconnection Customers with Interconnection Requests identified in the final CRPS report as eligible to participate in the CSIS. The Cluster Entry Deadline shall be thirty (30) Calendar Days from the posting of the final CRPS report.

##### **4.2.3.2 Cluster Interconnection System Impact Study Entry Requirements.**

All Interconnection Requests identified in the final CRPS report, by Queue Position as assigned in accordance with Section 4.1 of this LGIP, shall be eligible to be studied together in the CSIS.

**4.2.3.2.1 Cluster Entry Deadline Election.** By the Cluster Entry Deadline, an Interconnection Customer with an Interconnection Request identified in the final CRPS report as eligible to be studied in the CSIS must, in writing:

- (i) withdraw the Interconnection Request, pursuant to Section 3.7;
- (ii) request that the System Operator re-assign the Interconnection Customer's Interconnection Request a new Queue Position at the bottom of the queue as of the Cluster Entry Deadline in relative order with any other Interconnection Requests requesting to be re-queued under this Section 4.2.3.2.1; or
- (iii) request to be included in the CSIS and meet the CSIS entry requirements specified in Section 4.2.3.2.2.

If, by the Cluster Entry Deadline, Interconnection Customer fails to withdraw its Interconnection Request, request to be re-assigned a Queue Position at the bottom of the queue, or request to be included in the CSIS and meet the CSIS entry requirements, then the Interconnection Request will be automatically withdrawn from the interconnection queue as of the Cluster Entry Deadline without further opportunity to cure. If Interconnection Customer elects option (iii) and does not meet all of the CSIS entry requirements specified in Section 4.2.3.2.2 by the Cluster Entry Deadline, the Interconnection Request will be automatically withdrawn from the interconnection queue as of the Cluster Entry Deadline without further opportunity to cure. If an initial Cluster Participation Deposit had been submitted as part of the incomplete CSIS entry requirements submission, the initial Cluster Participation Deposit will be refunded at the time the Interconnection Request is withdrawn.

**4.2.3.2.2 CSIS Entry Requirements.** An Interconnection Customer with an Interconnection Request identified in the final CRPS report as eligible to be studied in the CSIS that elects option (iii) under Section 4.2.3.2.1 must meet the following CSIS entry requirements in order to be included in the CSIS:

**(1) Cluster System Impact Study Application.** By the Cluster Entry Deadline, Interconnection Customer must submit to the System Operator a completed Cluster System Impact Study Application in the form specified in Appendix 1, Attachment A-2 of this LGIP, requesting the inclusion of the Interconnection Request in the CSIS;

**(2) System Impact Study Agreement, Study Deposit, Technical Data, and Site Control.**

If an Interconnection Feasibility Study Agreement or an Interconnection System Impact Study Agreement has been executed prior to the issuance of the final CRPS report identifying the Interconnection Request as eligible for inclusion in a CSIS, such agreement shall terminate upon execution of a new Interconnection System Impact Study Agreement in accordance with this Section 4.2.3.2.2, and any unused balance of the study deposit associated with the terminated agreement shall be applied toward the study deposit associated with the new Interconnection System Impact Study Agreement.

Within fifteen (15) Business Days following the Cluster Entry Deadline, the System Operator and Interconnecting Transmission Owner will provide to Interconnection Customer an Interconnection System Impact Study Agreement, including a non-binding good faith estimate of the costs and timeframe for commencing and completing the CSIS. The Interconnection Customer shall execute the Interconnection System Impact Study Agreement and deliver the executed Interconnection System Impact Study Agreement to the System Operator no later than thirty (30) Calendar Days after receipt along with continued demonstration of Site Control, the technical data called for in Appendix 1, Attachment A (and Attachment A-1, if applicable), and a refundable study deposit, to the extent that any additional study deposit is required, in accordance with Section 7.2 of this LGIP.

**(3) Cluster Participation Deposit for the CSIS.** By the Cluster Entry Deadline, Interconnection Customer also must submit to the System Operator an initial Cluster Participation Deposit equal to five (5) percent of the Interconnection Customer's cost allocation responsibility for the CETU and associated system upgrades to be determined based on the cost estimates provided in the final CRPS report. If the System Operator subsequently identifies that an Internal ETU has met the requirements to take the place of a CETU, or portion thereof, pursuant to Section 4.2.3.4 of this LGIP, the initial Cluster Participation Deposit will be reduced to exclude the costs associated with the CETU, or portion thereof, that is being replaced by the Internal ETU, and the Interconnection Customer shall be refunded the corresponding amount. Cost allocation of the CETU and associated system upgrades shall be in accordance with Schedule 11, Section II of this Tariff.



The initial Cluster Participation Deposit will be fully refunded (with interest to be calculated in accordance with Section 3.7 of this LGIP) to Interconnection Customer with an Interconnection Request that met the cluster entry requirements: (i) if the CSIS is initially undersubscribed by more than ten (10) percent of the quantity of megawatts that the CETU developed through the CRPS was designed to enable and the Interconnection Customer withdraws the Interconnection Request, pursuant to Section 3.7, before the CSIS starts, (ii) if the CSIS is initially oversubscribed as described in Section 4.2.3.3.2 of this LGIP (e.g., the CETU developed through the CRPS is designed to enable 1,000 MW and more than 1,000 MW meet the CSIS entry requirements by the Cluster Entry Deadline), in which case the Cluster Participation Deposits will be refunded to Interconnection Customers with Interconnection Requests corresponding to the oversubscribed megawatt quantities, (iii) if the cost estimates for the CETU and the associated system upgrades provided in the final CRPS report for the entire cluster have increased by twenty-five (25) percent or more when compared to the cost estimates provided in the draft CSIS report or the draft CFAC report and the Interconnection Customer withdraws the Interconnection Request, pursuant to Section 3.7, within thirty (30) Calendar Days after receipt of the draft CSIS report or the draft CFAC report in accordance with Sections 7.5 and 8.3 of this LGIP, respectively, (iv) if less than two (2) Interconnection Requests included in the CSIS or CFAC remain in the interconnection queue during the CSIS or CFAC, as applicable, in which case, the CSIS or the CFAC terminates and the remaining Interconnection Request proceeds in serial queue order, (v) at the time the Interconnection Customer with an Interconnection Request included in the CSIS provides to the Interconnecting Transmission Owner the deposit specified in Section 11.3.1.2 of this LGIP, (vi) if no Interconnection Customer with an Interconnection Request included in the cluster executes an Interconnection Agreement and provides to the Interconnecting Transmission Owner the deposit specified in Section 11.3.1.2 of this LGIP, or (vii) if all Interconnection Requests included in the cluster withdraw from the interconnection queue.

Otherwise, the initial Cluster Participation Deposit shall be non-refundable if the Interconnection Customer withdraws its Interconnection Request or the Interconnection Request is withdrawn from the interconnection queue at any time after the Cluster Entry Deadline. The non-refundable initial Cluster Participation Deposits shall be re-allocated, according to the cost allocation methodology contained in Schedule 11, to the Interconnection Customers with Interconnection Requests included in a cluster at the time the facilities proposed in the Interconnection Requests achieve Commercial Operation.

#### **4.2.3.3 Cluster Filling, Oversubscription and Backfilling Upon Withdrawal.**

**4.2.3.3.1 Cluster Filling.** The CSIS shall be filled with all Interconnection Requests in the same electrical part of the New England Control Area relative to the CETU identified in the final CRPS report that do not yet have a completed Interconnection System Impact Study and met the CSIS entry requirements by the Cluster Entry Deadline up to the approximate megawatt quantity identified in the final CRPS report as potentially enabled by the CETU. The Interconnection Requests will be included in the CSIS in queue order, based on the Queue Positions assigned in accordance with Section 4.1 of this LGIP, relative to other eligible Interconnection Requests.

**4.2.3.3.2 Cluster Oversubscription.** If an Interconnection Customer with an Interconnection Request identified in the final CRPS report as eligible to participate in a CSIS met the CSIS entry requirements and therefore would have been eligible for inclusion in the CSIS but is excluded as a result of the quantity of megawatts identified as potentially enabled by the CETU in the final CRPS report having been exhausted in queue order under Section 4.2.3.3.1, (i) the initial Cluster Participation Deposit will be refunded to the Interconnection Customer, and (ii) the Interconnection Request will maintain its Queue Position. If there are two (2) or more such Interconnection Requests after the CSIS is filled, the System Operator will initiate another cluster to identify the transmission infrastructure to enable the interconnection of another round of Interconnection Requests consistent with Section 15.1 of Attachment K.

**4.2.3.3.3 Cluster Backfilling Upon Withdrawal.** Upon withdrawal of an Interconnection Request that is included in the CSIS, the System Operator will backfill the CSIS, in queue order, with later-queued Interconnection Requests consistent with the methodology used to fill the original CSIS as specified in Section 4.2.3.3.1 of this LGIP. The System Operator will notify all Interconnection Customers with Interconnection Requests identified by the System Operator as eligible for backfilling that the respective Large Generating Facility (or part thereof) proposed in the Interconnection Request is eligible to participate in the CSIS, and the Interconnection Customer shall have thirty (30) Calendar Days from receipt of System Operator's notice to withdraw its Interconnection Request, request to be re-assigned a Queue Position at the bottom of the queue, or accept the inclusion of the Interconnection Request (or part thereof, in which case the Interconnection Customer shall modify the Interconnection Request to reflect

the appropriate reduction) in the CSIS and meet the CSIS entry requirements, consistent with Section 4.2.3.2 of this LGIP. If the Interconnection Customer does not make one of these three elections and complete the associated requirements by the thirtieth Calendar Day, the System Operator shall automatically withdraw the Interconnection Request from the interconnection queue without further opportunity to cure and consider other later-queued Interconnection Requests.

**4.2.3.4 Scope of Cluster Interconnection System Impact Study.** Except as otherwise provided in this Section 4.2.3.4, the CSIS shall be conducted in accordance with Sections 7.3 and 7.4 of this LGIP. The Study Case developed for the CSIS shall also include the CETU and associated system upgrades identified in the final CRPS report. An Internal ETU can be considered, and included in the CSIS, in place of a CETU, or portion thereof, if all of the Interconnection Customers with Interconnection Requests included in the cluster that the ISO has determined need to use the Internal ETU have indicated in the Cluster Application Form or with the executed Interconnection System Impact Study Agreement that they have a contractual commitment in place providing for the Interconnection Customers to fund and the right to use the Internal ETU. The CSIS shall evaluate the proposed interconnections to the New England Transmission System under the NC Interconnection Standard consistent with Section 3.2.2 of this LGIP and as detailed in the ISO New England Planning Procedures. Consistent with the NC Interconnection Standard, the evaluation will include conditions where the projects proposed in the Interconnection Requests that are included in the CSIS are not dispatched against each other if they do not share a system constraint that would provide the basis for a redispatch condition. The CSIS shall consist of the analysis specified in Section 7.3 of this LGIP except for analysis associated with an Interconnection Feasibility Study or a preliminary, non-binding, analysis. An Interconnection Customer with an Interconnection Request being studied as part of the CSIS cannot elect to have the Interconnection Feasibility Study or a preliminary, non-binding, analysis performed as part of the CSIS.

**4.2.3.5. Restudy of Cluster Interconnection System Impact Study.** In addition to the circumstances specified in Section 7.6 of this LGIP, a re-study of the CSIS is required due to the withdrawal of an Interconnection Request that had been included in the CSIS. Upon withdrawal of an Interconnection Request that had been included in the CSIS, the System Operator will backfill the CSIS with eligible Interconnection Requests pursuant to Section 4.2.3.3.3. A re-study will be conducted to determine if there are any changes in the upgrades identified during the CSIS with the exception of the CETU

identified in the final CRPS report, which shall remain configured consistent with the megawatt quantity(ies) considered in the final CRPS report.

#### **4.2.4. Cluster Interconnection Facilities Study.**

Notwithstanding any other provision in this LGIP, an Interconnection Customer with an Interconnection Request included in a completed CSIS will not be eligible to waive the, or request a separate, CFAC. All Interconnection Customers with an Interconnection Request included in a completed CSIS shall be studied together in the CFAC for the purpose of implementing the conclusions of the CSIS with respect to non-sole use facilities.

**4.2.4.1 Cluster Interconnection Facilities Study Entry Requirements.** An Interconnection Customer with an Interconnection Request that was included in a completed CSIS shall execute an Interconnection Facilities Study Agreement and deliver the executed Interconnection Facilities Study Agreement to the System Operator, together with the required technical data and refundable deposit for the Interconnection Facilities Study as specified in Section 8.1 of this LGIP.

**4.2.4.2. Scope of Interconnection Facilities Study.** The CFAC will be conducted in accordance with Sections 8.2 and 8.3 of this LGIP based on a +/- 20 percent good faith cost estimate.

**4.2.4.3 Re-study of the Interconnection Facilities Study.** In addition to the circumstances specified in Section 8.5 of this LGIP, a re-study of the CFAC is required due to the withdrawal of an Interconnection Request that had been included in the CFAC. Upon withdrawal of an Interconnection Request included in the CFAC, the System Operator will backfill the CSIS with eligible Interconnection Requests pursuant to Section 4.2.3.3.3. A re-study of the CSIS and CFAC will be conducted to determine if there are any changes in the upgrades identified during the CSIS and CFAC with the exception of the CETU identified in the final CRPS report, which shall remain configured consistent with the megawatt quantity(ies) considered in the final CRPS report.

**4.2.4.4 Additional Cluster Participation Deposit.** Within thirty (30) Calendar Days after receipt of the final CFAC report in accordance with Section 8.3 of this LGIP, an Interconnection Customer with an Interconnection Request included in the CFAC shall submit to the System Operator an additional Cluster

Participation Deposit equal to five (5) percent of the Interconnection Customer's cost allocation responsibility for the CETU and associated system upgrades to be determined based on the cost estimates provided in the final CFAC report. Cost allocation of the CETU and associated system upgrades shall be in accordance with Schedule 11, Section II of this Tariff.

The additional Cluster Participation Deposit provided under this Section 4.2.4 will be fully refunded (with interest to be calculated in accordance with Section 3.7 of this LGIP) to Interconnection Customer that submitted the additional Cluster Participation Deposit if the conditions specified in Sections 4.2.3.2.2(3)(v), (vi), or (vii) above occur.

Otherwise, the additional Cluster Participation Deposit shall be non-refundable if the Interconnection Customer withdraws its Interconnection Request or the Interconnection Request is withdrawn from the interconnection queue. The non-refundable additional Cluster Participation Deposits shall be re-allocated, according to the cost allocation methodology contained in Schedule 11, to the Interconnection Customers with Interconnection Requests included in a cluster at the time the facilities proposed in the Interconnection Requests achieve Commercial Operation.

#### **4.3 Transferability of Queue Position.**

An Interconnection Customer may transfer its Queue Position to another entity only if such entity acquires the specific Generating Facility identified in the Interconnection Request and the Point of Interconnection does not change. The Interconnection Customer must notify the System Operator, in writing, of any transfers of Queue Position and must provide the System Operator with the transferee's contact information, and System Operator shall notify Interconnecting Transmission Owner and any Affected Parties of the same.

#### **4.4 Modifications.**

The Interconnection Customer shall submit to System Operator and Interconnecting Transmission Owner, in writing, modifications to any information provided in the Interconnection Request, including its attachments. The Interconnection Customer shall retain its Queue Position if the modifications are in accordance with Sections 4.4.1 or 4.4.4, or are determined not to be Material Modifications pursuant to Section 4.4.2. The System Operator will notify the Interconnecting Transmission Owner, and, when

System Operator deems it appropriate in accordance with applicable codes of conduct and confidentiality requirements, it will notify any Affected Party of such modifications.

A request to: (1) increase the energy capability or capacity capability output of a Generating Facility above that specified in an Interconnection Request, an existing Interconnection Agreement (whether executed or filed in unexecuted form with the Commission), or as established pursuant to Section 5.2 of this LGIP shall require a new Interconnection Request for the incremental increase and such Interconnection Request will receive the lowest Queue Position available at that time for the purposes of cost allocation and study analysis; and (2) change from NR Interconnection Service to CNR Interconnection Service, at any time, shall require a new Interconnection Request for CNR Interconnection Service and such Interconnection Request will receive the lowest Queue Position available at that time for the purposes of cost allocation and study analysis. Notwithstanding the foregoing, an Interconnection Customer with an Interconnection Request for CNR Interconnection Service has until the Forward Capacity Auction for which the associated Capacity Commitment Period begins less than seven (7) years (or the years agreed to pursuant to Section 3.4.1 or Section 4.4.5) from the date of the original Interconnection Request for CNR Interconnection Service to clear the entire megawatt amount for which CNR Interconnection Service was requested. A new Interconnection Request for CNR Interconnection Service will be required for the Generating Facility to participate in any subsequent auctions.

During the course of the Interconnection Studies, either the System Operator, Interconnection Customer, Interconnecting Transmission Owner, or any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements, may identify changes to the planned interconnection that may improve the costs and benefits (including reliability) of the interconnection, and the ability of the proposed change to accommodate the Interconnection Request. To the extent the identified changes do not constitute a Material Modification and are acceptable to the Parties, such acceptance not to be unreasonably withheld, System Operator and the Interconnecting Transmission Owner shall modify the Point of Interconnection and/or configuration in accordance with such changes and proceed with any re-studies necessary to do so in accordance with Section 6.4, Section 7.6 and Section 8.5 as applicable and Interconnection Customer shall retain its Queue Position.

**4.4.1** Prior to the commencement of the Interconnection System Impact Study, modifications permitted under this Section shall include specifically: (a) a decrease of up to 60 percent of electrical output (MW) of the proposed Large Generating Facility, through either (1) a decrease in facility size or (2) a decrease in Interconnection Service level (consistent with the process described in Section 3.1) accomplished by applying System Operator-approved injection-limiting equipment proposed by the Interconnection Customer and subject to review in the Interconnection System Impact Study; (b) modifying the technical parameters associated with the Large Generating Facility technology or the Large Generating Facility step-up transformer impedance characteristics; and (c) modifying the interconnection configuration. Notwithstanding the foregoing, an Interconnection Customer may decrease the electrical output of a proposed Large Generating Facility after the Cluster Entry Deadline specified in Section 4.2.3.1 of this LGIP; however, the requesting Interconnection Customer remains responsible for costs corresponding to the megawatt quantity requested as of the Cluster Entry Deadline.

**4.4.2** Prior to making any modification other than those specifically permitted by Sections 4.4.1 and 4.4.4, Interconnection Customer may first request that the System Operator and Interconnecting Transmission Owner evaluate whether such modification is a Material Modification. In response to Interconnection Customer's request, the System Operator in consultation with the Interconnecting Transmission Owner, and in consultation with any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements, shall evaluate, at the Interconnection Customer's cost, the proposed modifications prior to making them and the System Operator will inform the Interconnection Customer in writing of whether the modifications would constitute a Material Modification. Any change to the Point of Interconnection, except those deemed acceptable under Sections 4.4.1, 6.1, 7.2 or so allowed elsewhere, shall constitute a Material Modification. The Interconnection Customer may then withdraw the proposed modification or proceed with a new Interconnection Request for such modification.

**4.4.3** Upon receipt of Interconnection Customer's request for modification that does not constitute a Material Modification and therefore is permitted under this Section 4.4, the System Operator in consultation with the Interconnecting Transmission Owner and in consultation with any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements, shall commence and perform any necessary additional studies as soon as

practicable, but in no event shall the System Operator, Interconnecting Transmission Owner, or Affected Party commence such studies later than thirty (30) Calendar Days after receiving notice of Interconnection Customer's request. Any additional studies resulting from such modification shall be done at Interconnection Customer's cost.

**4.4.4** Extensions of less than three (3) cumulative years in the Commercial Operation Date, In-Service Date or Initial Synchronization Date of the Large Generating Facility to which the Interconnection Request relates are not material and should be handled through construction sequencing, provided that the extension(s) do not exceed seven (7) years from the date the Interconnection Request was received by the System Operator.

**4.4.5** Extensions of three (3) or more cumulative years in the Commercial Operation Date, In-Service Date or Initial Synchronization Date of the Large Generating Facility to which the Interconnection Request relates or any extension of a duration that results in the Initial Synchronization Date exceeding the date the Interconnection Request was received by the System Operator by seven (7) or more years is a Material Modification unless the Interconnection Customer demonstrates to the System Operator due diligence, including At-Risk Expenditures, in pursuit of permitting, licensing and construction of the Large Generating Facility to meet the Commercial Operation Date, In-Service Date or Initial Synchronization Date provided in the Interconnection Request. Such demonstration shall be based on evidence to be provided by the Interconnection Customer of accomplishments in permitting, licensing, and construction in an effort to meet the Commercial Operation Date, In-Service Date or Initial Synchronization Date provided in this Interconnection Request. Such evidence may include filed documents, records of public hearings, governmental agency findings, documentation of actual construction progress or documentation acceptable to the System Operator showing At-Risk Expenditure made previously, including the previous four (4) months. If the evidence demonstrates that the Interconnection Customer did not undertake reasonable efforts to meet the Commercial Operation Date, In-Service Date or Initial Synchronization Date specified in the Interconnection Request, or demonstrates that reasonable efforts were not undertaken until four (4) months prior to the request for extension, the request for extension shall constitute a Material Modification. The Interconnection Customer may then withdraw the proposed Material Modification or proceed with a new Interconnection Request for such modification.



## **SECTION 5. PROCEDURES FOR TRANSITION.**

### **5.1 Queue Position for Pending Requests.**

**5.1.1** Any Interconnection Customer assigned a Queue Position prior to March 19, 2020, shall retain that Queue Position subject to Section 4.4 of the LGIP.

**5.1.1.1** If an Interconnection Study Agreement has not been executed prior to March 19, 2020, then such Interconnection Study, and any subsequent Interconnection Studies, shall be processed in accordance with the version of this LGIP in effect on March 19, 2020 (or as revised thereafter).

**5.1.1.2** If an Interconnection Study Agreement has been executed prior to March 19, 2020 and is actively under study, such Interconnection Study shall be completed in accordance with the terms of such agreement. If an Interconnection Study Agreement has been executed prior to March 19, 2020, but the Interconnection Study has not commenced, such Interconnection Study shall be completed, and any subsequent Interconnection Studies shall be processed, in accordance with the version of the LGIP in effect on March 19, 2020. Interconnection Studies for Interconnection Requests seeking to interconnect into the Northern and Western Maine parts of the New England Control Area that do not have a completed Interconnection System Impact Study by November 1, 2017 shall be included in the Maine Resource Integration Study, which shall be the first CRPS. The Interconnection Customers identified in the Maine Resource Integration Study as eligible to participate in the associated Cluster System Impact Study shall make one of the elections and complete the associated requirements specified in Section 4.2.3.2 of this LGIP within thirty (30) Calendar Days from the later of November 1, 2017 or the issuance of the final Maine Resource Integration Study report. If the Interconnection Customer does not make one of the elections and complete the associated requirements by the thirtieth Calendar Day, the System Operator shall automatically withdraw the Interconnection Request from the interconnection queue without further opportunity to cure.

**5.1.2** Transition Period. To the extent necessary, the System Operator, Interconnection Customers with an outstanding Interconnection Request (i.e., an Interconnection Request for which an LGIA has neither

been executed nor submitted to the Commission for approval prior to March 19, 2020), Interconnecting Transmission Owner and any other Affected Parties, shall transition to proceeding under the version of the LGIP in effect as of March 19, 2020 (or as revised thereafter) within a reasonable period of time not to exceed sixty (60) Calendar Days. The use of the term “outstanding Interconnection Request” herein shall mean any Interconnection Request, on March 19, 2020: (i) that has been submitted, together with the required deposit and attachments, but not yet accepted by the System Operator; (ii) where the related LGIA has not yet been submitted to the Commission for approval in executed or unexecuted form, (iii) where the relevant Interconnection Study Agreements have not yet been executed, or (iv) where any of the relevant Interconnection Studies are in process but not yet completed. Any Interconnection Customer with an outstanding Interconnection Request as of the effective date of this LGIP may request a reasonable extension of the next applicable deadline if necessary to avoid undue hardship or prejudice to its Interconnection Request. A reasonable extension, not to exceed sixty (60) Calendar Days, shall be granted by the System Operator to the extent consistent with the intent and process provided for under this LGIP.

### **5.1.3 One-Time Election for CNR Interconnection Service at Queue Position Assigned Prior to February 1, 2009.**

An Interconnection Customer with an outstanding Interconnection Request will be eligible to make a one-time election to be considered for CNR Interconnection Service at the Queue Position assigned prior to February 1, 2009. The Interconnection Customer’s one-time election must be made by the end of the New Generating Capacity Show of Interest Submission Window for the fourth Forward Capacity Auction. The Interconnection Customer’s one-time election may also include a request for Long Lead Facility Treatment, which shall be subject to review pursuant to Section 3.2.3, and, if applicable, a request for a change of the Commercial Operation Date, in accordance with Sections 4.4.4 and 4.4.5.

Interconnection Customers requesting CNR Interconnection Service will be required to comply with the requirements for CNR Interconnection Service set forth in Section 3.2.1. Interconnection Customers requesting CNR Interconnection Service that have not received a completed Interconnection System Impact Study may request a preliminary, non-binding, analysis of potential upgrades that may be necessary for the fourth Forward Capacity Auction – the prompt or near-term auction – pursuant to Sections 6.3 or 7.3, whichever is applicable.

## **5.2 Grandfathering.**

**5.2.1** An Interconnection Customer's Generating Facility that is interconnected pursuant to an Interconnection Agreement executed or submitted to the Commission for approval prior to February 1, 2009, will maintain its status as a Network Resource with Network Resource Interconnection Service eligible to participate in the New England Markets, in accordance with the requirements of Market Rule 1, Section III of the Tariff, up to the megawatt amount specified in the Interconnection Agreement, subject to the Interconnection Customer satisfying all requirements set forth in the Interconnection Agreement and this LGIP. If the Generating Facility does not meet the criteria set forth in Section 5.2.3 of this LGIP, the Interconnection Customer will be eligible to make a one-time election, pursuant to Section 5.1.3, for Capacity Network Resource treatment without submitting a new Interconnection Request; however, the Interconnection Customer will be required to comply with the requirements for CNR Interconnection Service set forth in Section 3.2.1. Upon completion of the requirements to obtain CNR Interconnection Service, the Interconnection Customer's Interconnection Agreement shall be amended to conform to the LGIA in Appendix 6 of this LGIP.

**5.2.2** An Interconnection Customer's Generating Facility governed by an Interconnection Agreement either executed or filed with the Commission in unexecuted form prior to August 1, 2008, shall maintain the Queue Position assigned as of August 1, 2008, and be eligible to participate in the New England Markets, in accordance with the requirements in Market Rule 1, Section III of the Tariff, as in effect as of August 1, 2008, so long as the Interconnection Customer complies with all of the requirements specified in the Interconnection Agreement, including achieving the milestones associated with At-Risk Expenditures, subject to Section 4.4 of this LGIP.

**5.2.3** All resources that are treated as Existing Generating Capacity Resources in the fourth Forward Capacity Auction pursuant to Section III.13 of the Tariff shall receive treatment as a CNR and obtain CNR Interconnection Service, in accordance with this LGIP, up to the CNR Capability of the resource. The grandfathered CNR Capability for these resources shall be equal to the megawatt amount established pursuant to the following hierarchy:

(a) First, the megawatt amount specified in an Interconnection Agreement (whether executed or filed in unexecuted form with the Commission).

(b) Second, in the absence of an Interconnection Agreement with a specified megawatt amount, the megawatt amount specified in an approval pursuant to Section I.3.9 of the Tariff (or its predecessor provision).

(c) Third, in the absence of an Interconnection Agreement and an approval pursuant to Section I.3.9 of the Tariff (or its predecessor provision) with a specified megawatt amount, as determined by the System Operator based on documented historic capability of the Generating Facility.

Where a resource has both an Interconnection Agreement and an approval pursuant to Section I.3.9 of the Tariff (or its predecessor provision), the lower megawatt amount will govern until the resource completes the applicable process(es) under the Tariff for obtaining the higher megawatt amount. The absence of an Interconnection Agreement or an approval pursuant to Section I.3.9 of the Tariff (or its predecessor provision) specifying a megawatt amount shall be confirmed by an affidavit executed by a corporate officer of the resource attesting that the resource does not have an Interconnection Agreement and/or an approval pursuant to Section I.3.9 of the Tariff (or its predecessor provision) that specifies a megawatt amount.

Where the governing document (as determined by the hierarchy set forth in Section 5.2.3) specifies a megawatt amount at an ambient temperature consistent with the definition of CNR Capability, the grandfathered CNR Capability shall be equal to that amount.

Where the governing document (as determined by the hierarchy set forth in Section 5.2.3) does not specify an ambient temperature, the megawatt amount will be deemed to be at the value consistent with the definition of CNR Capability.

Where the implementation of this Section 5.2.3 results in a CNR Capability that is different than previously had been identified, the revised CNR Capability will be applied commencing with the next Forward Capacity Auction qualification process (after the revised CNR Capability value is identified),

which is initiated by the closing deadline of the Show of Interest Submission Window in accordance with Section III.13 of the Tariff. The revised CNR Capability will continue to govern until the resource completes the applicable process(es) for obtaining the higher megawatt amount.

**5.2.4** All resources that are treated as Existing Generating Capacity Resources in the fourth Forward Capacity Auction pursuant to Section III.13 of the Tariff shall receive treatment as a NR and obtain NR Interconnection Service, in accordance with this LGIP, up to the NR Capability of the resource. The grandfathered NR Capability shall be determined pursuant to the hierarchy set forth in Section 5.2.3.

Where the governing document (as determined by the hierarchy set forth in Section 5.2.3) of a resource for which a temperature-adjustment curve is used for the claimed capability verification, as set forth in the ISO New England Manuals, specifies a megawatt amount at an ambient temperature, the grandfathered NR Capability shall be equal to a temperature-adjusted value consistent with the definition of NR Capability.

Where the governing document (as determined by the hierarchy set forth in Section 5.2.3) does not specify an ambient temperature, the megawatt amount will be deemed to be at the value consistent with the definition of NR Capability.

### **5.3 New System Operator or Interconnecting Transmission Owner.**

If the System Operator transfers operational control of the New England Transmission System to a successor System Operator during the period when an Interconnection Request is pending, the System Operator shall transfer to the successor System Operator any amount of the deposit or payment with interest thereon that exceeds the cost that it incurred to evaluate the request for interconnection. Any difference between such net amount and the deposit or payment required by this LGIP shall be paid by or refunded to the Interconnection Customer, as appropriate. The System Operator shall coordinate with the successor System Operator to complete any Interconnection Study, as appropriate, that the System Operator has begun but has not completed.

If the Interconnecting Transmission Owner transfers ownership of its transmission facilities to a successor transmission owner during the period when an Interconnection Request is pending, and System Operator

in conjunction with Interconnecting Transmission Owner has tendered a draft LGIA to the Interconnection Customer but the Interconnection Customer has not either executed the LGIA or requested the filing of an unexecuted LGIA with the Commission, unless otherwise provided, the Interconnection Customer must complete negotiations with the successor transmission owner.

## **SECTION 6. INTERCONNECTION FEASIBILITY STUDY.**

### **6.1 Interconnection Feasibility Study Agreement.**

Except as otherwise provided in Section 4.2.3.4 of this LGIP, within five (5) Business Days following the System Operator's and Interconnecting Transmission Owner's receipt from the Interconnection Customer of its election to pursue the Interconnection Feasibility Study, the designation of the Point(s) of Interconnection, and the scope of Interconnection Feasibility Study to be performed pursuant to Section 3.4.4, System Operator shall tender to Interconnection Customer the Interconnection Feasibility Study Agreement, which includes a good faith estimate of the cost for completing the Interconnection Feasibility Study. The Interconnection Feasibility Study Agreement shall specify that Interconnection Customer is responsible for the actual cost of the Interconnection Feasibility Study, including the cost of developing the study agreement and its attachment(s). No later than thirty (30) Calendar Days after its receipt of the Interconnection Feasibility Study Agreement, (a) the Interconnection Customer shall execute and deliver the agreement to System Operator and the Interconnecting Transmission Owner, (b) the Interconnection Customer shall also deliver the refundable deposit for the Interconnection Feasibility Study to the System Operator, and (c) the technical data called for in Appendix 1, Attachment A (and Attachment A-1, if applicable) or Attachment B, depending on the scope selected pursuant to Section 3.4.4. The deposit for the study shall be 100 percent of the estimated cost of the study. The deposit shall be applied toward the cost of the Interconnection Feasibility Study, including the cost of developing the study agreement and its attachment(s). For Interconnection Requests that are identified for inclusion in a CRPS performed under Section 15 of Attachment K, Section II of the Tariff, the deposit also shall be applied toward the costs incurred by the Interconnecting Transmission Owner in developing the cost estimates in support of the CRPS. Any difference between the study deposit and the actual cost of the Interconnection Feasibility Study or the actual costs incurred by the Interconnecting Transmission Owner in developing the costs estimates in support of the CRPS shall be paid by or refunded to the Interconnection Customer, except as otherwise provided in Section 13.3. In accordance with Section

13.3, the System Operator and/or the Interconnecting Transmission Owner shall issue to the Interconnection Customer an invoice for the costs of the Interconnection Feasibility Study that have been incurred by the System Operator and/or the Interconnecting Transmission Owner on the Interconnection Feasibility Study, including the development of the study agreement and its attachment(s). Interconnecting Transmission Owner shall provide System Operator on a monthly basis, and in the form and format specified by the System Operator, invoices for the work conducted on the Interconnection Feasibility Study each month and shall include in such invoices all employee hours and third party consultant hours, including subcontractor hours, expended toward the Interconnection Feasibility Study. The Interconnection Customer shall pay the invoiced amounts, to the extent such amounts are greater than the initial deposit, within thirty (30) Calendar Days of receipt of invoice. The System Operator shall continue to hold any amounts on deposit until settlement of the final invoice with the Interconnection Customer and the Interconnecting Transmission Owner.

On or before the return of the executed Interconnection Feasibility Study Agreement to the System Operator and Interconnecting Transmission Owner, the Interconnection Customer shall provide the technical data called for in Appendix 1, Attachment A (and Attachment A-1, if applicable) or Attachment B, depending on the scope elected pursuant to Section 3.4.1. If the Interconnection Customer does not provide all such technical data when it delivers the Interconnection Feasibility Study Agreement, the System Operator shall notify the Interconnection Customer of the deficiency within five (5) Business Days of the receipt of the executed Interconnection Feasibility Study Agreement and the Interconnection Customer shall cure the deficiency within ten (10) Business Days of receipt of the notice, provided, however, such deficiency does not include failure to deliver the executed Interconnection Feasibility Study Agreement or deposit.

If the Interconnection Feasibility Study uncovers any unexpected result(s) not contemplated during the Scoping Meeting, a substitute Point of Interconnection identified by the System Operator, Interconnection Customer, Interconnecting Transmission Owner, or any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements, and acceptable to the Parties, such acceptance not to be unreasonably withheld, will be substituted for the designated Point of Interconnection specified above without loss of Queue Position, and re-studies shall be completed pursuant to Section 6.4 as applicable. For the purpose of this Section 6.1, if the Parties

cannot agree on the substituted Point of Interconnection, then Interconnection Customer may direct that one of the alternatives as specified in the Interconnection Feasibility Study Agreement, as specified pursuant to Section 3.4.4, shall be the substitute.

## **6.2 Scope of Interconnection Feasibility Study.**

The Interconnection Feasibility Study shall preliminarily evaluate the feasibility of the proposed interconnection to the Administered Transmission System with available data and information.

The Interconnection Feasibility Study will consider the Base Case as well as all generating facilities and Elective Transmission Upgrades (and with respect to (iii), any identified Network Upgrades) that, on the date the Interconnection Feasibility Study is commenced: (i) are directly interconnected to the New England Transmission System; (ii) are interconnected to Affected Systems and may have an impact on the Interconnection Request; (iii) have a pending higher queued Interconnection Request to interconnect to the New England Transmission System and may have an impact on the Interconnection Request; and (iv) have no Queue Position but have executed an Interconnection Agreement or requested that an unexecuted Interconnection Agreement be filed with the Commission (the “Study Case” for the Interconnection Feasibility Study). If the Reasonable Efforts timeframe for the completion of the Interconnection Feasibility Study does not overlap with the timeframe for the overlapping interconnection impacts analysis conducted for qualification in the Forward Capacity Auction pursuant to Section III.13.1.1.2.3 of the Tariff, then an Interconnection Customer with a CNR Interconnection Request may also request that the Interconnection Feasibility Study include a preliminary, non-binding, analysis to identify potential upgrades that may be necessary for the Interconnection Customer’s Generating Facility to qualify for participation in a Forward Capacity Auction under Section III.13 of the Tariff, based on a limited set of assumptions to be specified by the Interconnection Customer and reflected in Attachment A to the Interconnection Feasibility Study Agreement.

The Interconnection Feasibility Study will consist of a limited power flow, including thermal analysis and voltage analysis, and short circuit analysis. The Interconnection Feasibility Study report will provide (i) the study findings; and (ii) a preliminary description of a non-binding good faith order of magnitude estimated cost of (unless the Interconnection Customer waives such cost estimate) and the time to



construct the Interconnection Facilities and Network Upgrades necessary to interconnect the Large Generating Facility as identified within the scope of the analysis performed as part of the study.

Alternatively, the Interconnection Customer may provide the technical data called for in Appendix 1, Attachment A (and Attachment A-1, if applicable) with the executed Interconnection Feasibility Study Agreement and request that the Interconnection Feasibility Study consist of limited thermal analysis, voltage analysis, short circuit analysis, stability analysis, or electromagnetic transient analysis, as appropriate, focusing on the issues that are expected to be the most significant for the proposed Large Generating Facility's interconnection given recent study experience and as discussed at the Scoping Meeting. In this case, the Interconnection Feasibility Study report will provide (i) the study findings; and, (ii) a preliminary description of and a non-binding good faith order of magnitude estimated cost of (unless the Interconnection Customer waives such cost) and the time to construct the Interconnection Facilities and Network Upgrades necessary to interconnect the Large Generating Facility as identified within the scope of the analysis performed as part of the study.

To the extent the Interconnection Customer requested a preliminary analysis as described in this Section 6.2, the Interconnection Feasibility Study report will also provide a list of potential upgrades that may be necessary for the Interconnection Customer's Generating Facility to qualify for participation in a Forward Capacity Auction under Section III.13 of the Tariff.

### **6.3 Interconnection Feasibility Study Procedures.**

The System Operator in coordination with Interconnecting Transmission Owner shall utilize existing studies to the extent practicable when it performs the study. The System Operator and Interconnecting Transmission Owner shall use Reasonable Efforts to complete the Interconnection Feasibility Study no later than ninety (90) Calendar Days after System Operator and Interconnecting Transmission Owner receive the fully executed Interconnection Feasibility Study Agreement, study deposit and required technical data in accordance with Section 6.1. At the request of the Interconnection Customer or at any time the System Operator or the Interconnecting Transmission Owner determines that it will not meet the required time frame for completing the Interconnection Feasibility Study, the System Operator shall notify the Interconnection Customer as to the schedule status of the Interconnection Feasibility Study. If the System Operator is unable to complete the Interconnection Feasibility Study within that time period,

the System Operator shall notify the Interconnection Customer and provide an estimated completion date with an explanation of the reasons why additional time is required. In such circumstances, upon request, the System Operator with input from the Interconnecting Transmission Owner shall provide all supporting documentation, workpapers and relevant Study Case power flow and short circuit databases that have been developed for the Interconnection Feasibility Study to any third party consultant retained by the Interconnection Customer. The recipient(s) of such information shall be subject to the confidentiality provisions of Section 13.1 and the ISO New England Information Policy, as well as any other applicable requirement under Applicable Laws and Regulations regulating the disclosure or confidentiality of such information. To the extent that any applicable information is not covered by any applicable confidentiality/disclosure requirements, such information may be provided directly to the Interconnection Customer.

System Operator shall study the Interconnection Request at the level of Interconnection Service requested by the Interconnection Customer for purposes of determining necessary Interconnection Facilities and Network Upgrades, and at the full Generating Facility capability to ensure the acceptability of the proposed control technology to restrict the facility's output and the safety or reliability of the system.

#### **6.3.1 Meeting with Parties.**

Within ten (10) Business Days of providing an Interconnection Feasibility Study report to the Interconnection Customer, the System Operator will convene a meeting of the Interconnecting Transmission Owner, Interconnection Customer, and any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements to discuss the results of the Interconnection Feasibility Study.

#### **6.4 Re-Study.**

If re-study of the Interconnection Feasibility Study is required due to (i) a higher queued project dropping out of the queue, (ii) a modification of a higher queued project subject to Section 4.4, (iii) a re-designation of the Point of Interconnection pursuant to Section 6.1, (iv) a re-assessment of the upgrade responsibilities of an Elective Transmission Upgrade associated with an Import Capacity Resource(s) or a Generating Facility after the Import Capacity Resource(s) or the Generating Facility receives a Capacity Supply

Obligation in accordance with Section III.13 of the Tariff, or (v) a modification to a transmission project included in the Base Case, the System Operator shall notify the Interconnection Customer and Interconnecting Transmission Owner in writing. Each re-study shall be conducted serially based on the Queue Position of each Interconnection Customer, and each re-study shall take not longer than sixty (60) Calendar Days from the date the re-study commences. Any cost of re-study shall be borne by the Interconnection Customer being re-studied. If the original Interconnection Feasibility Study is complete and the final invoice has been issued, the re-study shall be performed under a new Interconnection Feasibility Study Agreement.

The Interconnection Customer shall have the option to waive the re-study and elect to have the re-study performed as part of its Interconnection System Impact Study. The Interconnection Customer shall provide written notice of the waiver and election of moving directly to the Interconnection System Impact Study within five (5) Business Days of receiving notice from the System Operator of the required re-study.

## **SECTION 7. INTERCONNECTION SYSTEM IMPACT STUDY.**

### **7.1 Interconnection System Impact Study Agreement.**

Within five (5) Business Days following the Interconnection Feasibility Study results meeting, or subsequent to the Scoping Meeting within five (5) Business Days if the Interconnection Customer did not pursue the Interconnection Feasibility Study, the System Operator and Interconnecting Transmission Owner shall provide to Interconnection Customer the Interconnection System Impact Study Agreement, which includes a non-binding good faith estimate of the cost and timeframe for commencing and completing the Interconnection System Impact Study. The Interconnection System Impact Study Agreement shall provide that the Interconnection Customer shall compensate the System Operator and Interconnecting Transmission Owner for the actual cost of the Interconnection System Impact Study, including the cost of developing the study agreement and its attachment(s) and the cost of developing the LGIA.

### **7.2 Execution of Interconnection System Impact Study Agreement.**

The Interconnection Customer shall execute the Interconnection System Impact Study Agreement and deliver the executed Interconnection System Impact Study Agreement to the System Operator no later than thirty (30) Calendar Days after its receipt along with a demonstration of Site Control and the technical data called for in Appendix 1, Attachment A (and Attachment A-1, if applicable), and the Interconnection Customer shall also deliver a refundable deposit. An Interconnection Customer does not need to demonstrate Site Control where the Interconnection Request is for a modification to the Interconnection Customer's existing Large Generating Facility and the Interconnection Customer has certified in the Interconnection Request that it has Site Control and that the modification proposed in the Interconnection Request does not require additional real property. The deposit for the study shall be: (i) the greater of 100 percent of the estimated cost of the study or \$250,000; or (ii) the lower of 100 percent of the estimated costs of the study or \$50,000, if the Interconnection Customer can provide: (1) evidence of applications for all Major Permits, as defined in Section III.13.1.1.2.2.2(a) of the Tariff, required in support of the Interconnection Request or written certification that Major Permits are not required, or (2) evidence acceptable to the System Operator of At-Risk Expenditures (excluding Interconnection Study costs) totaling at least the amounts of money described in (i) above; or (iii) the lower of 100 percent of the estimated costs of the study or \$50,000, if the Interconnection Request is for a modification to an existing Large Generating Facility that does not increase the energy capability or capacity capability of the Large Generating Facility.

The deposit shall be applied toward the cost of the Interconnection System Impact Study, including the cost of developing the study agreement and its attachment(s) and the cost of developing the LGIA. For Interconnection Requests that are identified for inclusion in a CRPS performed under Section 15 of Attachment K, Section II of the Tariff, the deposit also shall be applied toward the costs incurred by the Interconnecting Transmission Owner in developing the cost estimates in support of the CRPS. Any difference between the study deposit and the actual cost of the Interconnection System Impact Study or the actual costs incurred by the Interconnecting Transmission Owner in developing the costs estimates in support of the CRPS shall be paid by or refunded to the Interconnection Customer, except as otherwise provided in Section 13.3. In accordance with Section 13.3, the System Operator and/or the Interconnecting Transmission Owner shall issue to the Interconnection Customer an invoice for the costs of Interconnection System Impact Study that have been incurred by the System Operator and/or the Interconnecting Transmission Owner for the System Impact Study, including the study agreement and its

attachment(s) and the LGIA. Interconnecting Transmission Owner shall provide System Operator on a monthly basis, and in the form and format specified by the System Operator, invoices for the work conducted on the Interconnection System Impact Study each month and shall include in such invoices all employee hours and third party consultant hours, including subcontractor hours, expended toward the Interconnection System Impact Study. In the case of Clustering, CSIS costs that are associated with an individual Interconnection Request assessed within the CSIS will be charged directly to that Interconnection Customer. CSIS costs that are associated with the CSIS as a whole will be divided equally, on a per-project basis, among the Interconnection Customers in the cluster. If the Interconnection Customer elects the deposit described in (ii) above, the System Operator and the Interconnecting Transmission Owner may, in the exercise of reasonable discretion, invoice the Interconnection Customer on a monthly basis for the work to be conducted on the Interconnection System Impact Study on each month. The Interconnection Customer shall pay the invoiced amounts, to the extent such amounts are greater than the initial deposit, within thirty (30) Calendar Days of receipt of invoice. The System Operator shall continue to hold the amounts on deposit until settlement of the final invoice with the Interconnection Customer and the Interconnecting Transmission Owner.

On or before the return of the executed Interconnection System Impact Study Agreement to the System Operator and Interconnecting Transmission Owner, the Interconnection Customer shall provide the technical data called for in Appendix 1, Attachment A (and Attachment A-1, if applicable); provided that if a PSCAD model for a non-wind or non-inverter-based Large Generating Facility was determined to be needed at the Scoping Meeting, then the Interconnection Customer shall have ninety (90) Calendar Days from the execution of the System Impact Study Agreement to provide the PSCAD model.

If the Interconnection Customer does not provide all such technical data when it delivers the Interconnection System Impact Study Agreement, the System Operator shall notify the Interconnection Customer of the deficiency within five (5) Business Days of the receipt of the executed Interconnection System Impact Study Agreement and the Interconnection Customer shall cure the deficiency within ten (10) Business Days of receipt of the notice, provided, however, such deficiency does not include failure to deliver the executed Interconnection System Impact Study Agreement or deposit.

If the Interconnection System Impact Study uncovers any unexpected result(s) not contemplated during the Scoping Meeting or the Interconnection Feasibility Study, a substitute Point of Interconnection identified by the System Operator, Interconnection Customer, Interconnecting Transmission Owner, or any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements, and acceptable to each Party, such acceptance not to be unreasonably withheld, will be substituted for the designated Point of Interconnection specified above without loss of Queue Position, and re-studies shall be completed pursuant to Section 7.6 as applicable. For the purpose of this Section 7.2, if the Parties cannot agree on the substituted Point of Interconnection, then Interconnection Customer may direct that one of the alternatives as specified in the Interconnection Feasibility Study Agreement if Interconnection Customer pursued the Interconnection Feasibility Study, as specified pursuant to Section 3.4.4, shall be the substitute.

### **7.3 Scope of Interconnection System Impact Study.**

The Interconnection System Impact Study shall evaluate the impact of the proposed interconnection on the reliability and operation of the New England Transmission System. The Interconnection System Impact Study will consider the Base Case as well as all generating facilities and Elective Transmission Upgrades (and with respect to (iii) below, any identified Network Upgrades associated with such higher queued interconnection) that, on the date the Interconnection System Impact Study is commenced: (i) are directly interconnected to the New England Transmission System; (ii) are interconnected to Affected Systems and may have an impact on the Interconnection Request; (iii) have a pending higher queued Interconnection Request to interconnect to the New England Transmission System and may have an impact on the Interconnection Request; and (iv) have no Queue Position but have executed an Interconnection Agreement or requested that an unexecuted Interconnection Agreement be filed with the Commission (the “Study Case” for the Interconnection System Impact Study). An Interconnection Customer with a CNR Interconnection Request may also request that the Interconnection System Impact Study include a preliminary, non-binding, analysis to identify potential upgrades that may be necessary for the Interconnection Customer’s Generating Facility to qualify for participation in a Forward Capacity Auction under Section III.13 of the Tariff, based on a limited set of assumptions to be specified by the Interconnection Customer and reflected in Attachment A to the Interconnection System Impact Study Agreement.

The Interconnection System Impact Study will consist of a short circuit analysis, a stability analysis, a power flow analysis, such as electromagnetic transient analysis, including thermal analysis and voltage analysis, a system protection analysis and any other analyses that are deemed necessary by the System Operator in consultation with the Interconnecting Transmission Owner. The Interconnection System Impact Study report will state the assumptions upon which it is based, state the results of the analyses, and provide the requirements or potential impediments to providing the requested interconnection service, including a preliminary indication of the cost and length of time that would be necessary to correct any problems identified in those analyses and implement the interconnection. For purposes of determining necessary Interconnection Facilities and Network Upgrades, the Interconnection System Impact Study shall consider the level of Interconnection Service requested by the Interconnection Customer. However, the Interconnection System Impact Study shall consider the full Generating Facility capability to ensure the acceptability of the proposed control technology to restrict the facility's output and the safety and reliability of the system. The Interconnection System Impact Study report will provide (i) a list of facilities that are required as a result of the Interconnection Request and a non-binding good faith estimate of cost responsibility; (ii) a non-binding good faith estimated time to construct; (iii) a protection assessment to determine the required protection upgrades; and may provide (iv) an evaluation of the siting of the Interconnection Facilities and Network Upgrades; and (v) identification of the likely permitting and siting process including easements and environment work. To the extent the Interconnection Customer requested a preliminary analysis as described in this Section 7.3, the Interconnection System Impact Study report will also provide a list of potential upgrades that may be necessary for the Interconnection Customer's Generating Facility to qualify for participation in a Forward Capacity Auction under Section III.13 of the Tariff.

#### **7.4 Interconnection System Impact Study Procedures.**

The System Operator shall coordinate the Interconnection System Impact Study with the Interconnecting Transmission Owner, and with any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements, that is affected by the Interconnection Request pursuant to Section 3.6 above. The System Operator and Interconnecting Transmission Owner shall utilize existing studies to the extent practicable when it performs the study. The System Operator and Interconnecting Transmission Owner shall use Reasonable Efforts to complete the Interconnection System Impact Study within two hundred and seventy (270) Calendar Days after the

receipt of the Interconnection System Impact Study Agreement, study deposit, demonstration of Site Control, if Site Control is required, and required technical data in accordance with Section 7.2. If System Operator uses Clustering, the System Operator and Interconnecting Transmission Owner shall use Reasonable Efforts to deliver a completed Interconnection System Impact Study within the times specified in this Section 7.4.

At the request of the Interconnection Customer or at any time the System Operator or Interconnecting Transmission Owner determines that it will not meet the required time frame for completing the Interconnection System Impact Study, the System Operator shall notify the Interconnection Customer as to the schedule status of the Interconnection System Impact Study. If the System Operator and Interconnecting Transmission Owner are unable to complete the Interconnection System Impact Study within the time period, the System Operator shall notify the Interconnection Customer and provide an estimated start date if the study has not commenced and completion date with an explanation of the reasons why additional time is required. In such circumstances, upon request, the System Operator and Interconnecting Transmission Owner shall provide all supporting documentation, workpapers and relevant Study Case power flow, short circuit and stability databases that have been developed for the Interconnection System Impact Study to any third party consultant retained by the Interconnection Customer. The recipient(s) of such information shall be subject to the confidentiality provisions of Section 13.1 and the ISO New England Information Policy, as well as any other applicable requirement under Applicable Laws and Regulations regulating the disclosure or confidentiality of such information. To the extent that any applicable information is not covered by any applicable confidentiality/ disclosure requirements, such information may be provided directly to the Interconnection Customer.

Except in the case of a CSIS, the System Operator shall notify the Interconnection Customer when the Interconnection System Impact Study is expected to commence within sixty-five (65) Calendar Days. An Interconnection Customer with an Interconnection Request being studied serially will be permitted to update the technical data provided in Appendix 1 and Attachment A (and Attachment A-1, if applicable), and submit modifications to that technical data to the System Operator no later than sixty (60) Calendar Days from the date that the System Operator notified the Interconnection Customer that the Interconnection System Impact Study is expected to commence. Such modifications will not be deemed Material Modifications provided they meet the requirements of Section 4.4.1 of this LGIP.



Where sufficient time has elapsed since the initial Scoping Meeting, within ten (10) Business Days after notifying the Interconnection Customer that the Interconnection System Impact Study is expected to commence, the System Operator may convene a second Scoping Meeting for the purpose of providing updated information to the Interconnection Customer in preparation for the submittal of updates to the technical data.

#### **7.5 Meeting with Parties.**

Within ten (10) Business Days of providing an Interconnection System Impact Study report to Interconnection Customer, the System Operator shall convene a meeting of the Interconnecting Transmission Owner, Interconnection Customer, and any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements, to discuss the results of the Interconnection System Impact Study.

Within ten (10) Business Days following the study results meeting, the Interconnection Customer shall provide to the System Operator written notice that it will either pursue the Interconnection Facilities Study or waive the Interconnection Facilities Study and elect an expedited interconnection. Once the Interconnection Customer notifies the System Operator of its election, such election is not subject to change. If the Interconnection Customer elects to pursue the Facilities Study it must proceed with the study. If the Interconnection Customer waives the Facilities Study, it shall commit to the following milestones in the LGIA: (i) Siting approval for the Generating Facility and Interconnection Facilities; (ii) Engineering of Interconnection Facilities approved by Interconnecting Transmission Owner; (iii) Ordering of long lead time material for Interconnection Facilities and system upgrades; (iv) Initial Synchronization Date; and (v) Commercial Operation Date.

Within thirty (30) Calendar Days of the Interconnection Customer receiving the Interconnection System Impact Study report, the Interconnection Customer shall provide written comments on the report or written notice that it has no comments on the report. The System Operator shall issue a final Interconnection System Impact Study report within fifteen (15) Business Days of receiving the Interconnection Customer's comments or promptly upon receiving the Interconnection Customer's notice that it will not provide comments.

## **7.6 Re-Study.**

If re-study of the Interconnection System Impact Study is required due to (i) a higher queued project dropping out of the queue, (ii) a modification of a higher queued project subject to Section 4.4, (iii) re-designation of the Point of Interconnection pursuant to Section 7.2, (iv) a re-assessment of the upgrade responsibilities of an Elective Transmission Upgrade associated with an Import Capacity Resource(s) or a Generating Facility after the Import Capacity Resource(s) or the Generating Facility receives a Capacity Supply Obligation in accordance with Section III.13 of the Tariff, or (v) a modification to a transmission project included in the Base Case, the System Operator shall notify the Interconnection Customer and Interconnecting Transmission Owner in writing.

Each re-study shall be conducted serially based on the Queue Position of each Interconnection Customer, and each re-study shall take no longer than sixty (60) Calendar Days from the date the re-study commences. Any cost of re-study shall be borne by the Interconnection Customer being re-studied. If the original Interconnection System Impact Study is complete and the final invoice has been issued, the re-study shall be performed under a new Interconnection System Impact Study Agreement.

## **7.7 Operational Readiness.**

The System Operator shall, as close to the Interconnection Customer's actual Synchronization Date as reasonably possible, ensure that operational analysis, including current stability analyses, power flow analyses, and any other analyses deemed necessary by the System Operator, are performed, and that procedures are developed or updated to address the operation of the New England Transmission System with the addition of the Interconnection Customer's Generating Facility. The operational analysis will also include tests of system performance with selected facilities out of service. Such studies shall be performed at the expense of the Interconnection Customer.

The System Operator is not obligated to perform the operational analyses described in this Section 7.7 if, in the exercise of reasonable discretion, the System Operator in consultation with Interconnecting Transmission Owner determines that interconnection of the Interconnection Customer's Generating Facility to the Administered Transmission System is remote and speculative.

## **SECTION 8. INTERCONNECTION FACILITIES STUDY.**

### **8.1 Interconnection Facilities Study Agreement.**

Except as otherwise provided in Section 4.2.4 of this LGIP, the Interconnection Customer may waive the Interconnection Facilities Study and instead elect expedited interconnection, which means that the Interconnection Customer may enter into E&P Agreements under Section 9 if it had not already done so, and shall enter into an LGIA in accordance with the requirements specified in Section 11.

If the Interconnection Customer waives the Interconnection Facilities Study, the Interconnection Customer, subject to the specific terms of the E&P Agreements, assumes all risks and shall pay all costs associated with equipment, engineering, procurement and construction work covered by the Interconnection Facilities Study as described in Section 8.2 below.

The System Operator shall provide to the Interconnection Customer an Interconnection Facilities Study Agreement in the form of Appendix 4 to this LGIP simultaneously with the delivery of the Interconnection System Impact Study to the Interconnection Customer.

The Interconnection Facilities Study Agreement shall provide that the Interconnection Customer shall compensate the System Operator and Interconnecting Transmission Owner for the actual cost of the Interconnection Facilities Study, including the cost of developing the study agreement and its attachment(s) and the cost of developing the LGIA. Within three (3) Business Days following the Interconnection System Impact Study results meeting, the System Operator and Interconnecting Transmission Owner shall provide to Interconnection Customer a non-binding good faith estimate of the cost for completing the Interconnection Facilities Study in accordance with requirements specified in Section 8.3. The Interconnection Customer shall execute the Interconnection Facilities Study Agreement and deliver the executed Interconnection Facilities Study Agreement to the System Operator within thirty (30) Calendar Days after its receipt, together with the required technical data and the refundable deposit for the Interconnection Facilities Study. In accordance with Section 8.3, the Interconnection Customer shall specify in Attachment A to the Interconnection Facilities Study Agreement whether it wants no more than a +/- 20 percent or a +/- 10 percent good faith cost estimate contained in the report. The deposit for the study shall be either: (i) the greater of twenty-five percent of the estimated cost of the

study or \$250,000; or (ii) the greater of 100 percent of one month's estimated study cost or \$100,000, if the Interconnection Customer can provide: (1) evidence of applications for all Major Permits, as defined in Section III.13.1.1.2.2.2 of the Tariff, required in support of the Interconnection Request, or provide certification that Major Permits are not required or (2) evidence acceptable to the System Operator of At-Risk Expenditures (excluding Interconnection Study costs) totaling at least the amounts of money in (i) above, not including the same At-Risk Expenditures demonstrated with the Interconnection System Impact Study Agreement, if applicable; or (iii) the greater of 100 percent of one month's estimated study cost or \$100,000, if the Interconnection Request is for a modification to an existing Large Generating Facility that does not increase the energy capability or capacity capability of the Large Generating Facility.

Any difference between the study deposit and the actual cost of the Interconnection Facilities Study shall be paid by or refunded to the Interconnection Customer, except as otherwise provided in Section 13.3. In accordance with Section 13.3, the System Operator and/or the Interconnecting Transmission Owner shall issue to the Interconnection Customer an invoice for the cost of the Interconnection Facilities Studies that have been incurred by the System Operator and/or the Interconnecting Transmission Owner for the Interconnection Facilities Study, the study agreement and its attachment(s) and the LGIA.

Interconnecting Transmission Owner shall provide System Operator on a monthly basis, and in the form and format specified by the System Operator, invoices for the work conducted on the Interconnection Facilities Study each month and shall include in such invoices all employee hours and third party consultant hours, including subcontractor hours, expended toward the Interconnection Facilities Study. In the case of Clustering, CFAC costs that are associated with an individual Interconnection Request assessed within the CFAC will be charged directly to that Interconnection Customer. CFAC costs that are associated with the CFAC as a whole will be divided equally, on a per-project basis, among the Interconnection Customers in the cluster. The System Operator and the Interconnecting Transmission Owner may, in the exercise of reasonable discretion, invoice the Interconnection Customer on a monthly basis for the work to be conducted on the Interconnection Facilities Study each month. The Interconnection Customer shall pay the invoiced amounts, to the extent such amounts are greater than the initial deposit, within thirty (30) Calendar Days of receipt of invoice. The System Operator shall continue to hold the amounts on deposit until settlement of the final invoice with the Interconnection Customer and the Interconnecting Transmission Owner.

## **8.2 Scope of Interconnection Facilities Study.**

The Interconnection Facilities Study shall specify and estimate the cost of the equipment, engineering, procurement and construction work needed to implement the conclusions of the Interconnection System Impact Study in accordance with Good Utility Practice to physically and electrically connect the Interconnection Facility to the Administered Transmission System. The Interconnection Facilities Study shall also identify the electrical switching configuration of the connection equipment, including, without limitation: the transformer, switchgear, meters, and other station equipment; the nature and estimated cost of any Interconnecting Transmission Owner's Interconnection Facilities and Network Upgrades necessary to accomplish the interconnection; and an estimate of the time required to complete the construction and installation of such facilities. The Interconnection Facilities Study shall also identify any potential control technology for the Large Generating Facility if the Interconnection Customer has requested Interconnection Service at a level that is lower than the nameplate capability of the facility. The scope and cost of the Interconnection Facilities Study shall include completion of any engineering work limited to what is reasonably required to (i) estimate such aforementioned cost to the accuracy specified by the Interconnection Customer pursuant to Section 8.3, (ii) identify, configurations of required facilities and (iii) identify time requirements for construction and installation of required facilities.

## **8.3 Interconnection Facilities Study Procedures.**

The System Operator shall coordinate the Interconnection Facilities Study with Interconnecting Transmission Owner, and any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements, pursuant to Section 3.6 above. The System Operator and Interconnecting Transmission Owner shall utilize existing studies to the extent practicable in performing the Interconnection Facilities Study. The System Operator and Interconnecting Transmission Owner shall use Reasonable Efforts to complete the study and the System Operator shall issue a draft Interconnection Facilities Study report to the Interconnection Customer, Interconnecting Transmission Owner, and any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements, within the following number of days after receipt of an executed Interconnection Facilities Study Agreement: ninety (90) Calendar Days, with no more than a +/- 20 percent good faith cost estimate contained in the report; or one hundred eighty (180) Calendar Days, if the Interconnection Customer requests a +/- 10 percent

good faith cost estimate. Such cost estimates either individually or in the aggregate will be provided in the final study report. If the System Operator uses Clustering, the System Operator and the Interconnecting Transmission Owner shall use Reasonable Efforts to deliver a completed Interconnection Facilities Study within the times specified in this Section 8.3.

At the request of the Interconnection Customer or at any time the System Operator or Interconnecting Transmission Owner determines that it will not meet the required time frame for completing the Interconnection Facilities Study, System Operator shall notify the Interconnection Customer, and any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements, as to the schedule status of the Interconnection Facilities Study. If the System Operator is unable to complete the Interconnection Facilities Study and issue a draft Interconnection Facilities Study report within the time required, the System Operator shall notify the Interconnection Customer, Interconnecting Transmission Owner and any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements, and provide an estimated completion date and an explanation of the reasons why additional time is required.

The Interconnection Customer and appropriate Affected Parties may, within thirty (30) Calendar Days after receipt of the draft report, provide written comments to the System Operator and Interconnecting Transmission Owner, which the System Operator shall include in the final report. The System Operator shall issue the final Interconnection Facilities Study report within fifteen (15) Business Days of receiving the Interconnection Customer's comments or promptly upon receiving Interconnection Customer's statement that it will not provide comments. The System Operator may reasonably extend such fifteen-day period upon notice to the Interconnection Customer if the Interconnection Customer's comments require the System Operator or Interconnecting Transmission Owner to perform additional analyses or make other significant modifications prior to the issuance of the final Interconnection Facilities Report. Upon request, the System Operator and Interconnecting Transmission Owner shall provide the Interconnection Customer and any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements, or any third party consultant retained by the Interconnection Customer supporting documentation, with workpapers, and databases or data developed in the preparation of the Interconnection Facilities Study. The recipient(s) of

such information shall be subject to the confidentiality provisions of Section 13.1 and the ISO New England Information Policy, as well as any other applicable requirement under Applicable Laws and Regulations regulating the disclosure or confidentiality of such information. To the extent that any applicable information is not covered by any applicable confidentiality/ disclosure requirements, such information may be provided directly to the Interconnection Customer.

#### **8.4 Meeting with Parties.**

Within ten (10) Business Days of providing a draft Interconnection Facilities Study report to Interconnection Customer, the System Operator will convene a meeting of the Interconnecting Transmission Owner, Interconnection Customer, and any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements to discuss the results of the Interconnection Facilities Study.

#### **8.5 Re-Study.**

If re-study of the Interconnection Facilities Study is required due to (i) a higher queued project dropping out of the queue, (ii) a modification of a higher queued project subject to Section 4.4, (iii) a re-assessment of the upgrade responsibilities of an Elective Transmission Upgrade associated with an Import Capacity Resource(s) or a Generating Facility after the Import Capacity Resource(s) or the Generating Facility receives a Capacity Supply Obligation in accordance with Section III.13 of the Tariff, or (iv) a modification to a transmission project included in the Base Case, the System Operator shall notify the Interconnection Customer and Interconnecting Transmission Owner in writing. Each re-study shall be conducted serially based on the Queue Position of each Interconnection Customer, and each re-study shall take no longer than sixty (60) Calendar Days from the date the re-study commences. Any cost of re-study shall be borne by the Interconnection Customer being re-studied. If the original Interconnection Facilities Study is complete and the final invoice has been issued, the re-study shall be performed under a new Interconnection Facilities Study Agreement.

### **SECTION 9. ENGINEERING & PROCUREMENT (“E&P”) AGREEMENT.**

Prior to executing an LGIA, an Interconnection Customer may request, in order to advance the implementation of its interconnection, and the Interconnecting Transmission Owner and any Affected

Party shall offer the Interconnection Customer, an E&P Agreement that authorizes the Interconnecting Transmission Owner and any Affected Party to begin engineering and procurement of long lead-time items necessary for the establishment of the interconnection. However, the Interconnecting Transmission Owner or any Affected Party shall not be obligated to offer an E&P Agreement if the Interconnection Customer is in Dispute Resolution as a result of an allegation that the Interconnection Customer has failed to meet any milestones or comply with any prerequisites specified in other parts of the LGIP. The E&P Agreement is an optional procedure and it will not alter the Interconnection Customer's Queue Position or Initial Synchronization Date. The E&P Agreement shall provide for the Interconnection Customer to pay the cost of all activities authorized by the Interconnection Customer, including a deposit of 100 percent of the estimated engineering and study costs, and to make advance payments or provide other satisfactory security for such costs.

The Interconnection Customer shall pay the cost of such authorized activities and any cancellation costs for equipment that is already ordered for its interconnection, which cannot be mitigated as hereafter described, whether or not such items or equipment later become unnecessary. If the Interconnection Customer withdraws its application for interconnection or an E&P Agreement is terminated by any Party, to the extent the equipment ordered can be canceled under reasonable terms, the Interconnection Customer shall be obligated to pay the associated cancellation costs. To the extent that the equipment cannot be reasonably canceled, the Interconnecting Transmission Owner or the Affected Party that is a party to an E&P Agreement may elect: (i) to take title to the equipment, in which event the Interconnecting Transmission Owner or relevant Affected Party shall refund the Interconnection Customer any amounts paid by the Interconnection Customer for such equipment and shall pay the cost of delivery of such equipment, or (ii) to transfer title to and deliver such equipment to the Interconnection Customer, in which event the Interconnection Customer shall pay any unpaid balance and cost of delivery of such equipment.

## **SECTION 10. OPTIONAL INTERCONNECTION STUDY.**

### **10.1 Optional Interconnection Study Agreement.**

On or after the date when the Interconnection Customer receives Interconnection System Impact Study report and no later than five (5) Business Days after the study results meeting to review the report, the



Interconnection Customer may request in writing, and the System Operator in coordination with the Interconnecting Transmission Owner shall perform, an Optional Interconnection Study. The request shall describe the assumptions that the Interconnection Customer wishes the System Operator to study within the scope described in Section 10.2. Within five (5) Business Days after receipt of a request for an Optional Interconnection Study, the System Operator shall provide to the Interconnecting Transmission Owner and the Interconnection Customer an Optional Interconnection Study Agreement in the form of Appendix 5.

The Optional Interconnection Study Agreement shall: (i) specify the technical data that the Interconnection Customer must provide for each phase of the Optional Interconnection Study, (ii) specify the Interconnection Customer's assumptions as to which Interconnection Requests with earlier queue priority dates will be excluded from the Optional Interconnection Study case, and (iii) specify the System Operator's and Interconnecting Transmission Owner's estimate of the cost of the Optional Interconnection Study. To the extent known by the System Operator, such estimate shall include any costs expected to be incurred by any Affected System whose participation is necessary to complete the Optional Interconnection Study. The Optional Interconnection Study Agreement shall specify that Interconnection Customer is responsible for the actual cost of the Optional Interconnection Study, including the cost of developing the study agreement and its attachment(s). Notwithstanding the above, the System Operator and Interconnecting Transmission Owner shall not be required as a result of an Optional Interconnection Study request to conduct any additional Interconnection Studies with respect to any other Interconnection Request.

The Interconnection Customer shall execute the Optional Interconnection Study Agreement within ten (10) Business Days of receipt and deliver the Optional Interconnection Study Agreement, the required technical data and the refundable deposit for the Optional Interconnection Study to the System Operator. The deposit for the study shall be 100 percent of the estimated cost of the study. Any difference between the study deposit and the actual cost of the Optional Interconnection Study shall be paid by or refunded to the Interconnection Customer, except as otherwise provided in Section 13.3. In accordance with Section 13.3, the System Operator and/or the Interconnecting Transmission Owner shall issue to the Interconnection Customer an invoice for the costs of the Optional Interconnection Study that have been incurred by the System Operator and/or the Interconnecting Transmission Owner for the Optional

Interconnection Study and the study agreement and its attachments(s). The Interconnection Customer shall pay the invoiced amounts, to the extent such amounts are greater than the initial deposit, within thirty (30) Calendar Days of receipt of invoice. The System Operator shall continue to hold the amounts on deposits until settlement of the final invoice with the Interconnection Customer and the Interconnecting Transmission Owner.

## **10.2 Scope of Optional Interconnection Study.**

The Optional Interconnection Study will consist of a sensitivity analysis based on the assumptions specified by the Interconnection Customer in the Optional Interconnection Study Agreement. The Optional Interconnection Study will also identify the Interconnecting Transmission Owner's Interconnection Facilities and the Network Upgrades, and the estimated cost thereof, that may be required to provide transmission service or Interconnection Service based upon the results of the Optional Interconnection Study. The System Operator shall use Reasonable Efforts to coordinate the study with any Affected Systems that may be affected by the types of Interconnection Services that are being studied. The System Operator and Interconnecting Transmission Owner shall utilize existing studies to the extent practicable in conducting the Optional Interconnection Study.

The Optional Interconnection Study will consist of a short circuit analysis, a stability analysis, a power flow analysis, including thermal analysis and voltage analysis, a system protection analysis, and any other analyses that are deemed necessary by the System Operator in consultation with the Interconnecting Transmission Owner.

## **10.3 Optional Interconnection Study Procedures.**

The executed Optional Interconnection Study Agreement, the prepayment, and technical and other data called for therein must be provided to the System Operator and Interconnecting Transmission Owner within ten (10) Business Days of the Interconnection Customer receipt of the Optional Interconnection Study Agreement. The System Operator and Interconnecting Transmission Owner shall use Reasonable Efforts to complete the Optional Interconnection Study within a mutually agreed-upon time period specified within the Optional Interconnection Study Agreement. If the System Operator and Interconnecting Transmission Owner are unable to complete the Optional Interconnection Study within such time period, the System Operator shall notify the Interconnection Customer and provide an

estimated completion date and an explanation of the reasons why additional time is required. In such circumstances, upon request, the System Operator and Interconnecting Transmission Owner shall provide the Interconnection Customer supporting documentation and workpapers and databases or data developed in the preparation of the Optional Interconnection Study to any third party consultant retained by the Interconnection Customer. The recipient(s) of such information shall be subject to the confidentiality provisions of Section 13.1 and the ISO New England Information Policy, as well as any other applicable requirement under Applicable Laws and Regulations regulating the disclosure or confidentiality of such information. To the extent that any applicable information is not covered by any applicable confidentiality/disclosure requirements, such information may be provided directly to the Interconnection Customer.

#### **10.4 Meeting with Parties.**

Within ten (10) Business Days of providing an Optional Interconnection Study report to Interconnection Customer, System Operator will convene a meeting of the Interconnecting Transmission Owner, Interconnection Customer, and any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements to discuss the results of the Optional Interconnection Study.

#### **10.5 Interconnection Agreement Developed Based on Optional Interconnection Study.**

If the LGIA for a Large Generating Facility is based on the results of an Optional Interconnection Study, the LGIA shall reflect the conditions studied and any obligations that may involve: (i) additional studies if such conditions change, (ii) operational limits, or (iii) financial support for transmission upgrades.

### **SECTION 11. STANDARD LARGE GENERATOR INTERCONNECTION AGREEMENT (LGIA).**

#### **11.1 Tender.**

Interconnection Customer shall tender comments or provide notice, in writing, to the System Operator and Interconnecting Transmission Owner that the Interconnection Customer has no comments on the draft Interconnection Facilities Study report or on the draft Interconnection System Impact Study report if the Interconnection Customer waived the Interconnection Facilities Study, within thirty (30) Calendar Days

of receipt of the report. Except as provided in the E&P Agreement or any mutual agreement by the entities that would be Parties to the LGIA, the System Operator shall initiate the development of the LGIA process within fifteen (15) Calendar Days after the comments are submitted or waived, by tendering to the Interconnection Customer a draft LGIA, together with draft appendices completed by the System Operator, in conjunction with the Interconnecting Transmission Owner to the extent practicable. The draft LGIA shall be in the form of the System Operator's Commission-approved standard form LGIA which is in Appendix 6 to Schedule 22. The Interconnection Customer shall return the Interconnection Customer specific information required to complete the form of LGIA, including the appendices, in Appendix 6 of Schedule 22 that the Interconnection Customer is willing to execute within thirty (30) Calendar Days after receipt of the draft from the System Operator.

## **11.2 Negotiation.**

Notwithstanding Section 11.1, at the request of the Interconnection Customer, the System Operator and Interconnecting Transmission Owner shall begin negotiations with the Interconnection Customer concerning the appendices to the LGIA at any time after the Interconnection Facilities Study is complete or after the Interconnection System Impact Study is complete if the Interconnection Customer intends to waive the Interconnection Facilities Study. The System Operator, Interconnection Customer, and Interconnecting Transmission Owner shall negotiate concerning any disputed provisions of the appendices to the draft LGIA for not more than sixty (60) Calendar Days after tender by the System Operator of the draft LGIA pursuant to Section 11. If the Interconnection Customer determines that negotiations are at an impasse, it may request termination of the negotiations at any time after tender of the draft LGIA pursuant to Section 11.1 and request submission of the unexecuted LGIA with the Commission or initiate Dispute Resolution procedures pursuant to Section 13.5. If the Interconnection Customer requests termination of the negotiations, but within sixty (60) Calendar Days thereafter fails to request either the filing of the unexecuted LGIA or initiate Dispute Resolution, it shall be deemed to have withdrawn its Interconnection Request. Unless otherwise agreed by the Parties, if the Interconnection Customer has not executed the LGIA, requested filing of an unexecuted LGIA, or initiated Dispute Resolution procedures pursuant to Section 13.5 within sixty (60) Calendar Days of tender of by the System Operator of the draft LGIA pursuant to Section 11.1, it shall be deemed to have withdrawn its Interconnection Request. The System Operator and Interconnecting Transmission Owner shall provide to

the Interconnection Customer a final LGIA within fifteen (15) Business Days after the mutually agreed completion of the negotiation process.

### **11.3 Evidence to be Provided by Interconnection Customer; Execution and Filing of LGIA.**

#### **11.3.1 Evidence to be Provided by Interconnection Customer.**

**11.3.1.1 Site Control.** Within fifteen (15) Business Days after receipt of the final LGIA, the Interconnection Customer shall provide (A) to the System Operator, reasonable evidence of continued Site Control, or (B) to the Interconnecting Transmission Owner, posting of \$250,000, non-refundable additional security, which shall be applied toward future construction costs. Interconnection Customer does not need to demonstrate Site Control where the Interconnection Request is for a modification to the Interconnection Customer's existing Large Generating Facility and the Interconnection Customer has certified in the Interconnection Request that it has Site Control and that the modification proposed in the Interconnection Request does not require additional real property.

**11.3.1.2 Development Milestones.** Within fifteen (15) Business Days after receipt of the final LGIA, the Interconnection Customer also shall provide to the System Operator reasonable evidence that one or more of the following milestones in the development of the Large Generating Facility, to be elected by the Interconnection Customer, has been achieved: (i) the execution of a contract for the supply or transportation of fuel to the Large Generating Facility; (ii) the execution of a contract for the supply of cooling water to the Large Generating Facility; (iii) execution of a contract for the engineering for, procurement of major equipment for, or construction of, the Large Generating Facility; (iv) execution of a contract for the sale of electric energy or capacity from the Large Generating Facility; (v) application for an air, water, or land use permit.

At the same time, the Interconnection Customer with an Interconnection Request that was not studied using Clustering shall commit to a schedule for the payment of upgrades identified in the Interconnection Studies or an E&P Agreement, and either: (A) provide evidence of approvals for all Major Permits, as defined in Section III.13.1.1.2.2.2(a) of the Tariff, or (B) provide to the Interconnecting Transmission Owner, in the form acceptable to the Interconnecting Transmission Owner, a refundable deposit of twenty

(20) percent of the total costs for the Interconnection Facilities and other upgrades identified in the Interconnection Studies or an E&P Agreement, unless the Interconnecting Transmission Owner's expenditure schedule for the Interconnection Facilities and other upgrades calls for an initial payment of greater than twenty (20) percent of the total upgrade costs, in which case the scheduled initial payment must instead be made within the fifteenth Business Day after receipt of the final LGIA. If the Interconnection Customer selects option (B) above, it shall also commit in the LGIA to the achievement of: (i) milestones for the completion of Major Permit approvals, and (ii) in the case of a CNR Interconnection Request, milestones to align the LGIA with the fulfillment of terms outlined in Section III.13 of the Tariff for participation in the Forward Capacity Market.

Within fifteen (15) Business Days after receipt of the final LGIA, an Interconnection Customer with an Interconnection Request studied using Clustering that provided the additional Cluster Participation Deposit in accordance with Section 4.2.4.4 shall provide to the Interconnecting Transmission Owner, in cash, a potentially non-refundable deposit of twenty (20) percent of the total costs for the Interconnection Facilities and other upgrades, including any CETUs, identified in the CFAC, unless the Interconnecting Transmission Owner's expenditure schedule for the Interconnection Facilities and other upgrades calls for an initial payment of greater than twenty (20) percent of the total upgrade costs, in which case the scheduled initial payment must instead be made within the fifteenth Business Day after receipt of the final LGIA. If the Interconnection Customer does not submit this deposit (or make the initial payment) by the fifteenth Business Day after receipt of the final LGIA, the Interconnection Request shall be automatically withdrawn from the interconnection queue without further opportunity to cure, and the Interconnection Customer's initial and additional Cluster Participation Deposits shall become non-refundable. The non-refundable initial and additional Cluster Participation Deposits shall be re-allocated, according to the cost allocation methodology contained in Schedule 11, to the Interconnection Customers with Interconnection Requests included in the cluster at time the facilities proposed in the Interconnection Requests achieve Commercial Operation. If an Interconnection Request is withdrawn after the Interconnection Customer's payment of twenty (20) percent of the total cost responsibility for the upgrades to the Interconnecting Transmission Owner, then the payment shall be used to offset the costs of the CETU. Any unspent payments of the total cost responsibility for the upgrades to the Interconnecting Transmission Owner will be refunded to the respective Interconnection Customers that executed the Interconnection Agreement and provided to the Interconnecting Transmission Owner the twenty (20) percent deposit (or initial payment)

if all the associated Interconnection Requests are withdrawn from the interconnection queue and the associated Interconnection Agreements are terminated.

**11.3.2 Execution and Filing of LGIA.** Within fifteen (15) Business Days after receipt of the final LGIA, (i) the Interconnection Customer and Interconnecting Transmission Owner shall execute three (3) originals of the tendered LGIA and return them to the System Operator, who will send an original to Interconnecting Transmission Owner and Interconnection Customer; or (ii) the Interconnection Customer shall request in writing that the System Operator and the Interconnecting Transmission Owner jointly file with the Commission an LGIA in unexecuted form. As soon as practicable, but not later than ten (10) Business Days after receiving either the executed originals of the tendered LGIA (if it does not conform with a Commission-approved standard form of interconnection agreement) or the request to file an unexecuted LGIA, the System Operator and Interconnecting Transmission Owner, in accordance with Section 11.3.3 or Section 11.3.4, as appropriate, shall jointly file the LGIA with the Commission, together with its explanation of any matters as to which the System Operator, Interconnection Customer or Interconnecting Transmission Owner disagree and support for the costs that the Interconnecting Transmission Owner proposes to charge to the Interconnection Customer under the LGIA. An unexecuted LGIA should contain terms and conditions deemed appropriate by the System Operator and Interconnecting Transmission Owner for the Interconnection Request. If the Parties agree to proceed with design, procurement, and construction of facilities and upgrades under the agreed-upon terms of the unexecuted LGIA, they may proceed pending Commission action.

With respect to the interconnection of an Interconnection Customer under Schedule 22, the LGIA shall be a three-party agreement among the Interconnecting Transmission Owner, the System Operator and the Interconnection Customer. If Interconnecting Transmission Owner, System Operator and Interconnection Customer agree to the terms and conditions of a specific LGIA, or any amendments to such an LGIA, then the System Operator and Interconnecting Transmission Owner shall jointly file the executed LGIA, or amendment thereto, with the Commission under Section 205 of the Federal Power Act. To the extent the Interconnecting Transmission Owner, System Operator and Interconnection Customer cannot agree to proposed variations from the standard form of LGIA in Appendix 6 or cannot otherwise agree to the terms and conditions of the LGIA for such Large Generating Unit, or any amendments to such an LGIA, then the System Operator and Interconnecting Transmission Owner shall jointly file an unexecuted LGIA,

or amendment thereto, with the Commission under Section 205 of the Federal Power Act and shall identify the areas of disagreement in such filing, provided that, in the event of disagreement on terms and conditions of the LGIA related to the costs of upgrades to such Interconnecting Transmission Owner's transmission facilities, the anticipated schedule for the construction of such upgrades, any financial obligations of the Interconnecting Transmission Owner, and any provisions related to physical impacts of the interconnection on the Interconnecting Transmission Owner's transmission facilities or other assets, then the standard applicable under Section 205 of the Federal Power Act shall apply only to the Interconnecting Transmission Owner's position on such terms and conditions.

**11.3.3** The Interconnecting Transmission Owner, acting on its own or jointly with the System Operator, may initiate a filing to amend this LGIP and the standard form of LGIA in Appendix 6 under Section 205 of the Federal Power Act and shall include in such filing the views of System Operator, provided that the standard applicable under Section 205 of the Federal Power Act shall apply only to the Interconnecting Transmission Owner's position on any financial obligations of the Interconnecting Transmission Owner or the Interconnection Customer(s), and any provisions related to physical impacts of the interconnection on the Interconnecting Transmission Owner's transmission facilities or other assets.

#### **11.4 Commencement of Interconnection Activities.**

If the Interconnection Customer executes the final LGIA, the System Operator, Interconnection Customer and Interconnecting Transmission Owner shall perform their respective obligations in accordance with the terms of the LGIA, subject to modification by the Commission. Upon submission of an unexecuted LGIA, the System Operator, Interconnection Customer and Interconnecting Transmission Owner shall promptly comply with the unexecuted LGIA, subject to modification by the Commission.

### **SECTION 12. CONSTRUCTION OF INTERCONNECTING TRANSMISSION OWNER INTERCONNECTION FACILITIES AND NETWORK UPGRADES.**

#### **12.1 Schedule.**

The Interconnection Customer, Interconnecting Transmission Owner and any other Affected Party shall negotiate in good faith concerning a schedule for the construction of the Interconnecting Transmission Owner's Interconnection Facilities and the Network Upgrades.



## **12.2 Construction Sequencing.**

**12.2.1 General.** In general, the Initial Synchronization Date of an Interconnection Customer seeking interconnection to the Administered Transmission System will determine the sequence of construction of Network Upgrades.

**12.2.2 Advance Construction of Network Upgrades that are an Obligation of an Entity other than the Interconnection Customer.** An Interconnection Customer with an executed or unexecuted, but filed with the Commission, LGIA, in order to maintain its Initial Synchronization Date, may request that the Interconnecting Transmission Owner or appropriate Affected Party advance to the extent necessary the completion of Network Upgrades that: (i) were assumed in the Interconnection Studies for such Interconnection Customer, (ii) are necessary to support such Initial Synchronization Date, and (iii) would otherwise not be completed, pursuant to a contractual obligation of an entity other than the Interconnection Customer that is seeking interconnection to the Administered Transmission System, in time to support such Initial Synchronization Date. Upon such request, the Interconnecting Transmission Owner or appropriate Affected Party will use Reasonable Efforts to advance the construction of such Network Upgrades to accommodate such request; provided that the Interconnection Customer commits to pay the Interconnecting Transmission Owner or appropriate Affected Party; (i) any associated expediting costs and (ii) the cost of such Network Upgrades.

The Interconnecting Transmission Owner or appropriate Affected Party will refund to the Interconnection Customer both the expediting costs and the cost of Network Upgrades, in accordance with Article 11.4 of the LGIA. Consequently, the entity with a contractual obligation to construct such Network Upgrades shall be obligated to pay only that portion of the costs of the Network Upgrades that the Interconnecting Transmission Owner or appropriate Affected Party has not refunded to the Interconnection Customer. Payment by that entity with a contractual obligation to construct such Network Upgrades shall be due on the date that it would have been due had there been no request for advance construction. The Interconnecting Transmission Owner or appropriate Affected Party shall forward to the Interconnection Customer the amount paid by the entity with a contractual obligation to construct the Network Upgrades as payment in full for the outstanding balance owed to the Interconnection Customer. The

Interconnecting Transmission Owner or appropriate Affected Party then shall refund to that entity the amount that it paid for the Network Upgrades, in accordance with Article 11.4 of the LGIA.

**12.2.3 Advancing Construction of Network Upgrades that are Part of the Regional System Plan of the System Operator.** An Interconnection Customer with an LGIA, in order to maintain its Initial Synchronization Date, may request that Interconnecting Transmission Owner or appropriate Affected Party advance to the extent necessary the completion of Network Upgrades that: (i) are necessary to support such Initial Synchronization Date and (ii) would otherwise not be completed, pursuant to the Regional System Plan, in time to support such Initial Synchronization Date. Upon such request, the Interconnecting Transmission Owner or appropriate Affected Party will use Reasonable Efforts to advance the construction of such Network Upgrades to accommodate such request; provided that the Interconnection Customer commits to pay the Interconnecting Transmission Owner or appropriate Affected Party any associated expediting costs.

**12.2.4 Amended Interconnection System Impact Study.** An Interconnection System Impact Study will be amended to determine the facilities necessary to support the requested Initial Synchronization Date. This amended study will include those transmission and Large Generating Facilities that are expected to be in service on or before the requested Initial Synchronization Date. The LGIA will also be amended to reflect the results of the Amended Interconnection System Impact Study and any changes in obligations, including financial support, of the Parties.

## **SECTION 13. MISCELLANEOUS.**

### **13.1 Confidentiality.**

Confidential Information shall include, without limitation, all information treated as confidential under the ISO New England Information Policy, all information obtained from third parties under confidentiality agreements, all information relating to a Party's technology, research and development, business affairs, and pricing, and any information supplied by any of the Parties to the others prior to the execution of an LGIA.

Information is Confidential Information only if it is clearly designated or marked in writing as confidential on the face of the document, or, if the information is conveyed orally or by inspection, if the Party providing the information orally informs the Party receiving the information that the information is confidential.

If requested by any Party, the other Party(ies) shall provide in writing, the basis for asserting that the information referred to in this Article warrants confidential treatment, and the requesting Party may disclose such writing to the appropriate Governmental Authority. Each Party shall be responsible for the costs associated with affording confidential treatment to its information.

**13.1.1 Scope.** Confidential Information shall not include information that the receiving Party can demonstrate: (1) is generally available to the public other than as a result of a disclosure by the receiving Party; (2) was in the lawful possession of the receiving Party on a non-confidential basis before receiving it from the disclosing Party; (3) was supplied to the receiving Party without restriction by a third party, who, to the knowledge of the receiving Party after due inquiry, was under no obligation to the disclosing Party to keep such information confidential; (4) was independently developed by the receiving Party without reference to Confidential Information of the disclosing Party; (5) is, or becomes, publicly known, through no wrongful act or omission of the receiving Party or Breach of the LGIA; or (6) is required, in accordance with Section 13.1.6, Order of Disclosure, to be disclosed by any Governmental Authority or is otherwise required to be disclosed by law or subpoena, or is necessary in any legal proceeding establishing rights and obligations under the LGIA. Information designated as Confidential Information will no longer be deemed confidential if the Party that designated the information as confidential notifies the other Parties that it no longer is confidential.

**13.1.2 Release of Confidential Information.** A Party shall not release or disclose Confidential Information to any other person, except to its Affiliates (limited by the Standards of Conduct requirements), employees, consultants, or to parties who may be or considering providing financing to or equity participation with Interconnection Customer, or to potential purchasers or assignees of Interconnection Customer, on a need-to-know basis in connection with these procedures, unless such person has first been advised of the confidentiality provisions of this Section 13.1 and has agreed to comply with such provisions. Notwithstanding the foregoing, a Party providing Confidential Information

to any person shall remain primarily responsible for any release of Confidential Information in contravention of this Section 13.1.

**13.1.3 Rights.** Each Party retains all rights, title, and interest in the Confidential Information that each Party discloses to the other Party(ies). The disclosure by each Party to the other Party(ies) of Confidential Information shall not be deemed a waiver by any Party or any other person or entity of the right to protect the Confidential Information from public disclosure.

**13.1.4 No Warranties.** By providing Confidential Information, a Party does not make any warranties or representations as to its accuracy or completeness. In addition, by supplying Confidential Information, a Party does not obligate itself to provide any particular information or Confidential Information to the other Party(ies) nor to enter into any further agreements or proceed with any other relationship or joint venture.

**13.1.5 Standard of Care.** Each Party shall use at least the same standard of care to protect Confidential Information it receives as it uses to protect its own Confidential Information from unauthorized disclosure, publication or dissemination. Each Party may use Confidential Information solely to fulfill its obligations to the other Party(ies) under these procedures or its regulatory requirements.

**13.1.6 Order of Disclosure.** If a court or a Government Authority or entity with the right, power, and apparent authority to do so requests or requires a Party, by subpoena, oral deposition, interrogatories, requests for production of documents, administrative order, or otherwise, to disclose Confidential Information, that Party shall provide the other Party(ies) with prompt notice of such request(s) or requirement(s) so that the other Party(ies) may seek an appropriate protective order or waive compliance with the terms of the LGIA. Notwithstanding the absence of a protective order or waiver, the Party may disclose such Confidential Information which, in the opinion of its counsel, the Party is legally compelled to disclose. Each Party will use Reasonable Efforts to obtain reliable assurance that confidential treatment will be accorded any Confidential Information so furnished.

**13.1.7 Remedies.** The Parties agree that monetary damages would be inadequate to compensate a Party for the other Party's(ies') Breach of its obligations under this Section 13.1. Each Party accordingly agrees

that the other Party(ies) shall be entitled to equitable relief, by way of injunction or otherwise, if the first Party Breaches or threatens to Breach its obligations under this Section 13.1, which equitable relief shall be granted without bond or proof of damages, and the receiving Party shall not plead in defense that there would be an adequate remedy at law. Such remedy shall not be deemed an exclusive remedy for the Breach of this Section 13.1, but shall be in addition to all other remedies available at law or in equity. The Parties further acknowledge and agree that the covenants contained herein are necessary for the protection of legitimate business interests and are reasonable in scope. No Party, however, shall be liable for indirect, incidental, or consequential or punitive damages of any nature or kind resulting from or arising in connection with this Section 13.1.

**13.1.8 Disclosure to the Commission, its Staff, or a State.** Notwithstanding anything in this Section 13.1 to the contrary, and pursuant to 18 CFR section 1b.20, if the Commission or its staff, during the course of an investigation or otherwise, requests information from one of the Parties that is otherwise required to be maintained in confidence pursuant to the LGIP, the Party shall provide the requested information to the Commission or its staff, within the time provided for in the request for information. In providing the information to the Commission or its staff, the Party must, consistent with 18 CFR. section 388.112, request that the information be treated as confidential and non-public by the Commission and its staff and that the information be withheld from public disclosure. Parties are prohibited from notifying the other Party(ies) prior to the release of the Confidential Information to the Commission or its staff. The Party shall notify the other Party(ies) to the LGIA when it is notified by the Commission or its staff that a request to release Confidential Information has been received by the Commission, at which time any of the Parties may respond before such information would be made public, pursuant to 18 CFR section 388.112. Requests from a state regulatory body conducting a confidential investigation shall be treated in a similar manner, consistent with applicable state rules, regulations and Section 13.1.

**13.1.9** Subject to the exception in Section 13.1.8, any information that a Party claims is competitively sensitive, commercial or financial information (“Confidential Information”) shall not be disclosed by the other Party(ies) to any person not employed or retained by the other Party(ies), except to the extent disclosure is (i) required by law; (ii) reasonably deemed by the disclosing Party to be required to be disclosed in connection with a dispute between or among the Parties, or the defense of litigation or dispute; (iii) otherwise permitted by consent of the other Party(ies), such consent not to be unreasonably

withheld; or (iv) necessary to fulfill its obligations under this LGIP or as a transmission service provider or a Control Area operator including disclosing the Confidential Information to an RTO or ISO or to a subregional, regional or national reliability organization or planning group. The Party asserting confidentiality shall notify the other Party(ies) in writing of the information it claims is confidential. Prior to any disclosures of the other Party's(ies') Confidential Information under this subparagraph, or if any third party or Governmental Authority makes any request or demand for any of the information described in this subparagraph, the disclosing Party agrees to promptly notify the other Party(ies) in writing and agrees to assert confidentiality and cooperate with the other Party(ies) in seeking to protect the Confidential Information from public disclosure by confidentiality agreement, protective order or other reasonable measures.

**13.1.10** This provision shall not apply to any information that was or is hereafter in the public domain (except as a result of a Breach of this provision).

**13.1.11** The System Operator and Interconnecting Transmission Owner shall, at Interconnection Customer's election, destroy, in a confidential manner, or return the Confidential Information provided at the time when Confidential Information is no longer needed.

## **13.2 Delegation of Responsibility.**

The System Operator and Interconnecting Transmission Owner, or any Affected Party may use the services of subcontractors as it deems appropriate to perform its obligations under this LGIP. The Party using the services of a subcontractor shall remain primarily liable to the Interconnection Customer for the performance of such subcontractors and compliance with its obligations of this LGIP. The subcontractor shall keep all information provided confidential and shall use such information solely for the performance of such obligation for which it was provided and no other purpose.

## **13.3 Obligation for Study Costs.**

The System Operator and the Interconnecting Transmission Owner shall charge, and the Interconnection Customer shall pay, the actual costs of the Interconnection Studies. Any difference between the study deposit and the actual cost of the applicable Interconnection Study shall be paid by or refunded, except as otherwise provided herein, to the Interconnection Customer or offset against the cost of any future

Interconnection Studies associated with the applicable Interconnection Request prior to beginning of any such future Interconnection Studies. Any invoices for Interconnection Studies shall include a detailed and itemized accounting of the cost of each Interconnection Study. The Interconnection Customer shall pay any such undisputed costs within thirty (30) Calendar Days of receipt of an invoice therefore. The System Operator and Interconnecting Transmission Owner shall not be obligated to perform or continue to perform any studies unless the Interconnection Customer has paid all undisputed amounts in compliance herewith.

#### **13.4 Third Parties Conducting Studies.**

If (i) at the time of the signing of an Interconnection Study Agreement there is disagreement as to the estimated time to complete an Interconnection Study, (ii) the Interconnection Customer receives notice pursuant to Sections 6.3, 7.4 or 8.3 that the System Operator or Interconnecting Transmission Owner will not complete an Interconnection Study within the applicable timeframe for such Interconnection Study, or (iii) the Interconnection Customer receives neither the Interconnection Study nor a notice under Sections 6.3, 7.4 or 8.3 within the applicable timeframe for such Interconnection Study, then the Interconnection Customer may request, which request will not be unreasonably denied, that the System Operator and Interconnecting Transmission Owner utilize a third party consultant reasonably acceptable to the System Operator, Interconnection Customer, Interconnecting Transmission Owner and any appropriate Affected Party, to perform such Interconnection Study under the direction of the System Operator or Interconnecting Transmission Owner as applicable. At other times, System Operator or Interconnecting Transmission Owner may also utilize a third party consultant to perform such Interconnection Study, either in response to a general request of the Interconnection Customer, or on its own volition.

In all cases, use of a third party consultant shall be in accord with Article 26 of the LGIA (Subcontractors) and limited to situations where the System Operator or Interconnecting Transmission Owner determines that doing so will help maintain or accelerate the study process for the Interconnection Customer's pending Interconnection Request and not interfere with the System Operator and Interconnecting Transmission Owner's progress on Interconnection Studies for other pending Interconnection Requests.

In cases where the Interconnection Customer requests use of a third party consultant to perform such Interconnection Study, the Interconnection Customer, System Operator and Interconnecting Transmission Owner shall negotiate all of the pertinent terms and conditions, including reimbursement arrangements and the estimated study completion date and study review deadline. The System Operator and

Interconnecting Transmission Owner shall convey all workpapers, data bases, study results and all other supporting documentation prepared to date with respect to the Interconnection Request as soon as soon as practicable upon the Interconnection Customer's request subject to the confidentiality provision in Section 13.1 and the ISO New England Information Policy, as well as any other applicable requirement under Applicable Laws and Regulations regulating the disclosure or confidentiality of such information. In any case, such third party contract may be entered into with the System Operator, Interconnection Customer, or Interconnecting Transmission Owner at the System Operator and Interconnecting Transmission Owner's discretion. In the case of (iii) the Interconnection Customer maintains its right to submit a claim to Dispute Resolution to recover the costs of such third party study. Such third party consultant shall be required to comply with this LGIP, Article 26 of the LGIA (Subcontractors), and the relevant Tariff procedures and protocols as would apply if the System Operator and Interconnecting Transmission Owner were to conduct the Interconnection Study and shall use the information provided to it solely for purposes of performing such services and for no other purposes.

The System Operator and Interconnecting Transmission Owner shall cooperate with such third party consultant and Interconnection Customer to complete and issue the Interconnection Study in the shortest reasonable time.

### **13.5 Disputes.**

**13.5.1 Submission.** In the event a Party has a dispute, or asserts a claim, that arises out of or in connection with the LGIA, the LGIP, or their performance, such Party (the "Disputing Party") shall provide the other Party(ies) with written notice of the dispute or claim ("Notice of Dispute"). Such dispute or claim shall be referred to a designated senior representative of each Party for resolution on an informal basis as promptly as practicable after receipt of the Notice of Dispute by the other Party(ies). In the event the designated representatives are unable to resolve the claim or dispute through unassisted or assisted negotiations within thirty (30) Calendar Days of the other Party's(ies') receipt of the Notice of Dispute, such claim or dispute may, upon mutual agreement of the Parties, be submitted to arbitration and resolved in accordance with the arbitration procedures set forth below. In the event the Parties do not agree to submit such claim or dispute to arbitration, after thirty (30) Calendar Days, then (i) in the case of disputes arising out of or in conjunction with the LGIA, the System Operator and Interconnecting



Transmission Owner shall jointly file an unexecuted LGIA, or amendment thereto, with the Commission in accordance with Section 11.3.4, or (ii) in the case of disputes arising out of or in connection with any other matter regarding the administration of the LGIP, the System Operator may terminate the Interconnection Request and the Interconnection Customer may seek relief pursuant to Section 206 of the Federal Power Act. Each Party may exercise whatever rights and remedies it may have in equity or at law consistent with the terms of this Schedule 22.

**13.5.2 External Arbitration Procedures.** Any arbitration initiated under these procedures shall be conducted before a single neutral arbitrator appointed by the Parties. If the Parties fail to agree upon a single arbitrator within ten (10) Calendar Days of the submission of the dispute to arbitration, each Party shall choose one arbitrator who shall sit on a three-member arbitration panel. The arbitrator so chosen by the System Operator shall chair the arbitration panel. In either case, the arbitrators shall be knowledgeable in electric utility matters, including electric transmission and bulk power issues, and shall not have any current or past substantial business or financial relationships with any party to the arbitration (except prior arbitration). The arbitrator(s) shall provide each of the Parties an opportunity to be heard and, except as otherwise provided herein, shall conduct the arbitration in accordance with the Commercial Arbitration Rules of the American Arbitration Association (“Arbitration Rules”) and any applicable Commission regulations or RTO rules; provided, however, in the event of a conflict between the Arbitration Rules and the terms of this Section 13, the terms of this Section 13 shall prevail.

**13.5.3 Arbitration Decisions.** Unless otherwise agreed by the Parties, the arbitrator(s) shall render a decision within ninety (90) Calendar Days of appointment and shall notify the Parties in writing of such decision and the reasons for such decision. The arbitrator(s) shall be authorized only to interpret and apply the provisions of the LGIA and LGIP and shall have no power to modify or change any provision of the LGIA and LGIP in any manner. The decision of the arbitrator(s) shall be final and binding upon the Parties, and judgment on the award may be entered in any court having jurisdiction. The decision of the arbitrator(s) may be appealed solely on the grounds that the conduct of the arbitrator(s), or the decision itself, violated the standards set forth in the Federal Arbitration Act or the Administrative Dispute Resolution Act. The final decision of the arbitrator must also be filed with the Commission if it affects jurisdictional rates, terms and conditions of service, Interconnection Facilities, or Network Upgrades.

**13.5.4 Costs.** Each Party shall be responsible for its own costs incurred during the arbitration process and for the following costs, if applicable: (1) the cost of the arbitrator chosen by the Party to sit on the three-member panel and one-third of any associated arbitration costs; or (2) one-third the cost of the single arbitrator jointly chosen by the Parties and one-third of any associated arbitration costs.

**13.5.5 Non-binding Dispute Resolution Procedures.** If a Party has submitted a Notice of Dispute pursuant to Section 13.5.1, and the Parties are unable to resolve the claim or dispute through unassisted or assisted negotiations within the thirty (30) Calendar Days provided in that section, and the Parties cannot reach mutual agreement to pursue the Section 13.5 arbitration process, a Party may request that the other Parties engage in Non-binding Dispute Resolution pursuant to this Section 13.5.5 by providing written notice to the other Parties (“Request for Non-binding Dispute Resolution”). Conversely, either Party may file a Request for Non-binding Dispute Resolution pursuant to this Section 13.5.5 without first seeking mutual agreement to pursue the Section 13.5 arbitration process. The process in Section 13.5.5 shall serve as an alternative to, and not a replacement of, the Section 13.5 arbitration process. Pursuant to this process, System Operator must within 30 days of receipt of the Request for Non-binding Dispute Resolution appoint a neutral decision-maker that is an independent subcontractor that shall not have any current or past substantial business or financial relationships with the Parties. Unless otherwise agreed by the Parties, the decision-maker shall render a decision within sixty (60) Calendar Days of appointment and shall notify the Parties in writing of such decision and reasons therefore. This decision-maker shall be authorized only to interpret and apply the provisions of the LGIP and LGIA and shall have no power to modify or change any provision of the LGIP and LGIA in any manner. The result reached in this process is not binding, but, unless otherwise agreed, the Parties may cite the record and decision in the non-binding dispute resolution process in future dispute resolution processes, including in a Section 13.5 arbitration, or in a Federal Power Act Section 206 complaint. Each Party shall be responsible for its own costs incurred during the process and the cost of the decision-maker shall be divided equally among each Party to the dispute.

## **13.6 Local Furnishing Bonds.**

**13.6.1 Facilities Financed by Local Furnishing Bonds.** This provision is applicable only to interconnections associated with facilities financed for the local furnishing of electric energy with tax-exempt bonds, as described in Section 142(f) of the Internal Revenue Code ("local furnishing bonds"). Notwithstanding any other provision of this LGIA and LGIP, the Interconnecting Transmission Owner shall not be required to provide Interconnection Service to the Interconnection Customer pursuant to this LGIA and LGIP if the provision of such Interconnection Service would jeopardize the tax-exempt status of any local furnishing bond(s) used to finance the Interconnecting Transmission Owner's facilities that would be used in providing such Interconnection Service.

**13.6.2 Alternative Procedures for Requesting Interconnection Service.** If the Interconnecting Transmission Owner determines that the provision of Interconnection Service requested by the Interconnection Customer would jeopardize the tax-exempt status of any local furnishing bond(s) used to finance its facilities that would be used in providing such Interconnection Service, it shall advise the Interconnection Customer within thirty (30) Calendar Days of receiving notice of the Interconnection Request. The Interconnection Customer thereafter may renew its Interconnection Request using the process specified in the Tariff.

## **APPENDICES TO LGIP**

APPENDIX 1 INTERCONNECTION REQUEST

APPENDIX 2 INTERCONNECTION FEASIBILITY STUDY AGREEMENT

APPENDIX 3 INTERCONNECTION SYSTEM IMPACT STUDY AGREEMENT

APPENDIX 4 INTERCONNECTION FACILITIES STUDY AGREEMENT

APPENDIX 5 OPTIONAL INTERCONNECTION STUDY AGREEMENT

APPENDIX 6 LARGE GENERATOR INTERCONNECTION AGREEMENT

**APPENDIX 1**  
**INTERCONNECTION REQUEST**

The undersigned Interconnection Customer submits this request to interconnect its Large Generating Facility to the Administered Transmission System under Schedule 22 - Large Generator Interconnection Procedures (“LGIP”) of the ISO New England Inc. Open Access Transmission Tariff (the “Tariff”). Capitalized terms have the meanings specified in the Tariff.

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**PROJECT INFORMATION**

Proposed Project Name: \_\_\_\_\_

**1. This Interconnection Request is for (check one):**

- \_\_\_\_\_ A proposed new Large Generating Facility
- \_\_\_\_\_ An increase in the generating capacity or a modification that has the potential to be a Material Modification of an existing Generating Facility
- \_\_\_\_\_ Commencement of participation in the wholesale markets by an existing Generating Facility
- \_\_\_\_\_ A change from Network Resource Interconnection Service to Capacity Network Resource Interconnection Service

**2. The types of Interconnection Service requested:**

- \_\_\_\_\_ Network Resource Interconnection Service (energy capability only)
- \_\_\_\_\_ Capacity Network Resource Interconnection Service (energy capability and capacity capability)

**If Capacity Network Resource Interconnection Service, does Interconnection Customer request Long Lead Facility treatment?    Check: \_\_\_\_Yes or \_\_\_\_ No**

**If yes, provide, together with this Interconnection Request, the Long Lead Facility deposit and other required information as specified in Section 3.2.3 of the LGIP, including (if the Large Generating Facility will be less than 100 MW) a justification for Long Lead Facility treatment.**

**3. This Interconnection Customer requests (check one, selection is not required as part of the initial Interconnection Request):**

\_\_\_\_\_ **An Interconnection Feasibility Study**

\_\_\_\_\_ **An Interconnection System Impact Study**

**(The Interconnection Customer shall select either option and may revise any earlier selection up to within five (5) Business Days following the Scoping Meeting.)**

**4. The Interconnection Customer shall provide the following information:**

**Address or Location of the Facility (including Town/City, County and State):**

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**Approximate location of the proposed Point of Interconnection:**

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Type of Generating Facility to be Constructed: \_\_\_\_\_

Will the Generating Facility include electric storage capacity? Yes\_\_\_\_No\_\_\_\_

If yes, describe the electric storage device and specifications:

\_\_\_\_\_

\_\_\_\_\_

Primary frequency response operating range for electric storage resources:

\_\_\_\_\_

Generating Facility Fuel Type:

\_\_\_\_\_

Generating Facility Capacity (MW):

Temperatures <sup>1</sup>	Maximum Gross MW Electrical Output <sup>2</sup>	Maximum Net MW Electrical Output <sup>3</sup>	Net MW Capability at the Point of Interconnection <sup>4</sup>
At or above 90 degrees F			
At or above 50 degrees F			
At or above 20 degrees F			
At or above 0 degrees F			

Requested capacity (in MW) of Interconnection Service (if lower than the Generating Facility Capacity):

<b>Temperatures<sup>1</sup></b>	<b>Requested Gross MW Electrical Output<sup>2</sup></b>	<b>Requested Net MW Electrical Output<sup>3</sup></b>	<b>Requested Net MW Capability at the Point of Interconnection<sup>4</sup></b>
<b>At or above 90 degrees F</b>			
<b>At or above 50 degrees F</b>			
<b>At or above 20 degrees F</b>			
<b>At or above 0 degrees F</b>			

Notes:

<sup>1</sup> In each row, insert all values corresponding to the given temperature, or a temperature greater than the given temperature, at which aggregate maximum gross output of the Generating Facility would be the highest. For example, if the aggregate maximum gross Generating Facility output occurs at 12 degrees F, all values in the “At or above 0 degrees F” row shall correspond to the 12 degrees F operating condition.

<sup>2</sup> Measured at the terminal(s) or inverter/converter terminal(s), as applicable, for each generating unit comprising the Generating Facility.

<sup>3</sup> Measured at the terminal(s) or inverter/converter terminal(s), as applicable, for each generating unit comprising the Generating Facility less any station service at each generating unit’s terminal(s) or inverter/converter terminal(s), as applicable.

<sup>4</sup> Measured at the Interconnection Customer’s proposed Point of Interconnection. The values correspond to the requested levels of Interconnection Service pursuant to Section 3.1 of the LGIP. The values account for any station service, losses incurred in Interconnection Facilities, station or generator step up transformers, and any other auxiliary systems. After the Interconnection Request is deemed valid, any increases to these values shall be subject to a new, separate Interconnection Request.

**General description of the equipment configuration, including any proposed control technologies to restrict the Large Generating Facility’s output to the requested Interconnection Service levels, if applicable (# of units and GSUs):**

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**Requested Commercial Operations Date:**

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**Requested Initial Synchronization Date:**

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**Requested In-Service Date:**

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**Evidence of Site Control (check one):**

\_\_\_\_\_ **If for Capacity Network Resource Interconnection Service, Site Control is provided herewith, as required.**

\_\_\_\_\_ **If for Network Resource Interconnection Service: (Check one)**

\_\_\_\_\_ **Is provided herewith**

\_\_\_\_\_ **In lieu of evidence of Site Control, a \$10,000 deposit is provided (refundable within the cure period as described in Section 3.4.3 of the LGIP).**

\_\_\_\_\_ **Site Control is not provided because the proposed modification is to the Interconnection Customer's existing Large Generating Facility and, by checking this option, the Interconnection Customer certifies that it has Site Control and that the proposed modification does not require additional real property.**

**The technical data specified within the applicable attachment to this form (check one):**

\_\_\_\_\_ **Is included with the submittal of this Interconnection Request form**

\_\_\_\_\_ **Will be provided on or before the execution and return of the Feasibility Study Agreement (Attachment A (and Attachment A-1, if applicable) or Attachment B, depending on the scope of the study) or the System Impact Study Agreement (Attachment A (and Attachment A-1, if applicable)), as applicable**

**The ISO will post the Project Information on the ISO web site under "New Interconnections" and OASIS.**

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**CUSTOMER INFORMATION**

**Company Name:** \_\_\_\_\_

**ISO Customer ID# (If available):** \_\_\_\_\_

**(Interconnection Customer)**

**Company Address:**    **PO Box No.:** \_\_\_\_\_

**Street Address:** \_\_\_\_\_

**City, State ZIP:** \_\_\_\_\_

**Company Representative:    Name:** \_\_\_\_\_

**Title:** \_\_\_\_\_

**Company Representative's Company and Address (if different from above):**

**Company Name:** \_\_\_\_\_

**PO Box No.:** \_\_\_\_\_

**Street Address:** \_\_\_\_\_

**City, State ZIP:** \_\_\_\_\_

**Phone:** \_\_\_\_\_ **FAX:** \_\_\_\_\_ **email:** \_\_\_\_\_

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**This Interconnection Request is submitted by:**

**Authorized Signature:** \_\_\_\_\_

**Name (type or print):** \_\_\_\_\_

**Title:** \_\_\_\_\_

**Date:** \_\_\_\_\_

***In order for an Interconnection Request to be considered a valid request, it must:***

- (a) Be accompanied by a deposit of \$50,000.00 that is provided electronically and which may be refundable in accordance with Section 3.4.1 of the LGIP;***
- (b) For Capacity Network Resource Interconnection Service, include documentation demonstrating Site Control. If for Network Resource Interconnection Service, demonstrate Site Control or post an additional deposit of \$10,000.00. If the Interconnection Customer with an Interconnection Request for Network Resource Interconnection Service demonstrates Site Control within the cure period specified in Section 3.4.1 of the LGIP, the additional deposit of \$10,000.00 shall be refundable (An Interconnection Customer does not need to demonstrate Site Control for an Interconnection Request for a modification to its existing Large Generating Facility where the Interconnection Customer has certified that it has Site Control and that the proposed modification does not require additional real property);***
- (c) Include a detailed map, such as a map of the quality produced by the U.S. Geological Survey, which clearly indicates the site of the new facility and pertinent surrounding structures; and***
- (d) Include all information required on the Interconnection Request form and attachments thereto; and***
- (e) Include the deposit and all information required for Long Lead Facility treatment, if such treatment is requested in accordance with Section 3.2.3 of the LGIP.***

***The Interconnection Request must be submitted to the System Operator via the Interconnection Request Tracking Tool or IRTT, a web-based application for submitting, tracking and viewing Interconnection Requests available on the ISO New England website.***

**The technical data required below must be submitted no later than the date of execution of the System Impact Study Agreement pursuant to Section 7.2 of the LGIP.**

**LARGE GENERATING FACILITY DATA**

**UNIT RATINGS**

Kva	°F	Voltage
Power Factor		
Speed (RPM)		Connection (e.g. Wye)
Short Circuit Ratio		Frequency, Hertz
Stator Amperes at Rated Kva		Field Volts
Max Turbine MW	°F	

Primary frequency response operating range for electric storage resources:

Minimum State of Charge:

Maximum State of Charge:

**GREATEST UNIT RATING AT AMBIENT TEMPERATURE OF 90 ° OR ABOVE**

Gross Unit Rating (MW)	Gross Lagging (MVAR)
Net Unit Rating (MW)	Gross Leading (MVAR)
Station Service (MW)	Station Service (MVAR)
Temperature (°F)	

**GREATEST UNIT RATING AT AMBIENT TEMPERATURE OF 50° OR ABOVE**

Gross Unit Rating (MW)	Gross Lagging (MVAR)
Net Unit Rating (MW)	Gross Leading (MVAR)
Station Service (MW)	Station Service (MVAR)
Temperature (°F)	

**GREATEST UNIT RATING AT AMBIENT TEMPERATURE OF 20° OR ABOVE**

Gross Unit Rating (MW)	Gross Lagging (MVAR)
Net Unit Rating (MW)	Gross Leading (MVAR)
Station Service (MW)	Station Service (MVAR)
Temperature (°F)	

**GREATEST UNIT RATING AT AMBIENT TEMPERATURE OF 0° OR ABOVE**

Gross Unit Rating (MW)	Gross Lagging (MVAR)
Net Unit Rating (MW)	Gross Leading (MVAR)
Station Service (MW)	Station Service (MVAR)
Temperature (°F)	

**COMBINED TURBINE-GENERATOR-EXCITER INERTIA DATA**

Inertia Constant, H	=	kW sec/kVA
Moment-of-Inertia, WR <sup>2</sup>	=	lb. ft. <sup>2</sup>

**REACTANCE DATA (PER UNIT-RATED KVA)**

	<b>DIRECT AXIS</b>	<b>QUADRATURE AXIS</b>
Synchronous – saturated	X <sub>dv</sub>	X <sub>qv</sub>
Synchronous – unsaturated	X <sub>di</sub>	X <sub>qi</sub>
Transient – saturated	X' <sub>dv</sub>	X' <sub>qv</sub>
Transient – unsaturated	X' <sub>di</sub>	X' <sub>qi</sub>
Subtransient – saturated	X'' <sub>dv</sub>	X'' <sub>qv</sub>
Subtransient – unsaturated	X'' <sub>di</sub>	X'' <sub>qi</sub>
Negative Sequence – saturated	X <sub>2v</sub>	
Negative Sequence – unsaturated	X <sub>2i</sub>	

**FIELD TIME CONSTANT DATA (SEC)**

Zero Sequence – saturated	X <sub>0v</sub>	
Zero Sequence – unsaturated	X <sub>0i</sub>	
Leakage Reactance	X <sub>lm</sub>	
Open Circuit	T' <sub>qo</sub>	T' <sub>do</sub>
Three-Phase Short Circuit Transient	T' <sub>d3</sub>	T' <sub>q</sub>
Line to Line Short Circuit Transient	T' <sub>d2</sub>	
Line to Neutral Short Circuit Transient	T' <sub>d1</sub>	
Short Circuit Subtransient	T'' <sub>d</sub>	T'' <sub>q</sub>
Open Circuit Subtransient	T'' <sub>do</sub>	T'' <sub>qo</sub>

**ARMATURE TIME CONSTANT DATA (SEC)**

Three Phase Short Circuit	T <sub>a3</sub>
Line to Line Short Circuit	T <sub>a2</sub>
Line to Neutral Short Circuit	T <sub>a1</sub>

NOTE: If requested information is not applicable, indicate by marking “N/A.”

**MW CAPABILITY AND PLANT CONFIGURATION**  
**LARGE GENERATING FACILITY DATA**  
**ARMATURE WINDING RESISTANCE DATA (PER UNIT)**

Positive	R1		
Negative	R2		
Zero	R0		
Rotor Short Time Thermal Capacity $I^2t$	=		
Field Current at Rated kVA, Armature Voltage and PF	=	amps	
Field Current at Rated kVA and Armature Voltage, 0 PF		amps	
Three Phase Armature Winding Capacitance	=	microfarad	
Field Winding Resistance	=	ohms	°C
Armature Winding Resistance (Per Phase)	=	ohms	°C

**CURVES**

Provide Saturation, Vee, Reactive Capability, Capacity Temperature Correction curves. Designate normal and emergency Hydrogen Pressure operating range for multiple curves.



### GENERATOR STEP-UP TRANSFORMER DATA RATINGS

Capacity	Self-cooled/Maximum Nameplate	
	/	Kva
Voltage Ratio	Generator side/System side/Tertiary	
	/	kV
Winding Connections	Generator side/System Side/Tertiary (Delta or Wye)	
	/	

Fixed Taps Available

Present Tap Setting

#### IMPEDANCE

Positive	Z1 (on self-cooled kVA rating)	%	X/R
Zero	Z0 (on self-cooled kVA rating)	%	X/R

### **EXCITATION SYSTEM DATA**

Identify appropriate IEEE model block diagram of excitation system and power system stabilizer (“PSS”) for computer representation in power system stability simulations and the corresponding excitation system and PSS constants for use in the model.

### **GOVERNOR SYSTEM DATA**

Identify appropriate IEEE model block diagram of governor system for computer representation in power system stability simulations and the corresponding governor system constants for use in the model.

### **WIND AND INVERTER-BASED GENERATORS**

A completed Attachment A-1 Supplementary Wind and Inverter-Based Generating Facility Form to this Attachment A, must be supplied for all Interconnection Requests for wind and inverter-based Generating Facilities.

### **MODEL REQUIREMENTS**

For all Generating Facility types: A completed, fully functioning, public (*i.e.*, non-proprietary, non-confidential) Siemens PTI’s (“PSSE”) power flow model or other compatible formats, such as IEEE and General Electric Company Power Systems Load Flow (“PSLF”) data sheet , must be supplied with this Attachment A. If additional public data sheets are more appropriate to the proposed device then they shall be provided and discussed at the Scoping Meeting. For all Interconnection Studies commencing after January 1, 2017, all power flow models must be standard library models in PSS/E or applicable applications. After January 1, 2017, user-models will not be accepted.

Attachment A (page 7)  
To Appendix 1  
Interconnection Request  
Technical Data Required For  
Interconnection System Impact Study

A PSCAD model for all wind and inverter-based Generating Facilities must be supplied with this Attachment A. If a PSCAD model is deemed required for other Generating Facility types at the Scoping Meeting, such PSCAD model must be provided to the System Operator within ninety (90) Calendar Days of the executed Interconnection System Impact Study Agreement. A benchmarking analysis, consistent with the requirements in the ISO New England Planning Procedures, confirming acceptable performance of the PSS/E model in comparison to the PSCAD model, shall be provided at the time PSCAD model is submitted.

**INDUCTION GENERATORS:**

- (\*) Field Volts:
- (\*) Field Amperes:
- (\*) Motoring Power (kW):
- (\*) Neutral Grounding Resistor (If Applicable):
- (\*)  $I_2^2t$  or K (Heating Time Constant):
- (\*) Rotor Resistance:
- (\*) Stator Resistance:
- (\*) Stator Reactance:
- (\*) Rotor Reactance:
- (\*) Magnetizing Reactance:
- (\*) Short Circuit Reactance:
- (\*) Exciting Current:
- (\*) Temperature Rise:
- (\*) Frame Size:
- (\*) Design Letter:
- (\*) Reactive Power Required In Vars (No Load):
- (\*) Reactive Power Required In Vars (Full Load):
- (\*) Total Rotating Inertia, H: Per Unit on KVA Base

Note: Please consult System Operator prior to submitting the Interconnection Request to determine if the information designated by (\*) is required.

**Applicant Signature**

I hereby certify that, to the best of my knowledge, all the information provided in this Attachment A to the Interconnection Request is true and accurate.

For Interconnection Customer: \_\_\_\_\_ Date: \_\_\_\_\_

**SUPPLEMENTARY WIND AND INVERTER-BASED GENERATING FACILITY DATA FORM**

1. Attach a Geographic Map Demonstrating the Project Layout and its Interconnection to the Power Grid. (Specify the name of the attachment here)
2. Attach a Bus-Breaker Based One-line Diagram (The diagram should include each of the individual unit generators, generator number, rating and terminal voltage.) (Specify the name of the attachment here)

2.1 Collection system detail impedance sheet

If a collector system is used, attach a collector system data sheet in accordance with the one-line diagram attached above. The data sheet should include: the type, length  $Z_0$ ,  $Z_1$  and  $X_c/B$  of each circuit (feeder and collector string).

Specify the name of the attachment here: \_\_\_\_\_

2.2 Collection system aggregate (equivalent) model data sheet

Attach an aggregate (equivalent) collection system data sheet. The data table should include: the type, length,  $Z_0$ ,  $Z_1$  and  $X_c/B$  of the equivalent circuits (feeders and collector strings).

Specify the name of the attachment here: \_\_\_\_\_

Attachment A-1 (page 2)  
To Attachment A of Appendix 1  
Supplementary Wind  
and Inverter-Based  
Generating Facility Form

3. Summary of the Unit Models in the wind or inverter-based generating facility *(List all different unit models in the facility)*

Manufacturer Model	Type of this WTG* (if applicable)	Generator Unit Numbers in the field	Number(s) of these Units	Maximum Output of this Unit (MW)	Total MW

- \* Type 1 – Cage rotor induction generators  
 Type 2 – Induction generators with variable rotor resistance  
 Type 3 – Doubly-fed asynchronous generators with rotor-side converter  
 Type 4 – Full-power converter interface

***Repeat the following sections from 4 to 12 for each different unit model.***

4. Unit Detail Information

Unit Manufacturer Model	
Terminal Voltage	
Rating of Each Unit (MVA)	
Maximum Gross Electrical Output (MW)	
Minimum Gross Electrical Output(MW)	
Lagging Reactive Power Limit at Rated Real Power Output (MVAR)	
Leading Reactive Power Limit at Rated Real Power Output (MVAR)	
Lagging Reactive Power Limit at Zero Real Power Output (MVAR)	
Leading Reactive Power Limit at Zero Real Power Output (MVAR)	
Station Service Load(MW, MVAR)	
Minimum short circuit ratio(SCR) requirement by manufacturer	
On which bus the minimum SCR is required by manufacturer	
What voltage level the minimum SCR is required by manufacturer	
Positive sequence Xsource	
Zero sequence Xsource	

5. Unit GSU – \_\_\_\_\_

Nameplate rating(MVA)	
Total number of the GSUs	
Voltages, generator side/system side	
Winding connections, low voltage/high voltage	
Available tap positions on high voltage side	
Available tap positions on low voltage side	
Will the GSU operate as an LTC?	
Desired voltage control range if LTC	
Tap adjustment time (Tap switching delay + switching time) if LTC	
Desired tap position if applicable	
Impedance, Z1, X/R ratio	
Impedance, Z0, X/R ratio	

6. Low Voltage Ride Through(LVRT) – \_\_\_\_\_(*Specify the Manufacturer Model of this Unit*)

Does each Unit have LVRT capability?

Yes\_\_ No\_\_

If yes, please provide:

6.1 Unit LVRT mode activation and release condition:

When operating at maximum real power, what is the Unit terminal voltage for LVRT mode activation? \_\_\_\_\_



When operating at maximum real power, what is the Unit terminal voltage for releasing LVRT mode after it is activated? \_\_\_\_\_

If there is different LVRT activation and release logic, please state here \_\_\_\_\_

- 6.2 A wind or other inverter-based generating facility technical manual from the manufacturer including description of LVRT functionality:

***Attach the file and specify the name of the attachment here:***

\_\_\_\_\_

- 6.3 Does the wind or other inverter-based generating facility technical manual attached above include a reactive power capability curve?

Yes\_\_ No\_\_

***If no, attach the file and specify the name of the attachment here:***

\_\_\_\_\_

7. Low Voltage Protection (considering LVRT functionality)

(Specify the Manufacturer Model of this Unit)

Low Voltage Setting (pu)	Relay Pickup Time (Seconds)

\*Add more rows in the table as needed

8. High Voltage Protection - \_\_\_\_\_ (Specify the Manufacturer Model of this Unit)

High Voltage Setting (pu)	Relay Pickup Time (Seconds)

\*Add more rows in the table as needed

9. Low Frequency Protection - \_\_\_\_\_ (Specify the Manufacturer Model of this Unit)

Low Frequency Setting (Hz)	Relay Pickup Time (Seconds)

\*Add more rows in the table as needed

10. High Frequency Protection - \_\_\_\_\_ (Specify the Manufacturer Model of this Unit)

High Frequency Setting (Hz)	Relay Pickup Time (Seconds)

\*Add more rows in the table as needed

Please make sure the settings in sections 7 through 10 comply with NERC and NPCC standards for generator protection relays.

11. Unit Reactive Power Control - \_\_\_\_ (Specify the Manufacturer Model of this Unit)

11.1 What are the options for the Unit reactive power control (check all available)?

- \_\_\_\_ Control the voltage at the Unit terminal
- \_\_\_\_ Control constant power factor at the Unit terminal
- \_\_\_\_ Control constant power factor at the low side of the station main transformer
- \_\_\_\_ Control constant power factor at the high side of the station main transformer
- \_\_\_\_ Control voltage at the low side of the station main transformer
- \_\_\_\_ Control voltage at the high side of the station main transformer
- \_\_\_\_ Other options. Please describe if select others \_\_\_\_\_

11.2 In all the control options selected above, please list the options in which the Unit is able to control its terminal voltage to prevent low/high voltage tripping.

\_\_\_\_\_

11.3 What is the desired control mode from the selected options above? Specify the control plan in this mode. For example: control voltage at which bus to what schedule.

\_\_\_\_\_

12. Wind or inverter-based generating facility Model

***(All model files provided under this section 12 should be compatible with Siemens PTI's PSS/E version currently in use at ISO New England)***

12.1 Power flow model

- 12.1.1 A \*.RAW file including **aggregated/equivalent** wind or inverter-based generating facility power flow model with appropriate parameters and settings.

*Attach the \*.RAW file and specify the name of the attachment here:*

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- 12.1.2 A \*.RAW file including **detailed** wind or inverter-based generating facility power flow model with appropriate parameters and settings. *(Optional)*

*Attach the \*.RAW file and specify the name of the attachment here:*

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12.2 Dynamic simulation model

*(Please note that the dynamic model must match the aggregated/equivalent power flow model provided above. Attach the following information for each of the models.)*

- 12.2.1 Wind or inverter-based generating facility Model \_\_\_\_\_ (Please Specify the Manufacturer Model)

- 12.2.2 A compiled PSS/E dynamic model for the turbines (a \*.LIB or \*.OBJ file)

*Attach the \*.LIB or \*.OBJ file and specify the name of the attachment here:*

---

- 12.2.3 A dynamic data file with appropriate parameters and settings for the turbines (typically a \*.DYR file)

***Attach the \*.DYR file and specify the name of the attachment here:***

---

- 12.2.4 PSS/E wind or inverter-based generating facility model user manual for the WTG

***Attach and specify the name of the attachment here:***

---

***Repeat the above sections from 6 to 12 for each different wind or inverter-based generating facility model.***

13. Power Plant Controller

Will the wind or inverter-based generating facility be equipped with power plant controller, which has the ability to centrally control the output of the units? Yes\_\_ No\_\_

If yes, please provide:

- 13.1 Manufacturer model of the power plant controller

---

- 13.2 What are the reactive power control strategy options of the power plant controller?

- 13.3 Which of the control option stated above is being used in current operation?

---

13.4 Is the power plant controller able to control the unit terminal voltages to prevent low/high voltage tripping?

Yes\_\_ No\_\_

Please provide the park controller technical manual from the manufacturer

***Attach the file and specify the name of the attachment here:***

\_\_\_\_\_

14. Station Transformer

Transformer Name	
Nameplate ratings (MVA)	
Total number of the main transformer(s)	
Voltage, High/Low/Tertiary (kV)	
Winding connections, High/Low Tertiary	
Available tap positions on high voltage side	
Available tap positions on low voltage side	
Will the transformer operate as a LTC?	
Desired voltage control range if LTC	

Tap adjustment time (Tap switching delay + switching time) if LTC		
Desired tap position if applicable		
Tap adjustment time (Tap switching delay + switching time)		
Impedance $Z_1$ , X/R ratio	$Z_{1H-L}$	X/R
	$Z_{1H-T}$	X/R
	$Z_{1T-L}$	X/R
Impedance $Z_0$ , X/R ratio	$Z_{0H-L}$	X/R
	$Z_{0H-T}$	X/R
	$Z_{0T-L}$	X/R

15. Dynamic Simulation Model for the Power Plant Controller(s) (if applicable )

*(All model files provided under this section 15 should be compatible with Siemens PTI's PSS/E version currently in use at ISO New England)*

15.1 A compiled PSS/E dynamic model for the power plant controller(s) (a \*.LIB or \*.OBJ file)

*Attach the \*.LIB or \*.OBJ file and specify the name of the attachment here:*

\_\_\_\_\_

15.2 A dynamic data file with appropriate parameters and settings for the power plant controller(s) (typically a \*.DYR file).

*Please set the parameters in accordance with the currently used control mode.*

*Attach the \*.DYR file and specify the name of the attachment here:*

---

15.3 PSS/E model user manual for the power plant controller(s)

***Attach the manual and specify the name of the attachment or specify the name of the attachment here:*** \_\_\_\_\_

16. Capacitors and Reactors

Please provide necessary modeling data for all the capacitors and reactors belong to the facility, including: size, basic electrical parameters, connecting bus, switched or fixed, etc.

17. Dynamic Device(s)

***(All model files provided under this section 17 should be compatible with Siemens PTI's PSS/E version currently in use at ISO New England)***

17.1 Provide necessary modeling data file for all the dynamic devices belong to the facility.

Attach the \*.LIB or \*.OBJ file and specify the name of the attachment here:

\_\_\_\_\_

17.2 A dynamic data file containing the parameters for the units (typically a \*.DYR file).

Set the parameters in accordance with the desired control mode.

Attach the \*.DYR file and specify the name of the attachment here:

\_\_\_\_\_



18. Collection System/Transformer Tap-Setting Design

Attach a collection system/transformer tap-setting design calculations, consistent with the requirements in the ISO New England Planning Procedures, that identify the calculations to support the proposed tap settings for the unit step-up transformers and the station step-up transformers.

Attached the design document and specify the name of the attachment here:

---

19. Additional Information

Are there any special features available to be implemented to the wind or inverter-based generating facility? Such as weak grid interconnection solutions, etc.  
Specify the available features here:

---

***Insert the technical manual for each of the features listed above as objects (display as icons) or specify the name of the attachment here:***

---

20. Provide PSCAD Model and Documentation for the wind or inverter-based generating facility, the Power Plant Controller(s) and Other Dynamic Devices for the wind or inverter-based generating facility.

***ISO will determine how much PSCAD work is needed from the wind or inverter-based generating facility based on its interconnection system conditions.***

### **CLUSTER SYSTEM IMPACT STUDY APPLICATION FORM**

The undersigned Interconnection Customer submits this form to request the inclusion of the Interconnection Request for its Large Generating Facility in a Cluster Interconnection System Impact Study pursuant to Section 4.2.3.2.2 of this LGIP.

To be included in a Cluster Interconnection System Impact Study, the following must be submitted together with this form to the System Operator by the Cluster Entry Deadline:

1. Project Information:

- a. Project Name: \_\_\_\_\_
- b. Queue Position: \_\_\_\_\_
- c. Is the Interconnection Request contractually associated with an Interconnection Request for an Elective Transmission Upgrade? Yes \_\_\_\_\_ No \_\_\_\_\_  
If yes, identify Queue Position of the associated Interconnection Request and provide evidence of the contractual commitment. Queue Position No.: \_\_\_\_\_

2. Initial Cluster Participation Deposit as specified in Section 4.2.3.2.2

#### **Applicant Signature**

I hereby certify that, to the best of my knowledge, all the information provided in this form is true and accurate.

For Interconnection Customer: \_\_\_\_\_ Date: \_\_\_\_\_

**The technical data required below must be submitted no later than the date of execution of the Feasibility Study Agreement pursuant to Section 6.1 of the LGIP.**

**Complete all fields. If field is not applicable, state “N/A”.**

**A. LARGE GENERATING FACILITY DATA**

(Aggregated data for all units at the Generating Facility)

	0°F	50°F
1. Total gross Generating Facility rated real power output (MW)		
2. Total gross lagging reactive capability of generator(s) at rated output (MVAR)		
3. Total gross leading reactive capability of generator(s) at rated output (MVAR)		
4. Total station service load (MW)		
5. Total station service load (MVAR)		

## B. INDIVIDUAL GENERATING UNIT DATA

(Repeat the relevant table for each distinct type of generating unit utilized at the facility)

(Greatest unit rating at ambient temperature of 50°F or above)

<b>Synchronous Generators</b>	
1. Generating unit manufacturer	
2. Generating unit model	
3. Number of generating units	
4. Generating unit gross rated real power output (MW)	
5. Generating unit gross lagging reactive capability at rated output (MVAR)	
6. Generating unit gross leading reactive capability at rated output (MVAR)	
7. Generator rated MVA	
8. Station service (MW)	
9. Station service (MVAR)	
10. Net generator output (MW)	
11. Net generator output (MVAR)	
12. Nominal terminal voltage (kV)	
13. Rated power factor (%)	
14. Direct axis, positive sequence, sub-transient reactance on generator base in per unit, $X''_{dv}$ (Unsaturated)	
15. Positive sequence, generator AC resistance on generator base in per unit, $R_a$	

Attachment B (page 3)  
To Appendix 1  
Interconnection Request  
Technical Data Required For  
Interconnection Feasibility Study

<b>Wind Turbine Generators</b>	
1. Wind turbine manufacturer	
2. Wind turbine model	
3. Number of wind turbines	
4. Wind turbine type (1/2/3/4)	
5. Wind turbine unit rated output (MW)	
6. Wind turbine unit gross lagging reactive capability at rated output and at nominal terminal voltage (MVAR)	
7. Wind turbine unit gross leading reactive capability at rated output and at nominal terminal voltage (MVAR)	
8. Wind turbine converter rated MVA (Type 3 & 4)	
9. Nominal terminal voltage (kV)	
10. Rated power factor (%)	
11. Direct axis, positive sequence, sub-transient reactance on generator base, $X''_{dv}$ (Unsaturated) in per unit	
12. Positive sequence, generator AC resistance on generator base in per unit, $R_a$	

Attachment B (page 4)  
To Appendix 1  
Interconnection Request  
Technical Data Required For  
Interconnection Feasibility Study

<b>Non-Wind Inverter-Based Generators</b>	
1. Inverter manufacturer	
2. Inverter model	
3. Number of inverters	
4. Inverter unit rated output (MW)	
5. Inverter unit gross lagging reactive capability at rated output and at nominal terminal voltage (MVAR)	
6. Inverter unit gross leading reactive capability at rated output and at nominal terminal voltage (MVAR)	
7. Inverter rated MVA	
8. Nominal terminal voltage (kV)	
9. Rated power factor (%)	
<b>Additional Data for Battery Energy Storage System (BESS)</b>	
10. Maximum charging power (MW)	
11. Will BESS be charged from the Administered Transmission System? (Yes/No)	

### C. GENERATOR SHORT CIRCUIT DATA

(Repeat the relevant table for each distinct type of generating unit utilized at the facility)

<b>Synchronous Generator(s)</b>		
MVA base for data		
kV base for data		
	R (per unit)*	X (direct axis, saturated) (per unit)*
1. Subtransient		
2. Transient		
3. Synchronous		
4. Negative Sequence		
5. Zero Sequence		
6. Connection (delta, grounded WYE, ungrounded WYE, impedance grounded)		
7.a. Ground resistance if impedance grounded (per unit)		
7.b. Ground reactance if impedance grounded (per unit)		

\* Provide impedance in per unit on the generator MVA base

<b>Inverter-Based Resources (including Type 3 &amp; 4 Wind Turbine)</b>	
Full load current magnitude (Amps) per inverter	
Instantaneous controlled fault current magnitude (Amps) per inverter	

#### **D. TRANSFORMER RATINGS DATA**

(Repeat the table for each distinct type of station generator step-up transformer utilized at the facility)

Station generator step-up transformer (Station Transformer)			
Number of Station Transformer(s)			
	Self-cooled	Maximum nameplate	
Capacity (kVA)			
	Generator side	System side	Tertiary
Voltage ratio (kV)			
	Low voltage	High voltage	Tertiary voltage
Winding connections (Delta or Wye)			
	Tap settings		
Fixed taps available		Present tap setting	



(Repeat the table for each distinct type of generating unit step-up transformer utilized at the facility)

Generating unit step-up transformer (GSU) (Wind turbine and inverter-based Generating Facilities)			
Number of GSU(s)			
	Self-cooled	Maximum nameplate	
Capacity (kVA)			
	Generator side	System side	Tertiary
Voltage ratio (kV)			
	Low voltage	High voltage	Tertiary voltage
Winding Connections (Delta or Wye)			
	Tap settings		
Fixed taps available		Present tap setting	

### E. TRANSFORMER IMPEDANCE DATA

(Repeat the table for each distinct type of GSU transformer and station transformer on self-cooled kVA rating)

2-Winding Transformer			
Data For (Check One)	GSU	Station Transformer	
MVA Base for Data			
	R (p.u.)	X (p.u.)	X/R
Positive Sequence			
Zero Sequence			

3-Winding Transformer				
Data For (Check One)	GSU	Station Transformer		
MVA Base for Data				
	R (p.u.)	X (p.u.)	X/R	Positive Sequence
High Side-Low Side				
High Side-Tertiary				
Low Side-Tertiary				
High Side-Low Side				Zero Sequence
High Side-Tertiary				
Low Side-Tertiary				

### F. COLLECTOR SYSTEM EQUIVALENCE IMPEDANCE DATA FOR WIND/PHOTOVOLTAIC PLANTS

(Provide data below in per unit on 100 MVA and nominal line voltage (kV) base. Do not include Station Transformer impedance)

1. Nominal voltage (kV)		
2. Positive sequence resistance (R1) , reactance (X1)		
3. Zero sequence resistance (R0), reactance (X0)		
4. Total branch charging susceptance, B		

### **G. INTERCONNECTION FACILITIES TIE LINE DATA**

(Provide data below in per unit on 100 MVA and nominal line voltage (kV) base)

(Only list data for lines that are to be added by the generation developer)

1. Nominal Voltage (kV)		
2. Line termination points (The proposed line will connect point 2.a with point 2.b)	2.a.	
	2.b.	
3. Positive sequence resistance (R1) , reactance (X1)		
4. Zero sequence resistance (R0), reactance (X0)		
5. Total branch charging susceptance, B		

**In addition, provide the following data:**

- a) Reactive capability curve
- b) For synchronous generator(s)
  - i. A complete Siemens PTI (“PSSE”) format steady state power flow model of the Generating Facility (including Interconnection Facilities tie-line, if applicable)
  - ii. A short-circuit model of the Generating Facility (including Interconnection Facilities tie-line, if applicable) in ASPEN OneLiner (.OLR) format
- c) For collector-based Generating Facilities
  - i. A complete Siemens PTI (“PSSE”) format steady state power flow single-machine equivalent model shall be used for each major feeder branch of the Generating Facility as described in Planning Procedure 5-6 (Interconnection Planning Procedure for Generation and Elective Transmission Upgrades)
  - ii. A single-machine equivalent short-circuit model of the Generating Facility (including Interconnection Facilities tie-line, if applicable) in ASPEN OneLiner (.OLR) format

Attachment B (page 10)  
To Appendix 1  
Interconnection Request  
Technical Data Required For  
Interconnection Feasibility Study

**Applicant Signature**

I hereby certify that, to the best of my knowledge, all the information provided in this Attachment B to the Interconnection Request is true and accurate.

For Interconnection Customer: \_\_\_\_\_ Date: \_\_\_\_\_

**SURPLUS INTERCONNECTION SERVICE REQUEST APPLICATION**

The Surplus Interconnection Customer submits this application to request Surplus Interconnection Service pursuant to Section 3.3 of this LGIP.

**SURPLUS INTERCONNECTION CUSTOMER AND ORIGINAL INTERCONNECTION**  
**CUSTOMER INFORMATION**

Surplus Interconnection Customer Company Name: \_\_\_\_\_

ISO Customer ID# (If available): \_\_\_\_\_

Company Address:

PO Box No.: \_\_\_\_\_

Street Address: \_\_\_\_\_

City, State ZIP: \_\_\_\_\_

Company Representative:      Name: \_\_\_\_\_

Title: \_\_\_\_\_

Company Representative's Company and Address (if different from above):

Company Name: \_\_\_\_\_

PO Box No.: \_\_\_\_\_

Attachment C (page 2)  
To Appendix 1  
Surplus Interconnection Service  
Request Application

Street Address: \_\_\_\_\_

City, State ZIP: \_\_\_\_\_

Phone: \_\_\_\_\_ FAX: \_\_\_\_\_ E-mail: \_\_\_\_\_

Original Interconnection Customer Company Name: \_\_\_\_\_

ISO Customer ID# (If available): \_\_\_\_\_

Company Address:

PO Box No.: \_\_\_\_\_

Street Address: \_\_\_\_\_

City, State ZIP: \_\_\_\_\_

Company Representative: Name: \_\_\_\_\_

Title: \_\_\_\_\_

Company Representative's Company and Address (if different from above):

Company Name: \_\_\_\_\_

PO Box No.: \_\_\_\_\_

Street Address: \_\_\_\_\_

City, State ZIP: \_\_\_\_\_

Phone: \_\_\_\_\_ FAX: \_\_\_\_\_ email: \_\_\_\_\_

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### PROJECT INFORMATION

Description of the Original Interconnection Customer's existing, commercial Large Generating Facility:

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Description of the Surplus Interconnection Customer's Generating Facility:

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Select Type of Interconnection Service for the Surplus Interconnection Customer's Generating Facility:

☐ CNR Interconnection Service

☐ NR Interconnection Service

Specify the amount of Unused Capability at the corresponding CNR Interconnection Service or NR Interconnection Service available for the Surplus Interconnection Customer's Generating Facility:

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Requested Commercial Operations Date for the Surplus Interconnection Customer's Generating Facility:

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Requested Initial Synchronization Date for the Surplus Interconnection Customer's Generating Facility:

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Requested In-Service Date for the Surplus Interconnection Customer's Generating Facility:

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To request Surplus Interconnection Service, the Surplus Interconnection Customer shall provide the following, together with this Surplus Interconnection Service Request Application:

1. The Original Interconnection Customer's written consent for the Surplus Interconnection Customer's Generating Facility to use Unused Capability associated with Interconnection Service established under the Interconnection Agreement for the Original Interconnection Customer's Generating Facility, together with a copy of that Interconnection Agreement;
2. A detailed description of the Original Interconnection Customer's Generating Facility and the Surplus Interconnection Customer's Generating Facility and their respective Interconnection Facilities and existing Point of Interconnection and Point of Change of Ownership, together with a completed Attachment A and Attachment A-1, as applicable, to Appendix 1 of this LGIP, including a site electrical one-line diagram reflecting both the Original Interconnection Customer's Generating Facility and the proposed Surplus Interconnection Customer's Generating Facility and a plot plan; and
3. Site Control for the Surplus Interconnection Customer's Generating Facility.



System Operator and Interconnecting Transmission Owner reserve the right to request additional technical and non-technical information necessary from the Original Interconnection Customer or the Surplus Interconnection Customer as may reasonably become necessary to facilitate their review of the Surplus Interconnection Service request.

**Applicant Signature**

I hereby certify that, to the best of my knowledge, all the information provided in this form is true and accurate.

Authorized Signature: \_\_\_\_\_

Name (type or print): \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**APPENDIX 2**  
**INTERCONNECTION FEASIBILITY STUDY AGREEMENT**

THIS AGREEMENT is made and entered into this \_\_\_\_ day of \_\_\_\_\_, 20\_\_ by and between \_\_\_\_\_, a \_\_\_\_\_ organized and existing under the laws of the State of \_\_\_\_\_ (“Interconnection Customer,”) and ISO New England Inc., a non-stock corporation existing under the laws of the State of Delaware (“System Operator”), and \_\_\_\_\_, a \_\_\_\_\_ organized and existing under the laws of the State of \_\_\_\_\_ (“Interconnecting Transmission Owner”). Interconnection Customer, System Operator, and Interconnecting Transmission Owner may be referred to as a “Party,” or collectively as the “Parties.”

**RECITALS**

**WHEREAS**, Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by the Interconnection Customer dated \_\_\_\_\_; and

**WHEREAS**, Interconnection Customer desires to interconnect the Large Generating Facility to the Administered Transmission System; and

**WHEREAS**, Interconnection Customer has requested System Operator and Interconnecting Transmission Owner to perform an Interconnection Feasibility Study to assess the feasibility of interconnecting the proposed Large Generating Facility to the Administered Transmission System, and any Affected Systems.

**NOW, THEREFORE**, in consideration of and subject to the mutual covenants contained herein the Parties agree as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in the Commission-approved Large Generator Interconnection

Procedures (“LGIP”), or in the other provisions of the ISO New England Inc. Transmission, Markets and Services Tariff (the “Tariff”).

- 2.0 Interconnection Customer elects and System Operator shall cause to be performed an Interconnection Feasibility Study consistent with Section 6.0 of the LGIP in accordance with the Tariff.
- 3.0 The scope of the Interconnection Feasibility Study shall be subject to the assumptions set forth in Attachment A to this Agreement.
- 4.0 The Interconnection Feasibility Study shall be based on the technical information provided by Interconnection Customer in Attachment A (and Attachment A-1, if applicable) or Attachment B to the Interconnection Request, as may be modified as the result of the Scoping Meeting. System Operator and Interconnecting Transmission Owner reserve the right to request additional technical information from Interconnection Customer as may reasonably become necessary consistent with Good Utility Practice during the course of the Interconnection Feasibility Study and as designated in accordance with Section 3.4.4 of the LGIP. If, after the designation of the Point of Interconnection pursuant to Section 3.4.4 of the LGIP, Interconnection Customer modifies its Interconnection Request pursuant to Section 4.4, the time to complete the Interconnection Feasibility Study may be extended.
- 5.0 The Interconnection Feasibility Study report shall provide the following information depending on whether the Feasibility Study consisted of (a) a limited power flow, including thermal analysis and voltage analysis, and short circuit analysis, or (b) limited thermal analysis, voltage analysis, short circuit analysis, stability analysis, or electromagnetic transient analysis, as appropriate, focusing on the issues that are expected to be the most significant for the proposed Large Generating Facility’s interconnection given recent study experience and as discussed at the Scoping Meeting:

- If the study consisted of a limited power flow, including thermal analysis, voltage analysis, and short circuit analysis, preliminary identification of: (1) any circuit breaker or other facility short circuit capability limits exceeded as a result of the interconnection; (2) any thermal overload of any transmission facility or system voltage limit violations resulting from the interconnection; (3) Interconnection Facilities and Network Upgrades necessary to interconnect the Large Generating Facility, together with a non-binding good faith order of magnitude estimated cost of (unless the Interconnection Customer waives such cost estimate) and the time to construct such facilities as identified within the scope of the analysis performed; or
- If the study consisted of limited thermal analysis, voltage analysis, short circuit analysis, stability analysis, or electromagnetic transient analysis, as appropriate, focusing on the issues that are expected to be the most significant for the proposed Large Generating Facility's interconnection given recent study experience and as discussed at the Scoping Meeting: (1) the study findings; and (2) preliminary description of and a non-binding good faith order of magnitude estimated cost of (unless Interconnection Customer waives such cost) and the time to construct the Interconnection Facilities and Network Upgrades necessary to interconnect the Large Generating Facility as identified within the scope of the analysis performed as part of the study.

In accordance with the LGIP, in performing the Interconnection Feasibility Study, System Operator and Interconnecting Transmission Owner shall coordinate with each other and Affected Parties, and shall receive and incorporate input from such entities into its study, and shall provide copies of the final study report to such entities.

- 6.0 The Interconnection Customer is providing a deposit equal to 100 percent of the estimated cost of the study. The deposit shall be applied toward the cost of the Interconnection Feasibility Study and the development of this Interconnection Feasibility Study Agreement and its attachment(s). Interconnecting Transmission Owner's and

System Operator's good faith estimate for the time of completion of the Interconnection Feasibility Study Agreement is [insert date].

The total estimated cost of the performance of the Interconnection Feasibility Study consists of \$\_\_\_\_\_ which is comprised of the System Operator's estimated cost of \$\_\_\_\_\_ and the Interconnecting Transmission Owner's estimated cost of \$\_\_\_\_\_.

Any difference between the deposit and the actual cost of the Interconnection Feasibility Study shall be paid by or refunded to the Interconnection Customer, as appropriate.

Upon receipt of the Interconnection Feasibility Study System Operator and Interconnecting Transmission Owner shall charge and the Interconnection Customer shall pay the actual costs of the Interconnection Feasibility Study.

Interconnection Customer shall pay any invoiced amounts within thirty (30) Calendar Days of receipt of the invoice.

#### 7.0 Miscellaneous.

7.1 Accuracy of Information. Except as a Party ("Providing Party") may otherwise specify in writing when it provides information to the other Parties under this Agreement, the Providing Party represents and warrants that, to the best of its knowledge, the information it provides to the other Parties shall be accurate and complete as of the date the information is provided. The Providing Party shall promptly provide the other Parties with any additional information needed to update information previously provided.

7.2 Disclaimer of Warranty. In preparing and/or participating in the Interconnection Feasibility Study, as applicable, each Party and any subcontractor consultants employed by it shall have to rely on information provided by the Providing Party, and possibly by third parties, and may not have control over the accuracy of such information. Accordingly, beyond the commitment to use Reasonable Efforts in preparing and/or participating in the Interconnection Feasibility Study (including, but not limited to, exercise of Good Utility Practice in verifying the accuracy of information provided for or

used in the Interconnection Feasibility Study), as applicable, no Party nor any subcontractor consultant employed by it makes any warranties, express or implied, whether arising by operation of law, course of performance or dealing, custom, usage in the trade or profession, or otherwise, including without limitation implied warranties of merchantability and fitness for a particular purpose, with regard to the accuracy of the information considered in conducting the Interconnection Feasibility Study, the content of the Interconnection Feasibility Study, or the conclusions of the Interconnection Feasibility Study. Interconnection Customer acknowledges that it has not relied on any representations or warranties not specifically set forth herein and that no such representations or warranties have formed the basis of its bargain hereunder.

### 7.3 Force Majeure, Liability and Indemnification.

7.3.1 Force Majeure. Neither System Operator, Interconnecting Transmission Owner nor an Interconnection Customer will be considered in default as to any obligation under this Agreement if prevented from fulfilling the obligation due to an event of Force Majeure; provided that no event of Force Majeure affecting any entity shall excuse that entity from making any payment that it is obligated to make hereunder. However, an entity whose performance under this Agreement is hindered by an event of Force Majeure shall make all reasonable efforts to perform its obligations under this Agreement, and shall promptly notify the System Operator, the Interconnecting Transmission Owner or the Interconnection Customer, whichever is appropriate, of the commencement and end of each event of Force Majeure.

7.3.2 Liability. System Operator shall not be liable for money damages or other compensation to the Interconnection Customer for action or omissions by System Operator in performing its obligations under this Agreement, except to the extent such act or omission by System Operator is found to result from its gross negligence or willful misconduct. Interconnecting Transmission Owner shall not be liable for money damages or other compensation to the Interconnection

Customer for action or omissions by Interconnecting Transmission Owner in performing its obligations under this Agreement, except to the extent such act or omission by Interconnecting Transmission Owner is found to result from its gross negligence or willful misconduct. To the extent the Interconnection Customer has claims against System Operator or Interconnecting Transmission Owner, the Interconnection Customer may only look to the assets of System Operator or Interconnecting Transmission Owner (as the case may be) for the enforcement of such claims and may not seek to enforce any claims against the directors, members, shareholders, officers, employees or agents of System Operator or Interconnecting Transmission Owner or Affiliate of either who, the Interconnection Customer acknowledges and agrees, have no personal or other liability for obligations of System Operator or an Interconnecting Transmission Owner by reason of their status as directors, members, shareholders, officers, employees or agents of System Operator or an Interconnecting Transmission Owner or Affiliate of either. In no event shall System Operator, Interconnecting Transmission Owner or Interconnection Customer be liable for any incidental, consequential, multiple or punitive damages, loss of revenues or profits, attorneys fees or costs arising out of, or connected in any way with the performance or non-performance under this Agreement. Notwithstanding the foregoing, nothing in this section shall diminish an Interconnection Customer's obligations under the Indemnification section below.

- 7.3.3 Indemnification. Interconnection Customer shall at all times indemnify, defend, and save harmless System Operator and the Interconnecting Transmission Owner and their respective directors, officers, members, employees and agents from any and all damages, losses, claims and liabilities ("Losses") by or to third parties arising out of or resulting from the performance by System Operator or Interconnecting Transmission Owner under this Agreement, any bankruptcy filings made by the Interconnection Customer, or the actions or omissions of the Interconnection Customer in connection with this Agreement, except in the case of System Operator, to the extent such Losses arise from the gross negligence or

willful misconduct by System Operator or its directors, officers, members, employees or agents, and, in the case of Interconnecting Transmission Owner, to the extent such Losses arise from the gross negligence or willful misconduct by Interconnecting Transmission Owner or its directors, officers, members, employees or agents. The amount of any indemnity payment hereunder shall be reduced (including, without limitation, retroactively) by any insurance proceeds or other amounts actually recovered by the indemnified party in respect of the indemnified action, claim, demand, cost, damage or liability. The obligations of Interconnection Customer to indemnify System Operator and Interconnecting Transmission Owner shall be several, and not joint or joint and several. The liability provisions of the Transmission Operating Agreement or other applicable operating agreements shall apply to the relationship between the System Operator and the Interconnecting Transmission Owner.

- 7.4 Third-Party Beneficiaries. Without limitation of Sections 7.2 and 7.3 of this Agreement, the Parties agree that subcontractor consultants hired by them to conduct, participate in, or review, or to assist in the conducting, participating in, or reviewing of, an Interconnection Feasibility Study shall be deemed third party beneficiaries of Sections 7.2 and 7.3.
- 7.5 Term and Termination. This Agreement shall be effective from the date hereof and unless earlier terminated in accordance with this Section 7.5, shall continue in effect for a term of one year or until the Interconnection Feasibility Study is completed. This Agreement shall automatically terminate upon the withdrawal of Interconnection Request under Section 3.7 of the LGIP. The System Operator or the Interconnecting Transmission Owner may terminate this Agreement fifteen (15) days after providing written notice to the Interconnection Customer that it has breached one of its obligations hereunder, if the breach has not been cured within such fifteen (15) day period.



- 7.6 Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the state where the Point of Interconnection is located without regard to any choice of laws provisions.
- 7.7 Severability. In the event that any part of this Agreement is deemed as a matter of law to be unenforceable or null and void, such unenforceable or void part shall be deemed severable from this Agreement and the Agreement shall continue in full force and effect as if each part was not contained herein.
- 7.8 Counterparts. This Agreement may be executed in counterparts, and each counterpart shall have the same force and effect as the original instrument.
- 7.9 Amendment. No amendment, modification or waiver of any term hereof shall be effective unless set forth in writing and signed by the Parties hereto.
- 7.10 Survival. All warranties, limitations of liability and confidentiality provisions provided herein shall survive the expiration or termination hereof.
- 7.11 Independent Contractor. Each of the Parties shall at all times be deemed to be an independent contractor of the other Parties, and none of its employees or the employees of its subcontractors shall be considered to be employees of the other Parties as a result of this Agreement.
- 7.12 No Implied Waivers. The failure of a Party to insist upon or enforce strict performance of any of the provisions of this Agreement shall not be construed as a waiver or relinquishment to any extent of such Party's right to insist or rely on any such provision, rights and remedies in that or any other instance; rather, the same shall be and remain in full force and effect.
- 7.13 Successors and Assigns. This Agreement may not be assigned, by operation of law or otherwise, without the prior written consent of the other Parties hereto, such consent not

to be unreasonably withheld. Notwithstanding the foregoing, this Agreement, and each and every term and condition hereof, shall be binding upon and inure to the benefit of the Parties hereto and their respective successors and assigns, to the extent the same are authorized hereunder.

- 7.14 Due Authorization. Each Party to this Agreement represents and warrants that it has full power and authority to enter into this Agreement and to perform its obligations hereunder, that execution of this Agreement will not violate any other agreement with a third party, and that the person signing this Agreement on its behalf has been properly authorized and empowered to enter into this Agreement.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

System Operator

By:

Title:

Date:

Interconnecting Transmission Owner

By:

Title:

Date:

[Insert name of Interconnection Customer]

By:

Title:

Date:

**ASSUMPTIONS USED IN CONDUCTING THE  
INTERCONNECTION FEASIBILITY STUDY**

The Interconnection Feasibility Study will be based upon the information set forth in the Interconnection Request and agreed upon in the Scoping Meeting held on \_\_\_\_\_:

Designation of Point of Interconnection and configuration to be studied.

Designation of alternative Point(s) of Interconnection and configuration.

[Above assumptions to be completed by Interconnection Customer and other assumptions to be provided by Interconnection Customer, System Operator, and Interconnecting Transmission Owner]

**APPENDIX 3**  
**INTERCONNECTION SYSTEM IMPACT STUDY AGREEMENT**

**THIS AGREEMENT** is made and entered into this \_\_\_\_ day of \_\_\_\_\_, 20\_\_ by and between \_\_\_\_\_, a \_\_\_\_\_ organized and existing under the laws of the State of \_\_\_\_\_ (“Interconnection Customer,”) and ISO New England Inc., a non-stock corporation existing under the laws of the State of Delaware (“System Operator”), and \_\_\_\_\_, a \_\_\_\_\_ organized and existing under the laws of the State of \_\_\_\_\_ (“Interconnecting Transmission Owner”). Interconnection Customer, System Operator, and Interconnecting Transmission Owner may be referred to as a “Party,” or collectively as the “Parties.”

**RECITALS**

**WHEREAS**, Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by the Interconnection Customer dated \_\_\_\_\_; and

**WHEREAS**, Interconnection Customer desires to interconnect the Large Generating Facility to the Administered Transmission System;

**WHEREAS**, System Operator and Interconnecting Transmission Owner have completed an Interconnection Feasibility Study (the “Feasibility Study”) and provided the results of said study to the Interconnection Customer (This recital is to be omitted if Interconnection Customer has elected to forego the Interconnection Feasibility Study); and

**WHEREAS**, Interconnection Customer has requested System Operator and Interconnecting Transmission Owner to perform an Interconnection System Impact Study to assess the impact of interconnecting the Large Generating Facility to the Administered Transmission System, and any Affected Systems.

**NOW, THEREFORE**, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in the Commission-approved Large Generator Interconnection Procedure (“LGIP”).
- 2.0 Interconnection Customer elects and System Operator and Interconnecting Transmission Owner shall cause to be performed an Interconnection System Impact Study consistent with Section 7.0 of the LGIP in accordance with the Tariff.
- 3.0 The scope of the Interconnection System Impact Study shall be subject to the assumptions set forth in Attachment A to this Agreement.
- 4.0 The Interconnection System Impact Study will be based upon the results of the Interconnection Feasibility Study unless Interconnection Customer did not pursue the Interconnection Feasibility Study, and the technical information provided by Interconnection Customer in Attachment A (and Attachment A-1 as applicable) to the Interconnection Request, subject to any modifications in accordance with Section 4.4 of the LGIP. System Operator and Interconnecting Transmission Owner reserve the right to request additional technical information from Interconnection Customer as may reasonably become necessary consistent with Good Utility Practice during the course of the Interconnection System Impact Study. If Interconnection Customer modifies its designated Point of Interconnection, Interconnection Request, or the technical information provided therein is modified, the time to complete the Interconnection System Impact Study may be extended.
- 5.0 The Interconnection System Impact Study report shall provide the following information:
  - identification of any circuit breaker or other facility short circuit capability limits exceeded as a result of the interconnection;
  - identification of any thermal overload of any transmission facility or system voltage limit violations resulting from the interconnection;
  - initial review of grounding requirements and electric system protection;

- identification of any instability or inadequately damped response to system disturbances resulting from the interconnection;
- description and non-binding, good faith estimated cost of and the time to construct the facilities required to interconnect the Large Generating Facility to the Administered Transmission System and to address the identified short circuit, instability, and power flow issues; and
- to the extent the Interconnection Customer requested a preliminary analysis as described in this Section 7.4 of the LGIP, the report will also provide a list of potential upgrades that may be necessary for the Interconnection Customer's Generating Facility to qualify for participation in a Forward Capacity Auction under Section III.13 of the Tariff.

6.0 The Interconnection Customer is providing a deposit equal to:

- i. the greater of 100 percent of the estimated cost of the Interconnection System Impact Study or \$250,000;  
or
- ii. the lower of 100 percent of the estimated cost of the Interconnection System Impact Study or \$50,000, if the Interconnection Customer is providing herewith either:
  - (a) evidence of applications for all Major Permits, as defined in Section III.13.1.1.2.2.2(a) of the Tariff, required in support of the Interconnection Request, or provide certification that Major Permits are not required or
  - (b) evidence acceptable to the System Operator of At-Risk Expenditures (excluding study costs) totaling at least the amounts of money described in (i) above.

or

- iii the lower of 100 percent of the estimated costs of the study or \$50,000 if the Interconnection Request is for a modification to an existing Large Generating Facility that does not increase the energy capability or capacity capability of the Large Generating Facility.

The deposit shall be applied toward the cost of the Interconnection System Impact Study and the development of this Interconnection System Impact Study Agreement and its attachment(s) and the LGIA. Interconnecting Transmission Owner's and System Operator's good faith estimate for the times of commencement and completion of the Interconnection System Impact Study is [insert dates].

The total estimated cost of the performance of the Interconnection System Impact Study consists of \$\_\_\_\_\_ which is comprised of the System Operator's estimated cost of \$\_\_\_\_\_ and the Interconnecting Transmission Owner's estimated cost of \$\_\_\_\_\_.

Any difference between the deposit and the actual cost of the Interconnection System Impact Study shall be paid by or refunded to the Interconnection Customer, as appropriate.

Upon receipt of the Interconnection System Impact Study, System Operator and Interconnecting Transmission Owner shall charge and the Interconnection Customer shall pay the actual costs of the Interconnection System Impact Study.

System Operator and Interconnecting Transmission Owner may, in the exercise of reasonable discretion, invoice the Interconnection Customer on a monthly basis for the work to be conducted on the Interconnection System Impact Study each month.

Interconnection Customer shall pay any invoiced amounts within thirty (30) Calendar Days of receipt of the invoice.

In accordance with the LGIP, in performing the Interconnection System Impact Study, System Operator and Interconnecting Transmission Owner shall coordinate with Affected Parties, shall receive and incorporate input from such entities into its study, and shall provide copies of the final study report to such entities.

7.0 Miscellaneous.

7.1 Accuracy of Information. Except as a Party ("Providing Party") may otherwise specify in writing when it provides information to the other Parties under this Agreement, the Providing Party represents and warrants that, to the best of its knowledge, the information it provides to the other Parties shall be accurate and complete as of the date the information is provided. The Providing Party shall promptly provide the other Parties with any additional information needed to update information previously provided.

7.2 Disclaimer of Warranty. In preparing and/or participating in the Interconnection System Impact Study, as applicable, each Party and any subcontractor consultants employed by it shall have to rely on information provided by the Providing Party, and possibly by third parties, and may not have control over the accuracy of such information. Accordingly, beyond the commitment to use Reasonable Efforts in preparing and/or participating in the Interconnection System Impact Study (including, but not limited to, exercise of Good Utility Practice in verifying the accuracy of information provided for or used in the Interconnection System Impact Study), as applicable, no Party nor any subcontractor consultant employed by it makes any warranties, express or implied, whether arising by operation of law, course of performance or dealing, custom, usage in the trade or profession, or otherwise, including without limitation implied warranties of merchantability and fitness for a particular purpose, with regard to the accuracy of the information considered in conducting the Interconnection System Impact Study, the content of the Interconnection System Impact Study, or the conclusions of the Interconnection System Impact Study. Interconnection Customer acknowledges that it has not relied on any representations or warranties not specifically set forth herein and that no such representations or warranties have formed the basis of its bargain hereunder.



### 7.3 Force Majeure, Liability and Indemnification.

- 7.3.1 Force Majeure. Neither System Operator, Interconnecting Transmission Owner nor an Interconnection Customer will be considered in default as to any obligation under this Agreement if prevented from fulfilling the obligation due to an event of Force Majeure; provided that no event of Force Majeure affecting any entity shall excuse that entity from making any payment that it is obligated to make hereunder. However, an entity whose performance under this Agreement is hindered by an event of Force Majeure shall make all reasonable efforts to perform its obligations under this Agreement, and shall promptly notify the System Operator, the Interconnecting Transmission Owner or the Interconnection Customer, whichever is appropriate, of the commencement and end of each event of Force Majeure.
- 7.3.2 Liability. System Operator shall not be liable for money damages or other compensation to the Interconnection Customer for action or omissions by System Operator in performing its obligations under this Agreement, except to the extent such act or omission by System Operator is found to result from its gross negligence or willful misconduct. Interconnecting Transmission Owner shall not be liable for money damages or other compensation to the Interconnection Customer for action or omissions by Interconnecting Transmission Owner in performing its obligations under this Agreement, except to the extent such act or omission by Interconnecting Transmission Owner is found to result from its gross negligence or willful misconduct. To the extent the Interconnection Customer has claims against System Operator or Interconnecting Transmission Owner, the Interconnection Customer may only look to the assets of System Operator or Interconnecting Transmission Owner (as the case may be) for the enforcement of such claims and may not seek to enforce any claims against the directors, members, shareholders, officers, employees or agents of System Operator or Interconnecting Transmission Owner or Affiliate of either who, the

Interconnection Customer acknowledges and agrees, have no personal or other liability for obligations of System Operator or Interconnecting Transmission Owner by reason of their status as directors, members, shareholders, officers, employees or agents of System Operator or Interconnecting Transmission Owner or Affiliate of either. In no event shall System Operator, an Interconnecting Transmission Owner or any Interconnection Customer be liable for any incidental, consequential, multiple or punitive damages, loss of revenues or profits, attorneys fees or costs arising out of, or connected in any way with the performance or non-performance under this Agreement. Notwithstanding the foregoing, nothing in this section shall diminish an Interconnection Customer's obligations under the Indemnification section below.

- 7.3.3 Indemnification. Interconnection Customer shall at all times indemnify, defend, and save harmless System Operator and the Interconnecting Transmission Owners and their respective directors, officers, members, employees and agents from any and all damages, losses, claims and liabilities ("Losses") by or to third parties arising out of or resulting from the performance by System Operator or Interconnecting Transmission Owner under this Agreement, any bankruptcy filings made by the Interconnection Customer, or the actions or omissions of the Interconnection Customer in connection with this Agreement, except in the case of System Operator, to the extent such Losses arise from the gross negligence or willful misconduct by System Operator or its directors, officers, members, employees or agents, and, in the case of Interconnecting Transmission Owner, to the extent such Losses arise from the gross negligence or willful misconduct by Interconnecting Transmission Owner or its directors, officers, members, employees or agents. The amount of any indemnity payment hereunder shall be reduced (including, without limitation, retroactively) by any insurance proceeds or other amounts actually recovered by the indemnified party in respect of the indemnified action, claim, demand, cost, damage or liability. The obligations of Interconnection Customer to indemnify System Operator and Interconnecting Transmission Owners shall be several, and not joint or joint and several. The

liability provisions of the Transmission Operating Agreement or other applicable operating agreements shall apply to the relationship between the System Operator and the Interconnecting Transmission Owner.

- 7.4 Third-Party Beneficiaries. Without limitation of Sections 7.2 and 7.3 of this Agreement, the Parties agree that subcontractor consultants hired by them to conduct, participate in, or review, or to assist in the conducting, participating in, or reviewing of, an Interconnection System Impact Study shall be deemed third party beneficiaries of Sections 7.2 and 7.3.
- 7.5 Term and Termination. This Agreement shall be effective from the date hereof and unless earlier terminated in accordance with this Section 7.5, shall continue in effect for a term of one year or until the Interconnection System Impact Study is completed. This Agreement shall automatically terminate upon the withdrawal of Interconnection Request under Section 3.7 of the LGIP. The System Operator or the Interconnecting Transmission Owner may terminate this Agreement fifteen (15) days after providing written notice to the Interconnection Customer that it has breached one of its obligations hereunder, if the breach has not been cured within such fifteen (15) day period.
- 7.6 Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the state where the Point of Interconnection is located without regard to any choice of laws provisions.
- 7.7 Severability. In the event that any part of this Agreement is deemed as a matter of law to be unenforceable or null and void, such unenforceable or void part shall be deemed severable from this Agreement and the Agreement shall continue in full force and effect as if each part was not contained herein.
- 7.8 Counterparts. This Agreement may be executed in counterparts, and each counterpart shall have the same force and effect as the original instrument.

- 7.9 Amendment. No amendment, modification or waiver of any term hereof shall be effective unless set forth in writing and signed by the Parties hereto.
- 7.10 Survival. All warranties, limitations of liability and confidentiality provisions provided herein shall survive the expiration or termination hereof.
- 7.11 Independent Contractor. Each of the Parties shall at all times be deemed to be an independent contractor of the other Parties, and none of its employees or the employees of its subcontractors shall be considered to be employees of the other Parties as a result of this Agreement.
- 7.12 No Implied Waivers. The failure of a Party to insist upon or enforce strict performance of any of the provisions of this Agreement shall not be construed as a waiver or relinquishment to any extent of such Party's right to insist or rely on any such provision, rights and remedies in that or any other instance; rather, the same shall be and remain in full force and effect.
- 7.13 Successors and Assigns. This Agreement may not be assigned, by operation of law or otherwise, without the prior written consent of the other Parties hereto, such consent not to be unreasonably withheld. Notwithstanding the foregoing, this Agreement, and each and every term and condition hereof, shall be binding upon and inure to the benefit of the Parties hereto and their respective successors and assigns, to the extent the same are authorized hereunder.
- 7.14 Due Authorization. Each Party to this Agreement represents and warrants that it has full power and authority to enter into this Agreement and to perform its obligations hereunder, that execution of this Agreement will not violate any other agreement with a third party, and that the person signing this Agreement on its behalf has been properly authorized and empowered to enter into this Agreement.

IN WITNESS THEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

System Operator

By:

Title:

Date:

Interconnecting Transmission Owner

By:

Title:

Date:

[Insert name of Interconnection Customer]

By:

Title:

Date:

**ASSUMPTIONS USED IN CONDUCTING THE  
INTERCONNECTION SYSTEM IMPACT STUDY**

The Interconnection System Impact Study will be based upon the results of the Interconnection Feasibility Study unless Interconnection Customer did not pursue the Interconnection Feasibility Study, subject to any modifications in accordance with Section 4.4 of the LGIP, and the following assumptions:

Designation of Point of Interconnection and configuration to be studied.

Designation of alternative Point(s) of Interconnection and configuration. [Above assumptions to be completed by Interconnection Customer and other assumptions to be provided by Interconnection Customer, System Operator, and Interconnecting Transmission Owner]

**APPENDIX 4**  
**INTERCONNECTION FACILITIES STUDY AGREEMENT**

**THIS AGREEMENT** is made and entered into this \_\_\_\_ day of \_\_\_\_\_, 20\_\_ by and between \_\_\_\_\_, a \_\_\_\_\_ organized and existing under the laws of the State of \_\_\_\_\_ (“Interconnection Customer,”) and ISO New England Inc., a non-stock corporation existing under the laws of the State of Delaware (“System Operator”), and \_\_\_\_\_, a \_\_\_\_\_ organized and existing under the laws of the State of \_\_\_\_\_ (“Interconnecting Transmission Owner”). Interconnection Customer, System Operator, and Interconnecting Transmission Owner may be referred to as a “Party,” or collectively as the “Parties.”

**RECITALS**

**WHEREAS**, Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by the Interconnection Customer dated ; and

**WHEREAS**, Interconnection Customer desires to interconnect the Large Generating Facility to the Administered Transmission System; and

**WHEREAS**, System Operator and Interconnecting Transmission Owner have completed an Interconnection System Impact Study (the “System Impact Study”) and provided the results of said study to the Interconnection Customer; and

**WHEREAS**, Interconnection Customer has requested System Operator and Interconnecting Transmission Owner to perform an Interconnection Facilities Study to specify and estimate the cost of the equipment, engineering, procurement and construction work needed to implement the conclusions of the Interconnection System Impact Study in accordance with Good Utility Practice to physically and electrically connect the Large Generating Facility to the Administered Transmission System.

**NOW, THEREFORE**, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in the Commission-approved Large Generator Interconnection Procedures (“LGIP”), or in the other provisions of the ISO New England Inc. Transmission, Markets and Services Tariff (the “Tariff”).
- 2.0 Interconnection Customer elects and System Operator shall cause an Interconnection Facilities Study consistent with Section 8.0 of the LGIP to be performed in accordance with the Tariff.
- 3.0 The scope of the Interconnection Facilities Study shall be subject to the assumptions set forth in Attachment A and the data provided in Attachment B to this Agreement.
- 4.0 The Interconnection Facilities Study report (i) shall provide a description, estimated cost of (consistent with Attachment A), and schedule for required facilities to interconnect the Large Generating Facility to the Administered Transmission System and (ii) shall address the short circuit, instability, and power flow issues identified in the Interconnection System Impact Study.
- 5.0 The Interconnection Customer is providing a deposit equal to:
  - i. the greater of 25 percent of the estimated cost of the Interconnection Facilities Study or \$250,000;  
or
  - ii. the greater of 100 percent of the estimated monthly cost of the Interconnection Facilities Study Agreement or \$100,000, if the Interconnection Customer can provide either:



- (a) evidence of application for all Major Permits, as defined in Section III.13.1.1.2.2.2(a) of the Tariff, required in support of the Interconnection Request, or provide certification that Major Permits are not required or
- (b) evidence acceptable to the System Operator of At-Risk Expenditures (excluding Interconnection Study costs) totaling at least the amount of the money in (i) above, not including the At-Risk Expenditures demonstrated with the Interconnection System Impact Study Agreement, if applicable.

or

- iii. the greater of 100 percent of one month's estimated study cost or \$100,000, if the Interconnection Request is for a modification to an existing Large Generating Facility that does not increase the energy capability or capacity capability of the Large Generating Facility.

The deposit shall be applied toward the cost of the Interconnection Facilities Study and the development of this Interconnection Facilities Study Agreement and its attachment(s) and the LGIA. The time for completion of the Interconnection Facilities Study is specified in Attachment A.

The total estimated cost of the performance of the Interconnection Facilities Study consists of \$\_\_\_\_\_ which is comprised of the System Operator's estimated cost of \$\_\_\_\_\_ and the Interconnecting Transmission Owner's estimated cost of \$\_\_\_\_\_.

Any difference between the deposit and the actual cost of the Interconnection Facilities Study shall be paid by or refunded to the Interconnection Customer, as appropriate.

Upon receipt of the Interconnection Facilities Study, System Operator and

Interconnecting Transmission Owner shall charge and Interconnection Customer shall pay the actual costs of the Interconnection Facilities Study. System Operator and Interconnecting Transmission Owner may, in the exercise of reasonable discretion, invoice the Interconnection Customer on a monthly basis for the work to be conducted on the Interconnection Facilities Study each month. Interconnection Customer shall pay any invoiced amounts within thirty (30) Calendar Days of receipt of the invoice. In accordance with the LGIP, in performing the Interconnection Facilities Study, Interconnecting Transmission Owner and System Operator shall coordinate with Affected Parties, shall receive and incorporate input from such entities into its study, and shall provide copies of the final study report to such entities.

6.0 Miscellaneous.

6.1 Accuracy of Information. Except as a Party ("Providing Party") may otherwise specify in writing when it provides information to the other Parties under this Agreement, the Providing Party represents and warrants that, to the best of its knowledge, the information it provides to the other Parties shall be accurate and complete as of the date the information is provided. The Providing Party shall promptly provide the other Parties with any additional information needed to update information previously provided.

6.2 Disclaimer of Warranty. In preparing and/or participating in the Interconnection Facilities Study, as applicable, each Party and any subcontractor consultants employed by it shall have to rely on information provided by the Providing Party, and possibly by third parties, and may not have control over the accuracy of such information. Accordingly, beyond the commitment to use Reasonable Efforts in preparing and/or participating in the Interconnection Facilities Study (including, but not limited to, exercise of Good Utility Practice in verifying the accuracy of information provided for or used in the Interconnection Facilities Study), as applicable, no Party nor any subcontractor consultant employed by it makes any warranties, express or implied, whether arising by operation of law, course of performance or dealing, custom, usage in the trade or profession, or

otherwise, including without limitation implied warranties of merchantability and fitness for a particular purpose, with regard to the accuracy of the information considered in conducting the Interconnection Facilities Study, the content of the Interconnection Facilities Study, or the conclusions of the Interconnection Facilities Study.

Interconnection Customer acknowledges that it has not relied on any representations or warranties not specifically set forth herein and that no such representations or warranties have formed the basis of its bargain hereunder.

### 6.3 Force Majeure, Liability and Indemnification.

6.3.1 Force Majeure. Neither System Operator, Interconnecting Transmission Owner nor an Interconnection Customer will be considered in default as to any obligation under this Agreement if prevented from fulfilling the obligation due to an event of Force Majeure; provided that no event of Force Majeure affecting any entity shall excuse that entity from making any payment that it is obligated to make hereunder. However, an entity whose performance under this Agreement is hindered by an event of Force Majeure shall make all reasonable efforts to perform its obligations under this Agreement, and shall promptly notify the System Operator, the Interconnecting Transmission Owner or the Interconnection Customer, whichever is appropriate, of the commencement and end of each event of Force Majeure.

6.3.2 Liability. System Operator shall not be liable for money damages or other compensation to the Interconnection Customer for action or omissions by System Operator in performing its obligations under this Agreement, except to the extent such act or omission by System Operator is found to result from its gross negligence or willful misconduct. Interconnecting Transmission Owner shall not be liable for money damages or other compensation to the Interconnection Customer for action or omissions by Interconnecting Transmission Owner in performing its obligations under this Agreement, except to the extent such act or omission by Interconnecting Transmission Owner is found to result from its

gross negligence or willful misconduct. To the extent the Interconnection Customer has claims against System Operator or Interconnecting Transmission Owner, the Interconnection Customer may only look to the assets of System Operator or Interconnecting Transmission Owner (as the case may be) for the enforcement of such claims and may not seek to enforce any claims against the directors, members, shareholders, officers, employees or agents of System Operator or Interconnecting Transmission Owner or Affiliate of either who, the Interconnection Customer acknowledges and agrees, have no personal or other liability for obligations of System Operator or Interconnecting Transmission Owner by reason of their status as directors, members, shareholders, officers, employees or agents of System Operator or Interconnecting Transmission Owner or Affiliate of either. In no event shall System Operator, Interconnecting Transmission Owner or any Interconnection Customer be liable for any incidental, consequential, multiple or punitive damages, loss of revenues or profits, attorneys fees or costs arising out of, or connected in any way with the performance or non-performance under this Agreement. Notwithstanding the foregoing, nothing in this section shall diminish an Interconnection Customer's obligations under the Indemnification section below.

- 6.3.3 Indemnification. Interconnection Customer shall at all times indemnify, defend, and save harmless System Operator and the Interconnecting Transmission Owners and their respective directors, officers, members, employees and agents from any and all damages, losses, claims and liabilities ("Losses") by or to third parties arising out of or resulting from the performance by System Operator or Interconnecting Transmission Owner under this Agreement, any bankruptcy filings made by the Interconnection Customer, or the actions or omissions of the Interconnection Customer in connection with this Agreement, except in the case of System Operator, to the extent such Losses arise from the gross negligence or willful misconduct by System Operator or its directors, officers, members, employees or agents, and, in the case of Interconnecting Transmission Owner, to the extent such Losses arise from the gross negligence or willful misconduct by

Interconnecting Transmission Owner or its directors, officers, members, employees or agents. The amount of any indemnity payment hereunder shall be reduced (including, without limitation, retroactively) by any insurance proceeds or other amounts actually recovered by the indemnified party in respect of the indemnified action, claim, demand, cost, damage or liability. The obligations of Interconnection Customer to indemnify System Operator and Interconnecting Transmission Owners shall be several, and not joint or joint and several. The liability provisions of the Transmission Operating Agreement or other applicable operating agreements shall apply to the relationship between the System Operator and the Interconnecting Transmission Owner.

- 6.4 Third-Party Beneficiaries. Without limiting Sections 7.2 and 7.3 of this Agreement, the Parties agree that subcontractor consultants hired by them to conduct, participate in, review, or to assist in the conducting, participating in, or reviewing of, an Interconnection Facilities Study shall be deemed third party beneficiaries of Sections 7.2 and 7.3.
- 6.5 Term and Termination. This Agreement shall be effective from the date hereof and unless earlier terminated in accordance with this Section 7.5, shall continue in effect for a term of one year or until the Interconnection Facilities Study is completed. This Agreement shall automatically terminate upon the withdrawal of Interconnection Request under Section 3.7 of the LGIP. The System Operator or the Interconnecting Transmission Owner may terminate this Agreement fifteen (15) days after providing written notice to the Interconnection Customer that it has breached one of its obligations hereunder, if the breach has not been cured within such fifteen (15) day period.
- 6.6 Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the state where the Point of Interconnection is located without regard to any choice of laws provisions.

- 6.7 Severability. In the event that any part of this Agreement is deemed as a matter of law to be unenforceable or null and void, such unenforceable or void part shall be deemed severable from this Agreement and the Agreement shall continue in full force and effect as if each part was not contained herein.
- 6.8 Counterparts. This Agreement may be executed in counterparts, and each counterpart shall have the same force and effect as the original instrument.
- 6.9 Amendment. No amendment, modification or waiver of any term hereof shall be effective unless set forth in writing and signed by the Parties hereto.
- 6.10 Survival. All warranties, limitations of liability and confidentiality provisions provided herein shall survive the expiration or termination hereof.
- 6.11 Independent Contractor. Each of the Parties shall at all times be deemed to be an independent contractor of the other Parties, and none of its employees or the employees of its subcontractors shall be considered to be employees of the other Parties as a result of this Agreement.
- 6.12 No Implied Waivers. The failure of a Party to insist upon or enforce strict performance of any of the provisions of this Agreement shall not be construed as a waiver or relinquishment to any extent of such Party's right to insist or rely on any such provision, rights and remedies in that or any other instance; rather, the same shall be and remain in full force and effect.
- 6.13 Successors and Assigns. This Agreement may not be assigned, by operation of law or otherwise, without the prior written consent of the other Parties hereto, such consent not to be unreasonably withheld. Notwithstanding the foregoing, this Agreement, and each and every term and condition hereof, shall be binding upon and inure to the benefit of the Parties hereto and their respective successors and assigns, to the extent the same are authorized hereunder.

6.14 Due Authorization. Each Party to this Agreement represents and warrants that it has full power and authority to enter into this Agreement and to perform its obligations hereunder, that execution of this Agreement will not violate any other agreement with a third party, and that the person signing this Agreement on its behalf has been properly authorized and empowered to enter into this Agreement.

**IN WITNESS WHEREOF**, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

System Operator

Interconnecting Transmission Owner

By:

By:

Title:

Title:

Date:

Date:

[Insert name of Interconnection Customer]

By:

Title:

Date:

**INTERCONNECTION CUSTOMER SCHEDULE ELECTION FOR CONDUCTING THE  
INTERCONNECTION FACILITIES STUDY**

Interconnection Customer elects (check one):

- ☐ +/- 20 percent cost estimate contained in the Interconnection Facilities Study report.
- ☐ +/- 10 percent cost estimate contained in the Interconnection Facilities Study report.

Interconnecting Transmission Owner and System Operator shall use Reasonable Efforts to complete the study and issue a draft Interconnection Facilities Study report to the Interconnection Customer within the following number of days after of receipt of an executed copy of this Interconnection Facilities Study Agreement:

- ninety (90) Calendar Days with no more than a +/- 20 percent cost estimate contained in the report, or
- one hundred eighty (180) Calendar Days with no more than a +/- 10 percent cost estimate contained in the report.



**DATA FORM TO BE PROVIDED BY INTERCONNECTION CUSTOMER  
WITH THE  
INTERCONNECTION FACILITIES STUDY AGREEMENT**

Provide location plan and simplified one-line diagram of the plant and station facilities. For staged projects, please indicate future generation, transmission circuits, etc.

One set of metering is required for each generation connection to the new ring bus or existing New England Transmission System station. Number of generation connections:

On the one line indicate the generation capacity attached at each metering location. (Maximum load on Current Transformer/Power Transformer (“CT/PT”))

On the one line indicate the location of auxiliary power. (Minimum load on CT/PT) Amps

Will an alternate source of auxiliary power be available during CT/PT maintenance?

Yes \_\_\_\_\_ No \_\_\_\_\_

Will a transfer bus on the generation side of the metering require that each meter set be designed for the total plant generation? Yes \_\_\_\_\_ No \_\_\_\_\_

(Please indicate on one line).

What type of control system or Power Line Carrier (“PLC”) will be located at the Interconnection Customer’s Large Generating Facility?

What protocol does the control system or PLC use?

Attachment B (page 2)  
Appendix 4  
Interconnection Facilities  
Study Agreement

Please provide a 7.5-minute quadrangle of the site. Sketch the plant, station, transmission line, and property line.

Physical dimensions of the proposed interconnection station:

Bus length from generation to interconnection station:

Line length from interconnection station to Interconnecting Transmission Owner's transmission line.

Tower number observed in the field. (Painted on tower leg)\*

Number of third party easements required for transmission lines\*:

\* To be completed in coordination with System Operator and Interconnecting Transmission Owner.

Is the Large Generating Facility in Interconnecting Transmission Owner's service area?

Yes \_\_\_\_\_ No \_\_\_\_\_ Local provider:

Please provide proposed schedule dates:

Begin Construction Date:

Generator step-up transformer Date:

Receives back feed power Date

Generation Testing Date:

Commercial Operation Date:



**APPENDIX 5**  
**OPTIONAL INTERCONNECTION STUDY AGREEMENT**

**THIS AGREEMENT** is made and entered into this \_\_\_\_ day of \_\_\_\_\_, 20\_\_ by and between \_\_\_\_\_, a \_\_\_\_\_ organized and existing under the laws of the State of \_\_\_\_\_ (“Interconnection Customer,”) and ISO New England Inc., a non-stock corporation existing under the laws of the State of Delaware (“System Operator”), and \_\_\_\_\_, a \_\_\_\_\_ organized and existing under the laws of the State of \_\_\_\_\_ (“Interconnecting Transmission Owner”). Interconnection Customer, System Operator, and Interconnecting Transmission Owner may be referred to as a “Party,” or collectively as the “Parties.”

**RECITALS**

**WHEREAS**, Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by the Interconnection Customer dated \_\_\_\_\_; and

**WHEREAS**, Interconnection Customer is proposing to establish an interconnection to the Administered Transmission System; and

**WHEREAS**, Interconnection Customer has submitted to System Operator an Interconnection Request; and

**WHEREAS**, on or after the date when the Interconnection Customer receives the Interconnection System Impact Study results, Interconnection Customer has further requested that the System Operator and Interconnecting Transmission Owner prepare an Optional Interconnection Study.

**NOW, THEREFORE**, in consideration of and subject to the mutual covenants contained herein the Parties agree as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in the Commission-approved Large Generator Interconnection Procedures (“LGIP”), or in the other provisions of the ISO New England Inc. Transmission, Markets and Services Tariff (the “Tariff”).
- 2.0 Interconnection Customer elects and System Operator shall cause an Optional Interconnection Study consistent with Section 10.0 of the LGIP to be performed in accordance with the Tariff.
- 3.0 The scope of the Optional Interconnection Study shall be subject to the assumptions set forth in Attachment A to this Agreement.
- 4.0 The Optional Interconnection Study shall be performed solely for informational purposes.
- 5.0 The Optional Interconnection Study report shall provide a sensitivity analysis based on the assumptions specified by the Interconnection Customer in Attachment A to this Agreement. The Optional Interconnection Study will identify Interconnecting Transmission Owner’s Interconnection Facilities and the Network Upgrades, and the estimated cost thereof, that may be required to provide transmission service or Interconnection Service based upon the assumptions specified by the Interconnection Customer in Attachment A.  
  
In accordance with the LGIP, in performing the Optional Interconnection Study, the System Operator shall coordinate with Interconnecting Transmission Owner and Affected Parties, and shall receive and incorporate input from such entities into its study, and shall provide copies of the final study report to such entities.
- 6.0 The Interconnection Customer is providing a deposit equal to 100 percent of the estimated cost of the study. Interconnecting Transmission Owner’s and System Operator’s good faith estimate for the time of completion of the Optional Interconnection Study is [insert date].

The total estimated cost of the performance of the Optional Interconnection Study consists of \$\_\_\_\_\_ which is comprised of the System Operator's estimated cost of \$\_\_\_\_\_ and the Interconnecting Transmission Owner's estimated cost of \$\_\_\_\_\_.

Any difference between the initial payment and the actual cost of the study shall be paid by or refunded to the Interconnection Customer, as appropriate. Upon receipt of the Optional Interconnection Study, System Operator and Interconnecting Transmission Owner shall charge and the Interconnection Customer shall pay the actual costs of the Optional Interconnection Study. Interconnection Customer shall pay any invoiced amounts within thirty (30) Calendar Days of receipt of invoice.

7.0 Miscellaneous.

7.1 Accuracy of Information. Except as a Party ("Providing Party") may otherwise specify in writing when it provides information to the other Parties under this Agreement, the Providing Party represents and warrants that, to the best of its knowledge, the information it provides to the other Parties shall be accurate and complete as of the date the information is provided. The Providing Party shall promptly provide the other Parties with any additional information needed to update information previously provided.

7.2 Disclaimer of Warranty. In preparing and/or participating in the Optional Interconnection Study, as applicable, each Party and any subcontractor consultants employed by it shall have to rely on information provided by the Providing Party, and possibly by third parties, and may not have control over the accuracy of such information. Accordingly, beyond the commitment to use Reasonable Efforts in preparing and/or participating in the Optional Interconnection Study (including, but not limited to, exercise of Good Utility Practice in verifying the accuracy of information provided for or used in the Optional Interconnection Study), as applicable, no Party nor any subcontractor consultant employed by it makes any warranties, express or implied, whether arising by operation of law, course of performance or dealing, custom, usage in the trade or profession, or otherwise, including without limitation implied warranties of

merchantability and fitness for a particular purpose, with regard to the accuracy of the information considered in conducting the Optional Interconnection Study, the content of the Optional Interconnection Study, or the conclusions of the Optional Interconnection Study. Interconnection Customer acknowledges that it has not relied on any representations or warranties not specifically set forth herein and that no such representations or warranties have formed the basis of its bargain hereunder.

### 7.3 Force Majeure, Liability and Indemnification.

7.3.1 Force Majeure. Neither System Operator, Interconnecting Transmission Owner nor an Interconnection Customer will be considered in default as to any obligation under this Agreement if prevented from fulfilling the obligation due to an event of Force Majeure; provided that no event of Force Majeure affecting any entity shall excuse that entity from making any payment that it is obligated to make hereunder. However, an entity whose performance under this Agreement is hindered by an event of Force Majeure shall make all reasonable efforts to perform its obligations under this Agreement, and shall promptly notify the System Operator, the Interconnecting Transmission Owner or the Interconnection Customer, whichever is appropriate, of the commencement and end of each event of Force Majeure.

7.3.2 Liability. System Operator shall not be liable for money damages or other compensation to the Interconnection Customer for action or omissions by System Operator in performing its obligations under this Agreement, except to the extent such act or omission by System Operator is found to result from its gross negligence or willful misconduct. Interconnecting Transmission Owner shall not be liable for money damages or other compensation to the Interconnection Customer for action or omissions by Interconnecting Transmission Owner in performing its obligations under this Agreement, except to the extent such act or omission by Interconnecting Transmission Owner is found to result from its gross negligence or willful misconduct. To the extent the Interconnection

Customer has claims against System Operator or Interconnecting Transmission Owner, the Interconnection Customer may only look to the assets of System Operator or Interconnecting Transmission Owner (as the case may be) for the enforcement of such claims and may not seek to enforce any claims against the directors, members, shareholders, officers, employees or agents of System Operator or Interconnecting Transmission Owner or Affiliate of either who, the Interconnection Customer acknowledges and agrees, have no personal or other liability for obligations of System Operator or Interconnecting Transmission Owner by reason of their status as directors, members, shareholders, officers, employees or agents of System Operator or Interconnecting Transmission Owner or Affiliate of either. In no event shall System Operator, Interconnecting Transmission Owner or any Interconnection Customer be liable for any incidental, consequential, multiple or punitive damages, loss of revenues or profits, attorneys fees or costs arising out of, or connected in any way with the performance or non-performance under this Agreement. Notwithstanding the foregoing, nothing in this section shall diminish an Interconnection Customer's obligations under the Indemnification section below.

- 7.3.3 Indemnification. Interconnection Customer shall at all times indemnify, defend, and save harmless System Operator and the Interconnecting Transmission Owners and their respective directors, officers, members, employees and agents from any and all damages, losses, claims and liabilities ("Losses") by or to third parties arising out of or resulting from the performance by System Operator or Interconnecting Transmission Owners under this Agreement, any bankruptcy filings made by the Interconnection Customer, or the actions or omissions of the Interconnection Customer in connection with this Agreement, except in the case of System Operator, to the extent such Losses arise from gross negligence or willful misconduct by System Operator or its directors, officers, members, employees or agents, and, in the case of Interconnecting Transmission Owner, to the extent such Losses arise from the gross negligence or willful misconduct by Interconnecting Transmission Owner or its directors, officers, members,



employees or agents. The amount of any indemnity payment hereunder shall be reduced (including, without limitation, retroactively) by any insurance proceeds or other amounts actually recovered by the indemnified party in respect of the indemnified action, claim, demand, cost, damage or liability. The obligations of Interconnection Customer to indemnify System Operator and Interconnecting Transmission Owners shall be several, and not joint or joint and several. The liability provisions of the Transmission Operating Agreement or other applicable operating agreements shall apply to the relationship between the System Operator and the Interconnecting Transmission Owner.

- 7.4 Third-Party Beneficiaries. Without limitation of Sections 7.2 and 7.3 of this Agreement, the Parties agree that subcontractor consultants hired by them to conduct, participate in, or review, or to assist in the conducting, participating in, or reviewing of, an Optional Interconnection Study shall be deemed third party beneficiaries of Sections 7.2 and 7.3.
- 7.5 Term and Termination. This Agreement shall be effective from the date hereof and unless earlier terminated in accordance with this Section 7.5, shall continue in effect for a term of one year or until the Optional Interconnection Study is completed. This Agreement shall automatically terminate upon the withdrawal of Interconnection Request under Section 3.7 of the LGIP. The System Operator or the Interconnecting Transmission Owner may terminate this Agreement fifteen (15) days after providing written notice to the Interconnection Customer that it has breached one of its obligations hereunder, if the breach has not been cured within such fifteen (15) day period.
- 7.6 Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the state where the Point of Interconnection is located, without regard to any choice of laws provisions.
- 7.7 Severability. In the event that any part of this Agreement is deemed as a matter of law to be unenforceable or null and void, such unenforceable or void part shall be deemed

severable from this Agreement and the Agreement shall continue in full force and effect as if each part was not contained herein.

- 7.8 Counterparts. This Agreement may be executed in counterparts, and each counterpart shall have the same force and effect as the original instrument.
- 7.9 Amendment. No amendment, modification or waiver of any term hereof shall be effective unless set forth in writing and signed by the Parties hereto.
- 7.10 Survival. All warranties, limitations of liability and confidentiality provisions provided herein shall survive the expiration or termination hereof.
- 7.11 Independent Contractor. Each of the Parties shall at all times be deemed to be an independent contractor of the other Parties, and none of its employees or the employees of its subcontractors shall be considered to be employees of the other Parties as a result of this Agreement.
- 7.12 No Implied Waivers. The failure of a Party to insist upon or enforce strict performance of any of the provisions of this Agreement shall not be construed as a waiver or relinquishment to any extent of such Party's right to insist or rely on any such provision, rights and remedies in that or any other instances; rather, the same shall be and remain in full force and effect.
- 7.13 Successors and Assigns. This Agreement may not be assigned, by operation of law or otherwise, without the prior written consent of the other Parties hereto, such consent not to be unreasonably withheld. Notwithstanding the foregoing, this Agreement, and each and every term and condition hereof, shall be binding upon and inure to the benefit of the Parties hereto and their respective successors and assigns, to the extent the same are authorized hereunder.

7.14 Due Authorization. Each Party to this Agreement represents and warrants that it has full power and authority to enter into this Agreement and to perform its obligations hereunder, that execution of this Agreement will not violate any other agreement with a third party, and that the person signing this Agreement on its behalf has been properly authorized and empowered to enter into this Agreement.

**IN WITNESS WHEREOF**, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

System Operator

By:

Title:

Date:

Interconnecting Transmission Owner

By:

Title:

Date:

[Insert name of Interconnection Customer]

By:

Title:

Date:

Attachment A

Appendix 5

Optional Interconnection

Study Agreement

**ASSUMPTIONS USED IN CONDUCTING  
THE OPTIONAL INTERCONNECTION STUDY**

[To be completed by Interconnection Customer consistent with Section 10 of the LGIP.]

**APPENDIX 6**  
**LARGE GENERATOR INTERCONNECTION**  
**AGREEMENT**

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## **THIS STANDARD LARGE GENERATOR INTERCONNECTION AGREEMENT**

("Agreement") is made and entered into this \_\_\_\_ day of \_\_\_\_\_ 20\_\_, by and between \_\_\_\_\_, a \_\_\_\_\_ organized and existing under the laws of the State/Commonwealth of \_\_\_\_\_ ("Interconnection Customer" with a Large Generating Facility), ISO New England Inc., a non-stock corporation organized and existing under the laws of the State of Delaware ("System Operator"), and \_\_\_\_\_, a \_\_\_\_\_ organized and existing under the laws of the State/Commonwealth of \_\_\_\_\_ ("Interconnecting Transmission Owner"). Under this Agreement, the Interconnection Customer, System Operator, and Interconnecting Transmission Owner each may be referred to as a "Party" or collectively as the "Parties."

### **RECITALS**

**WHEREAS**, System Operator is the central dispatching agency provided for under the Transmission Operating Agreement ("TOA") which has responsibility for the operation of the New England Control Area from the System Operator control center and the administration of the Tariff; and

**WHEREAS**, Interconnecting Transmission Owner is the owner or possessor of an interest in the Administered Transmission System; and

**WHEREAS**, Interconnection Customer intends to own, lease and/or control and operate the Generating Facility identified as a Large Generating Facility in Appendix C to this Agreement; and

**WHEREAS**, System Operator, Interconnection Customer and Interconnecting Transmission Owner have agreed to enter into this Agreement for the purpose of interconnecting the Large Generating Facility to the Administered Transmission System.

**NOW, THEREFORE**, in consideration of and subject to the mutual covenants contained herein, it is agreed:

When used in this Standard Large Generator Interconnection Agreement, terms with initial capitalization that are not defined in Article 1 shall have the meanings specified in the Article in which they are used.

## **ARTICLE 1. DEFINITIONS**

The definitions contained in this Article 1 and those definitions embedded in an Article of this Agreement are intended to apply in the context of the generator interconnection process provided for in Schedule 22 (and its appendices). To the extent that the definitions herein are different than those contained in Section I.2.2 of the Tariff, the definitions provided below shall control only for purposes of generator interconnections under Schedule 22. Capitalized terms in Schedule 22 that are not defined in this Article 1 shall have the meanings specified in Section I.2.2 of the Tariff.

**Administered Transmission System** shall mean the PTF, the Non-PTF, and distribution facilities that are subject to the Tariff.

**Adverse System Impact** shall mean any significant negative effects on the stability, reliability or operating characteristics of the electric system.

**Affected Party** shall mean the entity that owns, operates or controls an Affected System, or any other entity that otherwise may be a necessary party to the interconnection process.

**Affected System** shall mean any electric system that is within the Control Area, including, but not limited to, generator owned transmission facilities, or any other electric system that is not within the Control Area that may be affected by the proposed interconnection.

**Affiliate** shall mean, with respect to a corporation, partnership or other entity, each such other corporation, partnership or other entity that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, such corporation, partnership or other entity.



**Applicable Laws and Regulations** shall mean all duly promulgated applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority.

**Applicable Reliability Council** shall mean the reliability council applicable to the New England Control Area.

**Applicable Reliability Standards** shall mean the requirements and guidelines of NERC, the NPCC and the New England Control Area, including publicly available local reliability requirements of Interconnecting Transmission Owners or other Affected Parties.

**At-Risk Expenditure** shall mean money expended for the development of the Generating Facility that cannot be recouped if the Interconnection Customer were to withdraw the Interconnection Request for the Generating Facility. At-Risk Expenditure may include, but is not limited to, money expended on: (i) costs of federal, state, local, regional and town permits, (ii) Site Control, (iii) site-specific design and surveys, (iv) construction activities, and (v) non-refundable deposits for major equipment components. For purposes of this definition, At-Risk Expenditure shall not include costs associated with the Interconnection Studies.

**Base Case** shall have the meaning specified in Section 2.3 of the Large Generator Interconnection Procedures (“LGIP”).

**Base Case Data** shall mean the Base Case power flow, short circuit, and stability data bases used for the Interconnection Studies by the System Operator, Interconnection Customer, Interconnecting Transmission Owner, or any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements.

**Breach** shall mean the failure of a Party to perform or observe any material term or condition of the Standard Large Generator Interconnection Agreement.

**Breaching Party** shall mean a Party that is in Breach of the Standard Large Generator Interconnection Agreement.

**Calendar Day** shall mean any day including Saturday, Sunday or a Federal Holiday.

**Capacity Capability Interconnection Standard (“CC Interconnection Standard”)** shall mean the criteria required to permit the Interconnection Customer to interconnect a Generating Facility seeking Capacity Network Resource Interconnection Service or an Elective Transmission Upgrade seeking Capacity Network Import Interconnection Service in a manner that avoids any significant adverse effect on the reliability, stability, and operability of the New England Transmission System, including protecting against the degradation of transfer capability for interfaces affected by the Generating Facility seeking Capacity Network Resource Interconnection Service or an Elective Transmission Upgrade seeking Capacity Network Import Interconnection Service, and in a manner that ensures intra-zonal deliverability by avoidance of the redispatch of other Capacity Network Resources or Elective Transmission Upgrades with Capacity Network Import Interconnection Service, as detailed in the ISO New England Planning Procedures.

**Capacity Network Resource (“CNR”)** shall mean that portion of a Generating Facility that is interconnected to the Administered Transmission System under the Capacity Capability Interconnection Standard.

**Capacity Network Resource Capability (“CNR Capability”)** shall mean the MW quantity associated with CNR Interconnection Service, calculated as described in Section II.48 of the Tariff.

**Capacity Network Resource Group Study (“CNR Group Study”)** shall mean the study performed by the System Operator under Section III.13.1.1.2.3 of the Tariff to determine which resources qualify to participate in a Forward Capacity Auction.

**Capacity Network Resource Interconnection Service (“CNR Interconnection Service”)** shall mean the Interconnection Service selected by the Interconnection Customer to interconnect its Large Generating Facility with the Administered Transmission System in accordance with the Capacity

Capability Interconnection Standard. An Interconnection Customer's CNR Interconnection Service shall be for the megawatt amount of CNR Capability. CNR Interconnection Service does not in and of itself convey transmission service.

**Cluster Enabling Transmission Upgrade ("CETU")** shall mean new significant transmission line infrastructure that consists of AC transmission lines and related terminal equipment having a nominal voltage rating at or above 115 kV or HVDC transmission lines and HVDC terminal equipment that is identified through the Clustering Enabling Transmission Upgrade Regional Planning Study conducted to accommodate the Interconnection Requests for which the conditions identified in Section 4.2.1 have been triggered. The CETU shall be considered part of a Generator Interconnection Related Upgrade and be categorized as Interconnection Facilities or Network Upgrades.

**Cluster Enabling Transmission Upgrade Regional Planning Study ("CRPS")** shall mean a study conducted by the System Operator under Attachment K, Section II of the Tariff to identify the Cluster Enabling Transmission Upgrade and associated system upgrades to enable the interconnection of Interconnection Requests for which the conditions identified in Section 4.2.1 have been triggered.

**Cluster Interconnection Facilities Study ("CFAC")** shall mean an Interconnection Facilities Study performed using Clustering pursuant to Section 4.2.4.

**Cluster Interconnection System Impact Study ("CSIS")** shall mean an Interconnection System Impact Study performed using Clustering pursuant to Section 4.2.3.

**Cluster Participation Deposit** shall mean the initial and additional deposit due under Sections 4.2.3.2.2 and 4.2.4.4.

**Cluster Entry Deadline** shall mean the deadline specified in Section 4.2.3.1.

**Clustering** shall mean the process whereby a group of Interconnection Requests is studied together for the purpose of conducting the Interconnection System Impact Study and Interconnection

Facilities Study and for the purpose of determining cost responsibility for upgrades identified through the Clustering provisions.

**Commercial Operation** shall mean the status of a Generating Facility that has commenced generating electricity for sale, excluding electricity generated during Trial Operation.

**Commercial Operation Date** of a unit shall mean the date on which the Generating Facility commences Commercial Operation as agreed to by the Parties pursuant to Appendix E to the Standard Large Generator Interconnection Agreement.

**Confidential Information** shall mean any confidential, proprietary or trade secret information of a plan, specification, pattern, procedure, design, device, list, concept, policy or compilation relating to the present or planned business of a Party, which is designated as confidential by the Party supplying the information, whether conveyed orally, electronically, in writing, through inspection, or otherwise. Confidential Information shall include, but not be limited to, information that is confidential pursuant to the ISO New England Information Policy.

**Contingent Facilities** shall mean those unbuilt Interconnection Facilities and Network Upgrades associated with an Interconnection Request with a higher Queue Position or a transmission project that is planned or proposed for the New England Transmission System upon which the Interconnection Request's costs, timing, and study findings are dependent, and if delayed or not built, could cause a need for restudies of the Interconnection Request or a reassessment of the Interconnection Facilities and/or Network Upgrades and/or costs and timing.

**Default** shall mean the failure of a Breaching Party to cure its Breach in accordance with Article 17 of the Standard Large Generator Interconnection Agreement.

**Dispute Resolution** shall mean the procedure for resolution of a dispute between the Parties in which they will first attempt to resolve the dispute on an informal basis.

**Distribution System** shall mean the Interconnecting Transmission Owner's facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries directly from nearby generators or from interchanges with higher voltage transmission networks which transport bulk power over longer distances. The voltage levels at which distribution systems operate differ among areas.

**Distribution Upgrades** shall mean the additions, modifications, and upgrades to Interconnecting Transmission Owner's Distribution System at or beyond the Point of Interconnection to facilitate interconnection of the Generating Facility and render the transmission service necessary to effect Interconnection Customer's wholesale sale of electricity in interstate commerce. Distribution Upgrades do not include Interconnection Facilities.

**Effective Date** shall mean the date on which the Standard Large Generator Interconnection Agreement becomes effective upon execution by the Parties subject to acceptance by the Commission or if filed unexecuted, upon the date specified by the Commission.

**Emergency Condition** shall mean a condition or situation: (1) that in the judgment of the Party making the claim is likely to endanger life or property; or (2) that, in the case of the Interconnecting Transmission Owner, is likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to the New England Transmission System, Interconnecting Transmission Owner's Interconnection Facilities or any Affected System to which the New England Transmission System is directly connected; or (3) that, in the case of Interconnection Customer, is likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Generating Facility or Interconnection Customer's Interconnection Facilities. System restoration and black start shall be considered Emergency Conditions; provided that Interconnection Customer is not obligated by the Standard Large Generator Interconnection Agreement to possess black start capability.

**Engineering & Procurement ("E&P") Agreement** shall mean an agreement that authorizes the Interconnection Customer, Interconnecting Transmission Owner and any other Affected Party to begin engineering and procurement of long lead-time items necessary for the establishment of the interconnection in order to advance the implementation of the Interconnection Request.

**Environmental Law** shall mean Applicable Laws or Regulations relating to pollution or protection of the environment or natural resources.

**Federal Power Act** shall mean the Federal Power Act, as amended, 16 U.S.C. §§ 791a *et seq.*

**Force Majeure** shall mean any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. A Force Majeure event does not include acts of negligence or intentional wrongdoing by the Party claiming Force Majeure.

**Generating Facility** shall mean Interconnection Customer's device for the production and/or storage for later injection of electricity identified in the Interconnection Request, but shall not include the Interconnection Customer's Interconnection Facilities.

**Governmental Authority** shall mean any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that such term does not include the System Operator, Interconnection Customer, Interconnecting Transmission Owner, or any Affiliate thereof.

**Hazardous Substances** shall mean any chemicals, materials or substances defined as or included in the definition of "hazardous substances," "hazardous wastes," "hazardous materials," "hazardous constituents," "restricted hazardous materials," "extremely hazardous substances," "toxic substances," "radioactive substances," "contaminants," "pollutants," "toxic pollutants" or words of similar meaning and regulatory effect under any applicable Environmental Law, or any other chemical, material or substance, exposure to which is prohibited, limited or regulated by any applicable Environmental Law.

**Initial Synchronization Date** shall mean the date upon which the Generating Facility is initially synchronized and upon which Trial Operation begins.

**In-Service Date** shall mean the date upon which the Interconnection Customer reasonably expects it will be ready to begin use of the Interconnecting Transmission Owner's Interconnection Facilities to obtain back feed power.

**Interconnecting Transmission Owner** shall mean a Transmission Owner that owns, leases or otherwise possesses an interest in, or a Non-Incumbent Transmission Developer that is not a Participating Transmission Owner that is constructing, a portion of the Administered Transmission System at the Point of Interconnection and shall be a Party to the Standard Large Generator Interconnection Agreement. The term Interconnecting Transmission Owner shall not be read to include the System Operator.

**Interconnecting Transmission Owner's Interconnection Facilities** shall mean all facilities and equipment owned, controlled, or operated by Interconnecting Transmission Owner from the Point of Change of Ownership to the Point of Interconnection as identified in Appendix A to the Standard Large Generator Interconnection Agreement, including any modifications, additions or upgrades to such facilities and equipment. Interconnecting Transmission Owner's Interconnection Facilities are sole use facilities and shall not include Distribution Upgrades, Stand Alone Network Upgrades or Network Upgrades.

**Interconnection Customer** shall mean any entity, including a transmission owner or its Affiliates or subsidiaries, that interconnects or proposes to interconnect its Generating Facility with the Administered Transmission System under the Standard Large Generator Interconnection Procedures.

**Interconnection Customer's Interconnection Facilities** shall mean all facilities and equipment, as identified in Appendix A of the Standard Large Generator Interconnection Agreement, that are located between the Generating Facility and the Point of Change of Ownership, including any modification, addition, or upgrades to such facilities and equipment necessary to physically and electrically interconnect the Generating Facility to the Administered Transmission System. Interconnection Customer's Interconnection Facilities are sole use facilities.

**Interconnection Facilities** shall mean the Interconnecting Transmission Owner's Interconnection Facilities and the Interconnection Customer's Interconnection Facilities. Collectively, Interconnection Facilities include all facilities and equipment between the Generating Facility and the Point of Interconnection, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the Generating Facility to the Administered Transmission System. Interconnection Facilities are sole use facilities and shall not include Distribution Upgrades, Stand Alone Network Upgrades or Network Upgrades.

**Interconnection Facilities Study** shall mean a study conducted by the System Operator, Interconnecting Transmission Owner, or a third party consultant for the Interconnection Customer to determine a list of facilities (including Interconnecting Transmission Owner's Interconnection Facilities and Network Upgrades as identified in the Interconnection System Impact Study), the cost of those facilities, and the time required to interconnect the Generating Facility with the Administered Transmission System. The scope of the study is defined in Section 8 of the Standard Large Generator Interconnection Procedures.

**Interconnection Facilities Study Agreement** shall mean the form of agreement contained in Appendix 4 of the Standard Large Generator Interconnection Procedures for conducting the Interconnection Facilities Study.

**Interconnection Feasibility Study** shall mean a preliminary evaluation of the system impact and cost of interconnecting the Generating Facility to the Administered Transmission System, the scope of which is described in Section 6 of the Standard Large Generator Interconnection Procedures.

**Interconnection Feasibility Study Agreement** shall mean the form of agreement contained in Appendix 2 of the Standard Large Generator Interconnection Procedures for conducting the Interconnection Feasibility Study.

**Interconnection Request** (a) shall mean an Interconnection Customer's request, in the form of Appendix 1 to the Standard Large Generator Interconnection Procedures, in accordance with the Tariff,



to: (i) interconnect a new Generating Facility to the Administered Transmission System as either a CNR or a NR; (ii) make a Material Modification to a proposed Generating Facility with an outstanding Interconnection Request; (iii) increase the energy capability or capacity capability of an existing Generating Facility; (iv) make a Material Modification to the design or operating characteristics of an existing Generating Facility, including its Interconnection Facilities, that is interconnected with the Administered Transmission System; (v) commence participation in the wholesale markets by an existing Generating Facility that is interconnected with the Administered Transmission System; or (vi) change from NR Interconnection Service to CNR Interconnection Service. Interconnection Request shall not include: (i) a retail customer interconnecting a new Generating Facility that will produce electric energy to be consumed only on the retail customer's site; (ii) a request to interconnect a new Generating Facility to a distribution facility that is subject to the Tariff if the Generating Facility will not be used to make wholesale sales of electricity in interstate commerce; or (iii) a request to interconnect a Qualifying Facility (as defined by the Public Utility Regulatory Policies Act, as amended by the Energy Policy Act of 2005 and the regulations thereto), where the Qualifying Facility's owner intent is to sell 100% of the Qualifying Facility's output to its interconnected electric utility.

**Interconnection Service** shall mean the service provided by System Operator and the Interconnecting Transmission Owner, associated with interconnecting the Interconnection Customer's Generating Facility to the Administered Transmission System and enabling the receipt of electric energy capability and/or capacity capability from the Generating Facility at the Point of Interconnection, pursuant to the terms of the Standard Large Generator Interconnection Agreement and, if applicable, the Tariff.

**Interconnection Study** shall mean any of the following studies: the Interconnection Feasibility Study, the Interconnection System Impact Study, the Interconnection Facilities Study and the Optional Interconnection Study described in the Standard Large Generator Interconnection Procedures. Interconnection Study shall not include a CNR Group Study.

**Interconnection Study Agreement** shall mean any of the following agreements: the Interconnection Feasibility Study Agreement, the Interconnection System Impact Study Agreement, the Interconnection Facilities Study Agreement, and the Optional Interconnection Study Agreement attached to the Standard Large Generator Interconnection Procedures.

**Interconnection System Impact Study** shall mean an engineering study that evaluates the impact of the proposed interconnection on the safety and reliability of the Administered Transmission System and any other Affected System, the scope of which is described in Section 7 of the Standard Large Generator Interconnection Procedures. The study shall identify and detail the system impacts that would result if the Generating Facility were interconnected without project modifications or system modifications, focusing on Adverse System Impacts, or to study potential impacts, including but not limited to those identified in the Scoping Meeting as described in the Standard Large Generator Interconnection Procedures.

**Interconnection System Impact Study Agreement** shall mean the form of agreement contained in Appendix 3 of the Standard Large Generator Interconnection Procedures for conducting the Interconnection System Impact Study.

**IRS** shall mean the Internal Revenue Service.

**Large Generating Facility** shall mean a Generating Facility having a maximum gross capability at or above zero degrees F of more than 20 MW.

**Long Lead Time Facility (“Long Lead Facility”)** shall mean a Generating Facility or an Elective Transmission Upgrade with an Interconnection Request for Capacity Network Resource Interconnection Service or Capacity Network Import Interconnection Service, respectively, that has, as applicable, elected or requested long lead time treatment and met the eligibility criteria and requirements specified in Schedule 22 or Schedule 25 of Section II of the Tariff..

**Loss** shall mean any and all losses relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from another Party’s performance, or non-performance of its obligations under the Standard Large Generator Interconnection Agreement on behalf of the Indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the Indemnifying Party.

**Major Permits** shall be as defined in Section III.13.1.1.2.2.2(a) of the Tariff.

**Material Modification** shall mean (i) except as expressly provided in Section 4.4.1, those modifications to the Interconnection Request, including any of the technical data provided by the Interconnection Customer in Appendix 1, Attachment A (and Attachment A-1, if applicable) to the Interconnection Request or to the interconnection configuration, requested by the Interconnection Customer that either require significant additional study of the same Interconnection Request and could substantially change the interconnection design, or have a material impact (*i.e.*, an evaluation of the proposed modification cannot be completed in less than ten (10) Business Days) on the cost or timing of any Interconnection Studies or upgrades associated with an Interconnection Request with a later queue priority date; (ii) a change to the design or operating characteristics of an existing Generating Facility, including its Interconnection Facilities, that is interconnected with the Administered Transmission System that may have a significant adverse effect on the reliability or operating characteristics of the New England Transmission System; (iii) a delay to the Commercial Operation Date, In-Service Date, or Initial Synchronization Date of greater than three (3) years where the reason for delay is unrelated to construction schedules or permitting which delay is beyond the Interconnection Customer's control; or (iv) except as provided in Section 3.2.3.4 of the LGIP, a withdrawal of a request for Long Lead Facility treatment; or (v) except as provided in Section 3.2.3.6 of the LGIP, an election to participate in an earlier Forward Capacity Auction than originally anticipated.

**Metering Equipment** shall mean all metering equipment installed or to be installed at the Generating Facility pursuant to the Standard Large Generator Interconnection Agreement at the metering points, including but not limited to instrument transformers, MWh-meters, data acquisition equipment, transducers, remote terminal unit, communications equipment, phone lines, and fiber optics.

**Network Capability Interconnection Standard ("NC Interconnection Standard")** shall mean the minimum criteria required to permit the Interconnection Customer to interconnect a Generating Facility seeking Network Resource Interconnection Service or Elective Transmission Upgrade seeking Network Import Interconnection Service in a manner that avoids any significant adverse effect on the reliability, stability, and operability of the New England Transmission System, including protecting

against the degradation of transfer capability for interfaces affected by the Generating Facility seeking Network Resource Interconnection Service or Elective Transmission Upgrade seeking Network Import Interconnection Service, as detailed in the ISO New England Planning Procedures.

**Network Resource (“NR”)** shall mean the portion of a Generating Facility that is interconnected to the Administered Transmission System under the Network Capability Interconnection Standard.

**Network Resource Capability (“NR Capability”)** shall mean the MW quantity associated with NR Interconnection Service, calculated as described in Section II.48 of the Tariff.

**Network Resource Interconnection Service (“NR Interconnection Service”)** shall mean the Interconnection Service selected by the Interconnection Customer to interconnect its Generating Facility to the Administered Transmission System in accordance with the Network Capability Interconnection Standard. An Interconnection Customer’s NR Interconnection Service shall be solely for the megawatt amount of the NR Capability requested pursuant to Section 3.1 of the LGIP. NR Interconnection Service in and of itself does not convey transmission service.

**Network Upgrades** shall mean the additions, modifications, and upgrades to the New England Transmission System required at or beyond the Point of Interconnection to accommodate the interconnection of the Large Generating Facility to the Administered Transmission System.

**Notice of Dispute** shall mean a written notice of a dispute or claim that arises out of or in connection with the Standard Large Generator Interconnection Agreement or its performance.

**Optional Interconnection Study** shall mean a sensitivity analysis based on assumptions specified by the Interconnection Customer in the Optional Interconnection Study Agreement.

**Optional Interconnection Study Agreement** shall mean the form of agreement contained in Appendix 5 of the Standard Large Generator Interconnection Procedures for conducting the Optional Interconnection Study.

**Party** shall mean the System Operator, Interconnection Customer and Interconnecting Transmission Owner or any combination of the above.

**Point of Change of Ownership** shall mean the point, as set forth in Appendix A to the Standard Large Generator Interconnection Agreement, where the Interconnection Customer's Interconnection Facilities connect to Interconnecting Transmission Owner's Interconnection Facilities.

**Point of Interconnection** shall mean the point, as set forth in Appendix A to the Standard Large Generator Interconnection Agreement, where the Interconnection Facilities connect to the Administered Transmission System.

**Provisional Interconnection Service** shall mean Network Resource Interconnection Service provided by the System Operator, and the Interconnecting Transmission Owner, associated with interconnecting the Interconnection Customer's Generating Facility to the Administered Transmission System and enabling the receipt of electric energy capability from the Generating Facility at the Point of Interconnection on a limited and temporary basis, pursuant to the terms of the Provisional Large Generator Interconnection Agreement and, if applicable, the Tariff.

**Provisional Large Generator Interconnection Agreement** shall mean the Interconnection Agreement for Provisional Interconnection Service established between the System Operator, the Interconnecting Transmission Owner, and the Interconnection Customer. This agreement shall take the form of the Standard Large Generator Interconnection Agreement, modified for provisional purposes.

**Queue Position** shall mean the order of a valid request in the New England Control Area, relative to all other pending requests in the New England Control Area, that is established based upon the date and time of receipt of such request by the System Operator. Requests are comprised of interconnection requests for Generating Facilities, Elective Transmission Upgrades, requests for transmission service and notification of requests for interconnection to other electric systems, as notified by the other electric systems, that impact the Administered Transmission System. References to a "higher-queued"

Interconnection Request shall mean one that has been received by the System Operator (and placed in queue order) earlier than another Interconnection Request, which is referred to as “lower-queued.”

**Reasonable Efforts** shall mean, with respect to an action required to be attempted or taken by a Party under the Standard Large Generator Interconnection Agreement, efforts that are timely and consistent with Good Utility Practice and are otherwise substantially equivalent to those a Party would use to protect its own interests.

**Scoping Meeting** shall mean the meeting between representatives of the System Operator, Interconnection Customer, Interconnecting Transmission Owner, or any Affected Party as deemed appropriate by the System Operator in accordance with applicable codes of conduct and confidentiality requirements, conducted for the purpose of discussing alternative interconnection options, to exchange information including any transmission data and earlier study evaluations that would be reasonably expected to impact such interconnection options, to analyze such information, and to determine the potential feasible Points of Interconnection.

**Site Control** shall mean documentation reasonably demonstrating: (a) that the Interconnection Customer is the owner in fee simple of the real property or holds an easement for which new interconnection is sought; (b) that the Interconnection Customer holds a valid written leasehold or other contractual interest in the real property for which new interconnection is sought; (c) that the Interconnection Customer holds a valid written option to purchase or a leasehold interest in the real property for which new interconnection is sought; (d) that the Interconnection Customer holds a duly executed written contract to purchase, acquire an easement, a license or a leasehold interest in the real property for which new interconnection is sought; or (e) that the Interconnection Customer has filed applications for required permits to site on federal or state property.

**Stand Alone Network Upgrades** shall mean Network Upgrades that are not part of an Affected System that an Interconnection Customer may construct without affecting day-to-day operations of the New England Transmission System during their construction. The System Operator, Interconnection Customer, and Interconnecting Transmission Owner must agree as to what constitutes Stand Alone Network Upgrades and identify them in Appendix A to the Standard Large Generator Interconnection

Agreement. If the System Operator, Interconnecting Transmission Owner, and Interconnection Customer disagree about whether a particular Network Upgrade is a Stand Alone Network Upgrade, the System Operator must provide the Interconnection Customer a written technical explanation outlining why the System Operator does not consider the Network Upgrade to be a Stand Alone Network Upgrade within 15 days of its determination.

**Standard Large Generator Interconnection Agreement (“LGIA”)** shall mean the form of interconnection agreement applicable to an Interconnection Request pertaining to a Large Generating Facility, that is included in this Schedule 22 to the Tariff.

**Standard Large Generator Interconnection Procedures (“LGIP”)** shall mean the interconnection procedures applicable to an Interconnection Request pertaining to a Large Generating Facility that are included in this Schedule 22 to the Tariff.

**Surplus Interconnection Service** shall mean a form of Interconnection Service that allows an Interconnection Customer to use any Unused Capability of Interconnection Service established in an Interconnection Agreement for an existing Generating Facility that has achieved Commercial Operation, such that if Surplus Interconnection Service is utilized the total amount of Interconnection Service at the same Point of Interconnection would remain the same.

**Study Case** shall have the meaning specified in Sections 6.2 and 7.3 of this LGIP.

**System Protection Facilities** shall mean the equipment, including necessary signal protection communications equipment, required to protect (1) the New England Transmission System from faults or other electrical disturbances occurring at the Generating Facility and (2) the Generating Facility from faults or other electrical system disturbances occurring on the New England Transmission System or on other delivery systems or other generating systems to which the New England Transmission System is directly connected.

**Trial Operation** shall mean the period during which Interconnection Customer is engaged in on-site test operations and commissioning of the Generating Facility prior to Commercial Operation.

**Unused Capability** shall mean: (i) in the case of NR Interconnection Service at an existing, commercial Generating Facility, the MW quantity as determined by the Original Interconnection Customer (as defined in Section 3.3 of the LGIP), not to exceed the existing, commercial Generating Facility's NR Interconnection Service; and (ii) in the case of CNR Interconnection Service at an existing, commercial Generating Facility, for Summer, the Summer CNR Capability minus the latest Summer Qualified Capacity, and for Winter, the Winter CNR Capability minus the latest Winter Qualified Capacity.

## **ARTICLE 2. EFFECTIVE DATE, TERM AND TERMINATION**

**2.1 Effective Date.** This LGIA shall become effective upon execution by the Parties subject to acceptance by the Commission (if applicable), or if filed unexecuted, upon the date specified by the Commission. System Operator and Interconnecting Transmission Owner shall promptly and jointly file this LGIA with the Commission upon execution in accordance with Section 11.3 of the LGIP and Article 3.1, if required.

**2.2 Term of Agreement.** This LGIA, subject to the provisions of Article 2.3, and by mutual agreement of the Parties, shall remain in effect for a period of \_\_\_\_\_ years from the Effective Date (*term to be specified in individual Agreement, but in no case should the term be less than ten (10) years from the Effective Date or such other longer period as the Interconnection Customer may request*) and shall be automatically renewed for each successive one-year period thereafter.

**2.3 Termination Procedures.**

**2.3.1 Written Notice.** This LGIA may be terminated by the Interconnection Customer, subject to continuing obligations of this LGIA and the Tariff, after giving the System Operator and Interconnecting Transmission Owner ninety (90) Calendar Days advance written notice, or by System Operator or Interconnecting Transmission Owner notifying the Commission after a Generating Facility retires pursuant to the Tariff, provided that if an Interconnection Customer exercises its right to terminate on ninety (90) Calendar Days,



any reconnection would be treated as a new interconnection request; or this LGIA may be terminated by Interconnecting Transmission Owner or System Operator by notifying the Commission after the Generating Facility permanently ceases Commercial Operation.

**2.3.2 Default.** Each Party may terminate this LGIA in accordance with Article 17.

Notwithstanding Articles 2.3.1 and 2.3.2, no termination shall become effective until the Parties have complied with all Applicable Laws and Regulations applicable to such termination, including the filing, if applicable, with the Commission of a notice of termination of this LGIA, which notice has been accepted for filing by the Commission.

Termination of the LGIA shall not supersede or alter any requirements for deactivation or retirement of a generating unit under ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

**2.4 Termination Costs.** If a Party elects to terminate this LGIA pursuant to Article 2.3 above, each Party shall pay all costs incurred (including any cancellation costs relating to orders or contracts for Interconnection Facilities and equipment) or charges assessed by the other Party(ies), as of the date of such Party's(ies') receipt of such notice of termination, that are the responsibility of such Party(ies) under this LGIA. In the event of termination by a Party, all Parties shall use commercially Reasonable Efforts to mitigate the costs, damages and charges arising as a consequence of termination. Upon termination of this LGIA, unless otherwise ordered or approved by the Commission:

**2.4.1** With respect to any portion of the Interconnecting Transmission Owner's Interconnection Facilities, Network Upgrades, or Distribution Upgrades to the extent covered by this LGIA, that have not yet been constructed or installed, the Interconnecting Transmission Owner shall to the extent possible and with Interconnection Customer's authorization cancel any pending orders of, or return, any materials or equipment for, or contracts for construction of, such facilities; provided that in the event Interconnection Customer elects not to authorize such cancellation, Interconnection Customer shall assume all payment obligations with respect to such materials, equipment, and contracts, and the Interconnecting Transmission Owner shall deliver such material and equipment, and, if

necessary, and to the extent possible, assign such contracts, to Interconnection Customer as soon as practicable, at Interconnection Customer's expense. To the extent that Interconnection Customer has already paid Interconnecting Transmission Owner for any or all such costs of materials or equipment not taken by Interconnection Customer, either (i) in the case of overpayment, Interconnecting Transmission Owner shall promptly refund such amounts to Interconnection Customer, less any costs, including penalties incurred by the Interconnecting Transmission Owner to cancel any pending orders of or return such materials, equipment, or contracts, or (ii) in the case of underpayment, Interconnection Customer shall promptly pay such amounts still due plus any costs, including penalties incurred by Interconnecting Transmission Owner to cancel any pending orders of or return such materials, equipment, or contracts.

If an Interconnection Customer terminates this LGIA, it shall be responsible for all costs incurred in association with that Interconnection Customer's interconnection, including any cancellation costs relating to orders or contracts for Interconnection Facilities and equipment, and other expenses including any Network Upgrades for which the Interconnecting Transmission Owner has incurred expenses and has not been reimbursed by the Interconnection Customer.

2.4.2 Interconnecting Transmission Owner may, at its option, retain any portion of such materials, equipment, or facilities that Interconnection Customer chooses not to accept delivery of, in which case Interconnecting Transmission Owner shall be responsible for all costs associated with procuring such materials, equipment, or facilities.

2.4.3 With respect to any portion of the Interconnection Facilities, and any other facilities already installed or constructed pursuant to the terms of this LGIA, Interconnection Customer shall be responsible for all costs associated with the removal, relocation or other disposition or retirement of such materials, equipment, or facilities.

**2.5 Disconnection.** Upon termination of this LGIA, Interconnection Service shall terminate and, the Parties will take all appropriate steps to disconnect the Large Generating Facility from the Interconnecting Transmission Owner's Interconnection Facilities. All costs required to effectuate

such disconnection shall be borne by the terminating Party, unless such termination resulted from a non-terminating Party's Default of this LGIA or such non-terminating Party otherwise is responsible for these costs under this LGIA.

- 2.6 Survival.** This LGIA shall continue in effect after termination to the extent necessary to provide for final billings and payments and for costs incurred hereunder, including billings and payments pursuant to this LGIA; to permit the determination and enforcement of liability and indemnification obligations arising from acts or events that occurred while this LGIA was in effect; and to permit each Party to have access to the lands of the other Party(ies) pursuant to this LGIA or other applicable agreements, to disconnect, remove or salvage its own facilities and equipment.

### **ARTICLE 3. REGULATORY FILINGS**

- 3.1 Filing.** The System Operator and Interconnecting Transmission Owner shall jointly file this LGIA (and any amendment hereto) with the appropriate Governmental Authority, if required, in accordance with Section 11.3 of the LGIP. Interconnection Customer may request that any information so provided be subject to the confidentiality provisions of Article 22. If the Interconnection Customer has executed this LGIA, or any amendment thereto, the Interconnection Customer shall reasonably cooperate with the System Operator and Interconnecting Transmission Owner with respect to such filing and to provide any information reasonably requested by the System Operator and/or the Interconnecting Transmission Owner needed to comply with applicable regulatory requirements.

### **ARTICLE 4. SCOPE OF SERVICE**

- 4.1 Interconnection Product Options.** Interconnection Customer has selected the following (checked) type(s) of Interconnection Service:

Check: \_\_\_\_ NR for NR Interconnection Service (NR Capability Only)

\_\_\_ CNR for CNR Interconnection Service (CNR Capability and NR Capability)

#### **4.1.1 Capacity Network Resource Interconnection Service (CNR Interconnection Service).**

**4.1.1.1 The Product.** The System Operator and Interconnecting Transmission Owner must conduct the necessary studies and the Interconnecting Transmission Owner and Affected Parties must construct the Network Upgrades needed to interconnect the Large Generating Facility in a manner comparable to that in which all other Capacity Network Resources are interconnected under the CC Interconnection Standard. CNR Interconnection Service allows the Interconnection Customer's Large Generating Facility to be designated as a Capacity Network Resource, to participate in the New England Markets, in accordance with Market Rule 1, Section III of the Tariff, up to the net CNR Capability, or as otherwise provided in Market Rule 1, Section III of the Tariff, on the same basis as all other existing Capacity Network Resources, and to be studied as a Capacity Network Resource on the assumption that such a designation will occur.

#### **4.1.2 Network Resource Interconnection Service (NR Interconnection Service).**

**4.1.2.1 The Product.** The System Operator and Interconnecting Transmission Owner must conduct the necessary studies and Interconnecting Transmission Owner and Affected Parties must construct the Network Upgrades needed to interconnect the Large Generating Facility in a manner comparable to that in which all other Network Resources are interconnected under the NC Interconnection Standard. NR Interconnection Service allows the Interconnection Customer's Large Generating Facility to participate in the New England Markets, in accordance with Market Rule 1, Section III of the Tariff, up to the gross and net NR Capability or as otherwise provided in Market Rule 1, Section III of the Tariff.

Notwithstanding the above, the portion of a Large Generating Facility that has been designated as a Network Resource interconnected under the NC Interconnection Standard cannot be a capacity resource under Section III.13 of the Tariff, unless pursuant to a new Interconnection Request for CNR Interconnection Service.

- 4.2 Provision of Service.** System Operator and Interconnecting Transmission Owner shall provide Interconnection Service for the Large Generating Facility at the Point of Interconnection.
- 4.3 Performance Standards.** Each Party shall perform all of its obligations under this LGIA in accordance with Applicable Laws and Regulations, the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents, and Good Utility Practice, and to the extent a Party is required or prevented or limited in taking any action by such requirements and standards, such Party shall not be deemed to be in Breach of this LGIA for its compliance therewith. If such Party is the Interconnecting Transmission Owner, then that Party shall amend the LGIA and System Operator, in conjunction with the Interconnecting Transmission Owner, shall submit the amendment to the Commission for approval.
- 4.4 No Transmission Delivery Service.** The execution of this LGIA does not constitute a request for, nor the provision of, any service except for Interconnection Service, including, but not limited to, transmission delivery service, local delivery service, distribution service, capacity service, energy service, or Ancillary Services under any applicable tariff, and does not convey any right to deliver electricity to any specific customer or Point of Delivery.
- 4.5 Transmission Delivery Service Implications.** CNR Interconnection Service and NR Interconnection Service allow the Interconnection Customer's Large Generating Facility to be designated by any Network Customer under the Tariff on the New England Transmission System as a Capacity Network Resource or Network Resource, up to the net CNR Capability or NR Capability, respectively, on the same basis as all other existing Capacity Network Resources and Network Resources interconnected to the New England Transmission System, and to be studied as a Capacity Network Resource or a Network

Resource on the assumption that such a designation will occur. Although CNR Interconnection Service and NR Interconnection Service do not convey a reservation of transmission service, any Network Customer can utilize its network service under the Tariff to obtain delivery of capability from the Interconnection Customer's Large Generating Facility in the same manner as it accesses Capacity Network Resources and Network Resources. A Large Generating Facility receiving CNR Interconnection Service or NR Interconnection Service may also be used to provide Ancillary Services, in accordance with the Tariff and Market Rule 1, after technical studies and/or periodic analyses are performed with respect to the Large Generating Facility's ability to provide any applicable Ancillary Services, provided that such studies and analyses have been or would be required in connection with the provision of such Ancillary Services by any existing Capacity Network Resource or Network Resource. However, if an Interconnection Customer's Large Generating Facility has not been designated as a Capacity Network Resource or as a Network Resource by any load, it cannot be required to provide Ancillary Services except to the extent such requirements extend to all Generating Facilities that are similarly situated.

CNR Interconnection Service and NR Interconnection Service do not necessarily provide the Interconnection Customer with the capability to physically deliver the output of its Large Generating Facility to any particular load on the New England Transmission System without incurring congestion costs. In the event of transmission constraints on the New England Transmission System, the Interconnection Customer's Large Generating Facility shall be subject to the applicable congestion management procedures for the New England Transmission System in the same manner as other Capacity Network Resources or Network Resources.

There is no requirement either at the time of study or interconnection, or at any point in the future, that the Interconnection Customer's Large Generating Facility be designated as a Capacity Network Resource or as a Network Resource by a Network Service Customer under the Tariff or that the Interconnection Customer identify a specific buyer (or sink). To the extent a Network Customer does designate the Large Generating

Facility as either a Capacity Network Resource or a Network Resource, it must do so pursuant to the Tariff.

Once an Interconnection Customer satisfies the requirements for obtaining CNR Interconnection Service or NR Interconnection Service, as long as the Large Generating Facility has not been deemed to be retired, any future transmission service request for delivery from the Large Generating Facility on the New England Transmission System of any amount of capacity capability and/or energy capability will not require that any additional studies be performed or that any further upgrades associated with such Large Generating Facility be undertaken, regardless of whether or not such Large Generating Facility is ever designated by a Network Customer as a Capacity Network Resource or Network Resource, and regardless of changes in ownership of the Large Generating Facility. To the extent the Interconnection Customer enters into an arrangement for long-term transmission service for deliveries from the Large Generating Facility outside the New England Transmission System, or if the unit has been deemed to be retired, such request may require additional studies and upgrades in order for Interconnecting Transmission Owner to grant such request.

**4.6 Interconnection Customer Provided Services.** The services provided by Interconnection Customer under this LGIA are set forth in Article 9.6 and Article 13.4. Interconnection Customer shall be paid for such services in accordance with Article 11.6.

## **ARTICLE 5. INTERCONNECTION FACILITIES ENGINEERING, PROCUREMENT, AND CONSTRUCTION**

**5.1 Options.** Unless otherwise mutually agreed to between the Parties, Interconnection Customer shall specify the In-Service Date, Initial Synchronization Date, and Commercial Operation Date as specified in the Interconnection Request or as subsequently revised pursuant to Section 4.4 of the LGIP; and select either the Standard Option or Alternate Option set forth below, and such dates and selected option shall be set forth in Appendix B (Milestones). At the same time, Interconnection Customer shall indicate whether it elects to exercise the Option to Build set forth in Article 5.1.3 below. If the dates designated by Interconnection Customer are not acceptable to Interconnecting Transmission Owner, Interconnecting Transmission Owner shall so notify Interconnection Customer within thirty (30) Calendar Days. Upon receipt of the notification that Interconnection Customer's designated dates are not acceptable to Interconnecting Transmission Owner, the Interconnection Customer shall notify Interconnecting Transmission Owner within thirty (30) Calendar Days whether it elects to exercise the Option to Build if it has not already elected to exercise the Option to Build. In accordance with Section 8 of the LGIP and unless otherwise mutually agreed, the Alternate Option is not an available option if the Interconnection Customer waived the Interconnection Facilities Study.

**5.1.1 Standard Option.** The Interconnecting Transmission Owner shall design, procure, and construct the Interconnecting Transmission Owner's Interconnection Facilities and Network Upgrades, using Reasonable Efforts to complete the Interconnecting Transmission Owner's Interconnection Facilities and Network Upgrades by the dates set forth in Appendix B (Milestones). The Interconnecting Transmission Owner shall not be required to undertake any action which is inconsistent with its standard safety practices, its material and equipment specifications, its design criteria and construction procedures, its labor agreements, and Applicable Laws and Regulations. In the event the Interconnecting Transmission Owner reasonably expects that it will not be able to complete the Interconnecting Transmission Owner's Interconnection Facilities and Network Upgrades by the specified dates, the Interconnecting Transmission Owner shall



promptly provide written notice to the Interconnection Customer and shall undertake Reasonable Efforts to meet the earliest dates thereafter.

**5.1.2 Alternate Option.** If the dates designated by Interconnection Customer are acceptable to Interconnecting Transmission Owner, the Interconnecting Transmission Owner shall so notify Interconnection Customer within thirty (30) Calendar Days, and shall assume responsibility for the design, procurement and construction of the Interconnecting Transmission Owner's Interconnection Facilities by the designated dates.

If Interconnecting Transmission Owner subsequently fails to complete Interconnecting Transmission Owner's Interconnection Facilities by the In-Service Date, to the extent necessary to provide back feed power; or fails to complete Network Upgrades by the Initial Synchronization Date to the extent necessary to allow for Trial Operation at full power output, unless other arrangements are made by the Parties for such Trial Operation; or fails to complete the Network Upgrades by the Commercial Operation Date, as such dates are reflected in Appendix B (Milestones); Interconnecting Transmission Owner shall pay Interconnection Customer liquidated damages in accordance with Article 5.3, Liquidated Damages, provided, however, the dates designated by Interconnection Customer shall be extended day for day for each day that the applicable System Operator refuses to grant clearances to install equipment.

**5.1.3 Option to Build.** Interconnection Customer shall have the option to assume responsibility for the design, procurement and construction of new Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades on the dates specified in Article 5.1.2. The System Operator, Interconnecting Transmission Owner, and Interconnection Customer must agree as to what constitutes Stand Alone Network Upgrades and identify such Stand Alone Network Upgrades in Appendix A to the LGIA. Except for Stand Alone Network Upgrades, Interconnection Customer shall have no right to construct Network Upgrades under this option.

**5.1.4 Negotiated Option.** If the dates designated by Interconnection Customer are not acceptable to Interconnecting Transmission Owner, the Parties shall in good faith attempt

to negotiate terms and conditions (including revision of the specified dates and liquidated damages, the provision of incentives, or the procurement and construction of all facilities other than the Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades if the Interconnection Customer elects to exercise the Option to Build under Article 5.1.3). If the Parties are unable to reach agreement on such terms and conditions, then, pursuant to Article 5.1.1 (Standard Option), Interconnecting Transmission Owner shall assume responsibility for the design, procurement and construction of all facilities other than the Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades if the Interconnection Customer elects to exercise the Option to Build.

**5.2 General Conditions Applicable to Option to Build.** If Interconnection Customer assumes responsibility for the design, procurement and construction of the Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades,

(1) the Interconnection Customer shall commit in the LGIA to a schedule for the completion of, and provide the System Operator evidence of proceeding with: (a) engineering and design of Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades, (b) procurement of necessary equipment and ordering of long lead time material, and (c) construction of the Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades;

(2) the Interconnection Customer shall engineer, procure equipment, and construct the Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades (or portions thereof) using Good Utility Practice and using standards and specifications provided in advance by the Interconnecting Transmission Owner;

(3) Interconnection Customer's engineering, procurement and construction of the Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades shall comply with all requirements of law to which Interconnecting Transmission

Owner would be subject in the engineering, procurement or construction of the Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades;

(4) Interconnecting Transmission Owner shall review and approve the engineering design, equipment acceptance tests, and the construction of the Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades;

(5) prior to commencement of construction, Interconnection Customer shall provide to Interconnecting Transmission Owner any changes to the schedule for construction of the Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades reflected in Appendix B (Milestones), and shall promptly respond to requests for information from Interconnecting Transmission Owner;

(6) at any time during construction, Interconnecting Transmission Owner shall have the right to gain unrestricted access to the Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades and to conduct inspections of the same;

(7) at any time during construction, should any phase of the engineering, equipment procurement, or construction of the Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades not meet the standards and specifications provided by Interconnecting Transmission Owner, the Interconnection Customer shall be obligated to remedy deficiencies in that portion of the Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades;

(8) the Interconnection Customer shall indemnify the Interconnecting Transmission Owner for claims arising from the Interconnection Customer's construction of Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades under the terms and procedures applicable to Article 18.1 (Indemnity);

- (9) the Interconnection Customer shall transfer control of Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to the Interconnecting Transmission Owner prior to the In-Service Date;
- (10) Unless Parties otherwise agree, Interconnection Customer shall transfer ownership of Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to Interconnecting Transmission Owner prior to the In-Service Date;
- (11) Interconnecting Transmission Owner shall approve and accept for operation and maintenance the Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to the extent engineered, procured, and constructed in accordance with this Article 5.2;
- (12) Interconnection Customer shall deliver to Interconnecting Transmission Owner "as built" drawings, information, and any other documents that are reasonably required by Interconnecting Transmission Owner to assure that the Interconnection Facilities and Stand Alone Network Upgrades are built to the standards and specifications required by Interconnecting Transmission Owner; and
- (13) Interconnection Customer shall pay Interconnecting Transmission Owner the agreed upon amount of [\$ PLACEHOLDER] for Interconnecting Transmission Owner to execute responsibilities enumerated to Interconnecting Transmission Owner under this Article 5.2. Interconnecting Transmission Owner shall invoice Interconnection Customer for this total amount to be divided on a monthly basis pursuant to Article 12.

**5.3 Liquidated Damages.** The actual damages to the Interconnection Customer, in the event the Interconnecting Transmission Owner's Interconnection Facilities or Network Upgrades are not completed by the dates designated by the Interconnection Customer and accepted by the Interconnecting Transmission Owner pursuant to subparagraphs 5.1.2 or 5.1.4, above, may include Interconnection Customer's fixed operation and maintenance costs and lost opportunity

costs. Such actual damages are uncertain and impossible to determine at this time. Because of such uncertainty, any liquidated damages paid by the Interconnecting Transmission Owner to the Interconnection Customer in the event that Interconnecting Transmission Owner does not complete any portion of the Interconnecting Transmission Owner's Interconnection Facilities or Network Upgrades by the applicable dates, shall be an amount equal to  $\frac{1}{2}$  of 1 percent per day of the actual cost of the Interconnecting Transmission Owner's Interconnection Facilities and Network Upgrades, in the aggregate, for which Interconnecting Transmission Owner has assumed responsibility to design, procure and construct.

However, in no event shall the total liquidated damages exceed 20 percent of the actual cost of the Interconnecting Transmission Owner's Interconnection Facilities and Network Upgrades for which the Interconnecting Transmission Owner has assumed responsibility to design, procure, and construct. The foregoing payments will be made by the Interconnecting Transmission Owner to the Interconnection Customer as just compensation for the damages caused to the Interconnection Customer, which actual damages are uncertain and impossible to determine at this time, and as reasonable liquidated damages, but not as a penalty or a method to secure performance of this LGIA. Liquidated damages, when the Parties agree to them, are the exclusive remedy for the Interconnecting Transmission Owner's failure to meet its schedule.

No liquidated damages shall be paid to Interconnection Customer if: (1) Interconnection Customer is not ready to commence use of the Interconnecting Transmission Owner's Interconnection Facilities or Network Upgrades to take the delivery of power for the Large Generating Facility's Trial Operation or to export power from the Large Generating Facility on the specified dates, unless the Interconnection Customer would have been able to commence use of the Interconnecting Transmission Owner's Interconnection Facilities or Network Upgrades to take the delivery of power for Large Generating Facility's Trial Operation or to export power from the Large Generating Facility, but for Interconnecting Transmission Owner's delay; (2) the Interconnecting Transmission Owner's failure to meet the specified dates is the result of the action or inaction of the Interconnection Customer or any other Interconnection Customer who has entered into an LGIA with the Interconnecting Transmission Owner or any cause beyond Interconnecting Transmission Owner's reasonable control or reasonable ability to cure, including,

but not limited to, actions by the System Operator that cause delays and/or delays in licensing, permitting or consents where the Interconnecting Transmission Owner has pursued such licenses, permits or consents in good faith; (3) the Interconnection Customer has assumed responsibility for the design, procurement and construction of the Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades; or (4) the Parties have otherwise agreed.

**5.4 Power System Stabilizers.** If a Power System Stabilizer is required to be installed on the Large Generating Facility for the purpose of maintaining system stability, the Interconnection Customer shall procure, install, maintain and operate Power System Stabilizers in accordance with the guidelines and procedures established by the System Operator and Interconnecting Transmission Owner, and consistent with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents. The System Operator and Interconnecting Transmission Owner reserve the right to reasonably establish minimum acceptable settings for any installed Power System Stabilizers, subject to the design and operating limitations of the Large Generating Facility. If the Large Generating Facility's Power System Stabilizers are removed from service or not capable of automatic operation, the Interconnection Customer shall immediately notify the System Operator and Interconnecting Transmission Owner, or their designated representative. The requirements of this paragraph shall not apply to non-synchronous power production equipment.

**5.5 Equipment Procurement.** If responsibility for construction of the Interconnecting Transmission Owner's Interconnection Facilities or Network Upgrades is to be borne by the Interconnecting Transmission Owner, then the Interconnecting Transmission Owner shall commence design of the Interconnecting Transmission Owner's Interconnection Facilities or Network Upgrades and procure necessary equipment as soon as practicable after all of the following conditions are satisfied, unless the Parties otherwise agree in writing:

**5.5.1** The Interconnecting Transmission Owner has completed the Facilities Study pursuant to the Facilities Study Agreement;

**5.5.2** The Interconnecting Transmission Owner has received written authorization to proceed with design and procurement from the Interconnection Customer by the date specified in Appendix B (Milestones); and

**5.5.3** The Interconnection Customer has provided security to the Interconnecting Transmission Owner in accordance with Article 11.5 by the dates specified in Appendix B (Milestones).

**5.6 Construction Commencement.** The Interconnecting Transmission Owner shall commence construction of the Interconnecting Transmission Owner's Interconnection Facilities and Network Upgrades for which it is responsible as soon as practicable after the following additional conditions are satisfied:

**5.6.1** Approval of the appropriate Governmental Authority has been obtained for any facilities requiring regulatory approval;

**5.6.2** Necessary real property rights and rights-of-way have been obtained, to the extent required for the construction of a discrete aspect of the Interconnecting Transmission Owner's Interconnection Facilities and Network Upgrades;

**5.6.3** The Interconnecting Transmission Owner has received written authorization to proceed with construction from the Interconnection Customer by the date specified in Appendix B (Milestones); and

**5.6.4** The Interconnection Customer has provided security to Interconnecting Transmission Owner in accordance with Article 11.5 by the dates specified in Appendix B (Milestones).

**5.7 Work Progress.** The Interconnection Customer and the Interconnecting Transmission Owner shall keep each Party informed, by written quarterly progress reports, as to the progress of their respective design, procurement and construction efforts in order to meet the dates specified in

Appendix B (Milestones). Any Party may also, at any other time, request a written progress report from the other Parties. If, at any time, the Interconnection Customer determines that the completion of the Interconnecting Transmission Owner's Interconnection Facilities will not be required until after the specified In-Service Date, the Interconnection Customer, upon the System Operator's approval that the change in the In-Service Date will not constitute a Material Modification pursuant to Section 4.4 of the LGIP, will provide written notice to the Interconnecting Transmission Owner of such later date upon which the completion of the Interconnecting Transmission Owner's Interconnection Facilities will be required.

**5.8 Information Exchange.** As soon as reasonably practicable after the Effective Date, the Parties shall exchange information regarding the design and compatibility of the Parties' Interconnection Facilities and compatibility of the Interconnection Facilities with the New England Transmission System, and shall work diligently and in good faith to make any necessary design changes.

**5.9 Other Interconnection Options.**

**5.9.1 Limited Operation.** If any of the Interconnecting Transmission Owner's Interconnection Facilities or Network Upgrades are not reasonably expected to be completed prior to the Commercial Operation Date of the Large Generating Facility, System Operator and the Interconnecting Transmission Owner shall, upon the request and at the expense of Interconnection Customer, perform operating studies on a timely basis to determine the extent to which the Large Generating Facility and the Interconnection Customer's Interconnection Facilities may operate prior to the completion of the Interconnecting Transmission Owner's Interconnection Facilities or Network Upgrades consistent with Applicable Laws and Regulations, Applicable Reliability Standards, Good Utility Practice, and this LGIA. System Operator and Interconnecting Transmission Owner shall permit Interconnection Customer to operate the Large Generating Facility and the Interconnection Customer's Interconnection Facilities in accordance with the results of such studies.

**5.9.2 Provisional Interconnection Service.** Upon the request of Interconnection Customer, and prior to completion of requisite Interconnection Facilities, Network Upgrades, Distribution Upgrades,



or System Protection Facilities, System Operator and the Interconnecting Transmission Owner may execute a Provisional Large Generator Interconnection Agreement or Interconnection Customer may request the filing of an unexecuted Provisional Large Generator Interconnection Agreement with the Interconnection Customer for Provisional Interconnection Service at the discretion of System Operator and Interconnecting Transmission Owner based upon an evaluation that will consider the results of available studies. System Operator and Interconnecting Transmission Owner shall determine, through available studies or additional studies as necessary, whether stability, short circuit, thermal, and/or voltage issues would arise if Interconnection Customer interconnects without modifications to the Large Generating Facility or the New England Transmission System. System Operator and Interconnecting Transmission Owner shall determine whether any Interconnection Facilities, Network Upgrades, Distribution Upgrades, or System Protection Facilities that are necessary to meet the requirements of NERC, or any applicable Regional Entity for the interconnection of a new, modified and/or expanded Large Generating Facility are in place prior to the commencement of Interconnection Service from the Large Generating Facility. Where available studies indicate that such Interconnection Facilities, Network Upgrades, Distribution Upgrades, and/or System Protection Facilities that are required for the interconnection of a new, modified and/or expanded Large Generating Facility are not currently in place, System Operator will perform a study, at the Interconnection Customer's expense, to confirm the facilities that are required for Provisional Interconnection Service. The maximum permissible output of the Large Generating Facility in the Provisional Large Generator Interconnection Agreement shall be studied and updated each time the conditions assumed in the studies supporting the Provisional Interconnection Service change. Provisional Interconnection Service is an optional procedure and it will not alter the Interconnection Customer's Queue Position and associated cost and upgrade responsibilities. Interconnection Customer assumes all risk and liabilities with respect to changes between the Provisional Large Generator Interconnection Agreement and the Large Generator Interconnection Agreement, including changes in output limits and Interconnection Facilities, Network Upgrades, Distribution Upgrades, and/or System Protection Facilities cost responsibilities.

**5.10 Interconnection Customer's Interconnection Facilities ("ICIF").** Interconnection Customer shall, at its expense, design, procure, construct, own and install the ICIF, as set forth in Appendix A (Interconnection Facilities, Network Upgrades and Distribution Upgrades).

**5.10.1 Large Generating Facility Specifications.** Interconnection Customer shall submit initial specifications for the ICIF, including System Protection Facilities, to Interconnecting Transmission Owner at least one hundred eighty (180) Calendar Days prior to the Initial Synchronization Date; and final specifications for review and comment at least ninety (90) Calendar Days prior to the Initial Synchronization Date. Interconnecting Transmission Owner shall review such specifications to ensure that the ICIF are compatible with the technical specifications, operational control, and safety requirements of the Interconnecting Transmission Owner and comment on such specifications within thirty (30) Calendar Days of Interconnection Customer's submission. All specifications provided hereunder shall be deemed confidential.

**5.10.2 Interconnecting Transmission Owner's Review.** Interconnecting Transmission Owner's review of Interconnection Customer's final specifications shall not be construed as confirming, endorsing, or providing a warranty as to the design, fitness, safety, durability or reliability of the Large Generating Facility, or the ICIF. Interconnection Customer shall make such changes to the ICIF as may reasonably be required by Interconnecting Transmission Owner, in accordance with Good Utility Practice, to ensure that the ICIF are compatible with the technical specifications, operational control, and safety requirements of the Interconnecting Transmission Owner.

**5.10.3 ICIF Construction.** The ICIF shall be designed and constructed in accordance with Good Utility Practice. Within one hundred twenty (120) Calendar Days after the Commercial Operation Date, unless the Parties agree on another mutually acceptable deadline, the Interconnection Customer shall deliver to the Interconnecting Transmission Owner "as-built" drawings, information and documents for the ICIF, such as: a one-line diagram, a site plan showing the Large Generating Facility and the ICIF, plan and elevation drawings showing the layout of the ICIF, a relay functional diagram, relaying

AC and DC schematic wiring diagrams and relay settings for all facilities associated with the Interconnection Customer's step-up transformers, the facilities connecting the Large Generating Facility to the step-up transformers and the ICIF, and the impedances (determined by factory tests) for the associated step-up transformers and the Large Generating Facilities. The Interconnection Customer shall provide Interconnecting Transmission Owner specifications for the excitation system, automatic voltage regulator, Large Generating Facility control and protection settings, transformer tap settings, and communications, if applicable.

- 5.11 Interconnecting Transmission Owner's Interconnection Facilities Construction.** The Interconnecting Transmission Owner's Interconnection Facilities shall be designed and constructed in accordance with Good Utility Practice. Upon request, within one hundred twenty (120) Calendar Days after the Commercial Operation Date, unless the Parties agree on another mutually acceptable deadline, the Interconnecting Transmission Owner shall deliver to the Interconnection Customer the following "as-built" drawings, information and documents for the Interconnecting Transmission Owner's Interconnection Facilities. The appropriate drawings and relay diagrams shall be included in Appendix A of this LGIA. The System Operator will obtain operational control of the Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades upon completion of such facilities pursuant to the TOA.
- 5.12 Access Rights.** Upon reasonable notice and supervision by a Party, and subject to any required or necessary regulatory approvals, a Party ("Granting Party") shall furnish at the incremental cost to another Party ("Access Party") any rights of use, licenses, rights of way and easements with respect to lands owned or controlled by the Granting Party, its agents if allowed under the applicable agency agreement, that are necessary to enable the Access Party solely to obtain ingress and egress to construct, operate, maintain, repair, test (or witness testing), inspect, replace or remove facilities and equipment to: (i) interconnect the Large Generating Facility with the Administered Transmission System; (ii) operate and maintain the Large Generating Facility, the Interconnection Facilities and the New England Transmission System; and (iii) disconnect or remove the Access Party's facilities and equipment upon termination of this LGIA. In exercising

such licenses, rights of way and easements, the Access Party shall not unreasonably disrupt or interfere with normal operation of the Granting Party's business and shall adhere to the safety rules and procedures established in advance, as may be changed from time to time, by the Granting Party and provided to the Access Party.

- 5.13 Lands of Other Property Owners.** If any part of the Interconnecting Transmission Owner's Interconnection Facilities and/or Network Upgrades is to be installed on property owned by persons other than Interconnection Customer or Interconnecting Transmission Owner, the Interconnecting Transmission Owner shall at Interconnection Customer's expense use Reasonable Efforts, including use of its eminent domain authority, and to the extent consistent with state law, to procure from such persons any rights of use, licenses, rights of way and easements that are necessary to construct, operate, maintain, test, inspect, replace or remove the Interconnecting Transmission Owner's Interconnection Facilities and/or Network Upgrades upon such property. Notwithstanding the foregoing, the Interconnecting Transmission Owner shall not be obligated to exercise eminent domain authority in a manner inconsistent with Applicable Laws and Regulations or when an Interconnection Customer is authorized under Applicable Laws and Regulations to exercise eminent domain on its own behalf.
- 5.14 Permits.** System Operator, Interconnecting Transmission Owner and Interconnection Customer shall cooperate with each other in good faith in obtaining all permits, licenses, and authorizations that are necessary to accomplish the interconnection in compliance with Applicable Laws and Regulations. With respect to this paragraph, Interconnecting Transmission Owner shall provide permitting assistance to the Interconnection Customer comparable to that provided to the Interconnecting Transmission Owner's own, or an Affiliate's generation.
- 5.15 Early Construction of Base Case Facilities.** Interconnection Customer may request Interconnecting Transmission Owner to construct, and Interconnecting Transmission Owner shall construct, using Reasonable Efforts to accommodate Interconnection Customer's In-Service Date, all or any portion of any Network Upgrades required for Interconnection Customer to be interconnected to the Administered Transmission System, which are included in the Base Case of the Facilities Study for the Interconnection Customer, and which also are required to be

constructed for another Interconnection Customer, but where such construction is not scheduled to be completed in time to achieve Interconnection Customer's In-Service Date. The Interconnection Customer shall reimburse the Interconnecting Transmission Owner for all costs incurred related to early construction to the extent such costs are not recovered from other Interconnection Customers included in the base case.

**5.16 Suspension.** Interconnection Customer reserves the right, upon written notice to Interconnecting Transmission Owner and System Operator, to suspend at any time all work by Interconnecting Transmission Owner associated with the construction and installation of Interconnecting Transmission Owner's Interconnection Facilities and/or Network Upgrades required under this LGIA with the condition that the New England Transmission System shall be left in a safe and reliable condition in accordance with Good Utility Practice and the System Operator's and Interconnecting Transmission Owner's safety and reliability criteria. In such event, Interconnection Customer shall be responsible for all reasonable and necessary costs which Interconnecting Transmission Owner (i) has incurred pursuant to this LGIA prior to the suspension and (ii) incurs in suspending such work, including any costs incurred to perform such work as may be necessary to ensure the safety of persons and property and the integrity of the New England Transmission System during such suspension and, if applicable, any costs incurred in connection with the cancellation or suspension of material, equipment and labor contracts which Interconnecting Transmission Owner cannot reasonably avoid; provided, however, that prior to canceling or suspending any such material, equipment or labor contract, Interconnecting Transmission Owner shall obtain Interconnection Customer's authorization to do so. Interconnecting Transmission Owner shall invoice Interconnection Customer for such costs pursuant to Article 12 and shall use due diligence to minimize its costs. In the event Interconnection Customer suspends work by Interconnecting Transmission Owner required under this LGIA pursuant to this Article 5.16, and has not requested Interconnecting Transmission Owner to recommence the work required under this LGIA on or before the expiration of three (3) years following commencement of such suspension, this LGIA shall be deemed terminated. The three-year period shall begin on the date the suspension is requested, or the date of the written notice to Interconnecting Transmission Owner and System Operator, if no effective date is specified. A suspension under this Article 5.16 does not automatically permit an extension of the

In-Service Date, the Initial Synchronization Date or the Commercial Operation Date. A request for extension of such dates is subject to Section 4.4.5 of the LGIP. Notwithstanding the extensions permitted under Section 4.4.5 of the LGIP, the three-year period shall in no way result in an extension of the In-Service Date, the Initial Synchronization Date or the Commercial Operation Date that exceeds seven (7) years from the date of the Interconnection Request; otherwise, this LGIA shall be deemed terminated.

## **5.17 Taxes.**

**5.17.1 Payments Not Taxable.** The Parties intend that all payments or property transfers made by any Party for the installation of the Interconnecting Transmission Owner's Interconnection Facilities and the Network Upgrades shall be non-taxable, either as contributions to capital, or as an advance, in accordance with the Internal Revenue Code and any applicable state income tax laws and shall not be taxable as contributions in aid of construction or otherwise under the Internal Revenue Code and any applicable state income tax laws.

**5.17.2 Representations and Covenants.** In accordance with IRS Notice 2001-82 and IRS Notice 88-129, Interconnection Customer represents and covenants that (i) ownership of the electricity generated at the Large Generating Facility will pass to another party prior to the transmission of the electricity on the New England Transmission System, (ii) for income tax purposes, the amount of any payments and the cost of any property transferred to the Interconnecting Transmission Owner for the Interconnecting Transmission Owner's Interconnection Facilities will be capitalized by Interconnection Customer as an intangible asset and recovered using the straight-line method over a useful life of twenty (20) years, and (iii) any portion of the Interconnecting Transmission Owner's Interconnection Facilities that is a "dual-use intertie," within the meaning of IRS Notice 88-129, is reasonably expected to carry only a de minimis amount of electricity in the direction of the Large Generating Facility. For this purpose, "de minimis amount" means no more than 5 percent of the total power flows in both directions, calculated in accordance with the "5 percent test" set forth in IRS Notice 88-129. This is not intended

to be an exclusive list of the relevant conditions that must be met to conform to IRS requirements for non-taxable treatment.

At Interconnecting Transmission Owner's request, Interconnection Customer shall provide Interconnecting Transmission Owner with a report from an independent engineer confirming its representation in clause (iii), above. Interconnecting Transmission Owner represents and covenants that the cost of the Interconnecting Transmission Owner's Interconnection Facilities paid for by Interconnection Customer will have no net effect on the base upon which rates are determined.

**5.17.3 Indemnification for the Cost Consequences of Current Tax Liability Imposed Upon Interconnecting Transmission Owner.** Notwithstanding Article 5.17.1, Interconnection Customer shall protect, indemnify and hold harmless Interconnecting Transmission Owner from the cost consequences of any current tax liability imposed against Interconnecting Transmission Owner as the result of payments or property transfers made by Interconnection Customer to Interconnecting Transmission Owner under this LGIA, as well as any interest and penalties, other than interest and penalties attributable to any delay caused by Interconnecting Transmission Owner.

The Interconnecting Transmission Owner shall not include a gross-up for the cost consequences of any current tax liability in the amounts it charges Interconnection Customer under this LGIA unless (i) Interconnecting Transmission Owner has determined, in good faith, that the payments or property transfers made by Interconnection Customer to Interconnecting Transmission Owner should be reported as income subject to taxation or (ii) any Governmental Authority directs Interconnecting Transmission Owner to report payments or property as income subject to taxation; provided, however, that Interconnecting Transmission Owner may require Interconnection Customer to provide security, in a form reasonably acceptable to Interconnecting Transmission Owner (such as a parental guarantee or a letter of credit), in an amount equal to the cost consequences of any current tax liability under this Article 5.17. Interconnection Customer shall reimburse Interconnecting Transmission Owner for

such costs on a fully grossed-up basis, in accordance with Article 5.17.4, within thirty (30) Calendar Days of receiving written notification from Interconnecting Transmission Owner of the amount due, including detail about how the amount was calculated.

The indemnification obligation shall terminate at the earlier of (1) the expiration of the ten year testing period, and the applicable statute of limitation, as it may be extended by the Interconnecting Transmission Owner upon request of the IRS, to keep these years open for audit or adjustment, or (2) the occurrence of a subsequent taxable event and the payment of any related indemnification obligations as contemplated by this Article 5.17.

**5.17.4 Tax Gross-Up Amount.** Interconnection Customer's liability for the cost consequences of any current tax liability under this Article 5.17 shall be calculated on a fully grossed-up basis. Except as may otherwise be agreed to by the parties, this means that Interconnection Customer will pay Interconnecting Transmission Owner, in addition to the amount paid for the Interconnection Facilities and Network Upgrades, an amount equal to (1) the current taxes imposed on Interconnecting Transmission Owner ("Current Taxes") on the excess of (a) the gross income realized by Interconnecting Transmission Owner as a result of payments or property transfers made by Interconnection Customer to Interconnecting Transmission Owner under this LGIA (without regard to any payments under this Article 5.17) (the "Gross Income Amount") over (b) the present value of future tax deductions for depreciation that will be available as a result of such payments or property transfers (the "Present Value Depreciation Amount"), plus (2) an additional amount sufficient to permit the Interconnecting Transmission Owner to receive and retain, after the payment of all Current Taxes, an amount equal to the net amount described in clause (1). For this purpose, (i) Current Taxes shall be computed based on Interconnecting Transmission Owner composite federal and state tax rates at the time the payments or property transfers are received and Interconnecting Transmission Owner will be treated as being subject to tax at the highest marginal rates in effect at that time (the "Current Tax Rate"), and (ii) the Present Value Depreciation Amount shall be computed by discounting Interconnecting Transmission Owner's anticipated tax depreciation deductions as a result of such payments or property transfers by Interconnecting



Transmission Owner current weighted average cost of capital. Thus, the formula for calculating Interconnection Customer's liability to Transmission Owner pursuant to this Article 5.17.4 can be expressed as follows:  $(\text{Current Tax Rate} \times (\text{Gross Income Amount} - \text{Present Value of Tax Depreciation})) / (1 - \text{Current Tax Rate})$ . Interconnection Customer's estimated tax liability in the event taxes are imposed shall be stated in Appendix A (Interconnection Facilities, Network Upgrades and Distribution Upgrades).

**5.17.5 Private Letter Ruling or Change or Clarification of Law.** At Interconnection Customer's request and expense, Interconnecting Transmission Owner shall file with the IRS a request for a private letter ruling as to whether any property transferred or sums paid, or to be paid, by Interconnection Customer to Interconnecting Transmission Owner under this LGIA are subject to federal income taxation. Interconnection Customer will prepare the initial draft of the request for a private letter ruling, and will certify under penalties of perjury that all facts represented in such request are true and accurate to the best of Interconnection Customer's knowledge. Interconnecting Transmission Owner and Interconnection Customer shall cooperate in good faith with respect to the submission of such request.

Interconnecting Transmission Owner shall keep Interconnection Customer fully informed of the status of such request for a private letter ruling and shall execute either a privacy act waiver or a limited power of attorney, in a form acceptable to the IRS, that authorizes Interconnection Customer to participate in all discussions with the IRS regarding such request for a private letter ruling. Interconnecting Transmission Owner shall allow Interconnection Customer to attend all meetings with IRS officials about the request and shall permit Interconnection Customer to prepare the initial drafts of any follow-up letters in connection with the request.

**5.17.6 Subsequent Taxable Events.** If, within ten (10) years from the date on which the relevant Interconnecting Transmission Owner's Interconnection Facilities are placed in service, (i) Interconnection Customer Breaches the covenant contained in Article 5.17.2, (ii) a "disqualification event" occurs within the meaning of IRS Notice 88-129, or (iii)

this LGIA terminates and Interconnecting Transmission Owner retains ownership of the Interconnection Facilities and Network Upgrades, the Interconnection Customer shall pay a tax gross-up for the cost consequences of any current tax liability imposed on Interconnecting Transmission Owner, calculated using the methodology described in Article 5.17.4 and in accordance with IRS Notice 90-60.

**5.17.7 Contests.** In the event any Governmental Authority determines that Interconnecting Transmission Owner's receipt of payments or property constitutes income that is subject to taxation, Interconnecting Transmission Owner shall notify Interconnection Customer, in writing, within thirty (30) Calendar Days of receiving notification of such determination by a Governmental Authority. Upon the timely written request by Interconnection Customer and at Interconnection Customer's sole expense, Interconnecting Transmission Owner may appeal, protest, seek abatement of, or otherwise oppose such determination. Upon Interconnection Customer's written request and sole expense, Interconnecting Transmission Owner may file a claim for refund with respect to any taxes paid under this Article 5.17, whether or not it has received such a determination. Interconnecting Transmission Owner reserves the right to make all decisions with regard to the prosecution of such appeal, protest, abatement or other contest, including the selection of counsel and compromise or settlement of the claim, but Interconnecting Transmission Owner shall keep Interconnection Customer informed, shall consider in good faith suggestions from Interconnection Customer about the conduct of the contest, and shall reasonably permit Interconnection Customer or an Interconnection Customer representative to attend contest proceedings.

Interconnection Customer shall pay to Interconnecting Transmission Owner on a periodic basis, as invoiced by Interconnecting Transmission Owner, documented reasonable costs of prosecuting such appeal, protest, abatement or other contest. At any time during the contest, Interconnecting Transmission Owner may agree to a settlement either with Interconnection Customer's consent or after obtaining written advice from nationally-recognized tax counsel, selected by Interconnecting Transmission Owner, but reasonably acceptable to Interconnection Customer, that the proposed settlement represents a

reasonable settlement given the hazards of litigation. Interconnection Customer's obligation shall be based on the amount of the settlement agreed to by Interconnection Customer, or if a higher amount, so much of the settlement that is supported by the written advice from nationally recognized tax counsel selected under the terms of the preceding sentence. The settlement amount shall be calculated on a fully grossed-up basis to cover any related cost consequences of the current tax liability. Any settlement without Interconnection Customer's consent or such written advice will relieve Interconnection Customer from any obligation to indemnify Interconnecting Transmission Owner for the tax at issue in the contest.

**5.17.8 Refund.** In the event that (a) a private letter ruling is issued to Interconnecting Transmission Owner which holds that any amount paid or the value of any property transferred by Interconnection Customer to Interconnecting Transmission Owner under the terms of this LGIA is not subject to federal income taxation, (b) any legislative change or administrative announcement, notice, ruling or other determination makes it reasonably clear to Interconnecting Transmission Owner in good faith that any amount paid or the value of any property transferred by Interconnection Customer to Interconnecting Transmission Owner under the terms of this LGIA is not taxable to Interconnecting Transmission Owner, (c) any abatement, appeal, protest, or other contest results in a determination that any payments or transfers made by Interconnection Customer to Interconnecting Transmission Owner are not subject to federal income tax, or (d) if Interconnecting Transmission Owner receives a refund from any taxing authority for any overpayment of tax attributable to any payment or property transfer made by Interconnection Customer to Interconnecting Transmission Owner pursuant to this LGIA, Interconnecting Transmission Owner shall promptly refund to Interconnection Customer the following:

- (i) any payment made by Interconnection Customer under this Article 5.17 for taxes that is attributable to the amount determined to be non-taxable, together with interest thereon,

(ii) interest on any amounts paid by Interconnection Customer to Interconnecting Transmission Owner for such taxes which Interconnecting Transmission Owner did not submit to the taxing authority, interest calculated in accordance with the methodology set forth in the Commission's regulations at 18 CFR §35.19a(a)(2)(iii) from the date payment was made by Interconnection Customer to the date Interconnecting Transmission Owner refunds such payment to Interconnection Customer, and

(iii) with respect to any such taxes paid by Interconnecting Transmission Owner, any refund or credit Interconnecting Transmission Owner receives or to which it may be entitled from any Governmental Authority, interest (or that portion thereof attributable to the payment described in clause (i), above) owed to the Interconnecting Transmission Owner for such overpayment of taxes (including any reduction in interest otherwise payable by Interconnecting Transmission Owner to any Governmental Authority resulting from an offset or credit); provided, however, that Interconnecting Transmission Owner will remit such amount promptly to Interconnection Customer only after and to the extent that Interconnecting Transmission Owner has received a tax refund, credit or offset from any Governmental Authority for any applicable overpayment of income tax related to the Interconnecting Transmission Owner's Interconnection Facilities.

The intent of this provision is to leave Parties, to the extent practicable, in the event that no taxes are due with respect to any payment for Interconnection Facilities and Network Upgrades hereunder, in the same position they would have been in had no such tax payments been made.

**5.17.9 Taxes Other Than Income Taxes.** Upon the timely request by Interconnection Customer, and at Interconnection Customer's sole expense, Interconnecting Transmission Owner shall appeal, protest, seek abatement of, or otherwise contest any tax (other than federal or state income tax) asserted or assessed against Interconnecting Transmission

Owner for which Interconnection Customer may be required to reimburse Interconnecting Transmission Owner under the terms of this LGIA. Interconnection Customer shall pay to Interconnecting Transmission Owner on a periodic basis, as invoiced by Interconnecting Transmission Owner, Interconnecting Transmission Owner's documented reasonable costs of prosecuting such appeal, protest, abatement, or other contest. Interconnection Customer and Interconnecting Transmission Owner shall cooperate in good faith with respect to any such contest. Unless the payment of such taxes is a prerequisite to an appeal or abatement or cannot be deferred, no amount shall be payable by Interconnection Customer to Interconnecting Transmission Owner for such taxes until they are assessed by a final, non-appealable order by any court or agency of competent jurisdiction. In the event that a tax payment is withheld and ultimately due and payable after appeal, Interconnection Customer will be responsible for all taxes, interest and penalties, other than penalties attributable to any delay caused by Interconnecting Transmission Owner.

**5.18 Tax Status.** Each Party shall cooperate with the others to maintain the other Party's(ies') tax status. Nothing in this LGIA is intended to adversely affect any Interconnecting Transmission Owner's tax-exempt status with respect to the issuance of bonds including, but not limited to, Local Furnishing Bonds.

**5.19 Modification.**

**5.19.1 General.** Either Interconnection Customer or Interconnecting Transmission Owner may undertake modifications to its facilities. If a Party plans to undertake a modification that reasonably may be expected to affect the other Party's facilities, the facilities of any Affected Parties, or the New England Transmission System, that Party shall provide to the other Parties and any Affected Party: (i) sufficient information regarding such modification so that the other Party(ies) may evaluate the potential impact of such modification prior to commencement of the work; and (ii) such information as may be required by the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents. Such information shall be deemed to be confidential

hereunder and shall include information concerning the timing of such modifications and whether such modifications are expected to interrupt the flow of electricity from the Large Generating Facility. The Party desiring to perform such work shall provide the relevant drawings, plans, and specifications to the other Party(ies) at least ninety (90) Calendar Days in advance of the commencement of the work or such shorter period upon which the Parties may agree, which agreement shall not unreasonably be withheld, conditioned or delayed. Notwithstanding the foregoing, no Party shall be obligated to proceed with a modification that would constitute a Material Modification and therefore require an Interconnection Request under the LGIP, except as provided under and pursuant to the LGIP.

In the case of Large Generating Facility or Interconnection Customer's Interconnection Facility modifications that do not require Interconnection Customer to submit an Interconnection Request, Interconnecting Transmission Owner shall provide, within thirty (30) Calendar Days (or such other time as the Parties may agree), an estimate of any additional modifications to the New England Transmission System, Interconnecting Transmission Owner's Interconnection Facilities or Network Upgrades necessitated by such Interconnection Customer modification and a good faith estimate of the costs thereof.

**5.19.2 Standards.** Any additions, modifications, or replacements made to a Party's facilities shall be designed, constructed and operated in accordance with this LGIA and Good Utility Practice.

**5.19.3 Modification Costs.** Interconnection Customer shall not be directly assigned for the costs of any additions, modifications, or replacements that Interconnecting Transmission Owner makes to the Interconnecting Transmission Owner's Interconnection Facilities or the New England Transmission System to facilitate the interconnection of a third party to the Interconnecting Transmission Owner's Interconnection Facilities or the New England Transmission System, or to provide transmission service to a third party under the Tariff, except as provided for under the Tariff or any other applicable tariff. Interconnection

Customer shall be responsible for the costs of any additions, modifications, or replacements to the Large Generating Facility or Interconnection Customer's Interconnection Facilities that may be necessary to maintain or upgrade such Interconnection Customer's Interconnection Facilities consistent with Applicable Laws and Regulations, Applicable Reliability Standards or Good Utility Practice.

## **ARTICLE 6. TESTING AND INSPECTION**

- 6.1 Pre-Commercial Operation Date Testing and Modifications.** Prior to the Commercial Operation Date, the Interconnecting Transmission Owner shall test Interconnecting Transmission Owner's Interconnection Facilities and Network Upgrades and Interconnection Customer shall test the Large Generating Facility and the Interconnection Customer's Interconnection Facilities to ensure their safe and reliable operation. Similar testing may be required after initial operation. Each Party shall make any modifications to its facilities that are found to be necessary as a result of such testing. Interconnection Customer shall bear the cost of all such testing and modifications. Interconnection Customer shall generate test energy at the Large Generating Facility only if it has arranged for the delivery of such test energy.
- 6.2 Post-Commercial Operation Date Testing and Modifications.** Each Interconnection Customer and Interconnecting Transmission Owner shall at its own expense perform routine inspection and testing of its facilities and equipment in accordance with ISO New England Operating Documents, Applicable Reliability Standards, or successor documents, as may be necessary to ensure the continued interconnection of the Large Generating Facility to the Administered Transmission System in a safe and reliable manner. The Interconnection Customer and Interconnecting Transmission Owner each shall have the right, upon advance written notice, to require reasonable additional testing of the other Party's(ies') facilities, at the requesting Party's expense, as may be in accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents. The System Operator shall also have the right to require reasonable additional testing of the other Party's (ies') facilities in accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

**6.3 Right to Observe Testing.** Each Party shall notify the System Operator and other Party(ies) in advance of its performance of tests of its Interconnection Facilities. The other Party(ies) has the right, at its own expense, to observe such testing.

**6.4 Right to Inspect.** Each Party shall have the right, but shall have no obligation to: (i) observe the other Party's(ies') tests and/or inspection of any of its System Protection Facilities and other protective equipment, including Power System Stabilizers; (ii) review the settings of the other Party's(ies') System Protection Facilities and other protective equipment; and (iii) review the other Party's(ies') maintenance records relative to the Interconnection Facilities, the System Protection Facilities and other protective equipment. Each Party may exercise these rights from time to time as it deems necessary upon reasonable notice to the other Parties. The exercise or non-exercise by a Party of any such rights shall not be construed as an endorsement or confirmation of any element or condition of the Interconnection Facilities or the System Protection Facilities or other protective equipment or the operation thereof, or as a warranty as to the fitness, safety, desirability, or reliability of same. Any information that a Party obtains through the exercise of any of its rights under this Article 6.4 shall be governed by Article 22.



## ARTICLE 7. METERING

- 7.1 General.** Each Party shall comply with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents, regarding metering. Interconnection Customer shall bear all reasonable documented costs associated with the purchase, installation, operation, testing and maintenance of the Metering Equipment. Unless the System Operator otherwise agrees, the Interconnection Customer shall be responsible for installing and maintaining compatible metering and communications equipment to accurately account for the capacity and energy being transmitted under this Tariff and to communicate the information to the System Operator. Unless otherwise agreed, such equipment shall remain the property of the Interconnecting Transmission Owner.
- 7.2 Check Meters.** Interconnection Customer, at its option and expense, may install and operate, on its premises and on its side of the Point of Interconnection, one or more check meters to check Interconnecting Transmission Owner's meters. Such check meters shall be for check purposes only and shall not be used for the measurement of power flows for purposes of this LGIA, except as provided in Article 7.4 below. The check meters shall be subject at all reasonable times to inspection and examination by Interconnecting Transmission Owner or its designee. The installation, operation and maintenance thereof shall be performed entirely by Interconnection Customer in accordance with Good Utility Practice.
- 7.3 Standards.** Interconnecting Transmission Owner shall install, calibrate, and test revenue quality Metering Equipment in accordance with applicable ANSI standards and the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.
- 7.4 Testing of Metering Equipment.** Interconnecting Transmission Owner shall inspect and test all Interconnecting Transmission Owner-owned Metering Equipment upon installation and thereafter as specified in the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents. Interconnecting Transmission Owner shall give reasonable notice of the time when any inspection or test shall take place, and Interconnection Customer may have representatives present at the test or inspection. If at any time Metering Equipment is found to be

inaccurate or defective, it shall be adjusted, repaired or replaced at Interconnection Customer's expense, in order to provide accurate metering. If Metering Equipment fails to register, or if the measurement made by Metering Equipment during a test varies by more than the values specified within ISO New England Operating Documents, or successor documents, from the measurement made by the standard meter used in the test, the Interconnecting Transmission Owner shall adjust the measurements, in accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

- 7.5 Metering Data.** At Interconnection Customer's expense, metered data shall be telemetered to one or more locations designated by System Operator and Interconnecting Transmission Owner. The hourly integrated metering, established in accordance with ISO New England Operating Documents, Applicable Reliability Standards, or successor documents, used to transmit Megawatt hour ("MWh") per hour data by electronic means and the Watt-hour meters equipped with kilowatt-hour ("kwh") or MWh registers to be read at month's end shall be the official measurement of the amount of energy delivered from the Large Generating Facility to the Point of Interconnection. Instantaneous metering is required for all Generators in accordance with ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

## **ARTICLE 8. COMMUNICATIONS**

- 8.1 Interconnection Customer Obligations.** Interconnection Customer shall maintain satisfactory operating communications with the System Operator and Interconnecting Transmission Owner in accordance with applicable provisions of ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.
- 8.2 Remote Terminal Unit.** Prior to the Initial Synchronization Date of the Large Generating Facility, a Remote Terminal Unit, or equivalent data collection and transfer equipment acceptable to the Parties, shall be installed by Interconnection Customer or Interconnecting Transmission Owner at Interconnection Customer's expense, to gather accumulated and instantaneous data to be telemetered to the location(s) designated by System Operator and Interconnecting Transmission Owner through use of a dedicated point-to-point data circuit(s). The

communication protocol for the data circuit(s) shall be specified by System Operator and Interconnecting Transmission Owner. All information required by the ISO New England Operating Documents, or successor documents, must be telemetered directly to the location(s) specified by System Operator and Interconnecting Transmission Owner.

Each Party will promptly advise the other Party(ies) if it detects or otherwise learns of any metering, telemetry or communications equipment errors or malfunctions that require the attention and/or correction by the other Party(ies). The Party owning such equipment shall correct such error or malfunction as soon as reasonably feasible.

- 8.3 No Annexation.** Any and all equipment placed on the premises of a Party shall be and remain the property of the Party providing such equipment regardless of the mode and manner of annexation or attachment to real property, unless otherwise mutually agreed by the Parties.

## **ARTICLE 9. OPERATIONS**

- 9.1 General.** Each Party shall comply with applicable provisions of ISO New England Operating Documents, Reliability Standards, or successor documents, regarding operations. Each Party shall provide to the other Party(ies) all information that may reasonably be required by the other Party(ies) to comply with Applicable Laws and Regulations and Applicable Reliability Standards.
- 9.2 Control Area Notification.** Before Initial Synchronization Date, the Interconnection Customer shall notify the System Operator and Interconnecting Transmission Owner in writing in accordance with ISO New England Operating Documents, Reliability Standards, or successor documents. If the Interconnection Customer elects to have the Large Generating Facility dispatched and operated from a remote Control Area other than the Control Area in which the Large Generating Facility is physically located, and if permitted to do so by the relevant transmission tariffs and ISO New England Operating Documents, Reliability Standards, or successor documents, all necessary arrangements, including but not limited to those set forth in Article 7 and Article 8 of this LGIA, and remote Control Area generator interchange agreements, if applicable, and the appropriate measures under such agreements, shall be executed and

implemented prior to the placement of the Large Generating Facility in the other Control Area for dispatch and operations.

**9.3 Interconnecting Transmission Owner and System Operator Obligations.** Interconnecting Transmission Owner and System Operator shall cause the Interconnecting Transmission Owner's Interconnection Facilities to be operated, maintained and controlled in a safe and reliable manner and in accordance with this LGIA and ISO New England Operating Documents, Reliability Standards, or successor documents. Interconnecting Transmission Owner or System Operator may provide operating instructions to Interconnection Customer consistent with this LGIA, ISO New England Operating Documents, Applicable Reliability Standards, or successor documents, and Interconnecting Transmission Owner's and System Operator's operating protocols and procedures as they may change from time to time. Interconnecting Transmission Owner and System Operator will consider changes to their operating protocols and procedures proposed by Interconnection Customer.

**9.4 Interconnection Customer Obligations.** Interconnection Customer shall at its own expense operate, maintain and control the Large Generating Facility and the Interconnection Customer's Interconnection Facilities in a safe and reliable manner and in accordance with this LGIA and ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

**9.5 Start-Up and Synchronization.** The Interconnection Customer is responsible for the proper start-up and synchronization of the Large Generating Facility to the New England Transmission System in accordance with ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

**9.6 Reactive Power and Primary Frequency Response.**

**9.6.1 Power Factor Design Criteria.**

**9.6.1.1 Synchronous Generation.** Interconnection Customer shall design the Large Generating Facility and all generating units comprising the Large Generating Facility, as applicable, to maintain a composite power delivery at continuous rated power output at the Point of Interconnection with dynamic reactive capability over the power factor range of 0.95 leading to 0.95 lagging, unless the System Operator or Interconnecting Transmission Owner has established different requirements that apply to all synchronous (and non-wind non-synchronous generators as specified in Appendix G, Section A.ii.4 to the LGIA) generators in the Control Area on a comparable basis and in accordance with ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

**9.6.1.2 Non-Synchronous Generation.** The power factor design criteria requirements applicable to non-synchronous Generating Facilities shall be as specified in in Appendix G to the LGIA. The Low Voltage Ride-Through Capability requirements applicable to wind and inverter-based Generating Facilities shall be as specified in Appendix G to the LGIA.

**9.6.2 Voltage Schedules.** Once the Interconnection Customer has synchronized the Large Generating Facility to the New England Transmission System, Interconnection Customer shall operate the Large Generating Facility at the direction of System Operator and Interconnecting Transmission Owner in accordance with applicable provisions of the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents, regarding voltage schedules in accordance with such requirements.

**9.6.2.1 Voltage Regulators.** The Interconnection Customer must keep and maintain a voltage regulator on all generating units comprising a Large Generating Facility in accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents. All Interconnection Customers that have, or are required to have, automatic voltage regulation shall normally

operate the Large Generating Facility with its voltage regulators in automatic operation.

It is the responsibility of the Interconnection Customer to maintain the voltage regulator in good operating condition and promptly report to the System Operator and Interconnecting Transmission Owner any problems that could cause interference with its proper operation.

**9.6.2.2 System Protection.** The Interconnection Customer shall install and maintain protection systems in accordance with applicable provisions of the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

**9.6.3 Payment for Reactive Power.**

Interconnection Customers shall be compensated for Reactive Power service in accordance with Schedule 2 of the Section II of the Tariff.

**9.6.4 Primary Frequency Response.**

Interconnection Customer with an Interconnection System Impact Study that commenced on or after May 15, 2018 shall ensure the primary frequency response capability of its Large Generating Facility by installing, maintaining, and operating a functioning governor or equivalent controls. The term “functioning governor or equivalent controls” as used herein shall mean the required hardware and/or software that provides frequency responsive real power control with the ability to sense changes in system frequency and autonomously adjust the Large Generating Facility’s real power output in accordance with the droop and deadband parameters and in the direction needed to correct frequency deviations. Interconnection Customer is required to install a governor or equivalent controls with the capability of operating: (1) with a maximum 5 percent droop and  $\pm 0.036$  Hz deadband; or (2) in accordance with the relevant droop, deadband, and timely and sustained response settings from an approved NERC Reliability Standard providing for equivalent or more stringent parameters. The droop characteristic shall be: (1) based on the nameplate capacity of the Large Generating Facility, and shall be linear in the

range of frequencies between 59 to 61 Hz that are outside of the deadband parameter; or (2) based on an approved NERC Reliability Standard providing for an equivalent or more stringent parameter. The deadband parameter shall be: the range of frequencies above and below nominal (60 Hz) in which the governor or equivalent controls is not expected to adjust the Large Generating Facility's real power output in response to frequency deviations. The deadband shall be implemented: (1) without a step to the droop curve, that is, once the frequency deviation exceeds the deadband parameter, the expected change in the Large Generating Facility's real power output in response to frequency deviations shall start from zero and then increase (for under-frequency deviations) or decrease (for over-frequency deviations) linearly in proportion to the magnitude of the frequency deviation; or (2) in accordance with an approved NERC Reliability Standard providing for an equivalent or more stringent parameter. Interconnection Customer shall notify System Operator and Interconnecting Transmission Owner that the primary frequency response capability of the Large Generating Facility has been tested and confirmed during commissioning. Once Interconnection Customer has synchronized the Large Generating Facility with the New England Transmission System, Interconnection Customer shall operate the Large Generating Facility consistent with the provisions specified in Articles 9.6.4.1 and 9.6.4.2 of this Agreement. The primary frequency response requirements contained herein shall apply to both synchronous and non-synchronous Large Generating Facilities.

**9.6.4.1 Governor or Equivalent Controls.** Whenever the Large Generating Facility is operated in parallel with the New England Transmission System, Interconnection Customer shall operate the Large Generating Facility with its governor or equivalent controls in service and responsive to frequency. Interconnection Customer shall: (1) in coordination with System Operator and Interconnecting Transmission Owner, set the deadband parameter to: (1) a maximum of  $\pm 0.036$  Hz and set the droop parameter to a maximum of 5 percent; or (2) implement the relevant droop and deadband settings from an approved NERC Reliability Standard that provides for equivalent or more stringent parameters. Interconnection Customer shall be required to provide the status and settings of

the governor or equivalent controls to System Operator and Interconnecting Transmission Owner upon request. If Interconnection Customer needs to operate the Large Generating Facility with its governor or equivalent controls not in service, Interconnection Customer shall immediately notify System Operator and Interconnecting Transmission Owner, and provide both with the following information: (1) the operating status of the governor or equivalent controls (i.e., whether it is currently out of service or when it will be taken out of service); (2) the reasons for removing the governor or equivalent controls from service; and (3) a reasonable estimate of when the governor or equivalent controls will be returned to service. Interconnection Customer shall make Reasonable Efforts to return its governor or equivalent controls into service as soon as practicable. Interconnection Customer shall make Reasonable Efforts to keep outages of the Large Generating Facility's governor or equivalent controls to a minimum whenever the Large Generating Facility is operated in parallel with the New England Transmission System.

**9.6.4.2 Timely and Sustained Response.** Interconnection Customer shall ensure that the Large Generating Facility's real power response to sustained frequency deviations outside of the deadband setting is automatically provided and shall begin immediately after frequency deviates outside of the deadband, and to the extent the Large Generating Facility has operating capability in the direction needed to correct the frequency deviation. Interconnection Customer shall not block or otherwise inhibit the ability of the governor or equivalent controls to respond and shall ensure that the response is not inhibited, except under certain operational constraints including, but not limited to, ambient temperature limitations, physical energy limitations, outages of mechanical equipment, or regulatory requirements. The Large Generating Facility shall sustain the real power response at least until system frequency returns to a value within the deadband setting of the governor or equivalent controls. A Commission-approved Reliability Standard with equivalent or more stringent requirements shall supersede the above requirements.



**9.6.4.3 Exemptions.** Large Generating Facilities that are regulated by the United States Nuclear Regulatory Commission shall be exempt from Articles 9.6.4, 9.6.4.1, and 9.6.4.2 of this Agreement. Large Generating Facilities that are behind the meter generation that is sized-to-load (i.e., the thermal load and the generation are near-balanced in real-time operation and the generation is primarily controlled to maintain the unique thermal, chemical, or mechanical output necessary for the operating requirements of its host facility) shall be required to install primary frequency response capability in accordance with the droop and deadband capability requirements specified in Article 9.6.4, but shall be otherwise exempt from the operating requirements in Articles 9.6.4, 9.6.4.1, 9.6.4.2, and 9.6.4.4 of this Agreement.

**9.6.4.4 Electric Storage Resources.** Interconnection Customer interconnecting a Large Generating Facility that is an electric storage resource shall establish an operating range in Appendix C of its LGIA that specifies a minimum state of charge and a maximum state of charge between which the electric storage resource will be required to provide primary frequency response consistent with the conditions set forth in Articles 9.6.4, 9.6.4.1, 9.6.4.2, and 9.6.4.3 of this Agreement. Appendix C shall specify whether the operating range is static or dynamic, and shall consider (1) the expected magnitude of frequency deviations in the interconnection; (2) the expected duration that system frequency will remain outside of the deadband parameter in the interconnection; (3) the expected incidence of frequency deviations outside of the deadband parameter in the interconnection; (4) the physical capabilities of the electric storage resource; (5) operational limitations of the electric storage resource due to manufacturer specifications; and (6) any other relevant factors agreed to by System Operator, Interconnecting Transmission Owner and Interconnection Customer. If the operating range is dynamic, then Appendix C must establish how frequently the operating range will be reevaluated and the factors that may be considered during its reevaluation.

Interconnection Customer's electric storage resource is required to provide timely and sustained primary frequency response consistent with Article 9.6.4.2 of this Agreement when it is online and dispatched to inject electricity to the New England Transmission System and/or receive electricity from the New England Transmission System. This excludes circumstances when the electric storage resource is not dispatched to inject electricity to the New England Transmission System and/or dispatched to receive electricity from the New England Transmission System. If Interconnection Customer's electric storage resource is charging at the time of a frequency deviation outside of its deadband parameter, it is to increase (for over-frequency deviations) or decrease (for under-frequency deviations) the rate at which it is charging in accordance with its droop parameter. Interconnection Customer's electric storage resource is not required to change from charging to discharging, or vice versa, unless the response necessitated by the droop and deadband settings requires it to do so and it is technically capable of making such a transition.

## **9.7 Outages and Interruptions.**

### **9.7.1 Outages.**

**9.7.1.1 Outage Authority and Coordination.** The System Operator shall have the authority to coordinate facility outages in accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents. Each Party may in accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents, in coordination with the other Party(ies), remove from service any of its respective Interconnection Facilities or Network Upgrades that may impact the other Party's(ies') facilities as necessary to perform maintenance or testing or to install or replace equipment, subject to the oversight of System Operator in accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

**9.7.1.2 Outage Schedules.** Outage scheduling, and any related compensation, shall be in accordance with the applicable provisions of the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

**9.7.2 Interruption of Service.** In accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents, the System Operator or Interconnecting Transmission Owner may require Interconnection Customer to interrupt or reduce deliveries of electricity if such delivery of electricity could adversely affect System Operator's or Interconnecting Transmission Owner's ability to perform such activities as are necessary to safely and reliably operate and maintain the New England Transmission System.

**9.7.3 Under-Frequency and Over Frequency Conditions.** Interconnection Customer shall implement under-frequency and over-frequency relay set points for the Large Generating Facility as required by the applicable provisions of ISO New England Operating Documents, Applicable Reliability Standards, or successor documents. Large Generating Facility response to frequency deviations of pre-determined magnitudes, both under-frequency and over-frequency deviations, shall be studied and coordinated with System Operator and Interconnecting Transmission Owner in accordance with ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

**9.7.4 System Protection and Other Control Requirements.**

**9.7.4.1 System Protection Facilities.** Interconnection Customer shall, at its expense, install, operate and maintain System Protection Facilities as a part of the Large Generating Facility or the Interconnection Customer's Interconnection Facilities in accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents. Interconnecting Transmission Owner shall install at Interconnection Customer's expense, in accordance with the ISO New England Operating Documents, Applicable Reliability Standards,

or successor documents, any System Protection Facilities that may be required on the Interconnecting Transmission Owner Interconnection Facilities or the New England Transmission System as a result of the interconnection of the Large Generating Facility and the Interconnection Customer's Interconnection Facilities.

**9.7.4.2** Each Party's protection facilities shall be designed and coordinated with other systems in accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

**9.7.4.3** Each Party shall be responsible for protection of its facilities consistent with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

**9.7.4.4** Each Party's protective relay design shall allow for tests required in Article 6.

**9.7.4.5** Each Party will test, operate and maintain System Protection Facilities in accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

**9.7.5 Requirements for Protection.** In accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents, and compliance with Good Utility Practice, Interconnection Customer shall provide, install, own, and maintain relays, circuit breakers and all other devices necessary to remove any fault contribution of the Large Generating Facility to any short circuit occurring on the New England Transmission System not otherwise isolated by Interconnecting Transmission Owner's equipment, such that the removal of the fault contribution shall be coordinated with the protective requirements of the New England Transmission System. Such protective equipment shall include, without limitation, a disconnecting device or switch with load-interrupting capability located between the Large Generating Facility and the New England Transmission System at a site selected upon mutual agreement (not to be

unreasonably withheld, conditioned or delayed) of the Parties. Interconnection Customer shall be responsible for protection of the Large Generating Facility and Interconnection Customer's other equipment from such conditions as negative sequence currents, over- or under-frequency, sudden load rejection, over- or under-voltage, and generator loss-of-field. Interconnection Customer shall be solely responsible to disconnect the Large Generating Facility and Interconnection Customer's other equipment if conditions on the New England Transmission System could adversely affect the Large Generating Facility.

**9.7.6 Power Quality.** A Party's facilities shall not cause excessive voltage flicker nor introduce excessive distortion to the sinusoidal voltage or current waves as defined by ANSI Standard C84.1-1989, in accordance with IEEE Standard 519, or any applicable superseding electric industry standard.

**9.8 Switching and Tagging Rules.** Each Party shall provide the other Party(ies) with a copy of its switching and tagging rules that are applicable to the other Party's activities. Such switching and tagging rules shall be developed on a non-discriminatory basis. The Parties shall comply with applicable switching and tagging rules, as amended from time to time, in obtaining clearances for work or for switching operations on equipment.

**9.9 Use of Interconnection Facilities by Third Parties.**

**9.9.1 Purpose of Interconnection Facilities.** Except as may be required by Applicable Laws and Regulations, or as otherwise agreed to among the Parties, the Interconnection Facilities shall be constructed for the sole purpose of interconnecting the Large Generating Facility to the Administered Transmission System and shall be used for no other purpose.

**9.9.2 Third Party Users.** If required by Applicable Laws and Regulations or if the Parties mutually agree, such agreement not to be unreasonably withheld, to allow one or more third parties to use the Interconnecting Transmission Owner's Interconnection Facilities, or any part thereof, Interconnection Customer will be entitled to compensation for the

capital expenses it incurred in connection with the Interconnection Facilities based upon the pro rata use of the Interconnection Facilities by Interconnecting Transmission Owner, all third party users, and Interconnection Customer, in accordance with Applicable Laws and Regulations or upon some other mutually agreed-upon methodology. In addition, cost responsibility for ongoing costs, including operation and maintenance costs associated with the Interconnection Facilities, will be allocated between Interconnection Customer and any third party users based upon the pro rata use of the Interconnection Facilities by Interconnecting Transmission Owner, all third party users, and Interconnection Customer, in accordance with Applicable Laws and Regulations or upon some other mutually agreed-upon methodology. If the issue of such compensation or allocation cannot be resolved through such negotiations, it shall be submitted to the Commission for resolution.

- 9.10 Disturbance Analysis Data Exchange.** The Parties will cooperate with one another in the analysis of disturbances to either the Large Generating Facility or the New England Transmission System by gathering and providing access to any information relating to any disturbance, including information from oscillography, protective relay targets, breaker operations and sequence of events records, and any disturbance information required by the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

## **ARTICLE 10. MAINTENANCE**

- 10.1 Interconnecting Transmission Owner and Customer Obligations.** Interconnecting Transmission Owner and Interconnection Customer shall each maintain that portion of its respective facilities that are part of the New England Transmission System and the Interconnecting Transmission Owner's Interconnection Facilities in a safe and reliable manner and in accordance with the applicable provisions of the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.
- 10.2 Operating and Maintenance Expenses.** Subject to the provisions herein addressing the use of facilities by others, and except for operations and maintenance expenses associated with

modifications made for providing interconnection or transmission service to a third party and such third party pays for such expenses, Interconnection Customer shall be responsible for all reasonable expenses including overheads, associated with: (1) owning, operating, maintaining, repairing, and replacing Interconnection Customer's Interconnection Facilities; and (2) operation, maintenance, repair and replacement of Interconnecting Transmission Owner's Interconnection Facilities, Stand Alone Network Upgrades, Network Upgrades and Distribution Upgrades.

## **ARTICLE 11. PERFORMANCE OBLIGATION**

- 11.1 Interconnection Customer's Interconnection Facilities.** Interconnection Customer shall design, procure, construct, install, own and/or control the Interconnection Customer's Interconnection Facilities described in Appendix A (Interconnection Facilities, Network Upgrades and Distribution Upgrades) at its sole expense.
- 11.2 Interconnecting Transmission Owner's Interconnection Facilities.** Interconnecting Transmission Owner shall design, procure, construct, install, own and/or control the Interconnecting Transmission Owner's Interconnection Facilities described in Appendix A (Interconnection Facilities, Network Upgrades and Distribution Upgrades) at the sole expense of the Interconnection Customer.
- 11.3 Network Upgrades and Distribution Upgrades.** Interconnecting Transmission Owner shall design, procure, construct, install, and own the Network Upgrades, and to the extent provided by Article 5.1, Stand Alone Network Upgrades, and Distribution Upgrades described in Appendix A (Interconnection Facilities, Network Upgrades and Distribution Upgrades). The Interconnection Customer shall be responsible for all costs related to Distribution Upgrades. Unless the Interconnecting Transmission Owner elects to fund the capital for the Network Upgrades, they shall be solely funded by the Interconnection Customer.
- 11.4 Cost Allocation; Compensation; Rights; Affected Systems**

**11.4.1 Cost Allocation.** Cost allocation of Generator Interconnection Related Upgrades shall be in accordance with Schedule 11 of Section II of the Tariff.

**11.4.2 Compensation.** Any compensation due to the Interconnection Customer for increases in transfer capability to the PTF resulting from its Generator Interconnection Related Upgrade shall be determined in accordance with Sections II and III of the Tariff.

**11.4.3 Rights.** Notwithstanding any other provision of this LGIA, nothing herein shall be construed as relinquishing or foreclosing any rights, including but not limited to firm transmission rights, capacity rights, transmission congestion rights, or transmission credits, that the Interconnection Customer shall be entitled to, now or in the future, under any other agreement or tariff as a result of, or otherwise associated with, the transmission capacity, if any, created by the Network Upgrades.

**11.4.4 Special Provisions for Affected Systems.** The Interconnection Customer shall enter into separate related facilities agreements to address any upgrades to the Affected System(s) that are necessary for safe and reliable interconnection of the Interconnection Customer's Generating Facility.

**11.5 Provision of Security.** At least thirty (30) Calendar Days prior to the commencement of the procurement, installation, or construction of a discrete portion of an Interconnecting Transmission Owner's Interconnection Facilities, Network Upgrades, or Distribution Upgrades, Interconnection Customer shall provide Interconnecting Transmission Owner a guarantee, a surety bond, letter of credit or other form of security that is reasonably acceptable to Interconnecting Transmission Owner in accordance with Section 7 of Schedule 11 of the Tariff. In addition:

**11.5.1** The guarantee must be made by an entity that meets the creditworthiness requirements of Interconnecting Transmission Owner, and contain terms and conditions that guarantee payment of any amount that may be due from Interconnection Customer, up to an agreed-to maximum amount.



**11.5.2** The letter of credit must be issued by a financial institution reasonably acceptable to Interconnecting Transmission Owner and must specify a reasonable expiration date.

**11.5.3** The surety bond must be issued by an insurer reasonably acceptable to Interconnecting Transmission Owner and must specify a reasonable expiration date.

**11.6 Interconnection Customer Compensation.** If System Operator or Interconnecting Transmission Owner requests or directs Interconnection Customer to provide a service pursuant to Articles 9.6.3 (Payment for Reactive Power), or 13.4.1 of this LGIA, Interconnection Customer shall be compensated pursuant to the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

**11.6.1 Interconnection Customer Compensation for Actions During Emergency Condition.** Interconnection Customer shall be compensated for its provision of real and reactive power and other Emergency Condition services that Interconnection Customer provides to support the New England Transmission System during an Emergency Condition in accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

## **ARTICLE 12. INVOICE**

**12.1 General.** Each Party shall submit to the other Party(ies), on a monthly basis, invoices of amounts due for the preceding month. Each invoice shall state the month to which the invoice applies and fully describe the services and equipment provided. The Parties may discharge mutual debts and payment obligations due and owing to each other on the same date through netting, in which case all amounts a Party owes to the other Party(ies) under this LGIA, including interest payments or credits, shall be netted so that only the net amount remaining due shall be paid by the owing Party.

**12.2 Final Invoice.** Within six months after completion of the construction of the Interconnecting Transmission Owner's Interconnection Facilities and the Network Upgrades, Interconnecting

Transmission Owner shall provide an invoice of the final cost of the construction of the Interconnecting Transmission Owner's Interconnection Facilities and the Network Upgrades and shall set forth such costs in sufficient detail to enable Interconnection Customer to compare the actual costs with the estimates and to ascertain deviations, if any, from the cost estimates. Interconnecting Transmission Owner shall refund to Interconnection Customer any amount by which the actual payment by Interconnection Customer for estimated costs exceeds the actual costs of construction within thirty (30) Calendar Days of the issuance of such final construction invoice. Interconnection Customer shall pay to Interconnecting Transmission Owner any amount by which the actual payment by Interconnection Customer for estimated costs falls short of the actual costs of construction within thirty (30) Calendar Days of the issuance of such final construction invoice.

**12.3 Payment.** Invoices shall be rendered to the paying Party at the address specified in Appendix F. The Party receiving the invoice shall pay the invoice within thirty (30) Calendar Days of receipt. All payments shall be made in immediately available funds payable to the other Party, or by wire transfer to a bank named and account designated by the invoicing Party. Payment of invoices by any Party will not constitute a waiver of any rights or claims the other Party(ies) may have under this LGIA.

**12.4 Disputes.** In the event of a billing dispute between Interconnecting Transmission Owner and Interconnection Customer, Interconnecting Transmission Owner shall continue to provide Interconnection Service under this LGIA as long as Interconnection Customer: (i) continues to make all payments not in dispute; and (ii) pays to Interconnecting Transmission Owner or into an independent escrow account the portion of the invoice in dispute, pending resolution of such dispute. If Interconnection Customer fails to meet these two requirements for continuation of service, then Interconnecting Transmission Owner may provide notice to Interconnection Customer of a Default pursuant to Article 17. Within thirty (30) Calendar Days after the resolution of the dispute, the Party that owes money to the other Party shall pay the amount due with interest calculated in accord with the methodology set forth in the Commission's Regulations at 18 CFR § 35.19a(a)(2)(iii).

## ARTICLE 13. EMERGENCIES

- 13.1 Obligations.** Each Party shall comply with the Emergency Condition procedures of the System Operator in accordance with the applicable provisions of the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.
- 13.2 Notice.** Interconnecting Transmission Owner or System Operator as applicable shall notify Interconnection Customer and System Operator or Interconnecting Transmission Owner as applicable, promptly when it becomes aware of an Emergency Condition that affects the Interconnecting Transmission Owner's Interconnection Facilities or the New England Transmission System that may reasonably be expected to affect Interconnection Customer's operation of the Large Generating Facility or the Interconnection Customer's Interconnection Facilities. Interconnection Customer shall notify Interconnecting Transmission Owner and System Operator promptly when it becomes aware of an Emergency Condition that affects the Large Generating Facility or the Interconnection Customer's Interconnection Facilities that may reasonably be expected to affect the New England Transmission System or the Interconnecting Transmission Owner's Interconnection Facilities. To the extent information is known, the notification shall describe the Emergency Condition, the extent of the damage or deficiency, the expected effect on the operation of Interconnection Customer's or Interconnecting Transmission Owner's facilities and operations, its anticipated duration and the corrective action taken and/or to be taken. The initial notice shall be followed as soon as practicable with written notice.
- 13.3 Immediate Action.** Unless, in Interconnection Customer's reasonable judgment, immediate action is required, Interconnection Customer shall obtain the consent of Interconnecting Transmission Owner and System Operator, such consent to not be unreasonably withheld, prior to performing any manual switching operations at the Large Generating Facility or the Interconnection Customer's Interconnection Facilities in response to an Emergency Condition either declared by the Interconnecting Transmission Owner or the System Operator or otherwise regarding the New England Transmission System.

## **13.4 System Operator's and Interconnecting Transmission Owner's Authority.**

**13.4.1 General.** System Operator or Interconnecting Transmission Owner may take whatever actions or inactions with regard to the New England Transmission System or the Interconnecting Transmission Owner's Interconnection Facilities it deems necessary during an Emergency Condition in order to (i) preserve public health and safety, (ii) preserve the reliability of the New England Transmission System or Interconnecting Transmission Owner's Interconnection Facilities, (iii) limit or prevent damage, and (iv) expedite restoration of service.

System Operator and Interconnecting Transmission Owner shall use Reasonable Efforts to minimize the effect of such actions or inactions on the Large Generating Facility or the Interconnection Customer's Interconnection Facilities. System Operator and Interconnecting Transmission Owner may, on the basis of technical considerations, require the Large Generating Facility to mitigate an Emergency Condition by taking actions necessary and limited in scope to remedy the Emergency Condition, including, but not limited to, directing Interconnection Customer to shut-down, start-up, increase or decrease the real or reactive power output of the Large Generating Facility; implementing a reduction or disconnection pursuant to Article 13.4.2; directing the Interconnection Customer to assist with black start (if available) or restoration efforts; or altering the outage schedules of the Large Generating Facility and the Interconnection Customer's Interconnection Facilities. Interconnection Customer shall comply with all of System Operator's and Interconnecting Transmission Owner's operating instructions concerning Large Generating Facility real power and reactive power output within the manufacturer's design limitations of the Large Generating Facility's equipment that is in service and physically available for operation at the time, in compliance with Applicable Laws and Regulations.

**13.4.2 Reduction and Disconnection.** System Operator and Interconnecting Transmission Owner may reduce Interconnection Service or disconnect the Large Generating Facility or the Interconnection Customer's Interconnection Facilities when such reduction or

disconnection is necessary in accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents. These rights are separate and distinct from any right of curtailment of the System Operator and Interconnecting Transmission Owner pursuant to the Tariff. When the System Operator and Interconnecting Transmission Owner can schedule the reduction or disconnection in advance, System Operator and Interconnecting Transmission Owner shall notify Interconnection Customer of the reasons, timing and expected duration of the reduction or disconnection. System Operator and Interconnecting Transmission Owner shall coordinate with the Interconnection Customer in accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents to schedule the reduction or disconnection during periods of least impact to the Interconnection Customer and the System Operator and Interconnecting Transmission Owner. Any reduction or disconnection shall continue only for so long as reasonably necessary in accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents. The Parties shall cooperate with each other to restore the Large Generating Facility, the Interconnection Facilities, and the New England Transmission System to their normal operating state as soon as practicable in accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

- 13.5 Interconnection Customer Authority.** In accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents and the LGIA and the LGIP, the Interconnection Customer may take whatever actions or inactions with regard to the Large Generating Facility or the Interconnection Customer's Interconnection Facilities during an Emergency Condition in order to (i) preserve public health and safety, (ii) preserve the reliability of the Large Generating Facility or the Interconnection Customer's Interconnection Facilities, (iii) limit or prevent damage, and (iv) expedite restoration of service. Interconnection Customer shall use Reasonable Efforts to minimize the effect of such actions or inactions on the New England Transmission System and the Interconnecting Transmission Owner's Interconnection Facilities. System Operator and Interconnecting Transmission Owner shall use Reasonable Efforts to assist Interconnection Customer in such actions.

- 13.6 Limited Liability.** Except as otherwise provided in Article 11.6.1 of this LGIA, a Party shall not be liable to another Party for any action it takes in responding to an Emergency Condition so long as such action is made in good faith and in accordance with the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents.

#### **ARTICLE 14. REGULATORY REQUIREMENTS AND GOVERNING LAW**

- 14.1 Regulatory Requirements.** Each Party's obligations under this LGIA shall be subject to its receipt of any required approval or certificate from one or more Governmental Authorities in the form and substance satisfactory to the applying Party, or the Party making any required filings with, or providing notice to, such Governmental Authorities, and the expiration of any time period associated therewith. Each Party shall in good faith seek and use its Reasonable Efforts to obtain such other approvals. Nothing in this LGIA shall require Interconnection Customer to take any action that could result in its inability to obtain, or its loss of, status or exemption under the Federal Power Act or the Public Utility Holding Company Act of 1935, as amended. To the extent that a condition arises that could result in Interconnection Customer's inability to obtain, or its loss of, status or exemption under the Federal Power Act, the Public Utility Holding Company Act of 1935, as amended, or the Public Utility Regulatory Policies Act of 1978, the Parties shall engage in good faith negotiations to address the condition so that such result will not occur and so that this LGIA can be performed.

**14.2 Governing Law.**

- 14.2.1** The validity, interpretation and performance of this LGIA and each of its provisions shall be governed by the laws of the state where the Point of Interconnection is located, without regard to its conflicts of law principles.

- 14.2.2** This LGIA is subject to all Applicable Laws and Regulations.

**14.2.3** Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, rules, or regulations of a Governmental Authority.

## **ARTICLE 15. NOTICES**

**15.1 General.** Unless otherwise provided in this LGIA, any notice, demand or request required or permitted to be given by a Party to another Party and any instrument required or permitted to be tendered or delivered by a Party in writing to another Party shall be effective when delivered and may be so given, tendered or delivered, by recognized national courier, or by depositing the same with the United States Postal Service with postage prepaid, for delivery by certified or registered mail, addressed to the Party, or personally delivered to the Party, at the address set out in Appendix F (Addresses for Delivery of Notices and Billings).

A Party may change the notice information in this LGIA by giving five (5) Business Days written notice prior to the effective date of the change.

**15.2 Billings and Payments.** Billings and payments shall be sent to the addresses set out in Appendix F.

**15.3 Alternative Forms of Notice.** Any notice or request required or permitted to be given by a Party to another Party and not required by this Agreement to be given in writing may be so given by telephone, facsimile or email to the telephone numbers and email addresses set out in Appendix F.

**15.4 Operations and Maintenance Notice.** Each Party shall notify the other Party(ies) in writing of the identity of the person(s) that it designates as the point(s) of contact with respect to the implementation of Articles 9 and 10.

## **ARTICLE 16. FORCE MAJEURE**

**16.1 Force Majeure.**

**16.1.1** Economic hardship is not considered a Force Majeure event.

**16.1.2** A Party shall not be considered to be in Default with respect to any obligation hereunder (including obligations under Article 4), other than the obligation to pay money when due, if prevented from fulfilling such obligation by Force Majeure. A Party unable to fulfill any obligation hereunder (other than an obligation to pay money when due) by reason of Force Majeure shall give notice and the full particulars of such Force Majeure to the other Party(ies) in writing or by telephone as soon as reasonably possible after the occurrence of the cause relied upon. Telephone notices given pursuant to this Article shall be confirmed in writing as soon as reasonably possible and shall specifically state full particulars of the Force Majeure, the time and date when the Force Majeure occurred and when the Force Majeure is reasonably expected to cease. The Party affected shall exercise due diligence to remove such disability with reasonable dispatch, but shall not be required to accede or agree to any provision not satisfactory to it in order to settle and terminate a strike or other labor disturbance.

## **ARTICLE 17. DEFAULT**

### **17.1 Default.**

**17.1.1 General.** No Breach shall exist where such failure to discharge an obligation (other than the payment of money) is the result of Force Majeure as defined in this LGIA or the result of an act or omission of the other Party(ies). Upon a Breach, the non-Breaching Party shall give written notice of such Breach to the breaching Party. Except as provided in Article 17.1.2, the Breaching Party shall have thirty (30) Calendar Days from receipt of the Breach notice within which to cure such Breach; provided however, if such Breach is not capable of cure within thirty (30) Calendar Days, the Breaching Party shall commence such cure within thirty (30) Calendar Days after notice and continuously and diligently complete such cure within ninety (90) Calendar Days from receipt of the



Breach notice; and, if cured within such time, the Breach specified in such notice shall cease to exist.

**17.1.2 Right to Terminate.** If a Breach is not cured as provided in this Article, or if a Breach is not capable of being cured within the period provided for herein, the non-Breaching Party(ies) shall have the right to terminate this LGIA by written notice at any time until cure occurs, and be relieved of any further obligation hereunder and, whether or not those Parties terminate this LGIA, to recover from the Breaching Party all amounts due hereunder, plus all other damages and remedies to which they are entitled at law or in equity. The provisions of this Article will survive termination of this LGIA.

## **ARTICLE 18. INDEMNITY, CONSEQUENTIAL DAMAGES AND INSURANCE**

Notwithstanding any other provision of this Agreement, the liability, indemnification and insurance provisions of the Transmission Operating Agreement (“TOA”) or other applicable operating agreements shall apply to the relationship between the System Operator and the Interconnecting Transmission Owner and the liability, indemnification and insurance provisions of the Tariff apply to the relationship between the System Operator and the Interconnection Customer and between the Interconnecting Transmission Owner and the Interconnection Customer.

**18.1 Indemnity.** Each Party shall at all times indemnify, defend, and save the other Party(ies) harmless from any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party’s(ies’) action or inactions of their obligations under this LGIA on behalf of the Indemnifying Party, except in cases of gross negligence or intentional wrongdoing by an indemnified Party.

**18.1.1 Indemnified Person.** If an Indemnified Person is entitled to indemnification under this Article 18 as a result of a claim by a third party, and the Indemnifying Party fails, after notice and reasonable opportunity to proceed under Article 18.1, to assume the defense of such claim, such Indemnified Person may at the expense of the Indemnifying Party contest, settle or consent to the entry of any judgment with respect to, or pay in full, such claim.

**18.1.2 Indemnifying Party.** If an Indemnifying Party is obligated to indemnify and hold any Indemnified Person harmless under this Article 18, the amount owing to the Indemnified Person shall be the amount of such Indemnified Person's actual Loss, net of any insurance or other recovery.

**18.1.3 Indemnity Procedures.** Promptly after receipt by an Indemnified Person of any claim or notice of the commencement of any action or administrative or legal proceeding or investigation as to which the indemnity provided for in Article 18.1 may apply, the Indemnified Person shall notify the Indemnifying Party of such fact. Any failure of or delay in such notification shall not affect a Party's indemnification obligation unless such failure or delay is materially prejudicial to the Indemnifying Party.

The Indemnifying Party shall have the right to assume the defense thereof with counsel designated by such Indemnifying Party and reasonably satisfactory to the Indemnified Person. If the defendants in any such action include one or more Indemnified Persons and the Indemnifying Party and if the Indemnified Person reasonably concludes that there may be legal defenses available to it and/or other Indemnified Persons which are different from or additional to those available to the Indemnifying Party, the Indemnified Person shall have the right to select separate counsel to assert such legal defenses and to otherwise participate in the defense of such action on its own behalf. In such instances, the Indemnifying Party shall only be required to pay the fees and expenses of one additional attorney to represent an Indemnified Person or Indemnified Persons having such differing or additional legal defenses.

The Indemnified Person shall be entitled, at its expense, to participate in any such action, suit or proceeding, the defense of which has been assumed by the Indemnifying Party. Notwithstanding the foregoing, the Indemnifying Party (i) shall not be entitled to assume and control the defense of any such action, suit or proceedings if and to the extent that, in the opinion of the Indemnified Person and its counsel, such action, suit or proceeding involves the potential imposition of criminal liability on the Indemnified Person, or there exists a conflict or adversity of interest between the Indemnified Person and the Indemnifying Party, in which event the Indemnifying Party shall pay the reasonable expenses of the Indemnified Person, and (ii) shall not settle or consent to the entry of any judgment in any action, suit or proceeding without the consent of the Indemnified Person, which shall not be reasonably withheld, conditioned or delayed.

**18.2 Consequential Damages.** Other than the Liquidated Damages heretofore described, in no event shall a Party be liable under any provision of this LGIA for any losses, damages, costs or expenses for any special, indirect, incidental, consequential, or punitive damages, including but not limited to loss of profit or revenue, loss of the use of equipment, cost of capital, cost of temporary equipment or services, whether based in whole or in part in contract, in tort, including negligence, strict liability, or any other theory of liability; provided, however, that damages for which a Party may be liable to the other Party under another agreement will not be considered to be special, indirect, incidental, or consequential damages hereunder.

**18.3 Insurance.** The Interconnecting Transmission Owner and the Interconnection Customer shall, at their own expense, maintain in force throughout the period of this LGIA, and until released by the other Party(ies), the following minimum insurance coverages, with insurers authorized to do business in the state where the Point of Interconnection is located:

**18.3.1** Employers' Liability and Workers' Compensation Insurance providing statutory benefits in accordance with the laws and regulations of the state in which the Point of Interconnection is located.

- 18.3.2** Commercial General Liability Insurance including premises and operations, personal injury, broad form property damage, broad form blanket contractual liability coverage (including coverage for the contractual indemnification) products and completed operations coverage, coverage for explosion, collapse and underground hazards, independent contractors coverage, coverage for pollution to the extent normally available and punitive damages to the extent normally available and a cross liability endorsement, with minimum limits of One Million Dollars (\$1,000,000) per occurrence/One Million Dollars (\$1,000,000) aggregate combined single limit for personal injury, bodily injury, including death, and property damage.
- 18.3.3** Comprehensive Automobile Liability Insurance for coverage of owned and non-owned and hired vehicles, trailers or semi-trailers designed for travel on public roads, with a minimum, combined single limit of One Million Dollars (\$1,000,000) per occurrence for bodily injury, including death, and property damage.
- 18.3.4** Excess Public Liability Insurance over and above the Employers' Liability Commercial General Liability and Comprehensive Automobile Liability Insurance coverage, with a minimum combined single limit of Twenty Million Dollars (\$20,000,000) per occurrence/Twenty Million Dollars (\$20,000,000) aggregate.
- 18.3.5** The Commercial General Liability Insurance, Comprehensive Automobile Insurance and Excess Public Liability Insurance policies shall name the other Party(ies), its parent, associated and Affiliate companies and their respective directors, officers, agents, servants and employees ("Other Party Group") as additional insured. All policies shall contain provisions whereby the insurers waive all rights of subrogation in accordance with the provisions of this LGIA against the Other Party Group and provide thirty (30) Calendar Days advance written notice to the Other Party Group prior to anniversary date of cancellation or any material change in coverage or condition.
- 18.3.6** The Commercial General Liability Insurance, Comprehensive Automobile Liability Insurance and Excess Public Liability Insurance policies shall contain provisions that

specify that the policies are primary and shall apply to such extent without consideration for other policies separately carried and shall state that each insured is provided coverage as though a separate policy had been issued to each, except the insurer's liability shall not be increased beyond the amount for which the insurer would have been liable had only one insured been covered. Each Party shall be responsible for its respective deductibles or retentions.

- 18.3.7** The Commercial General Liability Insurance, Comprehensive Automobile Liability Insurance and Excess Public Liability Insurance policies, if written on a Claims First Made Basis, shall be maintained in full force and effect for two (2) years after termination of this LGIA, which coverage may be in the form of tail coverage or extended reporting period coverage if agreed by the Parties.
- 18.3.8** The requirements contained herein as to the types and limits of all insurance to be maintained by the Parties are not intended to and shall not in any manner, limit or qualify the liabilities and obligations assumed by the Parties under this LGIA.
- 18.3.9** Within ten (10) days following execution of this LGIA, and as soon as practicable after the end of each fiscal year or at the renewal of the insurance policy and in any event within ninety (90) days thereafter, each Party shall provide certification of all insurance required in this LGIA, executed by each insurer or by an authorized representative of each insurer.
- 18.3.10** Notwithstanding the foregoing, each Party may self-insure to meet the minimum insurance requirements of Articles 18.3.2 through 18.3.8 to the extent it maintains a self-insurance program, provided that such Party's senior secured debt is rated at investment grade, or better, by Standard & Poor's and that its self-insurance program meets the minimum insurance requirements of Articles 18.3.2 through 18.3.8. For any period of time that a Party's senior secured debt is unrated by Standard & Poor's or is rated at less than investment grade by Standard & Poor's, such Party shall comply with the insurance requirements applicable to it under Articles 18.3.2 through 18.3.9. In the

event that a Party is permitted to self-insure pursuant to this Article, it shall notify the other Party(ies) that it meets the requirements to self-insure and that its self-insurance program meets the minimum insurance requirements in a manner consistent with that specified in Article 18.3.9.

**18.3.11** The Parties agree to report to each other in writing as soon as practical all accidents or occurrences resulting in injuries to any person, including death, and any property damage arising out of this LGIA.

## **ARTICLE 19. ASSIGNMENT**

**19.1 Assignment.** This LGIA may be assigned by any Party only with the written consent of the other Parties; provided that the Parties may assign this LGIA without the consent of the other Parties to any Affiliate of the assigning Party with an equal or greater credit rating and with the legal authority and operational ability to satisfy the obligations of the assigning Party under this LGIA; and provided further that the Interconnection Customer shall have the right to assign this LGIA, without the consent of the Interconnecting Transmission Owner or System Operator, for collateral security purposes to aid in providing financing for the Large Generating Facility, provided that the Interconnection Customer will promptly notify the Interconnecting Transmission Owner and System Operator of any such assignment. Any financing arrangement entered into by the Interconnection Customer pursuant to this Article will provide that prior to or upon the exercise of the secured party's, trustee's or mortgagee's assignment rights pursuant to said arrangement, the secured creditor, the trustee or mortgagee will notify the Interconnecting Transmission Owner and System Operator of the date and particulars of any such exercise of assignment right(s), including providing the Interconnecting Transmission Owner with proof that it meets the requirements of Articles 11.5 and 18.3. Any attempted assignment that violates this Article is void and ineffective. Any assignment under this LGIA shall not relieve a Party of its obligations, nor shall a Party's obligations be enlarged, in whole or in part, by reason thereof. Where required, consent to assignment will not be unreasonably withheld, conditioned or delayed.

## **ARTICLE 20. SEVERABILITY**

- 20.1 Severability.** If any provision in this LGIA is finally determined to be invalid, void or unenforceable by any court or other Governmental Authority having jurisdiction, such determination shall not invalidate, void or make unenforceable any other provision, agreement or covenant of this LGIA; provided that if the Interconnection Customer (or any third party, but only if such third party is not acting at the direction of the Interconnecting Transmission Owner) seeks and obtains such a final determination with respect to any provision of the Alternate Option (Article 5.1.2), or the Negotiated Option (Article 5.1.4), then none of these provisions shall thereafter have any force or effect and the Parties' rights and obligations shall be governed solely by the Standard Option (Article 5.1.1).

## **ARTICLE 21. COMPARABILITY**

- 21.1 Comparability.** The Parties will comply with all applicable comparability and code of conduct laws, rules and regulations, as amended from time to time.

## **ARTICLE 22. CONFIDENTIALITY**

- 22.1 Confidentiality.** Confidential Information shall include, without limitation, all information governed by the ISO New England Information Policy, all information obtained from third parties under confidentiality agreements, all information relating to a Party's technology, research and development, business affairs, and pricing, and any information supplied by a Party to another prior to the execution of this LGIA.

Information is Confidential Information only if it is clearly designated or marked in writing as confidential on the face of the document, or, if the information is conveyed orally or by inspection, if the Party providing the information orally informs the Party receiving the information that the information is confidential.

If requested by a Party, the other Party(ies) shall provide, in writing, the basis for asserting that the information referred to in this Article warrants confidential treatment, and the requesting Party may disclose such writing to the appropriate Governmental Authority. Each Party shall be responsible for the costs associated with affording confidential treatment to its information.

**22.1.1 Term.** During the term of this LGIA, and for a period of three (3) years after the expiration or termination of this LGIA, except as otherwise provided in this Article 22, each Party shall hold in confidence and shall not disclose to any person Confidential Information.

**22.1.2 Scope.** Confidential Information shall not include information that the receiving Party can demonstrate: (1) is generally available to the public other than as a result of a disclosure by the receiving Party; (2) was in the lawful possession of the receiving Party on a non-confidential basis before receiving it from the disclosing Party; (3) was supplied to the receiving Party without restriction by a third party, who, to the knowledge of the receiving Party after due inquiry, was under no obligation to the disclosing Party to keep such information confidential; (4) was independently developed by the receiving Party without reference to Confidential Information of the disclosing Party; (5) is, or becomes, publicly known, through no wrongful act or omission of the receiving Party or Breach of this LGIA; or (6) is required, in accordance with Article 22.1.7 of the LGIA, Order of Disclosure, to be disclosed by any Governmental Authority or is otherwise required to be disclosed by law or subpoena, or is necessary in any legal proceeding establishing rights and obligations under this LGIA. Information designated as Confidential Information will no longer be deemed confidential if the Party that designated the information as confidential notifies the other Party(ies) that it no longer is confidential.

**22.1.3 Release of Confidential Information.** A Party shall not release or disclose Confidential Information to any other person, except to its Affiliates (limited by the Standards of Conduct requirements), subcontractors, employees, consultants, or to parties who may be or are considering providing financing to or equity participation with Interconnection Customer, or to potential purchasers or assignees of Interconnection Customer, on a need-to-know basis in connection with this LGIA, unless such person has first been



advised of the confidentiality provisions of this Article 22 and has agreed to comply with such provisions. Notwithstanding the foregoing, a Party providing Confidential Information to any person shall remain primarily responsible for any release of Confidential Information in contravention of this Article 22.

**22.1.4 Rights.** Each Party retains all rights, title, and interest in the Confidential Information that each Party discloses to the other Party(ies). The disclosure by each Party to the other Party(ies) of Confidential Information shall not be deemed a waiver by a Party or any other person or entity of the right to protect the Confidential Information from public disclosure.

**22.1.5 No Warranties.** By providing Confidential Information, a Party does not make any warranties or representations as to its accuracy or completeness. In addition, by supplying Confidential Information, a Party does not obligate itself to provide any particular information or Confidential Information to the other Party(ies) nor to enter into any further agreements or proceed with any other relationship or joint venture.

**22.1.6 Standard of Care.** Each Party shall use at least the same standard of care to protect Confidential Information it receives as it uses to protect its own Confidential Information from unauthorized disclosure, publication or dissemination. Each Party may use Confidential Information solely to fulfill its obligations to the other Party(ies) under this LGIA or its regulatory requirements.

**22.1.7 Order of Disclosure.** If a court or a Governmental Authority or entity with the right, power, and apparent authority to do so requests or requires a Party, by subpoena, oral deposition, interrogatories, requests for production of documents, administrative order, or otherwise, to disclose Confidential Information, that Party shall provide the other Party(ies) with prompt notice of such request(s) or requirement(s) so that the other Party(ies) may seek an appropriate protective order or waive compliance with the terms of this LGIA. Notwithstanding the absence of a protective order or waiver, the Party may disclose such Confidential Information which, in the opinion of its counsel, the Party is

legally compelled to disclose. Each Party will use Reasonable Efforts to obtain reliable assurance that confidential treatment will be accorded any Confidential Information so furnished.

**22.1.8 Termination of Agreement.** Upon termination of this LGIA for any reason, each Party shall, within ten (10) Calendar Days of receipt of a written request from the other Party(ies), use Reasonable Efforts to destroy, erase, or delete (with such destruction, erasure, and deletion certified in writing to the other Party(ies)) or return to the other Party(ies), without retaining copies thereof, any and all written or electronic Confidential Information received from the other Party(ies).

**22.1.9 Remedies.** The Parties agree that monetary damages would be inadequate to compensate a Party for the other Party's(ies') Breach of its obligations under this Article 22. Each Party accordingly agrees that the other Party(ies) shall be entitled to equitable relief, by way of injunction or otherwise, if the first Party Breaches or threatens to Breach its obligations under this Article 22, which equitable relief shall be granted without bond or proof of damages, and the receiving Parties shall not plead in defense that there would be an adequate remedy at law. Such remedy shall not be deemed an exclusive remedy for the Breach of this Article 22, but shall be in addition to all other remedies available at law or in equity. The Parties further acknowledge and agree that the covenants contained herein are necessary for the protection of legitimate business interests and are reasonable in scope. No Party, however, shall be liable for indirect, incidental, or consequential or punitive damages of any nature or kind resulting from or arising in connection with this Article 22.

**22.1.10 Disclosure to the Commission, its Staff, or a State.** Notwithstanding anything in this Article 22 to the contrary, and pursuant to 18 CFR. section 1b.20, if the Commission or its staff, during the course of an investigation or otherwise, requests information from one of the Parties that is otherwise required to be maintained in confidence pursuant to this LGIA, the Party shall provide the requested information to the Commission or its staff, within the time provided for in the request for information. In providing the

information to the Commission or its staff, the Party must, consistent with 18 CFR section 388.112, request that the information be treated as confidential and non-public by the Commission and its staff and that the information be withheld from public disclosure. Parties are prohibited from notifying the other Party(ies) to this LGIA prior to the release of the Confidential Information to the Commission or its staff. The Party shall notify the other Party(ies) to the LGIA when it is notified by the Commission or its staff that a request to release Confidential Information has been received by the Commission, at which time any of the Parties may respond before such information would be made public, pursuant to 18 CFR section 388.112. Requests from a state regulatory body conducting a confidential investigation shall be treated in a similar manner if consistent with the applicable state rules and regulations.

- 22.1.11** Subject to the exception in Article 22.1.10, any information that a Party claims is competitively sensitive, commercial or financial information under this LGIA (“Confidential Information”) shall not be disclosed by the other Party(ies) to any person not employed or retained by the other Party(ies), except to the extent disclosure is (i) required by law; (ii) reasonably deemed by the disclosing Party to be required to be disclosed in connection with a dispute between or among the Parties, or the defense of litigation or dispute; (iii) otherwise permitted by consent of the other Party(ies), such consent not to be unreasonably withheld; or (iv) necessary to fulfill its obligations under this LGIA or as a transmission service provider or a Control Area operator including disclosing the Confidential Information to an RTO or ISO or to a regional or national reliability organization. The Party asserting confidentiality shall notify the other Party(ies) in writing of the information it claims is confidential. Prior to any disclosures of the other Parties’ Confidential Information under this subparagraph, or if any third party or Governmental Authority makes any request or demand for any of the information described in this subparagraph, the disclosing Party agrees to promptly notify the other Party(ies) in writing and agrees to assert confidentiality and cooperate with the other Party(ies) in seeking to protect the Confidential Information from public disclosure by confidentiality agreement, protective order or other reasonable measures.

## **ARTICLE 23. ENVIRONMENTAL RELEASES**

- 23.1** Each Party shall notify the other Party(ies), first orally and then in writing, of the release of any Hazardous Substances, any asbestos or lead abatement activities, or any type of remediation activities related to the Large Generating Facility or the Interconnection Facilities, each of which may reasonably be expected to affect the other Party(ies). The notifying Party shall: (i) provide the notice as soon as practicable, provided such Party makes a good faith effort to provide the notice no later than twenty-four (24) hours after such Party becomes aware of the occurrence; and (ii) promptly furnish to the other Party(ies) copies of any publicly available reports filed with any Governmental Authorities addressing such events.

## **ARTICLE 24. INFORMATION REQUIREMENTS**

- 24.1 Information Acquisition.** Subject to any applicable confidentiality restrictions, including, but not limited to, codes of conduct, each Party shall submit specific information regarding the electrical characteristics of their respective facilities to each other as described below and in accordance with Applicable Reliability Standards.
- 24.2 Information Submission by System Operator and Interconnecting Transmission Owner.** The initial information submission by System Operator and Interconnecting Transmission Owner shall occur no later than one hundred eighty (180) Calendar Days prior to the Initial Synchronization Date and shall include information necessary to allow the Interconnection Customer to select equipment and meet any system protection and stability requirements, unless otherwise mutually agreed to by the Parties. On a monthly basis Interconnecting Transmission Owner shall provide Interconnection Customer a status report on the construction and installation of Interconnecting Transmission Owner's Interconnection Facilities and Network Upgrades, including, but not limited to, the following information: (1) progress to date; (2) a description of the activities since the last report; (3) a description of the action items for the next period; and (4) the delivery status of equipment ordered.

**24.3 Updated Information Submission by Interconnection Customer.** The updated information submission by the Interconnection Customer, including manufacturer information, shall occur no later than one hundred eighty (180) Calendar Days prior to the Initial Synchronization Date. Interconnection Customer shall submit a completed copy of the Large Generating Facility data requirements contained in Appendix 1 to the LGIP. It shall also include any additional information provided to Interconnecting Transmission Owner and System Operator for the Interconnection Feasibility Study, Interconnection System Impact Study and Interconnection Facilities Study. Information in this submission shall be the most current Large Generating Facility design or expected performance data. Information submitted for stability models shall be compatible with Interconnecting Transmission Owner and System Operator standard models. If there is no compatible model, the Interconnection Customer will work with a consultant mutually agreed to by the Parties to develop and supply a standard model and associated information.

If the Interconnection Customer's data is different from what was originally provided to Interconnecting Transmission Owner pursuant to the Interconnection Study Agreement between Interconnecting Transmission Owner and Interconnection Customer, then the System Operator will review it and conduct appropriate studies, as needed, at the Interconnection Customer's cost, to determine the impact on the New England Transmission System based on the actual data submitted pursuant to this Article 24.3. The Interconnection Customer shall not begin Trial Operation until such studies are completed.

**24.4 Information Supplementation.** Prior to the Commercial Operation Date, the Parties shall supplement their information submissions described above in this Article 24 with any and all "as-built" Large Generating Facility information and "as-tested" performance information that differs from the initial submissions or, alternatively, written confirmation that no such differences exist. The Interconnection Customer shall conduct tests on the Large Generating Facility as required by Good Utility Practice such as an open circuit "step voltage" test on the Large Generating Facility to verify proper operation of the Large Generating Facility's automatic voltage regulator.

Unless otherwise agreed, the test conditions shall include: (1) Large Generating Facility at synchronous speed; (2) automatic voltage regulator on and in voltage control mode; and (3) a five

percent change in Large Generating Facility terminal voltage initiated by a change in the voltage regulators reference voltage. Interconnection Customer shall provide validated test recordings showing the responses of Large Generating Facility terminal and field voltages. In the event that direct recordings of these voltages is impractical, recordings of other voltages or currents that mirror the response of the Large Generating Facility's terminal or field voltage are acceptable if information necessary to translate these alternate quantities to actual Large Generating Facility terminal or field voltages is provided. Large Generating Facility testing shall be conducted and results provided to the Interconnecting Transmission Owner for each individual generating unit in a station.

The Interconnection Customer shall provide the Interconnecting Transmission Owner and System Operator with any information changes due to proposed equipment replacement, repair, or adjustment. Interconnecting Transmission Owner shall provide the Interconnection Customer and System Operator with any information changes due to proposed equipment replacement, repair or adjustment in the directly connected substation or any adjacent Interconnecting Transmission Owner-owned substation that may affect the Interconnection Customer's Interconnection Facilities equipment ratings, protection or operating requirements. The Parties shall provide such information in accordance with Article 5.19 of this Agreement.

## **ARTICLE 25. INFORMATION ACCESS AND AUDIT RIGHTS**

- 25.1 Information Access.** Each Party (the "disclosing Party") shall make available to the other Parties information that is in the possession of the disclosing Party and is necessary in order for the other Party(ies) to: (i) verify the costs incurred by the disclosing Party for which the other Party(ies) are responsible under this LGIA; and (ii) carry out its obligations and responsibilities under this LGIA. The Parties shall not use such information for purposes other than those set forth in this Article 25.1 and to enforce their rights under this LGIA.
- 25.2 Reporting of Non-Force Majeure Events.** Each Party (the "notifying Party") shall notify the other Party(ies) when the notifying Party becomes aware of its inability to comply with the provisions of this LGIA for a reason other than a Force Majeure event. The Parties agree to

cooperate with each other and provide necessary information regarding such inability to comply, including the date, duration, reason for the inability to comply, and corrective actions taken or planned to be taken with respect to such inability to comply. Notwithstanding the foregoing, notification, cooperation or information provided under this Article shall not entitle the Party receiving such notification to allege a cause for anticipatory Breach of this LGIA.

**25.3 Audit Rights.** Subject to the requirements of confidentiality under Article 22 of this LGIA, each Party shall have the right, during normal business hours, and upon prior reasonable notice to the other Party(ies), to audit at its own expense the other Party's(ies') accounts and records pertaining to a Party's performance or a Party's satisfaction of obligations under this LGIA. Such audit rights shall include audits of the other Party's(ies') costs, calculation of invoiced amounts, the efforts to allocate responsibility for the provision of reactive support to the New England Transmission System, the efforts to allocate responsibility for interruption or reduction of generation on the New England Transmission System, and each Party's actions in an Emergency Condition. Any audit authorized by this Article shall be performed at the offices where such accounts and records are maintained and shall be limited to those portions of such accounts and records that relate to each Party's performance and satisfaction of obligations under this LGIA. Each Party shall keep such accounts and records for a period equivalent to the audit rights periods described in Article 25.4.

**25.4 Audit Rights Periods.**

**25.4.1 Audit Rights Period for Construction-Related Accounts and Records.** Accounts and records related to the design, engineering, procurement, and construction of Interconnecting Transmission Owner's Interconnection Facilities and Network Upgrades shall be subject to audit for a period of twenty-four (24) months following Interconnecting Transmission Owner's issuance of a final invoice in accordance with Article 12.2.

**25.4.2 Audit Rights Period for All Other Accounts and Records.** Accounts and records related to a Party's performance or satisfaction of all obligations under this LGIA other

than those described in Article 25.4.1 shall be subject to audit as follows: (i) for an audit relating to cost obligations, the applicable audit rights period shall be twenty-four (24) months after the auditing Party's receipt of an invoice giving rise to such cost obligations; and (ii) for an audit relating to all other obligations, the applicable audit rights period shall be twenty-four (24) months after the event for which the audit is sought.

- 25.5 Audit Results.** If an audit by a Party determines that an overpayment or an underpayment has occurred, a notice of such overpayment or underpayment shall be given to the other Party(ies) together with those records from the audit which support such determination.

## **ARTICLE 26. SUBCONTRACTORS**

- 26.1 General.** Nothing in this LGIA shall prevent a Party from utilizing the services of any subcontractor as it deems appropriate to perform its obligations under this LGIA; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this LGIA in providing such services and each Party shall remain primarily liable to the other Party(ies) for the performance of such subcontractor.
- 26.2 Responsibility of Principal.** The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this LGIA. The hiring Party shall be fully responsible to the other Party(ies) for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made; provided, however, that in no event shall the Interconnecting Transmission Owner be liable for the actions or inactions of the Interconnection Customer or its subcontractors with respect to obligations of the Interconnection Customer under Article 5 of this LGIA. Any applicable obligation imposed by this LGIA upon the hiring Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.
- 26.3 No Limitation by Insurance.** The obligations under this Article 26 will not be limited in any way by any limitation of subcontractor's insurance.

## **ARTICLE 27. DISPUTES**



- 27.1 Submission.** In the event a Party has a dispute, or asserts a claim, that arises out of or in connection with this LGIA or its performance, such Party (the “disputing Party”) shall provide the other Party(ies) with written notice of the dispute or claim (“Notice of Dispute”). Such dispute or claim shall be referred to a designated senior representative of each Party for resolution on an informal basis as promptly as practicable after receipt of the Notice of Dispute by the other Party(ies). In the event the designated representatives are unable to resolve the claim or dispute through unassisted or assisted negotiations within thirty (30) Calendar Days of the other Party’s(ies’) receipt of the Notice of Dispute, such claim or dispute may, upon mutual agreement of the Parties, be submitted to arbitration and resolved in accordance with the arbitration procedures set forth below. In the event the Parties do not agree to submit such claim or dispute to arbitration, each Party may exercise whatever rights and remedies it may have in equity or at law consistent with the terms of this LGIA.
- 27.2 External Arbitration Procedures.** Any arbitration initiated under this LGIA shall be conducted before a single neutral arbitrator appointed by the Parties. If the Parties fail to agree upon a single arbitrator within ten (10) Calendar Days of the submission of the dispute to arbitration, each Party shall choose one arbitrator who shall sit on a three-member arbitration panel. The arbitrator so chosen by the System Operator shall chair the arbitration panel. In either case, the arbitrators shall be knowledgeable in electric utility matters, including electric transmission and bulk power issues, and shall not have any current or past substantial business or financial relationships with any party to the arbitration (except prior arbitration). The arbitrator(s) shall provide each of the Parties an opportunity to be heard and, except as otherwise provided herein, shall conduct the arbitration in accordance with the Commercial Arbitration Rules of the American Arbitration Association (“Arbitration Rules”) and any applicable Commission regulations or RTO rules; provided, however, in the event of a conflict between the Arbitration Rules and the terms of this Article 27, the terms of this Article 27 shall prevail
- 27.3 Arbitration Decisions.** Unless otherwise agreed by the Parties, the arbitrator(s) shall render a decision within ninety (90) Calendar Days of appointment and shall notify the Parties in writing of such decision and the reasons therefore. The arbitrator(s) shall be authorized only to interpret

and apply the provisions of this LGIA and shall have no power to modify or change any provision of this Agreement in any manner. The decision of the arbitrator(s) shall be final and binding upon the Parties, and judgment on the award may be entered in any court having jurisdiction. The decision of the arbitrator(s) may be appealed solely on the grounds that the conduct of the arbitrator(s), or the decision itself, violated the standards set forth in the Federal Arbitration Act or the Administrative Dispute Resolution Act. The final decision of the arbitrator must also be filed with the Commission if it affects jurisdictional rates, terms and conditions of service, Interconnection Facilities, or Network Upgrades.

- 27.4 Costs.** Each Party shall be responsible for its own costs incurred during the arbitration process and for the following costs, if applicable: (1) the cost of the arbitrator chosen by the Party to sit on the three member panel; or (2) a pro rata share of the cost of a single arbitrator chosen by the Parties.

## **ARTICLE 28. REPRESENTATIONS, WARRANTIES AND COVENANTS**

- 28.1 General.** Each Party makes the following representations, warranties and covenants:

**28.1.1 Good Standing.** Such Party is duly organized, validly existing and in good standing under the laws of the state in which it is organized, formed, or incorporated, as applicable; that it is qualified to do business in the state or states in which the Large Generating Facility, Interconnection Facilities and Network Upgrades owned by such Party, as applicable, are located; and that it has the corporate power and authority to own its properties, to carry on its business as now being conducted and to enter into this LGIA and carry out the transactions contemplated hereby and perform and carry out all covenants and obligations on its part to be performed under and pursuant to this LGIA.

**28.1.2 Authority.** Such Party has the right, power and authority to enter into this LGIA, to become a Party hereto and to perform its obligations hereunder. This LGIA is a legal, valid and binding obligation of such Party, enforceable against such Party in accordance with its terms, except as the enforceability thereof may be limited by applicable

bankruptcy, insolvency, reorganization or other similar laws affecting creditors' rights generally and by general equitable principles (regardless of whether enforceability is sought in a proceeding in equity or at law).

**28.1.3 No Conflict.** The execution, delivery and performance of this LGIA does not violate or conflict with the organizational or formation documents, or bylaws or operating agreement, of such Party, or any judgment, license, permit, order, material agreement or instrument applicable to or binding upon such Party or any of its assets.

**28.1.4 Consent and Approval.** Such Party has sought or obtained, or, in accordance with this LGIA will seek or obtain, each consent, approval, authorization, order, or acceptance by any Governmental Authority in connection with the execution, delivery and performance of this LGIA, and it will provide to any Governmental Authority notice of any actions under this LGIA that are required by Applicable Laws and Regulations.

## **ARTICLE 29. [OMITTED]**

## **ARTICLE 30. MISCELLANEOUS**

**30.1 Binding Effect.** This LGIA and the rights and obligations hereof shall be binding upon and shall inure to the benefit of the successors and assigns of the Parties hereto.

**30.2 Conflicts.** In the event of a conflict between the body of this LGIA and any attachment, appendices or exhibits hereto, the terms and provisions of the body of this LGIA shall prevail and be deemed the final intent of the Parties.

**30.3 Rules of Interpretation.** This LGIA, unless a clear contrary intention appears, shall be construed and interpreted as follows: (1) the singular number includes the plural number and vice versa; (2) reference to any person includes such person's successors and assigns but, in the case of a Party, only if such successors and assigns are permitted by this LGIA, and reference to a person in a particular capacity excludes such person in any other capacity or individually; (3)

reference to any agreement (including this LGIA), document, instrument or tariff means such agreement, document, instrument, or tariff as amended or modified and in effect from time to time in accordance with the terms thereof and, if applicable, the terms hereof; (4) reference to any Applicable Laws and Regulations means such Applicable Laws and Regulations as amended, modified, codified, or reenacted, in whole or in part, and in effect from time to time, including, if applicable, rules and regulations promulgated thereunder; (5) unless expressly stated otherwise, reference to any Article, Section or Appendix means such Article of this LGIA or such Appendix of this LGIA, or such Section of the LGIP or such Appendix of the LGIP, as the case may be; (6) “hereunder”, “hereof”, “herein”, “hereto” and words of similar import shall be deemed references to this LGIA as a whole and not to any particular Article or other provision hereof or thereof; (7) “including” (and with correlative meaning “include”) means including without limiting the generality of any description preceding such term; and (8) relative to the determination of any period of time, “from” means “from and including”, “to” means “to but excluding” and “through” means “through and including”.

**30.4 Entire Agreement.** Except for the ISO New England Operating Documents, Applicable Reliability Standards, or successor documents, this LGIA, including all Appendices and Schedules attached hereto, constitutes the entire agreement between the Parties with reference to the subject matter hereof, and supersedes all prior and contemporaneous understandings or agreements, oral or written, between the Parties with respect to the subject matter of this LGIA. Except for the ISO New England Operating Documents, Applicable Reliability Standards, any applicable tariffs, related facilities agreements, or successor documents, there are no other agreements, representations, warranties, or covenants which constitute any part of the consideration for, or any condition to, any Party’s compliance with its obligations under this LGIA.

**30.5 No Third Party Beneficiaries.** This LGIA is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and, where permitted, their assigns.

**30.6 Waiver.** The failure of a Party to this LGIA to insist, on any occasion, upon strict performance of any provision of this LGIA will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.

Any waiver at any time by a Party of its rights with respect to this LGIA shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, or duty of this LGIA. Termination or Default of this LGIA for any reason by the Interconnection Customer shall not constitute a waiver of the Interconnection Customer's legal rights to obtain an interconnection from the Interconnecting Transmission Owner. Any waiver of this LGIA shall, if requested, be provided in writing.

**30.7 Headings.** The descriptive headings of the various Articles of this LGIA have been inserted for convenience of reference only and are of no significance in the interpretation or construction of this LGIA.

**30.8 Multiple Counterparts.** This LGIA may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

**30.9 Amendment.** The Parties may by mutual agreement amend this LGIA by a written instrument duly executed by the Parties.

**30.10 Modification by the Parties.** The Parties may by mutual agreement amend the Appendices to this LGIA by a written instrument duly executed by all of the Parties. Such amendment shall become effective and a part of this LGIA upon satisfaction of all Applicable Laws and Regulations.

**30.11 Reservation of Rights.** Consistent with Section 11.3 of the LGIP, Interconnecting Transmission Owner and System Operator shall have the right to make unilateral filings with the Commission to modify this LGIA with respect to any rates, terms and conditions, charges, classifications of

service, rule or regulation under section 205 or any other applicable provision of the Federal Power Act and the Commission's rules and regulations thereunder, and Interconnection Customer shall have the right to make a unilateral filing with the Commission to modify this LGIA pursuant to section 206 or any other applicable provision of the Federal Power Act and the Commission's rules and regulations thereunder; provided that each Party shall have the right to protest any such filing by the other Parties and to participate fully in any proceeding before the Commission in which such modifications may be considered. In the event of disagreement on terms and conditions of the LGIA related to the costs of upgrades to such Interconnecting Transmission Owner's transmission facilities, the anticipated schedule for the construction of such upgrades, any financial obligations of Interconnecting Transmission Owner, and any provisions related to physical impacts of the interconnection on Interconnecting Transmission Owner's transmission facilities or other assets, then the standard applicable under Section 205 of the Federal Power Act shall apply only to Interconnecting Transmission Owner's position on such terms and conditions. Nothing in this LGIA shall limit the rights of the Parties or of the Commission under sections 205 or 206 of the Federal Power Act and the Commission's rules and regulations thereunder, except to the extent that the Parties otherwise mutually agree as provided herein.

**30.12 No Partnership.** This LGIA shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon any Party. No Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Parties.

**IN WITNESS WHEREOF**, the Parties have executed this LGIA in triplicate originals, each of which shall constitute and be an original effective Agreement between the Parties.

**ISO New England Inc. (System Operator)**

By:

Title:

Date:

***[Insert Name of]* (Interconnecting Transmission Owner)**

By:

Title:

Date:

***[Insert name of]* (Interconnection Customer)**

By:

Title:

Date:

## **APPENDICES TO LGIA**

Appendix A	Interconnection Facilities, Network Upgrades and Distribution Upgrades
Appendix B	Milestones
Appendix C	Interconnection Details
Appendix D	Security Arrangements Details
Appendix E	Commercial Operation Date
Appendix F	Addresses for Delivery of Notices and Billings
Appendix G	Interconnection Requirements for a Wind Generating Plant



## APPENDIX A TO LGIA

### Interconnection Facilities, Network Upgrades and Distribution Upgrades

#### 1. Interconnection Facilities:

- a. **Point of Interconnection and Point of Change of Ownership.** The Point of Interconnection shall be at the point where *[insert description of location]*. See Appendix A-*[insert]*, which drawing is attached hereto and made part hereof.

The Point of Change of Ownership shall be at the point where *[insert description of location]*. See Appendix A – *[insert]*, which drawing is attached hereto and made part hereof.

If not located at the Point of Interconnection, the metering point(s) shall be located at: *[insert location]*.

- b. **Interconnection Customer's Interconnection Facilities (including metering equipment).** The Interconnection Customer shall construct *[insert Interconnection Customer's Interconnection Facilities]*. See Appendix A-*[insert]*.
- c. **Interconnecting Transmission Owner's Interconnection Facilities (including metering equipment).** The Interconnecting Transmission Owner shall construct *[insert Interconnecting Transmission Owner's Interconnection Facilities, including any Cluster Enabling Transmission Upgrades]*. See Appendix –*[insert]*.

#### 2. Network Upgrades:

- a. **Stand Alone Network Upgrades.** *[insert Stand Alone Network Upgrades]*.

- b. **Other Network Upgrades.** *[insert Other Network Upgrades, including any Cluster Enabling Transmission Upgrades]*.
- 3. **Distribution Upgrades.** *[insert Distribution Upgrades]*
- 4. **Affected System Upgrades.** *[insert Affected System Upgrades]*
- 5. **Long Lead Facility-Related Upgrades.**

The Interconnection Customer's Large Generating Facility is associated with a Long Lead Facility, in accordance with Section 3.2.3 of the LGIP. Pursuant to Section 4.1 of the LGIP, the Interconnection Customer shall be responsible for the following upgrades in the event that the Long Lead Facility achieves Commercial Operation and obtains a Capacity Supply Obligation in accordance with Section III.13.1 of the Tariff:

*[insert list of upgrades]*

If the Interconnection Customer fails to cause these upgrades to be in-service prior to the commencement of the Long Lead Facility's Capacity Commitment Period, the Interconnection Customer shall be deemed to be in Breach of this LGIA in accordance with Article 17.1, and the System Operator will initiate all necessary steps to terminate this LGIA, in accordance with Article 2.3.

- 6. **Contingent Facilities:** *[insert list of Contingent Facilities]*

7. **Post-Forward Capacity Auction Re-study Upgrade Obligations.** *[insert any change in upgrade obligations that result from re-study conducted post receiving a Capacity Supply Obligation through a Forward Capacity Auction.]*

## APPENDIX B TO LGIA

### Milestones

- 1. Selected Option Pursuant to Article 5.1:** Interconnection Customer selects the *[insert]*. Options as described in Articles 5.1.*[insert]*, 5.1.*[insert]*, and 5.1.*[insert]* ] shall not apply to this LGIA.
- 2. Milestones and Other Requirements for all Large Generating Facilities:** The description and entries listed in the following table establish the required Milestones in accordance with the provisions of the LGIP and this LGIA. The referenced section of the LGIP or article of the LGIA should be reviewed by each Party to understand the requirements of each milestone.

Item No.	Milestone Description	Responsible Party	Date	LGIP/LGIA Reference
1	Provide evidence of continued Site Control to System Operator, or \$250,000 non-refundable deposit to Interconnecting Transmission Owner	Interconnection Customer	Within 15 BD of final LGIA receipt	§ 11.3.1.1 of LGIP
2	Provide evidence of one or more milestones specified in § 11.3 of LGIP	Interconnection Customer	Within 15 BD of final LGIA receipt	§ 11.3.1.2 of LGIP
3	Commit to a schedule for payment of upgrades	Interconnection Customer	Within 15 BD of final LGIA receipt	§ 11.3.1.2 of LGIP
4	Provide either (1) evidence of Major Permits or (2) refundable deposit to Interconnecting Transmission Owner	Interconnection Customer	If (1) Within 15 BD of final LGIA receipt or if (2) At time of LGIA execution	§ 11.3.1.2 of LGIP

5	Provide certificate of insurance	Interconnection Customer and Interconnecting Transmission Owner	Within 10 Calendar Days of execution of LGIA	§ 18.3.9 of LGIA
6	Provide siting approval for Generating Facility and Interconnection Facilities to Interconnecting Transmission Owner	Interconnection Customer	As may be agreed to by the Parties	§ 7.5 of LGIP
7A	Receive Governmental Authority approval for any facilities requiring regulatory approval	Interconnection Customer and/or Interconnecting Transmission Owner	If needed, as may be agreed to by the Parties	§ 5.6.1 of LGIA
7B	Obtain necessary real property rights and rights-of-way for the construction of a discrete aspect of the Interconnecting Transmission Owner's Interconnection Facilities and Network Upgrades	Interconnection Customer and/or Interconnecting Transmission Owner	If needed, as may be agreed to by the Parties	§ 5.6.2 of LGIA
7C	Provide to Interconnecting Transmission Owner written authorization to proceed with design, equipment procurement and construction	Interconnection Customer	As may be agreed to by the Parties	§ 5.5.2 and § 5.6.3 of LGIA

7D	Provide System Operator evidence of proceeding with design, equipment procurement, and construction	Interconnection Customer	As may be agreed to by the Parties	§ 5.2 of LGIA
7E	Provide quarterly written progress reports	Interconnection Customer and Interconnecting Transmission Owner	15 Calendar Days after the end of each quarter beginning the quarter that includes the date for Milestone 7C and ending when the entire Large Generating Facility and all required Interconnection Facilities and Network Upgrades are in place	§ 5.7 of LGIA
8	Provision of Security to Interconnecting Transmission Owner pursuant to Section 11.5 of LGIA	Interconnection Customer	At least 30 Calendar Days prior to design, procurement and construction	§§ 5.5.3 and 5.6.4 of LGIA
9	Provision of Security Associated with Tax Liability to Interconnecting Transmission Owner	Interconnection Customer	As may be agreed to by the Parties	§ 5.17.3 of LGIA

	pursuant to Section 5.17.3 of LGIA			
10A	Commit to the ordering of long lead time material for Interconnection Facilities and Network Upgrades	Interconnection Customer	As may be agreed to by the Parties	§ 7.5 of LGIP
10B	Commit to ordering of long lead time material for Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to be constructed by Interconnection Customer	Interconnection Customer	As may be agreed to by the Parties	§ 5.2 of LGIA
11A	Provide initial design, engineering and specification for Interconnection Customer's Interconnection Facilities to Interconnecting Transmission Owner	Interconnection Customer	180 Calendar Days prior to Initial Synchronization Date	§ 5.10.1 of LGIA § 7.5 of LGIP
11B	Provide comments on initial design, engineering and specification for Interconnection Customer's Interconnection Facilities	Interconnecting Transmission Owner	Within 30 Calendar Days of receipt	§ 5.10.1 of LGIA § 7.5 of LGIP
11C	Provide to Interconnecting Transmission Owner initial design, engineering and	Interconnection Customer	As may be agreed to by the Parties	§ 5.2 LGIA

	specification for Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to be constructed by the Interconnection Customer			
11D	Provide to Interconnection Customer comments on initial design, engineering and specification for Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to be constructed by the Interconnection Customer	Interconnecting Transmission Owner	As may be agreed to by the Parties	§ 5.2 of LGIA
12A	Provide final design, engineering and specification for Interconnection Customer's Interconnection Facilities to Interconnecting Transmission Owner	Interconnection Customer	90 Calendar Days prior to Initial Synchronization Date	§ 5.10.1 of LGIA § 7.5 of LGIP
12B	Provide comments on final design, engineering and specification for	Interconnecting Transmission Owner	Within 30 Calendar Days of receipt	§ 5.10.1 of LGIA § 7.5 of LGIP



	Interconnection Customer's Interconnection Facilities			
12C	Provide to Interconnecting Transmission Owner final design, engineering and specification for Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to be constructed by the Interconnection Customer	Interconnection Customer	As may be agreed to by the Parties	§ 5.2 of LGIA
12D	Provide to Interconnection Customer comments on final design, engineering and specification of Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to be constructed by the Interconnection Customer	Interconnecting Transmission Owner	As may be agreed to by the Parties	§ 5.2 of LGIA
13A	Deliver to Interconnecting Transmission Owner "as built" drawings, information and documents regarding Interconnection	Interconnection Customer	Within 120 Calendar Days of Commercial Operation date	§ 5.10.3 of LGIA

	Customer's Interconnection Facilities			
13B	Deliver to Interconnecting Transmission Owner "as built" drawings, information and documents regarding Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to be constructed by the Interconnection Customer	Interconnection Customer	As may be agreed to by the Parties	§ 5.2 of LGIA
14	Provide protective relay settings to Interconnecting Transmission Owner for coordination and verification	Interconnection Customer	At least 90 Calendar Days prior to Initial Synchronization Date	§§ 5.10.1 of LGIA
15A	Commencement of construction of Interconnection Facilities	Interconnecting Transmission Owner	As may be agreed to by the Parties	§ 5.6 of LGIA
15B	Commencement of construction of Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to be constructed by the Interconnection Customer	Interconnection Customer	As may be agreed to by the Parties	§ 5.2 of LGIA

16	Submit updated data “as purchased”	Interconnection Customer	No later than 180 Calendar Days prior to Initial Synchronization Date	§ 24.3 of LGIA
17	In Service Date	Interconnection Customer	Same as Interconnection Request unless subsequently modified	§ 343.1 and 4.4.5 of LGIP, § 5.1 of LGIA
18	Initial Synchronization Date	Interconnection Customer	Same as Interconnection Request unless subsequently modified	§ 3.4.1, 4.4.4, 4.4.5, and 7.5 of LGIP
19	Submit supplemental and/or updated data – “as built/as-tested”	Interconnection Customer	Prior to Commercial Operation Date	§ 24.4 of LGIA
20	Commercial Operation Date	Interconnection Customer	Same as Interconnection Request unless subsequently modified	§ 3.4.1, 4.4.4, 4.4.5, and 7.5 of LGIP
21A	Deliver to Interconnection Customer “as built” drawings, information and documents regarding Interconnecting Transmission Owner’s Interconnection Facilities	Interconnecting Transmission Owner	If requested, within 120 Calendar Days after Commercial Operation Date	§ 5.11 of LGIA

21B	Deliver to Interconnecting Transmission Owner “as built” drawings, information and documents regarding Interconnecting Transmission Owner’s Interconnection Facilities and Stand Alone Network Upgrades to be constructed by the Interconnection Customer	Interconnection Customer	As may be agreed to by the Parties	§ 5.2 of LGIA
21C	Approve and accept for operation and maintenance the Interconnecting Transmission Owner’s Interconnection Facilities and Stand Alone Network Upgrades to be constructed by the Interconnection Customer	Interconnecting Transmission Owner	As may be agreed to by the Parties	§ 5.2 of LGIA
22	Provide Interconnection Customer final cost invoices	Interconnecting Transmission Owner	Within 6 months of completion of construction of Interconnecting Transmission Owner Interconnection Facilities and Network Upgrades	§ 12.2 of LGIA

23	Transfer control of Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to Interconnecting Transmission Owner to be constructed by the Interconnection Customer	Interconnection Customer	Prior to In-Service Date	§ 5.2 of LGIA
24	Transfer ownership of Interconnecting Transmission Owner's Interconnection Facilities and Stand Alone Network Upgrades to Interconnecting Transmission Owner to be constructed by the Interconnection Customer	Interconnection Customer	Prior to In-Service Date	§ 5.2 of LGIA

### 3. Milestones Applicable Solely for CNR Interconnection Service and Long Lead Facility

**Treatment.** In addition to the Milestones above, the following Milestones apply to Interconnection Customers requesting CNR Interconnection Service and/or Long Lead Facility Treatment:

Item No.	Milestone Description	Responsible Party	Date	LGIP/LGIA Reference
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1	If Long Lead Facility, all dates by which Critical Path Schedule upgrades will be submitted to System Operator (end date for New Capacity Show of Interest Submission)	Interconnection Customer		§ 3.2.3 of LGIP
2	If Long Lead Facility, dates by which Long Lead Facility Deposits will be provided to System Operator (each deadline for which New Generating Capacity Resource would be required to provide financial assurance under § III.13.1.9 of the Tariff)	Interconnection Customer		§ 3.2.3 of LGIP
3	If Long Lead Facility, Capacity Commitment Period (not to exceed the Commercial Operation Date)	Interconnection Customer		§ 1 and 3.2 of LGIP
4	Submit necessary requests for participation in the Forward Capacity Auction associated with the Generating Facility's requested Commercial Operation Date, in accordance with Section III.13 of the Tariff	Interconnection Customer		§ 3.2.1.3 of LGIP
5	Participate in a CNR Group Study	Interconnection Customer		§ 3.2.1.3 of LGIP
6	Qualify and receive a Capacity Supply Obligation in accordance with Section III.13 of the Tariff	Interconnection Customer		§ 3.2.1.3 of LGIP
7	Complete a re-study of the applicable Interconnection Study to determine the cost responsibility for facilities and upgrades necessary to accommodate the	System Operator		§ 3.2.1.3 of LGIP

	Interconnection Request based on the results of the Forward Capacity Auction or Reconfiguration Auction or bilateral transaction through which the Interconnection Customer received a Capacity Supply Obligation			
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## APPENDIX C TO LGIA

### Interconnection Details

#### 1. Description of Interconnection:

Interconnection Customer shall install a [insert] MW facility, rated at [insert]MW gross and [insert] MW net, with all studies performed at or below these outputs. The Generating Facility is comprised of [insert] units in a [insert description of facility type - combined cycle, wind farm, etc.] rated at: [insert] MW each, and will located at [insert location].

The Large Generating Facility shall receive:

Network Resource Interconnection Service for the NR Capability at a level not to exceed [insert gross and net] MW for Summer, and [insert gross and net] MW for Winter.

Capacity Network Resource Interconnection Service for: (i) the NR Capability at a level not to exceed [insert gross and net at or above 50 degrees F] MW for Summer and [insert gross and net at or above 0 degrees F] MW for Winter; and (ii) the CNR Capability at [insert net] MW for Summer and [insert net] MW for Winter, which shall not exceed [insert the maximum net MW electrical output of the Generating Facility at an ambient temperature at or above 90 degrees F for summer and at or above 20 degrees F for winter.]

#### 2. Detailed Description of Generating Facility and Generator Step-Up Transformer, if applicable:

Generator Data	
Number of Generators	
Manufacturer	
Model	



Designation of Generator(s)	
Excitation System Manufacturer	
Excitation System Model	
Voltage Regulator Manufacturer	
Voltage Regulator Model	
<b>Generator Ratings</b>	
Greatest Unit Gross and Net MW Output at Ambient Temperature at or above 90 Degrees F	
Greatest Unit Gross and Net MW Output at Ambient Temperature at or above 50 Degrees F	
Greatest Unit Gross and Net MW Output at Ambient Temperature at or above 20 Degrees F	
Greatest Unit Gross and Net MW Output at Ambient Temperature at or above zero Degrees F	
Station Service Load For Each Unit	
Overexcited Reactive Power at Rated MVA and Rated Power Factor	
Underexcited Reactive Power at Rated MVA and Rated Power Factor	
<b>Generator Short Circuit and Stability Data</b>	
Generator MVA rating	
Generator AC Resistance	
Subtransient Reactance (saturated)	
Subtransient Reactance (unsaturated)	
Transient Reactance (saturated)	
Negative sequence reactance	

Transformer Data	
Number of units	
Self Cooled Rating	
Maximum Rating	
Winding Connection (LV/LV/HV)	
Fixed Taps	
Z1 primary to secondary at self cooled rating	
Z1 primary to tertiary at self cooled rating	
Z1 secondary to tertiary at self cooled rating	
Positive Sequence X/R ratio primary to secondary	
Z0 primary to secondary at self cooled rating	
Z0 primary to tertiary at self cooled rating	
Z0 secondary to tertiary at self cooled rating	
Zero Sequence X/R ratio primary to tertiary	

**3. Other Description of Interconnection Plan and Facilities:**

*[Insert any other description relating to the Generating Facility, including, but not limited to switchyard, protection equipment, step-up transformer to the extent not described in Appendix A.]*

## **APPENDIX D TO LGIA**

### **Security Arrangements Details**

Infrastructure security of the New England Transmission System equipment and operations and control hardware and software is essential to ensure day-to-day New England Transmission System reliability and operational security. The Commission will expect System Operator, Interconnecting Transmission Owners, market participants, and Interconnection Customers interconnected to the New England Transmission System to comply with the recommendations offered by the Critical Infrastructure Protection Committee and, eventually, best practice recommendations from NERC. All public utilities will be expected to meet basic standards for system infrastructure and operational security, including physical, operational, and cyber-security practices.

## APPENDIX E TO LGIA

### Commercial Operation Date

This Appendix E is a part of the LGIA between System Operator Interconnecting, Transmission Owner and Interconnection Customer.

[Date]

[Interconnecting Transmission Owner; Address]

[to be supplied]

Generator Interconnections  
Transmission Planning Department  
ISO New England Inc.  
One Sullivan Road  
Holyoke, MA 01040-2841

Re: \_\_\_\_\_ Large Generating Facility

Dear \_\_\_\_\_:

On [Date] [Interconnection Customer] has completed Trial Operation of Unit No. \_\_\_\_\_. This letter confirms that [Interconnection Customer] commenced commercial operation of Unit No. \_\_\_\_\_ at the Large Generating Facility, effective as of [Date plus one day].

Thank you.

[Signature]

[Interconnection Customer Representative]

## **APPENDIX F TO LGIA**

### **Addresses for Delivery of Notices and Billings Notices:**

System Operator:

Generator Interconnections  
Transmission Planning Department  
ISO New England Inc.  
One Sullivan Road  
Holyoke, MA 01040-2841

With copy to:

Billing Department  
ISO New England Inc.  
One Sullivan Road  
Holyoke, MA 01040-2841

Interconnecting Transmission Owner:

*[To be supplied.]*

Interconnection Customer:

*[To be supplied.]*

### **Billings and Payments:**

System Operator:

Generator Interconnections  
Transmission Planning Department  
ISO New England Inc.  
One Sullivan Road  
Holyoke, MA 01040-2841

With copy to:  
Billing Department  
ISO New England Inc.  
One Sullivan Road  
Holyoke, MA 01040-2841

Interconnecting Transmission Owner:

*[To be supplied.]*

Interconnection Customer:

*[To be supplied.]*

**Alternative Forms of Delivery of Notices (telephone, facsimile or email):**

System Operator:

Facsimile: (413) 540-4203

E-mail: [geninterconn@iso-ne.com](mailto:geninterconn@iso-ne.com)

With copy to:

Facsimile: (413) 535-4024

E-mail: [billingdept@iso-ne.com](mailto:billingdept@iso-ne.com)

Interconnecting Transmission Owner:

*[To be supplied.]*

Interconnection Customer:

*[To be supplied.]*

DUNS Numbers:

Interconnection Customer: [To be supplied]

Interconnecting Transmission Owner: [To be supplied]

## **APPENDIX G TO LGIA**

### **Interconnection Requirements For A Wind and Inverter-Based Generating Facilities**

Appendix G sets forth requirements and provisions specific to wind and inverter-based Generating Facilities. All other requirements of this LGIA continue to apply to wind and inverter-based Generating Facility interconnections.

#### **A. Technical Standards Applicable to Wind and Inverter-Based Generating Facility** **i. Low Voltage Ride-Through (LVRT) Capability**

Wind and inverter-based Generating Facilities shall be able to remain online during voltage disturbances up to the time periods and associated voltage levels set forth in the standard below. The LVRT standard provides for a transition period standard and a post-transition period standard.

##### **Transition Period LVRT Standard**

The transition period standard applies to wind generating plants subject to FERC Order 661 that have either: (i) interconnection agreements signed and filed with the Commission, filed with the Commission in unexecuted form, or filed with the Commission as non-conforming agreements between January 1, 2006 and December 31, 2006, with a scheduled in-service date no later than December 31, 2007, or (ii) wind generating turbines subject to a wind turbine procurement contract executed prior to December 31, 2005, for delivery through 2007.

1. Wind generating plants are required to remain in-service during three-phase faults with normal clearing (which is a time period of approximately 4 – 9 cycles) and single line to ground faults with delayed clearing, and subsequent post-fault voltage recovery to prefault voltage unless clearing the fault effectively disconnects the generator from the system. The clearing time requirement for a three-phase fault will be specific to the wind generating plant substation location, as determined by and documented by the System Operator and Interconnecting Transmission Owner. The maximum clearing time the wind generating plant shall be required to withstand for a three-phase fault shall be 9 cycles at a voltage as low as 0.15 p.u., as measured at the high side of the wind



generating plant step-up transformer (i.e. the transformer that steps the voltage up to the transmission interconnection voltage or “GSU”), after which, if the fault remains following the location-specific normal clearing time for three-phase faults, the wind generating plant may disconnect from the transmission system.

2. This requirement does not apply to faults that would occur between the wind generator terminals and the high side of the GSU or to faults that would result in a voltage lower than 0.15 per unit on the high side of the GSU serving the facility.
3. Wind generating plants may be tripped after the fault period if this action is intended as part of a special protection system.
4. Wind generating plants may meet the LVRT requirements of this standard by the performance of the generators or by installing additional equipment (e.g., Static VAR Compensator, etc.) within the wind generating plant or by a combination of generator performance and additional equipment.
5. Existing individual wind generator units that are, or have been, interconnected to the network at the same location at the effective date of the Appendix G LVRT. Standard are exempt from meeting the Appendix G LVRT Standard for the remaining life of the existing generation equipment. Existing individual wind generator units that are replaced are required to meet the Appendix G LVRT Standard.

#### **Post-transition Period LVRT Standard**

All wind Generating Facilities subject to FERC Order No. 661 and not covered by the transition period described above , as well as inverter-based Generating Facilities must meet the following requirements:

1. Wind and inverter-based Generating Facilities are required to remain in-service during three-phase faults with normal clearing (which is a time period of approximately 4 – 9 cycles) and single line to ground faults with delayed clearing, and subsequent post-fault

voltage recovery to prefault voltage unless clearing the fault effectively disconnects the generator from the system. The clearing time requirement for a three-phase fault will be specific to the wind or inverter-based Generating Facility substation location, as determined by and documented by the System Operator and Interconnecting Transmission Owner. The maximum clearing time the wind or inverter-based Generating Facility shall be required to withstand for a three-phase fault shall be 9 cycles after which, if the fault remains following the location-specific normal clearing time for three-phase faults, the wind or inverter-based Generating Facility may disconnect from the transmission system. Wind and inverter-based Generating Facilities shall remain interconnected during such a fault on the transmission system for a voltage level as low as zero volts, as measured at the high voltage side of the wind or inverter-based Generating Facility GSU.

2. This requirement does not apply to faults that would occur between the wind or inverter-based Generating Facility terminals and the high side of the GSU.
3. Wind and inverter-based Generating Facilities may be tripped after the fault period if this action is intended as part of a special protection system.
4. Wind and inverter-based Generating Facilities may meet the LVRT requirements of this standard by the performance of the generators or by installing additional equipment (e.g., Static VAr Compensator) within the wind or inverter-based Generating Facility or by a combination of generator performance and additional equipment.
5. Existing individual wind generator units that are, or have been, interconnected to the network at the same location at the effective date of the Appendix G LVRT Standard are exempt from meeting the Appendix G LVRT Standard for the remaining life of the existing generation equipment. Existing individual wind generator units that are replaced are required to meet the Appendix G LVRT Standard.

**ii. Power Factor Design Criteria (Reactive Power)**

1. A newly interconnecting non-synchronous Generating Facility, and any subsequent modifications thereto, for which the Interconnection System Impact Study commences after October 5, 2016 shall maintain dynamic reactive capability over the power factor range of 0.95 leading to 0.95 lagging, at continuous rated power output, measured at the high-side of the station transformer or at the Point of the Interconnection if there is no station transformer. This power factor range standard shall be dynamic and can be met using, for example, power electronics designed to supply this level of reactive capability (taking into account any limitations due to voltage level, real power output, etc.) or fixed and switched capacitors (provided the use of such capacitors is solely for the purpose of offsetting collector system losses and is found to meet all of the requirements specified in the Interconnection System Impact Study), or a combination of the two.
2. A wind Generating Facility, and any subsequent modifications thereto, for which the Interconnection System Impact Study commenced after April 17, 2016 but before October 5, 2016 shall maintain dynamic reactive capability over the power factor range of 0.95 leading to 0.95 lagging, at continuous rated power output, measured at the high-side of the station transformer or at the Point of Interconnection if there is no station transformer.
3. A wind Generating Facility, and any subsequent modifications thereto, for which the Interconnection System Impact Study commenced before April 17, 2016 shall maintain a power factor within the range of 0.95 leading to 0.95 lagging, measured at the Point of Interconnection as defined in this LGIA, if the Interconnection System Impact Study shows that such a requirement is necessary to ensure safety or reliability. For a wind Generating Facility for which the Interconnection System Impact Study commences before April 17, 2016, the power factor range standard can be met by using, for example, power electronics designed to supply this level of reactive capability (taking into account any limitations due to voltage level, real power output, etc.) or fixed and switched capacitors if agreed to by the System Operator and Interconnecting Transmission Owner, or a combination of the two.
4. A non-wind non-synchronous Generating Facility, and any subsequent modifications thereto, for which the Interconnection System Impact Study commenced before October 5, 2016 shall meet the power factor requirements of Article 9.6.1.1 of the LGIA.

5. The Interconnection Customer shall not disable power factor equipment while the wind Generating Facility is in operation.
6. Wind Generating Facilities shall also be able to provide sufficient additional dynamic voltage support in lieu of the power system stabilizer and automatic voltage regulation at the generator excitation system if the Interconnection System Impact Study shows this to be required for system safety or reliability.

**iii. Supervisory Control and Data Acquisition (SCADA) Capability**

Wind and inverter-based Generating Facilities shall provide SCADA capability to transmit data and receive instructions from the System Operator and Local Control Center to protect system reliability. The System Operator, Interconnecting Transmission Owner and the wind or inverter-based Generating Facility Interconnection Customer shall determine what SCADA information is essential for the proposed wind or inverter-based Generating Facility, taking into account the size of the plant and its characteristics, location, and importance in maintaining generation resource adequacy and transmission system reliability in its area.

## **APPENDIX 7**

### **INTERCONNECTION PROCEDURES FOR WIND GENERATION**

Appendix 7 sets forth procedures specific to a wind generating plant. All other requirements of this LGIP continue to apply to wind generating plant interconnections.

#### **A. Special Procedures Applicable to Wind Generating Plants**

The wind generating plant Interconnection Customer, in completing the Interconnection Request required by Section 3.4 of this LGIP, may provide to the System Operator a set of preliminary electrical design specifications depicting the wind generating plant as a single equivalent generator. Upon satisfying these and other applicable Interconnection Request conditions, the wind generating plant may enter the queue and receive the base case data as provided for in this LGIP.

No later than six months after submitting an Interconnection Request completed in this manner, the wind generating plant Interconnection Customer must submit completed detailed electrical design specifications and other data (including collector system layout data) needed to allow the System Operator to complete the Interconnection System Impact Study.

## **STANDARD MARKET DESIGN**

### **III.1 Market Operations**

#### **III.1.1 Introduction.**

This Market Rule 1 sets forth the scheduling, other procedures, and certain general provisions applicable to the operation of the New England Markets within the New England Control Area. The ISO shall operate the New England Markets in compliance with NERC, NPCC and ISO reliability criteria. The ISO is the Counterparty for agreements and transactions with its Customers (including assignments involving Customers), including bilateral transactions described in Market Rule 1, and sales to the ISO and/or purchases from the ISO of energy, reserves, Ancillary Services, capacity, demand/load response, FTRs and other products, paying or charging (if and as applicable) its Customers the amounts produced by the pertinent market clearing process or through the other pricing mechanisms described in Market Rule 1. The bilateral transactions to which the ISO is the Counterparty (subject to compliance with the requirements of Section III.1.4) include, but are not limited to, Internal Bilaterals for Load, Internal Bilaterals for Market for Energy, Annual Reconfiguration Transactions, Capacity Supply Obligation Bilaterals, Capacity Load Obligation Bilaterals, Capacity Performance Bilaterals, and the transactions described in Sections III.9.4.1 (internal bilateral transactions that transfer Forward Reserve Obligations), and III.13.1.6 (Self-Supplied FCA Resources). Notwithstanding the foregoing, the ISO will not act as Counterparty for the import into the New England Control Area, for the use of Publicly Owned Entities, of: (1) energy, capacity, and ancillary products associated therewith, to which the Publicly Owned Entities are given preference under Articles 407 and 408 of the project license for the New York Power Authority's Niagara Project; and (2) energy, capacity, and ancillary products associated therewith, to which Publicly Owned Entities are entitled under Article 419 of the project license for the New York Power Authority's Franklin D. Roosevelt – St. Lawrence Project. This Market Rule 1 addresses each of the three time frames pertinent to the daily operation of the New England Markets: "Pre-scheduling" as specified in Section III.1.9, "Scheduling" as specified in III.1.10, and "Dispatch" as specified in III.1.11. This Market Rule 1 became effective on February 1, 2005.

#### **III.1.2 [Reserved.]**

#### **III.1.3 Definitions.**

Whenever used in Market Rule 1, in either the singular or plural number, capitalized terms shall have the meanings specified in Section I of the Tariff. Terms used in Market Rule 1 that are not defined in Section

I shall have the meanings customarily attributed to such terms by the electric utility industry in New England or as defined elsewhere in the ISO New England Filed Documents. Terms used in Market Rule 1 that are defined in Section I are subject to the 60% Participant Vote threshold specified in Section 11.1.2 of the Participants Agreement.

**III.1.3.1**                    **[Reserved.]**

**III.1.3.2**                    **[Reserved.]**

**III.1.3.3**                    **[Reserved.]**

**III.1.4**                    **Requirements for Certain Transactions.**

**III.1.4.1**                    **ISO Settlement of Certain Transactions.**

The ISO will settle, and act as Counterparty to, the transactions described in Section III.1.4.2 if the transactions (and their related transactions) conform to, and the transacting Market Participants comply with, the requirements specified in Section III.1.4.3.

**III.1.4.2**                    **Transactions Subject to Requirements of Section III.1.4.**

Transactions that must conform to the requirements of Section III.1.4 include: Internal Bilaterals for Load, Internal Bilaterals for Market for Energy, Annual Reconfiguration Transactions, Capacity Supply Obligation Bilaterals, Capacity Load Obligation Bilaterals, Capacity Performance Bilaterals, and the transactions described in Sections III.9.4.1 (internal bilateral transactions that transfer Forward Reserve Obligations), and III.13.1.6 (Self-Supplied FCA Resources). The foregoing are referred to collectively as “Section III.1.4 Transactions,” and individually as a “Section III.1.4 Transaction.” Transactions that conform to the standards are referred to collectively as “Section III.1.4 Conforming Transactions,” and individually as a “Section III.1.4 Conforming Transaction.”

**III.1.4.3**                    **Requirements for Section III.1.4 Conforming Transactions.**

(a) To qualify as a Section III.1.4 Conforming Transaction, a Section III.1.4 Transaction must constitute an exchange for an off-market transaction (a “Related Transaction”), where the Related Transaction:

- (i) is not cleared or settled by the ISO as Counterparty;
- (ii) is a spot, forward or derivatives contract that contemplates the transfer of energy or a MW obligation to or from a Market Participant;

- (iii) involves commercially appropriate obligations that impose a duty to transfer electricity or a MW obligation from the seller to the buyer, or from the buyer to the seller, with performance taking place within a reasonable time in accordance with prevailing cash market practices; and
  - (iv) is not contingent on either party to carry out the Section III.1.4 Transaction.
- (b) In addition, to qualify as a Section III.1.4 Conforming Transaction:
- (i) the Section III.1.4 Transaction must be executed between separate beneficial owners or separate parties trading for independently controlled accounts;
  - (ii) the Section III.1.4 Transaction and the Related Transaction must be separately identified in the records of the parties to the transactions; and
  - (iii) the Section III.1.4 Transaction must be separately identified in the records of the ISO.
- (c) As further requirements:
- (i) each party to the Section III.1.4 Transaction and Related Transaction must maintain, and produce upon request of the ISO, records demonstrating compliance with the requirements of Sections III.1.4.3(a) and (b) for the Section III.1.4 Transaction, the Related Transaction and any other transaction that is directly related to, or integrated in any way with, the Related Transaction, including the identity of the counterparties and the material economic terms of the transactions including their price, tenor, quantity and execution date; and
  - (ii) each party to the Section III.1.4 Transaction must be a Market Participant that meets all requirements of the ISO New England Financial Assurance Policy.

### **III.1.5 Resource Auditing.**

#### **III.1.5.1 Claimed Capability Audits.**

##### **III.1.5.1.1 General Audit Requirements.**

- (a) The following types of Claimed Capability Audits may be performed:
  - (i) An Establish Claimed Capability Audit establishes the Generator Asset's ability to respond to ISO Dispatch Instructions and to maintain performance at a specified output level for a specified duration.
  - (ii) A Seasonal Claimed Capability Audit determines a Generator Asset's capability to perform under specified summer and winter conditions for a specified duration.



- (iii) A Seasonal DR Audit determines the ability of a Demand Response Resource to perform during specified months for a specified duration.
- (iv) An ISO-Initiated Claimed Capability Audit is conducted by the ISO to verify the Generator Asset's Establish Claimed Capability Audit value or the Demand Response Resource's Seasonal DR Audit value.
- (b) The Claimed Capability Audit value of a Generator Asset shall reflect any limitations based upon the interdependence of common elements between two or more Generator Assets such as: auxiliaries, limiting operating parameters, and the deployment of operating personnel.
- (c) The Claimed Capability Audit value of gas turbine, combined cycle, and pseudo-combined cycle assets shall be normalized to standard 90° (summer) and 20° (winter) temperatures.
- (d) The Claimed Capability Audit value for steam turbine assets with steam exports, combined cycle, or pseudo-combined cycle assets with steam exports where steam is exported for uses external to the electric power facility, shall be normalized to the facility's Seasonal Claimed Capability steam demand.
- (e) A Claimed Capability Audit may be denied or rescheduled by the ISO if its performance will jeopardize the reliable operation of the electrical system.

#### **III.1.5.1.2 Establish Claimed Capability Audit.**

- (a) An Establish Claimed Capability Audit may be performed only by a Generator Asset.
- (b) The time and date of an Establish Claimed Capability Audit shall be unannounced.
- (c) For a newly commercial Generator Asset:
  - (i) An Establish Claimed Capability Audit will be scheduled by the ISO within five Business Days of the commercial operation date for all Generator Assets except:
    - 1. Non-intermittent daily cycle hydro;
    - 2. Non-intermittent net-metered, or special qualifying facilities that do not elect to audit as described in Section III.1.5.1.3; and
    - 3. Intermittent Generator Assets
  - (ii) The Establish Claimed Capability Audit values for both summer and winter shall equal the mean net real power output demonstrated over the duration of the audit, as reflected in hourly revenue metering data, normalized for temperature and steam exports.
  - (iii) The Establish Claimed Capability Audit values shall be effective as of the commercial operation date of the Generator Asset.
- (d) For Generator Assets with an Establish Claimed Capability Audit value:

- (i) An Establish Claimed Capability Audit may be performed at the request of a Market Participant in order to support a change in the summer and winter Establish Claimed Capability Audit values for a Generator Asset.
- (ii) An Establish Claimed Capability Audit shall be performed within five Business Days of the date of the request.
- (iii) The Establish Claimed Capability Audit values for both summer and winter shall equal the mean net real power output demonstrated over the duration of the audit, as reflected in hourly revenue metering data, normalized for temperature and steam exports.
- (iv) The Establish Claimed Capability Audit values become effective one Business Day following notification of the audit results to the Market Participant by the ISO.
- (v) A Market Participant may cancel an audit request prior to issuance of the audit Dispatch Instruction.
- (e) An Establish Claimed Capability Audit value may not exceed the maximum interconnected flow specified in the Network Resource Capability for the resource associated with the Generator Asset.
- (f) Establish Claimed Capability Audits shall be performed on non-NERC holiday weekdays between 0800 and 2200.
- (g) To conduct an Establish Claimed Capability Audit, the ISO shall:
  - (i) Initiate an Establish Claimed Capability Audit by issuing a Dispatch Instruction ordering the Generator Asset's net output to increase from the current operating level to its Real-Time High Operating Limit.
  - (ii) Indicate when issuing the Dispatch Instruction that an audit will be conducted.
  - (iii) Begin the audit with the first full clock hour after sufficient time has been allowed for the asset to ramp, based on its offered ramp rate from its current operating point to reach its Real-Time High Operating Limit.
- (h) An Establish Claimed Capability Audit shall be performed for the following contiguous duration:

<b>Duration Required for an Establish Claimed Capability Audit</b>	
<b>Type</b>	<b>Claimed Capability Audit Duration (Hrs)</b>
Steam Turbine (Includes Nuclear)	4
Combined Cycle	4
Integrated Coal Gasification Combustion Cycle	4
Pressurized Fluidized Bed Combustion	4

Combustion Gas Turbine	1
Internal Combustion Engine	1
Hydraulic Turbine – Reversible (Electric Storage) Hydraulic Turbine – Other	2
Hydro-Conventional Daily Pondage Hydro-Conventional Run of River Hydro-Conventional Weekly	2
Wind Photovoltaic Fuel Cell	2
Other Electric Storage (Excludes Hydraulic Turbine - Reversible)	2

- (i) The ISO, in consultation with the Market Participant, will determine the contiguous audit duration for a Generator Asset of a type not listed in Section III.1.5.1.2(h).

#### **III.1.5.1.3. Seasonal Claimed Capability Audits.**

- (a) A Seasonal Claimed Capability Audit may be performed only by a Generator Asset.
- (b) A Seasonal Claimed Capability Audit must be conducted by all Generator Assets except:
- (i) Non-intermittent daily hydro; and
  - (ii) Intermittent, net-metered, and special qualifying facilities. Non-intermittent net-metered and special qualifying facilities may elect to perform Seasonal Claimed Capability Audits pursuant to Section III.1.7.11(c)(iv).
- (c) An Establish Claimed Capability Audit or ISO-Initiated Claimed Capability Audit that meets the requirements of a Seasonal Claimed Capability Audit in this Section III.1.5.1.3 may be used to fulfill a Generator Asset's Seasonal Claimed Capability Audit obligation.
- (d) Except as provided in Section III.1.5.1.3(n) below, a summer Seasonal Claimed Capability Audit must be conducted:
- (i) At least once every Capability Demonstration Year;
  - (ii) Either (1) at a mean ambient temperature during the audit that is greater than or equal to 80 degrees Fahrenheit at the location of the Generator Asset, or (2) during an ISO-announced summer Seasonal Claimed Capability Audit window.
- (e) A winter Seasonal Claimed Capability Audit must be conducted:

- (i) At least once in the previous three Capability Demonstration Years, except that a newly commercial Generator Asset which becomes commercial on or after:
    - (1) September 1 and prior to December 31 shall perform a winter Seasonal Claimed Capability Audit prior to the end of that Capability Demonstration Year.
    - (2) January 1 shall perform a winter Seasonal Claimed Capability Audit prior to the end of the next Capability Demonstration Year.
  - (ii) Either (1) at a mean ambient temperature during the audit that is less than or equal to 32 degrees Fahrenheit at the location of the Generator Asset, or (2) during an ISO-announced winter Seasonal Claimed Capability Audit window.
- (f) A Seasonal Claimed Capability Audit shall be performed by operating the Generator Asset for the audit time period and submitting to the ISO operational data that meets the following requirements:
- (i) The Market Participant must notify the ISO of its request to use the dispatch to satisfy the Seasonal Claimed Capability Audit requirement by 5:00 p.m. on the fifth Business Day following the day on which the audit concludes.
  - (ii) The notification must include the date and time period of the demonstration to be used for the Seasonal Claimed Capability Audit and other relevant operating data.
- (g) The Seasonal Claimed Capability Audit value (summer or winter) will be the mean net real power output demonstrated over the duration of the audit, as reflected in hourly revenue metering data, normalized for temperature and steam exports.
- (h) The Seasonal Claimed Capability Audit value (summer or winter) shall be the most recent audit data submitted to the ISO meeting the requirements of this Section III.1.5.1.3. In the event that a Market Participant fails to submit Seasonal Claimed Capability Audit data to meet the timing requirements in Section III.1.5.1.3(d) and (e), the Seasonal Claimed Capability Audit value for the season shall be set to zero.
- (i) The Seasonal Claimed Capability Audit value shall become effective one Business Day following notification of the audit results to the Market Participant by the ISO.
- (j) A Seasonal Claimed Capability Audit shall be performed for the following contiguous duration:

<b>Duration Required for a Seasonal Claimed Capability Audit</b>	
<b>Type</b>	<b>Claimed Capability Audit Duration (Hrs)</b>
Steam Turbine (Includes Nuclear)	2
Combined Cycle	2

Integrated Coal Gasification Combustion Cycle	2
Pressurized Fluidized Bed Combustion	2
Combustion Gas Turbine	1
Internal Combustion Engine	1
Hydraulic Turbine-Reversible (Electric Storage)	2
Hydraulic Turbine-Other	
Hydro-Conventional Weekly	2
Fuel Cell	1
Other Electric Storage (Excludes Hydraulic Turbine - Reversible)	2

- (k) A Generator Asset that is on a planned outage that was approved in the ISO's annual maintenance scheduling process during all hours that meet the temperature requirements for a Seasonal Claimed Capability Audit that is to be performed by the asset during that Capability Demonstration Year shall:
- (i) Submit to the ISO, prior to September 10, an explanation of the circumstances rendering it incapable of meeting these auditing requirements;
  - (ii) Have its Seasonal Claimed Capability Audit value for the season set to zero; and
  - (iii) Perform the required Seasonal Claimed Capability Audit on the next available day that meets the Seasonal Claimed Capability Audit temperature requirements.
- (l) A Generator Asset that does not meet the auditing requirements of this Section III.1.5.1.3 because (1) every time the temperature requirements were met at the Generator Asset's location the ISO denied the request to operate to full capability, or (2) the temperature requirements were not met at the Generator Asset's location during the Capability Demonstration Year during which the asset was required to perform a Seasonal Claimed Capability Audit during the hours 0700 to 2300 for each weekday excluding those weekdays that are defined as NERC holidays, shall:
- (i) Submit to the ISO, prior to September 10, an explanation of the circumstances rendering it incapable of meeting these temperature requirements, including verifiable temperature data;
  - (ii) Retain the current Seasonal Claimed Capability Audit value for the season; and
  - (iii) Perform the required Seasonal Claimed Capability Audit during the next Capability Demonstration Year.
- (m) The ISO may issue notice of a summer or winter Seasonal Claimed Capability Audit window for some or all of the New England Control Area if the ISO determines that weather forecasts indicate that temperatures during the audit window will meet the summer or winter Seasonal

Claimed Capability Audit temperature requirements. A notice shall be issued at least 48 hours prior to the opening of the audit window. Any audit performed during the announced audit window shall be deemed to meet the temperature requirement for the summer or winter audit. In the event that five or more audit windows for the summer Seasonal Claimed Capability Audit temperature requirement, each of at least a four hour duration between 0700 and 2300 and occurring on a weekday excluding those weekdays that are defined as NERC holidays, are not opened for a Generator Asset prior to August 15 during a Capability Demonstration Year, a two-week audit window shall be opened for that Generator Asset to perform a summer Seasonal Claimed Capability Audit, and any audit performed by that Generator Asset during the open audit window shall be deemed to meet the temperature requirement for the summer Seasonal Claimed Capability Audit. The open audit window shall be between 0700 and 2300 each day during August 15 through August 31.

- (n) A Market Participant that is required to perform testing on a Generator Asset that is in addition to a summer Seasonal Claimed Capability Audit may notify the ISO that the summer Seasonal Claimed Capability Audit was performed in conjunction with this additional testing, provided that:
  - (i) The notification shall be provided at the time the Seasonal Claimed Capability Audit data is submitted under Section III.1.5.1.3(f).
  - (ii) The notification explains the nature of the additional testing and that the summer Seasonal Claimed Capability Audit was performed while the Generator Asset was online to perform this additional testing.
  - (iii) The summer Seasonal Claimed Capability Audit and additional testing are performed during the months of June, July or August between the hours of 0700 and 2300.
  - (iv) In the event that the summer Seasonal Claimed Capability Audit does not meet the temperature requirements of Section III.1.5.1.3(d)(ii), the summer Seasonal Claimed Capability Audit value may not exceed the summer Seasonal Claimed Capability Audit value from the prior Capability Demonstration Year.
  - (v) This Section III.1.5.1.3(n) may be utilized no more frequently than once every three Capability Demonstration Years for a Generator Asset.
- (o) The ISO, in consultation with the Market Participant, will determine the contiguous audit duration for a Generator Asset of a type not listed in Section III.1.5.1.3(j).

#### **III.1.5.1.3.1 Seasonal DR Audits.**

- (a) A Seasonal DR Audit may be performed only by a Demand Response Resource.

- (b) A Seasonal DR Audit shall be performed for 12 contiguous five-minute intervals.
- (c) A summer Seasonal DR Audit must be conducted by all Demand Response Resources:
  - (i) At least once every Capability Demonstration Year;
  - (ii) During the months of April through November;
- (d) A winter Seasonal DR Audit must be conducted by all Demand Response Resources:
  - (i) At least once every Capability Demonstration Year;
  - (ii) During the months of December through March.
- (e) A Seasonal DR Audit may be performed either:
  - (i) At the request of a Market Participant as described in subsection (f) below; or
  - (ii) By the Market Participant designating a period of dispatch after the fact as described in subsection (g) below.
- (f) If a Market Participant requests a Seasonal DR Audit:
  - (i) The ISO shall perform the Seasonal DR Audit at an unannounced time between 0800 and 2200 on non-NERC holiday weekdays within five Business Days of the date of the request.
  - (ii) The ISO shall initiate the Seasonal DR Audit by issuing a Dispatch Instruction ordering the Demand Response Resource to its Maximum Reduction.
  - (iii) The ISO shall indicate when issuing the Dispatch Instruction that an audit will be conducted.
  - (iv) The ISO shall begin the audit with the start of the first five-minute interval after sufficient time has been allowed for the resource to ramp, based on its Demand Reduction Offer parameters, to its Maximum Reduction.
  - (v) A Market Participant may cancel an audit request prior to issuance of the audit Dispatch Instruction.
- (g) If the Seasonal DR Audit is performed by the designation of a period of dispatch after the fact, the designated period must meet all of the requirements in this Section III.1.5.1.3.1 and:
  - (i) The Market Participant must notify the ISO of its request to use the dispatch to satisfy the Seasonal DR Audit requirement by 5:00 p.m. on the fifth Business Day following the day on which the audit concludes.
  - (ii) The notification must include the date and time period of the demonstration to be used for the Seasonal DR Audit.
  - (iii) The demonstration period may begin with the start of any five-minute interval after the completion of the Demand Response Resource Notification Time.
  - (iv) A CLAIM10 audit or CLAIM30 audit that meets the requirements of a Seasonal DR Audit as provided in this Section III.1.5.1.3.1 may be used to fulfill the Seasonal DR Audit obligation of a Demand Response Resource.

- (h) An ISO-Initiated Claimed Capability Audit fulfils the Seasonal DR Audit obligation of a Demand Response Resource.
- (i) Each Demand Response Asset associated with a Demand Response Resource is evaluated during the Seasonal DR Audit of the Demand Response Resource.
- (j) Any Demand Response Asset on a forced or scheduled curtailment as defined in Section III.8.3 is assessed a zero audit value.
- (k) The Seasonal DR Audit value (summer or winter) of a Demand Response Resource resulting from the Seasonal DR Audit shall be the sum of the average demand reductions demonstrated during the audit by each of the Demand Response Resource's constituent Demand Response Assets.
- (l) If a Demand Response Asset is added to or removed from a Demand Response Resource between audits, the Demand Response Resource's capability shall be updated to reflect the inclusion or exclusion of the audit value of the Demand Response Asset, such that at any point in time the summer or winter Seasonal DR Audit value of a Demand Response Resource shall equal the sum of the most recent valid like-season audit values of its constituent Demand Response Assets.
- (m) The Seasonal DR Audit value shall become effective one calendar day following notification of the audit results to the Market Participant by the ISO.
- (n) The summer or winter audit value of a Demand Response Asset shall be set to zero at the end of the Capability Demonstration Year if the Demand Response Asset did not perform a Seasonal DR Audit for that season as part of a Demand Response Resource during that Capability Demonstration Year.
- (o) For a Demand Response Asset that was associated with a "Real-Time Demand Response Resource" or a "Real-Time Emergency Generation Resource," as those terms were defined prior to June 1, 2018, any valid result from an audit conducted prior to June 1, 2018 shall continue to be valid on June 1, 2018, and shall retain the same expiration date.

#### **III.1.5.1.4. ISO-Initiated Claimed Capability Audits.**

- (a) An ISO-Initiated Claimed Capability Audit may be performed by the ISO at any time.
- (b) An ISO-Initiated Claimed Capability Audit value shall replace either the summer or winter Seasonal DR Audit value for a Demand Response Resource and shall replace both the winter and summer Establish Claimed Capability Audit values for a Generator Asset, normalized for temperature and steam exports, except:



- (i) The Establish Claimed Capability Audit values for a Generator Asset may not exceed the maximum interconnected flow specified in the Network Resource Capability for that resource.
- (ii) An ISO-Initiated Claimed Capability Audit value for a Generator Asset shall not set the winter Establish Claimed Capability Audit value unless the ISO-Initiated Claimed Capability Audit was performed at a mean ambient temperature that is less than or equal to 32 degrees Fahrenheit at the Generator Asset location.
- (c) If for a Generator Asset a Market Participant submits pressure and relative humidity data for the previous Establish Claimed Capability Audit and the current ISO-Initiated Claimed Capability Audit, the Establish Claimed Capability Audit values derived from the ISO-Initiated Claimed Capability Audit will be normalized to the pressure of the previous Establish Claimed Capability Audit and a relative humidity of 64%.
- (d) The audit values derived from the ISO-Initiated Claimed Capability Audit shall become effective one Business Day following notification of the audit results to the Market Participant by the ISO.
- (e) To conduct an ISO-Initiated Claimed Capability Audit, the ISO shall:
  - (i) Initiate an ISO-Initiated Claimed Capability Audit by issuing a Dispatch Instruction ordering the Generator Asset to its Real-Time High Operating Limit or the Demand Response Resource to its Maximum Reduction.
  - (ii) Indicate when issuing the Dispatch Instruction that an audit will be conducted.
  - (iii) For Generator Assets, begin the audit with the first full clock hour after sufficient time has been allowed for the Generator Asset to ramp, based on its offered ramp rate, from its current operating point to its Real-Time High Operating Limit.
  - (iv) For Demand Response Resources, begin the audit with the first five-minute interval after sufficient time has been allowed for the resource to ramp, based on its Demand Reduction Offer parameters, to its Maximum Reduction.
- (f) An ISO-Initiated Claimed Capability Audit shall be performed for the following contiguous duration:

<b>Duration Required for an ISO-Initiated Claimed Capability Audit</b>	
<b>Type</b>	<b>Claimed Capability Audit Duration (Hrs)</b>
Steam Turbine (Includes Nuclear)	4
Combined Cycle	4

Integrated Coal Gasification Combustion Cycle	4
Pressurized Fluidized Bed Combustion	4
Combustion Gas Turbine	1
Internal Combustion Engine	1
Hydraulic Turbine – Reversible (Electric Storage)	2
Hydraulic Turbine – Other	
Hydro-Conventional Daily Pondage	2
Hydro-Conventional Run of River	
Hydro-Conventional Weekly	
Wind	2
Photovoltaic	
Fuel Cell	
Other Electric Storage (Excludes Hydraulic Turbine – Reversible)	2
Demand Response Resource	1

- (g) The ISO, in consultation with the Market Participant, will determine the contiguous audit duration for an Asset or Resource type not listed in Section III.1.5.1.4(f).

### III.1.5.2 ISO-Initiated Parameter Auditing.

- (a) The ISO may perform an audit of any Supply Offer, Demand Reduction Offer or other operating parameter that impacts the ability of a Generator Asset or Demand Response Resource to provide real-time energy or reserves.
- (b) Generator audits shall be performed using the following methods for the relevant parameter:
- (i) **Economic Maximum Limit.** The Generator Asset shall be evaluated based upon its ability to achieve the current offered Economic Maximum Limit value, through a review of historical dispatch data or based on a response to a current ISO-issued Dispatch Instruction.
  - (ii) **Manual Response Rate.** The Generator Asset shall be evaluated based upon its ability to respond to Dispatch Instructions at its offered Manual Response Rate, including hold points and changes in Manual Response Rates.
  - (iii) **Start-Up Time.** The Generator Asset shall be evaluated based upon its ability to achieve the offered Start-Up Time.
  - (iv) **Notification Time.** The Generator Asset shall be evaluated based upon its ability to close its output breaker within its offered Notification Time.

- (v) **CLAIM10.** The Generator Asset shall be evaluated based upon its ability to reach its CLAIM10 in accordance with Section III.9.5.
  - (vi) **CLAIM30.** The Generator Asset shall be evaluated based upon its ability to reach its CLAIM30 in accordance with Section III.9.5.
  - (vii) **Automatic Response Rate.** The Generator Asset shall be analyzed, based upon a review of historical performance data, for its ability to respond to four-second electronic Dispatch Instructions.
  - (viii) **Dual Fuel Capability.** A Generator Asset that is capable of operating on multiple fuels may be required to audit on a specific fuel, as set out in Section III.1.5.2(f).
- (c) Demand Response Resource audits shall be performed using the following methods:
- (i) **Maximum Reduction.** The Demand Response Resource shall be evaluated based upon its ability to achieve the current offered Maximum Reduction value, through a review of historical dispatch data or based on a response to a current Dispatch Instruction.
  - (ii) **Demand Response Resource Ramp Rate.** The Demand Response Resource shall be evaluated based upon its ability to respond to Dispatch Instructions at its offered Demand Response Resource Ramp Rate.
  - (iii) **Demand Response Resource Start-Up Time.** The Demand Response Resource shall be evaluated based upon its ability to achieve its Minimum Reduction within the offered Demand Response Resource Start-Up Time, in response to a Dispatch Instruction and after completing its Demand Response Resource Notification Time.
  - (iv) **Demand Response Resource Notification Time.** The Demand Response Resource shall be evaluated based upon its ability to start reducing demand within its offered Demand Response Resource Notification Time, from the receipt of a Dispatch Instruction when the Demand Response Resource was not previously reducing demand.
  - (v) **CLAIM10.** The Demand Response Resource shall be evaluated based upon its ability to reach its CLAIM10 in accordance with Section III.9.5.
  - (vi) **CLAIM30.** The Demand Response Resource shall be evaluated based upon its ability to reach its CLAIM30 in accordance with Section III.9.5.
- (d) To conduct an audit based upon historical data, the ISO shall:
- (i) Obtain data through random sampling of generator or Demand Response Resource performance in response to Dispatch Instructions; or
  - (ii) Obtain data through continual monitoring of generator or Demand Response Resource performance in response to Dispatch Instructions.

- (e) To conduct an unannounced audit, the ISO shall initiate the audit by issuing a Dispatch Instruction ordering the Generator Asset or Demand Response Resource to change from the current operating level to a level that permits the ISO to evaluate the performance of the Generator Asset or Demand Response Resource for the parameters being audited.
- (f) To conduct an audit of the capability of a Generator Asset described in Section III.1.5.2(b)(viii) to run on a specific fuel:
  - (i) The ISO shall notify the Lead Market Participant if a Generator Asset is required to undergo an audit on a specific fuel. The ISO, in consultation with the Lead Market Participant, shall develop a plan for the audit.
  - (ii) The Lead Market Participant will have the ability to propose the time and date of the audit within the ISO's prescribed time frame and must notify the ISO at least five Business Days in advance of the audit, unless otherwise agreed to by the ISO and the Lead Market Participant.
- (g) To the extent that the audit results indicate a Market Participant is providing Supply Offer, Demand Reduction Offer or other operating parameter values that are not representative of the actual capability of the Generator Asset or Demand Response Resource, the values for the Generator Asset or Demand Response Resource shall be restricted to those values that are supported by the audit.
- (h) In the event that a Generator Asset or Demand Response Resource has had a parameter value restricted:
  - (i) The Market Participant may submit a restoration plan to the ISO to restore that parameter. The restoration plan shall:
    1. Provide an explanation of the discrepancy;
    2. Indicate the steps that the Market Participant will take to re-establish the parameter's value;
    3. Indicate the timeline for completing the restoration; and
    4. Explain the testing that the Market Participant will undertake to verify restoration of the parameter value upon completion.
  - (ii) The ISO shall:
    1. Accept the restoration plan if implementation of the plan, including the testing plan, is reasonably likely to support the proposed change in the parameter value restriction;
    2. Coordinate with the Market Participant to perform required testing upon completion of the restoration; and
    3. Modify the parameter value restriction following completion of the restoration plan, based upon tested values.

### **III.1.5.3 Reactive Capability Audits.**

- (a) Two types of Reactive Capability Audits may be performed:
  - (i) A lagging Reactive Capability Audit, which is an audit that measures a Reactive Resource's ability to provide reactive power to the transmission system at a specified real power output or consumption.
  - (ii) A leading Reactive Capability Audit, which is an audit that measures a Reactive Resource's ability to absorb reactive power from the transmission system at a specified real power output or consumption.
- (b) The ISO shall develop a list of Reactive Resources that must conduct Reactive Capability Audits. The list shall include Reactive Resources that: (i) have a gross individual nameplate rating greater than 20 MVA; (ii) are directly connected, or are connected through equipment designed primarily for delivering real or reactive power to an interconnection point, to the transmission system at a voltage of 100 kV or above; and (iii) are not exempted from providing voltage control by the ISO. Additional criteria to be used in adding a Reactive Resource to the list includes, but is not limited to, the effect of the Reactive Resource on System Operating Limits, Interconnection Reliability Operating Limits, and local area voltage limits during the following operating states: normal, emergency, and system restoration.
- (c) Unless otherwise directed by the ISO, Reactive Resources that are required to perform Reactive Capability Audits shall perform both a lagging Reactive Capability Audit and a leading Reactive Capability Audit.
- (d) All Reactive Capability Audits shall meet the testing conditions specified in the ISO New England Operating Documents.
- (e) The Reactive Capability Audit value of a Reactive Resource shall reflect any limitations based upon the interdependence of common elements between two or more Reactive Resources such as: auxiliaries, limiting operating parameters, and the deployment of operating personnel.
- (f) A Reactive Capability Audit may be denied or rescheduled by the ISO if conducting the Reactive Capability Audit could jeopardize the reliable operation of the electrical system.
- (g) Reactive Capability Audits shall be conducted at least every five years, unless otherwise required by the ISO. The ISO may require a Reactive Resource to conduct Reactive Capability Audits more often than every five years if:
  - (i) there is a change in the Reactive Resource that may affect the reactive power capability of the Reactive Resource;
  - (ii) there is a change in electrical system conditions that may affect the achievable reactive power output or absorption of the Reactive Resource; or

- (iii) historical data shows that the amount of reactive power that the Reactive Resource can provide to or absorb from the transmission system is higher or lower than the latest audit data.
- (h) A Lead Market Participant or Transmission Owner may request a waiver of the requirement to conduct a Reactive Capability Audit for its Reactive Resource. The ISO, at its sole discretion, shall determine whether and for how long a waiver may be granted.

**III.1.6 [Reserved.]**

**III.1.6.1 [Reserved.]**

**III.1.6.2 [Reserved.]**

**III.1.6.3 [Reserved.]**

**III.1.6.4 ISO New England Manuals and ISO New England Administrative Procedures.**

The ISO shall prepare, maintain and update the ISO New England Manuals and ISO New England Administrative Procedures consistent with the ISO New England Filed Documents. The ISO New England Manuals and ISO New England Administrative Procedures shall be available for inspection by the Market Participants, regulatory authorities with jurisdiction over the ISO or any Market Participant, and the public.

**III.1.7 General.**

**III.1.7.1 Provision of Market Data to the Commission.**

The ISO will electronically deliver to the Commission, on an ongoing basis and in a form and manner consistent with its collection of data and in a form and manner acceptable to the Commission, data related to the markets that it administers, in accordance with the Commission's regulations.

**III.1.7.2 [Reserved.]**

**III.1.7.3 Agents.**

A Market Participant may participate in the New England Markets through an agent, provided that such Market Participant informs the ISO in advance in writing of the appointment of such agent. A Market Participant using an agent shall be bound by all of the acts or representations of such agent with respect to transactions in the New England Markets, and shall ensure that any such agent complies with the

requirements of the ISO New England Manuals and ISO New England Administrative Procedures and the ISO New England Filed Documents.

**III.1.7.4 [Reserved.]**

**III.1.7.5 Transmission Constraint Penalty Factors.**

In the Day-Ahead Energy Market, the Transmission Constraint Penalty Factor for an interface constraint is \$10,000/MWh and the Transmission Constraint Penalty Factor for all other transmission constraints is \$30,000/MWh. In the Real-Time Energy Market, the Transmission Constraint Penalty Factor for any transmission constraint is \$30,000/MWh. Transmission Constraint Penalty Factors are not used in calculating Locational Marginal Prices.

**III.1.7.6 Scheduling and Dispatching.**

- (a) The ISO shall schedule Day-Ahead and schedule and dispatch in Real-Time Resources economically on the basis of least-cost, security-constrained dispatch and the prices and operating characteristics offered by Market Participants. The ISO shall schedule and dispatch sufficient Resources of the Market Participants to serve the New England Markets energy purchase requirements under normal system conditions of the Market Participants and meet the requirements of the New England Control Area for ancillary services provided by such Resources. The ISO shall use a joint optimization process to serve Real-Time Energy Market energy requirements and meet Real-Time Operating Reserve requirements based on a least-cost, security-constrained economic dispatch.
- (b) In the event that one or more Resources cannot be scheduled in the Day-Ahead Energy Market on the basis of a least-cost, security-constrained dispatch as a result of one or more Self-Schedule offers contributing to a transmission limit violation, the following scheduling protocols will apply:
  - (i) When a single Self-Schedule offer contributes to a transmission limit violation, the Self-Schedule offer will not be scheduled for the entire Self-Schedule period in development of Day-Ahead schedules.
  - (ii) When two Self-Schedule offers contribute to a transmission limit violation, parallel clearing solutions will be executed such that, for each solution, one of the Self-Schedule offers

will be omitted for its entire Self-Schedule period. The least cost solution will be used for purposes of determining which Resources are scheduled in the Day-Ahead Energy Market.

(iii) When three or more Self-Schedule offers contribute to a transmission limit violation, the ISO will determine the total daily MWh for each Self-Schedule offer and will omit Self-Schedule offers in their entirety, in sequence from the offer with the least total daily MWh to the offer with the greatest total MWh, stopping when the transmission limit violation is resolved.

(c) Scheduling and dispatch shall be conducted in accordance with the ISO New England Filed Documents.

(d) The ISO shall undertake, together with Market Participants, to identify any conflict or incompatibility between the scheduling or other deadlines or specifications applicable to the New England Markets, and any relevant procedures of another Control Area, or any tariff (including the Transmission, Markets and Services Tariff). Upon determining that any such conflict or incompatibility exists, the ISO shall propose tariff or procedural changes, or undertake such other efforts as may be appropriate, to resolve any such conflict or incompatibility.

#### **III.1.7.7 Energy Pricing.**

The price paid for energy, including demand reductions, bought and sold by the ISO in the New England Markets will reflect the Locational Marginal Price at each Location, determined by the ISO in accordance with the ISO New England Filed Documents. Congestion Costs, which shall be determined by differences in the Congestion Component of Locational Marginal Prices caused by constraints, shall be calculated and collected, and the resulting revenues disbursed, by the ISO in accordance with this Market Rule 1. Loss costs associated with Pool Transmission Facilities, which shall be determined by the differences in Loss Components of the Locational Marginal Prices shall be calculated and collected, and the resulting revenues disbursed, by the ISO in accordance with this Market Rule 1.

#### **III.1.7.8 Market Participant Resources.**

A Market Participant may elect to Self-Schedule its Resources in accordance with and subject to the limitations and procedures specified in this Market Rule 1 and the ISO New England Manuals.

#### **III.1.7.9 Real-Time Reserve Prices.**



The price paid by the ISO for the provision of Real-Time Operating Reserve in the New England Markets will reflect Real-Time Reserve Clearing Prices determined by the ISO in accordance with the ISO New England Filed Documents for the system and each Reserve Zone.

#### **III.1.7.10 Other Transactions.**

Market Participants may enter into internal bilateral transactions and External Transactions for the purchase or sale of energy or other products to or from each other or any other entity, subject to the obligations of Market Participants to make resources with a Capacity Supply Obligation available for dispatch by the ISO. External Transactions that contemplate the physical transfer of energy or obligations to or from a Market Participant shall be reported to and coordinated with the ISO in accordance with this Market Rule 1 and the ISO New England Manuals.

#### **III.1.7.11 Seasonal Claimed Capability of a Generating Capacity Resource.**

- (a) A Seasonal Claimed Capability value must be established and maintained for all Generating Capacity Resources. A summer Seasonal Claimed Capability is established for use from June 1 through September 30 and a winter Seasonal Claimed Capability is established for use from October 1 through May 31.
- (b) The Seasonal Claimed Capability of a Generating Capacity Resource is the sum of the Seasonal Claimed Capabilities of the Generator Assets that are associated with the Generating Capacity Resource.
- (c) The Seasonal Claimed Capability of a Generator Asset is:
  - (i) Based upon review of historical data for non-intermittent daily cycle hydro.
  - (ii) The median net real power output during reliability hours, as described in Section III.13.1.2.2.2, for (1) intermittent facilities, and (2) net-metered and special qualifying facilities that do not elect to audit, as reflected in hourly revenue metering data.
  - (iii) For non-intermittent net-metered and special qualifying facilities that elect to audit, the minimum of (1) the Generator Asset's current Seasonal Claimed Capability Audit value, as performed pursuant to Section III.1.5.1.3; (2) the Generator Asset's current Establish Claimed Capability Audit value; and (3) the median hourly availability during hours ending 2:00 p.m. through 6:00 p.m. each day of the preceding June through September for Summer and hours ending 6:00 p.m. and 7:00 p.m. each day of the preceding October through May for Winter. The hourly availability:
    - a. For a Generator Asset that is available for commitment and following Dispatch Instructions, shall be the asset's Economic Maximum Limit, as submitted or redeclared.

- b. For a Generator Asset that is off-line and not available for commitment shall be zero.
- c. For a Generator Asset that is on-line but not able to follow Dispatch Instructions, shall be the asset's metered output.
- (iv) For all other Generator Assets, the minimum of: (1) the Generator Asset's current Establish Claimed Capability Audit value and (2) the Generator Asset's current Seasonal Claimed Capability Audit value, as performed pursuant to Section III.1.5.1.3.

#### **III.1.7.12 Seasonal DR Audit Value of an Active Demand Capacity Resource.**

- (a) A Seasonal DR Audit value must be established and maintained for all Active Demand Capacity Resources. A summer Seasonal DR Audit value is established for use from April 1 through November 30 and a winter Seasonal DR Audit value is established for use from December 1 through March 31.
- (b) The Seasonal DR Audit value of an Active Demand Capacity Resource is the sum of the Seasonal DR Audit values of the Demand Response Resources that are associated with the Active Demand Capacity Resource.

**III.1.7.13 [Reserved.]**

**III.1.7.14 [Reserved.]**

**III.1.7.15 [Reserved.]**

**III.1.7.16 [Reserved.]**

#### **III.1.7.17 Operating Reserve.**

The ISO shall endeavor to procure and maintain an amount of Operating Reserve in Real-Time equal to the system and zonal Operating Reserve requirements as specified in the ISO New England Manuals and ISO New England Administrative Procedures. Reserve requirements for the Forward Reserve Market are determined in accordance with the methodology specified in Section III.9.2 of Market Rule 1. Operating Reserve requirements for Real-Time dispatch within an Operating Day are determined in accordance with Market Rule 1 and ISO New England Operating Procedure No. 8, Operating Reserve and Regulation.

#### **III.1.7.18 Ramping.**

A Generator Asset, Dispatchable Asset Related Demand, or Demand Response Resource dispatched by the ISO pursuant to a control signal appropriate to increase or decrease the Resource's megawatt output, consumption, or demand reduction level shall be able to change output, consumption, or demand

reduction at the ramping rate specified in the Offer Data submitted to the ISO for that Resource and shall be subject to sanctions for failure to comply as described in **Appendix B**.

### **III.1.7.19 Real-Time Reserve Designation.**

The ISO shall determine the Real-Time Reserve Designation for each eligible Resource in accordance with this Section III.1.7.19. The Real-Time Reserve Designation shall consist of a MW value, in no case less than zero, for each Operating Reserve product: Ten-Minute Spinning Reserve, Ten-Minute Non-Spinning Reserve, and Thirty-Minute Operating Reserve.

#### **III.1.7.19.1 Eligibility.**

To be eligible to receive a Real-Time Reserve Designation, a Resource must meet all of the criteria enumerated in this Section III.1.7.19.1. A Resource that does not meet all of these criteria is not eligible to provide Operating Reserve and will not receive a Real-Time Reserve Designation.

- (1) The Resource must be a Dispatchable Resource located within the metered boundaries of the New England Control Area and capable of receiving and responding to electronic Dispatch Instructions.
- (2) The Resource must not be part of the first contingency supply loss.
- (3) The Resource must not be designated as constrained by transmission limitations.
- (4) The Resource's Operating Reserve, if activated, must be sustainable for at least one hour from the time of activation. (This eligibility requirement does not affect a Resource's obligation to follow Dispatch Instructions, even after one hour from the time of activation.)
- (5) The Resource must comply with the applicable standards and requirements for provision and dispatch of Operating Reserve as specified in the ISO New England Manuals and ISO New England Administrative Procedures.

### **III.1.7.19.2 Calculation of Real-Time Reserve Designation.**

#### **III.1.7.19.2.1 Generator Assets.**

##### **III.1.7.19.2.1.1 On-line Generator Assets.**

The Manual Response Rate used in calculations in this section shall be the lesser of the Generator Asset's offered Manual Response Rate and its audited Manual Response Rate as described in Section III.1.5.2.

- (a) **Ten-Minute Spinning Reserve.** For an on-line Generator Asset (other than one registered as being composed of multiple generating units whose synchronized capability cannot be determined by the ISO), Ten-Minute Spinning Reserve shall be calculated as the increase in output the Generator Asset could achieve, relative to its current telemetered output, within ten minutes given its Manual Response Rate (and in no case to a level greater than its Economic Maximum Limit). For an on-line Generator Asset registered as being composed of multiple generating units whose synchronized capability cannot be determined by the ISO, Ten-Minute Spinning Reserve shall be zero.
- (b) **Ten-Minute Non-Spinning Reserve.** For an on-line Generator Asset (other than one registered as being composed of multiple generating units whose synchronized capability cannot be determined by the ISO), Ten-Minute Non-Spinning Reserve shall be zero. For an on-line Generator Asset registered as being composed of multiple generating units whose synchronized capability cannot be determined by the ISO, Ten-Minute Non-Spinning Reserve shall be calculated as the increase in output the Generator Asset could achieve, relative to its current telemetered output, within ten minutes given its Manual Response Rate (and in no case to a level greater than its Economic Maximum Limit).
- (c) **Thirty-Minute Operating Reserve.** For an on-line Generator Asset, Thirty-Minute Operating Reserve shall be calculated as the increase in output the Generator Asset could achieve, relative to its current telemetered output, within thirty minutes given its Manual Response Rate (and in no case greater than its Economic Maximum Limit) minus the Ten-Minute Spinning Reserve quantity calculated for the Generator Asset pursuant to subsection (a) above and the Ten-Minute Non-Spinning Reserve quantity calculated for the Generator Asset pursuant to subsection (b) above.

#### **III.1.7.19.2.1.2 Off-line Generator Assets.**

For an off-line Generator Asset that is not a Fast Start Generator, all components of the Real-Time Reserve Designation shall be zero.

- (a) **Ten-Minute Spinning Reserve.** For an off-line Fast Start Generator, Ten-Minute Spinning Reserve shall be zero.

- (b) **Ten-Minute Non-Spinning Reserve.** For an off-line Fast Start Generator, Ten-Minute Non-Spinning Reserve shall be calculated as the minimum of the Fast Start Generator's Offered CLAIM10, its CLAIM10, and its Economic Maximum Limit (provided, however, that during the Fast Start Generator's Minimum Down Time, the Fast Start Generator's Ten-Minute Non-Spinning Reserve shall be zero, except during the last ten minutes of its Minimum Down Time, at which time the ISO will prorate the Fast Start Generator's Ten-Minute Non-Spinning Reserve to account for the remaining amount of time until the Fast Start Generator's Minimum Down Time expires).
- (c) **Thirty-Minute Operating Reserve.** For an off-line Fast Start Generator, Thirty-Minute Operating Reserve shall be calculated as: (i) the minimum of the Fast Start Generator's Offered CLAIM30, its CLAIM30, and its Economic Maximum Limit (provided, however, that during the Fast Start Generator's Minimum Down Time, the Fast Start Generator's Thirty-Minute Operating Reserve shall be zero, except during the last thirty minutes of its Minimum Down Time, at which time the ISO will prorate the Fast Start Generator's Thirty-Minute Operating Reserve to account for the remaining amount of time until the Fast Start Generator's Minimum Down Time expires), minus (ii) the Ten-Minute Non-Spinning Reserve quantity calculated for the Fast Start Generator pursuant to subsection (b) above.

#### **III.1.7.19.2.2 Dispatchable Asset Related Demand.**

##### **III.1.7.19.2.2.1 Storage DARDs.**

- (a) **Ten-Minute Spinning Reserve.** For a Storage DARD, Ten-Minute Spinning Reserve shall be calculated as the absolute value of the amount of current telemetered consumption.
- (b) **Ten-Minute Non-Spinning Reserve.** For a Storage DARD, Ten-Minute Non-Spinning Reserve shall be zero.
- (c) **Thirty-Minute Operating Reserve.** For a Storage DARD, Thirty-Minute Operating Reserve shall be zero.

##### **III.1.7.19.2.2.2 Dispatchable Asset Related Demand Other Than Storage DARDs.**

- (a) **Ten-Minute Spinning Reserve.** For a Dispatchable Asset Related Demand (other than a Storage DARD) that has no Controllable Behind-the-Meter Generation, Ten-Minute Spinning Reserve shall be calculated as the decrease in consumption that the Dispatchable Asset Related Demand could achieve, relative to its current telemetered consumption, within ten minutes given its ramp rate (and in no case to an amount less than its Minimum Consumption Limit). For a Dispatchable Asset Related Demand (other than a Storage DARD) having Controllable Behind-the-Meter Generation, Ten-Minute Spinning Reserve shall be zero.
- (b) **Ten-Minute Non-Spinning Reserve.** For a Dispatchable Asset Related Demand (other than a Storage DARD) that has no Controllable Behind-the-Meter Generation, Ten-Minute Non-Spinning Reserve shall be zero. For a Dispatchable Asset Related Demand (other than a Storage DARD) having Controllable Behind-the-Meter Generation, Ten-Minute Non-Spinning Reserve shall be calculated as the decrease in consumption that the Dispatchable Asset Related Demand could achieve, relative to its current telemetered consumption, within ten minutes given its ramp rate (and in no case to an amount less than its Minimum Consumption Limit).
- (c) **Thirty-Minute Operating Reserve.** For a Dispatchable Asset Related Demand (other than a Storage DARD) that has no Controllable Behind-the-Meter Generation, Thirty-Minute Operating Reserve shall be calculated as the decrease in consumption that the Dispatchable Asset Related Demand could achieve, relative to its current telemetered consumption, within thirty minutes given its ramp rate (and in no case to an amount less than its Minimum Consumption Limit) minus the Ten-Minute Spinning Reserve quantity calculated for the Dispatchable Asset Related Demand pursuant to subsection (a) above. For a Dispatchable Asset Related Demand (other than a Storage DARD) having Controllable Behind-the-Meter Generation, Thirty-Minute Operating Reserve shall be calculated as the decrease in consumption that the Dispatchable Asset Related Demand could achieve, relative to its current telemetered consumption, within thirty minutes given its ramp rate (and in no case to an amount less than its Minimum Consumption Limit) minus the Ten-Minute Non-Spinning Reserve quantity calculated for the Dispatchable Asset Related Demand pursuant to subsection (b) above.

### **III.1.7.19.2.3 Demand Response Resources.**

For a Demand Response Resource that does not provide one-minute telemetry to the ISO, notwithstanding any provision in this Section III.1.7.19.2.3 to the contrary, the Ten-Minute Spinning Reserve and Ten-Minute Non-Spinning Reserve components of the Real-Time Reserve Designation shall

be zero. The Demand Response Resource Ramp Rate used in calculations in this section shall be the lesser of the Resource's offered Demand Response Resource Ramp Rate and its audited Demand Response Resource Ramp Rate as described in Section III.1.5.2.

#### **III.1.7.19.2.3.1            Dispatched.**

- (a)     **Ten-Minute Spinning Reserve.** For a Demand Response Resource that is being dispatched and that has no Controllable Behind-the-Meter Generation, Ten-Minute Spinning Reserve shall be calculated as the increase in demand reduction that the Demand Response Resource could achieve, relative to the estimated current demand reduction level, within ten minutes given its Demand Response Resource Ramp Rate (and in no case greater than its Maximum Reduction). For a Demand Response Resource that is being dispatched and that has Controllable Behind-the-Meter Generation, Ten-Minute Spinning Reserve shall be zero.
- (b)     **Ten-Minute Non-Spinning Reserve.** For a Demand Response Resource that is being dispatched and that has no Controllable Behind-the-Meter Generation, Ten-Minute Non-Spinning Reserve shall be zero. For a Demand Response Resource that is being dispatched and that has Controllable Behind-the-Meter Generation, Ten-Minute Non-Spinning Reserve shall be calculated as the increase in demand reduction that the Demand Response Resource could achieve, relative to the estimated current demand reduction level, within ten minutes given its Demand Response Resource Ramp Rate (and in no case greater than its Maximum Reduction).
- (c)     **Thirty-Minute Operating Reserve.** For a Demand Response Resource that is being dispatched, Thirty-Minute Operating Reserve shall be calculated as the increase in demand reduction that the Demand Response Resource could achieve, relative to the estimated current demand reduction level, within thirty minutes given its Demand Response Resource Ramp Rate (and in no case greater than its Maximum Reduction) minus the Ten-Minute Spinning Reserve quantity calculated for the Resource pursuant to subsection (a) above and the Ten-Minute Non-Spinning Reserve quantity calculated for the Resource pursuant to subsection (b) above.

#### **III.1.7.19.2.3.2            Non-Dispatched.**

For a Demand Response Resource that is not being dispatched that is not a Fast Start Demand Response Resource, all components of the Real-Time Reserve Designation shall be zero.

- (a) **Ten-Minute Spinning Reserve.** For a Fast Start Demand Response Resource that is not being dispatched, Ten-Minute Spinning Reserve shall be zero.
- (b) **Ten-Minute Non-Spinning Reserve.** For a Fast Start Demand Response Resource that is not being dispatched, Ten-Minute Non-Spinning Reserve shall be calculated as the minimum of the Demand Response Resource's Offered CLAIM10, its CLAIM10, and its Maximum Reduction.
- (c) **Thirty-Minute Operating Reserve.** For a Fast Start Demand Response Resource that is not being dispatched, Thirty-Minute Operating Reserve shall be calculated as: (i) the minimum of the Demand Response Resource's Offered CLAIM30, its CLAIM30, and its Maximum Reduction, minus (ii) the Ten-Minute Non-Spinning Reserve quantity calculated for the Demand Response Resource pursuant to subsection (b) above.

### **III.1.7.20 Information and Operating Requirements.**

- (a) [Reserved.]
- (b) Market Participants selling from Resources within the New England Control Area shall: supply to the ISO all applicable Offer Data; report to the ISO Resources that are Self-Scheduled; report to the ISO External Transaction sales; confirm to the ISO bilateral sales to Market Participants within the New England Control Area; respond to the ISO's directives to start, shutdown or change output, consumption, or demand reduction levels of Generator Assets, DARDs, or Demand Response Resources, change scheduled voltages or reactive output levels; continuously maintain all Offer Data concurrent with on-line operating information; and ensure that, where so equipped, equipment is operated with control equipment functioning as specified in the ISO New England Manuals and ISO New England Administrative Procedures.
- (c) Market Participants selling from Resources outside the New England Control Area shall: provide to the ISO all applicable Offer Data, including offers specifying amounts of energy available, hours of availability and prices of energy and other services; respond to ISO directives to schedule delivery or change delivery schedules; and communicate delivery schedules to the source Control Area and any intermediary Control Areas.
- (d) Market Participants, as applicable, shall: respond or ensure a response to ISO directives for load management steps; report to the ISO all bilateral purchase transactions including External Transaction



purchases; and respond or ensure a response to other ISO directives such as those required during Emergency operation.

(e) Market Participant, as applicable, shall provide to the ISO requests to purchase specified amounts of energy for each hour of the Operating Day during which it intends to purchase from the Day-Ahead Energy Market.

(f) Market Participants are responsible for reporting to the ISO anticipated availability and other information concerning Generator Assets, Demand Response Resources and Dispatchable Asset Related Demands required by the ISO New England Operating Documents, including but not limited to the Market Participant's ability to procure fuel and physical limitations that could reduce Resource output or demand reduction capability for the pertinent Operating Day.

**III.1.8 [Reserved.]**

**III.1.9 Pre-scheduling.**

**III.1.9.1 Offer and Bid Caps and Cost Verification for Offers and Bids.**

**III.1.9.1.1 Cost Verification of Resource Offers.**

The incremental energy values of Supply Offers and Demand Response Resources above \$1,000/MWh for any Resource other than an External Resource are subject to the following cost verification requirements. Unless expressly stated otherwise, cost verification is utilized in all pricing, commitment, dispatch and settlement determinations. For purposes of the following requirements, Reference Levels are calculated using the procedures in Section III.A.7.5 for calculating cost-based Reference Levels.

(a) If the incremental energy value of a Resource's offer is greater than the incremental energy Reference Level value of the Resource, then the incremental energy value in the offer is replaced with the greater of the Reference Level for incremental energy or \$1,000/MWh.

(b) For purposes of the price calculations in Sections III.2.5 and III.2.7A, if the adjusted offer calculated under Section III.2.4 for a Rapid Response Pricing Asset is greater than \$1,000/MWh (after the incremental energy value is evaluated under Section III.1.9.1.1(a) above), then verification will be performed as follows using a Reference Level value calculated with the adjusted offer formulas specified in Section III.2.4.

(i) If the Reference Level value is less than or equal to \$1,000/MWh, then the adjusted offer for the Resource is set at \$1,000/MWh;

(ii) If the Reference Level value is greater than \$1,000/MWh, then the adjusted offer for the Resource is set at the lower of the Reference Level value and the adjusted offer.

#### **III.1.9.1.2 Offer and Bid Caps.**

(a) For purposes of the price calculations described in Section III.2 and for purposes of scheduling a Resource in the Day-Ahead Energy Market in accordance with Section III.1.7.6 following the commitment of the Resource, the incremental energy value of an offer is capped at \$2,000/MWh.

(b) Demand Bids shall not specify a bid price below the Energy Offer Floor or above the Demand Bid Cap.

(c) Supply Offers and Demand Reduction Offers shall not specify an offer price (for incremental energy) below the Energy Offer Floor.

(d) External Transactions shall not specify a price below the External Transaction Floor or above the External Transaction Cap.

(e) Increment Offers and Decrement Bids shall not specify an offer or bid price below the Energy Offer Floor or above the Virtual Cap.

**III.1.9.2 [Reserved.]**

**III.1.9.3 [Reserved.]**

**III.1.9.4 [Reserved.]**

**III.1.9.5 [Reserved.]**

**III.1.9.6 [Reserved.]**

#### **III.1.9.7 Market Participant Responsibilities.**

Market Participants authorized and intending to request market-based Start-Up Fees and No-Load Fee in their Offer Data shall submit a specification of such fees to the ISO for each Generator Asset as to which the Market Participant intends to request such fees. Any such specification shall identify the applicable period and be submitted on or before the applicable deadline and shall remain in effect unless otherwise modified in accordance with Section III.1.10.9. The ISO shall reject any request for Start-Up Fees and No-Load Fee in a Market Participant's Offer Data that does not conform to the Market Participant's specification on file with the ISO.

**III.1.9.8 [Reserved.]**

### **III.1.10**

### **Scheduling.**

#### **III.1.10.1**

#### **General.**

- (a) The ISO shall administer scheduling processes to implement a Day-Ahead Energy Market and a Real-Time Energy Market.
- (b) The Day-Ahead Energy Market shall enable Market Participants to purchase and sell energy through the New England Markets at Day-Ahead Prices and enable Market Participants to submit External Transactions conditioned upon Congestion Costs not exceeding a specified level. Market Participants whose purchases and sales and External Transactions are scheduled in the Day-Ahead Energy Market shall be obligated to purchase or sell energy or pay Congestion Costs and costs for losses, at the applicable Day-Ahead Prices for the amounts scheduled.
- (c) In the Real-Time Energy Market,
  - (i) Market Participants that deviate from the amount of energy purchases or sales scheduled in the Day-Ahead Energy Market shall replace the energy not delivered with energy from the Real-Time Energy Market or an internal bilateral transaction and shall pay for such energy not delivered, net of any internal bilateral transactions, at the applicable Real-Time Price, unless otherwise specified by this Market Rule 1, and
  - (ii) Non-Market Participant Transmission Customers shall be obligated to pay Congestion Costs and costs for losses for the amount of the scheduled transmission uses in the Real-Time Energy Market at the applicable Real-Time Congestion Component and Loss Component price differences, unless otherwise specified by this Market Rule 1.
- (d) The following scheduling procedures and principles shall govern the commitment of Resources to the Day-Ahead Energy Market and the Real-Time Energy Market over a period extending from one week to one hour prior to the Real-Time dispatch. Scheduling encompasses the Day-Ahead and hourly scheduling process, through which the ISO determines the Day-Ahead Energy Market schedule and determines, based on changing forecasts of conditions and actions by Market Participants and system constraints, a plan to serve the hourly energy and reserve requirements of the New England Control Area in the least costly manner, subject to maintaining the reliability of the New England Control Area.

Scheduling of External Transactions in the Real-Time Energy Market is subject to Section II.44 of the OATT.

(e) If the ISO's forecast for the next seven days projects a likelihood of Emergency Condition, the ISO may commit, for all or part of such seven day period, to the use of Generator Assets or Demand Response Resources with Notification Time greater than 24 hours as necessary in order to alleviate or mitigate such Emergency, in accordance with the Market Participants' binding Supply Offers or Demand Reduction Offers.

### **III.1.10.1A Energy Market Scheduling.**

Market Participants may submit offers and bids in the Day-Ahead Energy Market until 10:30 a.m. on the day before the Operating Day for which transactions are being scheduled, or such other deadline as may be specified by the ISO in order to comply with the practical requirements and the economic and efficiency objectives of the scheduling process specified in this Market Rule 1.

(a) **Locational Demand Bids** – Each Market Participant may submit to the ISO specifications of the amount and location of its customer loads and/or energy purchases to be included in the Day-Ahead Energy Market for each hour of the next Operating Day, such specifications to comply with the requirements set forth in the ISO New England Manuals and ISO New England Administrative Procedures. Each Market Participant shall inform the ISO of (i) the prices, if any, at which it desires not to include its load in the Day-Ahead Energy Market rather than pay the Day-Ahead Price, (ii) hourly schedules for Resources Self-Scheduled by the Market Participant; and (iii) the Decrement Bid at which each such Self-Scheduled Resource will disconnect or reduce output, or confirmation of the Market Participant's intent not to reduce output. Price-sensitive Demand Bids and Decrement Bids must be greater than zero MW and shall not exceed the Demand Bid Cap and Virtual Cap.

(b) **External Transactions** – All Market Participants shall submit to the ISO schedules for any External Transactions involving use of Generator Assets or the New England Transmission System as specified below, and shall inform the ISO whether the transaction is to be included in the Day-Ahead Energy Market. Any Market Participant that elects to include an External Transaction in the Day-Ahead Energy Market may specify the price (such price not to exceed the maximum price that may be specified in the ISO New England Manuals and ISO New England Administrative Procedures), if any, at which it will be curtailed rather than pay Congestion Costs. The foregoing price specification shall apply to the price difference between the Locational Marginal Prices for specified External Transaction source and

sink points in the Day-Ahead scheduling process only. Any Market Participant that deviates from its Day-Ahead External Transaction schedule or elects not to include its External Transaction in the Day-Ahead Energy Market shall be subject to Congestion Costs in the Real-Time Energy Market in order to complete any such scheduled External Transaction. Scheduling of External Transactions shall be conducted in accordance with the specifications in the ISO New England Manuals and ISO New England Administrative Procedures and the following requirements:

- (i) Market Participants shall submit schedules for all External Transaction purchases for delivery within the New England Control Area from Resources outside the New England Control Area;
  - (ii) Market Participants shall submit schedules for External Transaction sales to entities outside the New England Control Area from Resources within the New England Control Area;
  - (iii) In the Day-Ahead Energy Market, if the sum of all submitted Self-Scheduled External Transaction purchases less External Transaction sales exceeds the import capability associated with the applicable External Node, the offer prices for all Self-Scheduled External Transaction purchases at the applicable External Node shall be set equal to the Energy Offer Floor;
  - (iv) In the Day-Ahead Energy Market, if the sum of all submitted Self-Scheduled External Transaction sales less External Transaction purchases exceeds the export capability associated with the applicable External Node, the offer prices for all Self-Scheduled External Transaction sales at the applicable External Node shall be set equal to the External Transaction Cap;
  - (v) The ISO shall not consider Start-Up Fees, No-Load Fees, Notification Times or any other inter-temporal parameters in scheduling or dispatching External Transactions.
- (c) **Generator Asset Supply Offers** – Market Participants selling into the New England Markets from Generator Assets may submit Supply Offers for the supply of energy for the following Operating Day.

Such Supply Offers:

- (i) Shall specify the Resource and Blocks (price and quantity of Energy) for each hour of the Operating Day for each Resource offered by the Market Participant to the ISO. The prices and quantities in a Block may each vary on an hourly basis;
  - (ii) If based on energy from a Generator Asset internal to the New England Control Area, may specify, for Supply Offers, a Start-Up Fee and No-Load Fee for each hour of the Operating Day. Start-Up Fee and No-Load Fee may vary on an hourly basis;
  - (iii) Shall specify, for Supply Offers from a dual-fuel Generator Asset, the fuel type. The fuel type may vary on an hourly basis. A Market Participant that submits a Supply Offer using the higher cost fuel type must satisfy the consultation requirements for dual-fuel Generator Assets in Section III.A.3 of Appendix A;
  - (iv) Shall specify a Minimum Run Time to be used for commitment purposes that does not exceed 24 hours;
  - (v) Supply Offers shall constitute an offer to submit the Generator Asset to the ISO for commitment and dispatch in accordance with the terms of the Supply Offer, where such Supply Offer, with regard to operating limits, shall specify changes, including to the Economic Maximum Limit, Economic Minimum Limit and Emergency Minimum Limit, from those submitted as part of the Resource's Offer Data to reflect the physical operating characteristics and/or availability of the Resource (except that for a Limited Energy Resource, the Economic Maximum Limit may be revised to reflect an energy (MWh) limitation), which offer shall remain open through the Operating Day for which the Supply Offer is submitted; and
  - (vi) Shall, in the case of a Supply Offer from a Generator Asset associated with an Electric Storage Facility, also meet the requirements specified in Section III.1.10.6.
- (d) **DARD Demand Bids** – Market Participants participating in the New England Markets with Dispatchable Asset Related Demands may submit Demand Bids for the consumption of energy for the following Operating Day.

Such Demand Bids:

(i) Shall specify the Dispatchable Asset Related Demand and Blocks (price and Energy quantity pairs) for each hour of the Operating Day for each Dispatchable Asset Related Demand offered by the Market Participant to the ISO. The prices and quantities in a Block may each vary on an hourly basis;

(ii) Shall constitute an offer to submit the Dispatchable Asset Related Demand to the ISO for commitment and dispatch in accordance with the terms of the Demand Bid, where such Demand Bid, with regard to operating limits, shall specify changes, including to the Maximum Consumption Limit and Minimum Consumption Limit, from those submitted as part of the Resource's Offer Data to reflect the physical operating characteristics and/or availability of the Resource;

(iii) Shall specify a Minimum Consumption Limit that is less than or equal to its Nominated Consumption Limit; and

(iv) Shall, in the case of a Demand Bid from a Storage DARD, also meet the requirements specified in Section III.1.10.6.

(e) **Demand Response Resource Demand Reduction Offers** – Market Participants selling into the New England Markets from Demand Response Resources may submit Demand Reduction Offers for the supply of energy for the following Operating Day. A Demand Reduction Offer shall constitute an offer to submit the Demand Response Resource to the ISO for commitment and dispatch in accordance with the terms of the Demand Reduction Offer. Demand Reduction Offers:

(i) Shall specify the Demand Response Resource and Blocks (price and demand reduction quantity pairs) for each hour of the Operating Day. The prices and demand reduction quantities may vary on an hourly basis.

(ii) Shall not specify a price that is below the Demand Reduction Threshold Price in effect for the Operating Day. For purposes of clearing the Day-Ahead and Real-Time Energy Markets and calculating Day-Ahead and Real-Time Locational Marginal Prices and Real-Time Reserve Clearing Prices, any price specified below the Demand Reduction Threshold price in effect for the Operating Day will be considered to be equal to the Demand Reduction Threshold Price for the Operating Day.

(iii) Shall not include average avoided peak transmission or distribution losses in the demand reduction quantity.

(iv) May specify an Interruption Cost for each hour of the Operating Day, which may vary on an hourly basis.

(v) Shall specify a Minimum Reduction Time to be used for scheduling purposes that does not exceed 24 hours.

(vi) Shall specify a Maximum Reduction amount no greater than the sum of the Maximum Interruptible Capacities of the Demand Response Resource's operational Demand Response Assets.

(vii) Shall specify changes to the Maximum Reduction and Minimum Reduction from those submitted as part of the Demand Response Resource's Offer Data to reflect the physical operating characteristics and/or availability of the Demand Response Resource.

(f) **Demand Reduction Threshold Price** – The Demand Reduction Threshold Price for each month shall be determined through an analysis of a smoothed, historic supply curve for the month. The historic supply curve shall be derived from Real-Time generator and import Offer Data (excluding Coordinated External Transactions) for the same month of the previous year. The ISO may adjust the Offer Data to account for significant changes in generator and import availability or other significant changes to the historic supply curve. The historic supply curve shall be calculated as follows:

(a) Each generator and import offer Block (i.e., each price-quantity pair offered in the Real-Time Energy Market) for each day of the month shall be compiled and sorted in ascending order of price to create an unsmoothed supply curve.

(b) An unsmoothed supply curve for the month shall be formed from the price and cumulative quantity of each offer Block.

(c) A non-linear regression shall be performed on a sampled portion of the unsmoothed supply curve to produce an increasing, convex, smooth approximation of the supply curve.



- (d) A historic threshold price  $P_{th}$  shall be determined as the point on the smoothed supply curve beyond which the benefit to load from the reduced LMP resulting from the demand reduction of Demand Response Resources exceeds the cost to load associated with compensating Demand Response Resources for demand reduction.
- (e) The Demand Reduction Threshold Price for the upcoming month shall be determined by the following formula:

$$DRTP = P_{th}X - \frac{FPI_c}{FPI_h}$$

where  $FPI_h$  is the historic fuel price index for the same month of the previous year, and  $FPI_c$  is the fuel price index for the current month.

The historic and current fuel price indices used to establish the Demand Reduction Threshold Price for a month shall be based on the lesser of the monthly natural gas or heating oil fuel indices applicable to the New England Control Area, as calculated three business days before the start of the month preceding the Demand Reduction Threshold Price's effective date.

The ISO will post the Demand Reduction Threshold Price, along with the index-based fuel price values used in establishing the Demand Reduction Threshold Price, on its website by the 15<sup>th</sup> day of the month preceding the Demand Reduction Threshold Price's effective date.

(g) **Subsequent Operating Days** – Each Supply Offer, Demand Reduction Offer, or Demand Bid by a Market Participant of a Resource shall remain in effect for subsequent Operating Days until superseded or canceled except in the case of an External Transaction purchase, in which case, the Supply Offer shall remain in effect for the applicable Operating Day and shall not remain in effect for subsequent Operating Days. Hourly overrides of a Supply Offer, a Demand Reduction Offer, or a Demand Bid shall remain in effect only for the applicable Operating Day.

(h) **Load Estimate** – The ISO shall post on the internet the total hourly loads including Decrement Bids scheduled in the Day-Ahead Energy Market, as well as the ISO's estimate of the Control Area hourly load for the next Operating Day.

(i) **Prorated Supply** – In determining Day-Ahead schedules, in the event of multiple marginal Supply Offers, Demand Reduction Offers, Increment Offers and/or External Transaction purchases at a pricing location, the ISO shall clear the marginal Supply Offers, Demand Reduction Offers, Increment Offers and/or External Transaction purchases proportional to the amount of energy (MW) from each marginal offer and/or External Transaction at the pricing location. The Economic Maximum Limits, Economic Minimum Limits, Minimum Reductions and Maximum Reductions are not used in determining the amount of energy (MW) in each marginal Supply Offer or Demand Reduction Offer to be cleared on a pro-rated basis. However, the Day-Ahead schedules resulting from the pro-ration process will reflect Economic Maximum Limits, Economic Minimum Limits, Minimum Reductions and Maximum Reductions.

(j) **Prorated Demand** – In determining Day-Ahead schedules, in the event of multiple marginal Demand Bids, Decrement Bids and/or External Transaction sales at a pricing location, the ISO shall clear the marginal Demand Bids, Decrement Bids and/or External Transaction sales proportional to the amount of energy (MW) from each marginal bid and/or External Transaction at the pricing location.

(k) **Virtuals** – All Market Participants may submit Increment Offers and/or Decrement Bids that apply to the Day-Ahead Energy Market only. Such offers and bids must comply with the requirements set forth in the ISO New England Manuals and ISO New England Administrative Procedures and must specify amount, location and price, if any, at which the Market Participant desires to purchase or sell energy in the Day-Ahead Energy Market.

#### **III.1.10.2 Pool-Scheduled Resources.**

Pool-Scheduled Resources are those Resources for which Market Participants submitted Supply Offers, Demand Reduction Offers, or Demand Bids in the Day-Ahead Energy Market and which the ISO scheduled in the Day-Ahead Energy Market as well as Generator Assets, DARDs or Demand Response Resources committed by the ISO subsequent to the Day-Ahead Energy Market. Such Resources shall be committed to provide or consume energy in the Real-Time dispatch unless the schedules for such Resources are revised pursuant to Sections III.1.10.9 or III.1.11. Pool-Scheduled Resources shall be governed by the following principles and procedures.

(a) Pool-Scheduled Resources shall be selected by the ISO on the basis of the prices offered for energy supply or consumption and related services, Start-Up Fees, No-Load Fees, Interruption Cost and the specified operating characteristics, offered by Market Participants.

(b) The ISO shall optimize the dispatch of energy from Limited Energy Resources by request to minimize the as-bid production cost for the New England Control Area. In implementing the use of Limited Energy Resources, the ISO shall use its best efforts to select the most economic hours of operation for Limited Energy Resources, in order to make optimal use of such Resources in the Day-Ahead Energy Market consistent with the Supply Offers and Demand Reduction Offers of other Resources, the submitted Demand Bids and Decrement Bids and Operating Reserve and Replacement Reserve requirements.

(c) Market Participants offering energy from facilities with fuel or environmental limitations may submit data to the ISO that is sufficient to enable the ISO to determine the available operating hours of such facilities.

(d) Market Participants shall make available their Pool-Scheduled Resources to the ISO for coordinated operation to supply the needs of the New England Control Area for energy and ancillary services.

#### **III.1.10.3 Self-Scheduled Resources.**

A Resource that is Self-Scheduled shall be governed by the following principles and procedures. The minimum duration of a Self-Schedule for a Generator Asset or DARD shall not result in the Generator Asset or DARD operating for less than its Minimum Run Time. A Generator Asset that is online as a result of a Self-Schedule will be dispatched above its Economic Minimum Limit based on the economic merit of its Supply Offer. A DARD that is consuming as a result of a Self-Schedule may be dispatched above its Minimum Consumption Limit based on the economic merit of its Demand Bid. A Demand Response Resource shall not be Self-Scheduled.

#### **III.1.10.4 External Resources.**

Market Participants with External Resources may submit External Transactions as detailed in Section III.1.10.7 and Section III.1.10.7.A of this Market Rule 1.

#### **III.1.10.5 Dispatchable Asset Related Demand.**

(a) External Transactions that are sales to an external Control Area are not eligible to be Dispatchable Asset Related Demands.

(b) A Market Participant with a Dispatchable Asset Related Demand in the New England Control Area must:

- (i) notify the ISO of any outage (including partial outages) that may reduce the Dispatchable Asset Related Demand's ability to respond to Dispatch Instructions and the expected return date from the outage;
- (ii) in accordance with the ISO New England Manuals and Operating Procedures, perform audit tests and submit the results to the ISO or provide to the ISO appropriate historical production data;
- (iii) abide by the ISO maintenance coordination procedures; and
- (iv) provide information reasonably requested by the ISO, including the name and location of the Dispatchable Asset Related Demand.

#### **III.1.10.6 Electric Storage**

A storage facility is a facility that is capable of receiving electricity from the grid and storing the energy for later injection of electricity back to the grid. A storage facility may participate in the New England Markets as described below.

(a) A storage facility that satisfies the requirements of this subsection (a) may participate in the New England Markets as an Electric Storage Facility. An Electric Storage Facility shall:

- (i) comprise one or more storage facilities at the same point of interconnection;
- (ii) have the ability to inject at least 0.1 MW and consume at least 0.1 MW;
- (iii) be directly metered;
- (iv) be registered as, and subject to all rules applicable to, a dispatchable Generator Asset;
- (v) be registered as, and subject to all rules applicable to, a DARD that represents the same equipment as the Generator Asset;
- (vi) settle its injection of electricity to the grid as a Generator Asset and its receipt of electricity from the grid as a DARD;
- (vii) not be precluded from providing retail services so long as it is able to fulfill its wholesale Energy Market and Forward Capacity Market obligations including, but not limited to, satisfying meter data reporting requirements and notifying the ISO of any changes to operational capabilities; and
- (viii) meet the requirements of either a Binary Storage Facility or a Continuous Storage Facility, as described in subsections (b) and (c) below.

(b) A storage facility that satisfies the requirements of this subsection (b) may participate in the New England Markets as a Binary Storage Facility. A Binary Storage Facility shall:

- (i) satisfy the requirements applicable to an Electric Storage Facility; and
- (ii) offer its Generator Asset and DARD into the Energy Market as Rapid Response Pricing Assets; and
- (iii) be issued Dispatch Instructions in a manner that ensures the facility is not required to consume and inject simultaneously.

(c) A storage facility that satisfies the requirements of this subsection (c) may participate in the New England Markets as a Continuous Storage Facility. A Continuous Storage Facility shall:

- (i) satisfy the requirements applicable to an Electric Storage Facility;
- (ii) be registered as, may provide Regulation as, and is subject to all rules applicable to, an ATRR that represents the same equipment as the Generator Asset and DARD;
- (iii) be capable of transitioning between the facility's maximum output and maximum consumption (and vice versa) in ten minutes or less;
- (iv) not utilize storage capability that is shared with another Generator Asset, DARD or ATRR;
- (v) specify in Supply Offers a zero MW value for Economic Minimum Limit and Emergency Minimum Limit (except for Generator Assets undergoing Facility and Equipment Testing or auditing); a zero time value for Minimum Run Time, Minimum Down Time, Notification Time, and Start-Up Time; and a zero cost value for Start-Up Fee and No-Load Fee;
- (vi) specify in Demand Bids a zero MW value for Minimum Consumption Limit (except for DARDs undergoing Facility and Equipment Testing or auditing) and a zero time value for Minimum Run Time and Minimum Down Time;
- (vii) be Self-Scheduled in the Day-Ahead Energy Market and Real-Time Energy Market, and operate in an on-line state, unless the facility is declared unavailable by the Market Participant; and
- (viii) be issued a combined dispatch control signal equal to the Desired Dispatch Point (of the Generator Asset) minus the Desired Dispatch Point (of the DARD) plus the AGC SetPoint (of the ATRR).

(d) A storage facility shall comply with all applicable registration, metering, and accounting rules including, but not limited to, the following:

- (i) A Market Participant wishing to purchase energy from the ISO-administered wholesale markets must first, jointly with its Host Participant, register one or more wholesale Load Assets with the ISO as described in ISO New England Manual M-28 and ISO New England Manual M-RPA; where the Market Participant wishes to register an Electric Storage Facility, the registered Load Asset must be a DARD.
  - (ii) A storage facility's charging energy shall not qualify as, or be billed to, a Storage DARD if that facility's charging energy is included in another Load Asset. A storage facility registered as a DARD will be charged the nodal Locational Marginal Price by the ISO and the Market Participant will not pay twice for the same charging energy.
  - (iii) The registration and metering of all Assets must comply with ISO New England Operating Procedure No. 14 and ISO New England Operating Procedure No. 18, including with the requirement that an Asset's revenue metering must comply with the accuracy requirements found in ISO New England Operating Procedure No. 18.
  - (iv) Pursuant to ISO New England Manual M-28, the Assigned Meter Reader, the Host Participant, and the ISO provide the data for use in the daily settlement process within the timelines described in the manual. The data may be five-minute interval data, and may be no more than hourly data, as described in Section III.3.2 and in ISO New England Manual M-28.
  - (v) Based on the Metered Quantity For Settlement and the Locational Marginal Price in the settlement interval, the ISO shall conduct all Energy Market accounting pursuant to Section III.3.2.1.
- (e) A facility registered as a dispatchable Generator Asset, an ATRR, and a DARD that each represent the same equipment must participate as a Continuous Storage Facility.
- (f) A storage facility not participating as an Electric Storage Facility may, if it satisfies the associated requirements, be registered as a Generator Asset (including a Settlement Only Resource) for settlement of its injection of electricity to the grid and as an Asset Related Demand for settlement of its wholesale load.
- (g) A storage facility may, if it satisfies the associated requirements, be registered as a Demand Response Asset. (As described in Section III.8.1.1, a Demand Response Asset and a Generator Asset may not be registered at the same end-use customer facility unless the Generator Asset is separately metered

and reported and its output does not reduce the load reported at the Retail Delivery Point of the Demand Response Asset.)

- (h) A storage device may, if it satisfies the associated requirements, be registered as a component of either an On-Peak Demand Resource or a Seasonal Peak Demand Resource.
- (i) A storage facility may, if it satisfies the associated requirements, provide Regulation pursuant to Section III.14.

#### **III.1.10.7 External Transactions.**

The provisions of this Section III.1.10.7 do not apply to Coordinated External Transactions.

- (a) Market Participants that submit an External Transaction in the Day-Ahead Energy Market must also submit a corresponding External Transaction in the Real-Time Energy Market in order to be eligible for scheduling in the Real-Time Energy Market. Priced External Transactions for the Real-Time Energy Market must be submitted by the offer submission deadline for the Day-Ahead Energy Market.
- (b) Priced External Transactions submitted in both the Day-Ahead Energy Market and the Real-Time Energy Market will be treated as Self-Scheduled External Transactions in the Real-Time Energy Market for the associated megawatt amounts that cleared the Day-Ahead Energy Market, unless the Market Participant modifies the price component of its Real-Time offer during the Re-Offer Period.
- (c) Any External Transaction, or portion thereof, submitted to the Real-Time Energy Market that did not clear in the Day-Ahead Energy Market will not be scheduled in Real-Time if the ISO anticipates that the External Transaction would create or worsen an Emergency. External Transactions cleared in the Day-Ahead Energy Market and associated with a Real-Time Energy Market submission will continue to be scheduled in Real-Time prior to and during an Emergency, until the procedures governing the Emergency, as set forth in ISO New England Operating Procedure No. 9, require a change in schedule.
- (d) External Transactions submitted to the Real-Time Energy Market must contain the associated e-Tag ID and transmission reservation, if required, at the time the transaction is submitted to the Real-Time Energy Market.
- (e) [Reserved.]

(f) External Transaction sales meeting all of the criteria for any of the transaction types described in (i) through (iv) below receive priority in the scheduling and curtailment of transactions as set forth in Section II.44 of the OATT. External Transaction sales meeting all of the criteria for any of the transaction types described in (i) through (iv) below are referred to herein and in the OATT as being supported in Real-Time.

(i) Capacity Export Through Import Constrained Zone Transactions:

(1) The External Transaction is exporting across an external interface located in an import-constrained Capacity Zone that cleared in the Forward Capacity Auction with price separation, as determined in accordance with Section III.12.4 and Section III.13.2.3.4 of Market Rule 1;

(2) The External Transaction is directly associated with an Export Bid or Administrative Export De-List Bid that cleared in the Forward Capacity Auction, and the megawatt amount of the External Transaction is less than or equal to the megawatt amount of the cleared Export Bid;

(3) The External Node associated with the cleared Export Bid or Administrative Export De-List Bid is connected to the import-constrained Capacity Zone, and is not connected to a Capacity Zone that is not import-constrained;

(4) The Resource, or portion thereof, that is associated with the cleared Export Bid or Administrative Export De-List Bid is not located in the import-constrained Capacity Zone;

(5) The External Transaction has been submitted and cleared in the Day-Ahead Energy Market;

(6) A matching External Transaction has also been submitted into the Real-Time Energy Market by the end of the Re-Offer Period for Self-Scheduled External Transactions, and, in accordance with Section III.1.10.7(a), by the offer submission deadline for the Day-Ahead Energy Market for priced External Transactions.

(ii) FCA Cleared Export Transactions:



(1) The External Transaction sale is exporting to an External Node that is connected only to an import-constrained Reserve Zone;

(2) The External Transaction sale is directly associated with an Export Bid or an Administrative Export De-List Bid that cleared in the Forward Capacity Auction, and the megawatt amount of the External Transaction is less than or equal to the megawatt amount of the cleared Export Bid;

(3) The Resource, or portion thereof, without a Capacity Supply Obligation associated with the Export Bid or Administrative Export De-List Bid is located outside the import-constrained Reserve Zone;

(4) The External Transaction sale is submitted and cleared in the Day-Ahead Energy Market;

(5) A matching External Transaction has also been submitted into the Real-Time Energy Market by the end of the Re-Offer Period for Self-Scheduled External Transactions, and, in accordance with Section III.1.10.7(a), by the offer submission deadline for the Day-Ahead Energy Market for priced External Transactions.

(iii) Same Reserve Zone Export Transactions:

(1) A Resource, or portion thereof, without a Capacity Supply Obligation is associated with the External Transaction sale, and the megawatt amount of the External Transaction is less than or equal to the portion of the Resource without a Capacity Supply Obligation;

(2) The External Node of the External Transaction sale is connected only to the same Reserve Zone in which the associated Resource, or portion thereof, without a Capacity Supply Obligation is located;

(3) The Resource, or portion thereof, without a Capacity Supply Obligation is Self-Scheduled in the Real-Time Energy Market and online at a megawatt level greater than or equal to the External Transaction sale's megawatt amount;

(4) Neither the External Transaction sale nor the portion of the Resource without a Capacity Supply Obligation is required to offer into the Day-Ahead Energy Market.

(iv) Unconstrained Export Transactions:

(1) A Resource, or portion thereof, without a Capacity Supply Obligation is associated with the External Transaction sale, and the megawatt amount of the External Transaction is less than or equal to the portion of the Resource without a Capacity Supply Obligation;

(2) The External Node of the External Transaction sale is not connected only to an import-constrained Reserve Zone;

(3) The Resource, or portion thereof, without a Capacity Supply Obligation is not separated from the External Node by a transmission interface constraint as determined in Sections III.12.2.1(b) and III.12.2.2(b) of Market Rule 1 that was binding in the Forward Capacity Auction in the direction of the export;

(4) The Resource, or portion thereof, without a Capacity Supply Obligation is Self-Scheduled in the Real-Time Energy Market and online at a megawatt level greater than or equal to the External Transaction sale's megawatt amount;

(5) Neither the External Transaction sale, nor the portion of the Resource without a Capacity Supply Obligation is required to offer into the Day-Ahead Energy Market.

(g) Treatment of External Transaction sales in ISO commitment for local second contingency protection.

(i) Capacity Export Through Import Constrained Zone Transactions and FCA Cleared Export Transactions: The transaction's export demand that clears in the Day-Ahead Energy Market will be explicitly considered as load in the exporting Reserve Zone by the ISO when committing Resources to provide local second contingency protection for the associated Operating Day.

(ii) The export demand of External Transaction sales not meeting the criteria in (i) above is not considered by the ISO when planning and committing Resources to provide local second contingency protection, and is assumed to be zero.

(iii) Same Reserve Zone Export Transactions and Unconstrained Export Transactions: If a Resource, or portion thereof, without a Capacity Supply Obligation is committed to be online during the Operating Day either through clearing in the Day-Ahead Energy Market or through Self-Scheduling subsequent to the Day-Ahead Energy Market and a Same Reserve Zone Export Transaction or Unconstrained Export Transaction is submitted before the end of the Re-Offer Period designating that Resource as supporting the transaction, the ISO will not utilize the portion of the Resource without a Capacity Supply Obligation supporting the export transaction to meet local second contingency protection requirements. The eligibility of Resources not meeting the foregoing criteria to be used to meet local second contingency protection requirements shall be in accordance with the relevant provisions of the ISO New England System Rules.

(h) Allocation of costs to Capacity Export Through Import Constrained Zone Transactions and FCA Cleared Export Transactions: Market Participants with Capacity Export Through Import Constrained Zone Transactions and FCA Cleared Export Transactions shall incur a proportional share of the charges described below, which are allocated to Market Participants based on Day-Ahead Load Obligation or Real-Time Load Obligation. The share shall be determined by including the Day-Ahead Load Obligation or Real-Time Load Obligation associated with the External Transaction, as applicable, in the total Day-Ahead Load Obligation or Real-Time Load Obligation for the appropriate Reliability Region, Reserve Zone, or Load Zone used in each cost allocation calculation:

(i) NCPC for Local Second Contingency Protection Resources allocated within the exporting Reliability Region, pursuant to Section III.F.3.3.

(ii) Forward Reserve Market charges allocated within the exporting Load Zone, pursuant to Section III.9.9.

(iii) Real-Time Reserve Charges allocated within the exporting Load Zone, pursuant to Section III.10.3.

(i) When action is taken by the ISO to reduce External Transaction sales due to a system wide capacity deficient condition or the forecast of such a condition, and an External Transaction sale designates a Resource, or portion of a Resource, without a Capacity Supply Obligation, to support the transaction, the ISO will review the status of the designated Resource. If the designated Resource is Self-Scheduled and online at a megawatt level greater than or equal to the External Transaction sale, that External Transaction sale will not be reduced until such time as Regional Network Load within the New England Control Area is also being reduced. When reductions to such transactions are required, the affected transactions shall be reduced pro-rata.

(j) Market Participants shall submit External Transactions as megawatt blocks with intervals of one hour at the relevant External Node. External Transactions will be scheduled in the Day-Ahead Energy Market as megawatt blocks for hourly durations. The ISO may dispatch External Transactions in the Real-Time Energy Market as megawatt blocks for periods of less than one hour, to the extent allowed pursuant to inter-Control Area operating protocols.

#### **III.1.10.7.A Coordinated Transaction Scheduling.**

The provisions of this Section III.1.10.7.A apply to Coordinated External Transactions, which are implemented at the New York Northern AC external Location.

(a) Market Participants that submit a Coordinated External Transaction in the Day-Ahead Energy Market must also submit a corresponding Coordinated External Transaction, in the form of an Interface Bid, in the Real-Time Energy Market in order to be eligible for scheduling in the Real-Time Energy Market.

(b) An Interface Bid submitted in the Real-Time Energy Market shall specify a duration consisting of one or more consecutive 15-minute increments. An Interface Bid shall include a bid price, a bid quantity, and a bid direction for each 15-minute increment. The bid price may be positive or negative. An Interface Bid may not be submitted or modified later than 75 minutes before the start of the clock hour for which it is offered.

(c) Interface Bids are cleared in economic merit order for each 15-minute increment, based upon the forecasted real-time price difference across the external interface. The total quantity of Interface Bids cleared shall determine the external interface schedule between New England and the adjacent Control Area. The total quantity of Interface Bids cleared shall depend upon, among other factors, bid production

costs of resources in both Control Areas, the Interface Bids of all Market Participants, transmission system conditions, and any real-time operating limits necessary to ensure reliable operation of the transmission system.

(d) All Coordinated External Transactions submitted either to the Day-Ahead Energy Market or the Real-Time Energy Market must contain the associated e-Tag ID at the time the transaction is submitted.

(e) Any Coordinated External Transaction, or portion thereof, submitted to the Real-Time Energy Market will not be scheduled in Real-Time if the ISO anticipates that the External Transaction would create or worsen an Emergency, unless the procedures governing the Emergency, as set forth in ISO New England Operating Procedure No. 9, permit the transaction to be scheduled.

#### **III.1.10.8 ISO Responsibilities.**

(a) The ISO shall use its best efforts to determine (i) the least-cost means of satisfying hourly purchase requests for energy, the projected hourly requirements for Operating Reserve, Replacement Reserve and other ancillary services of the Market Participants, including the reliability requirements of the New England Control Area, of the Day-Ahead Energy Market, and (ii) the least-cost means of satisfying the Operating Reserve, Replacement Reserve and other ancillary service requirements for any portion of the load forecast of the ISO for the Operating Day in excess of that scheduled in the Day-Ahead Energy Market. In making these determinations, the ISO shall take into account: (i) the ISO's forecasts of New England Markets and New England Control Area energy requirements, giving due consideration to the energy requirement forecasts and purchase requests submitted by Market Participants for the Day-Ahead Energy Market; (ii) the offers and bids submitted by Market Participants; (iii) the availability of Limited Energy Resources; (iv) the capacity, location, and other relevant characteristics of Self-Scheduled Resources; (v) the requirements of the New England Control Area for Operating Reserve and Replacement Reserve, as specified in the ISO New England Manuals and ISO New England Administrative Procedures; (vi) the requirements of the New England Control Area for Regulation and other ancillary services, as specified in the ISO New England Manuals and ISO New England Administrative Procedures; (vii) the benefits of avoiding or minimizing transmission constraint control operations, as specified in the ISO New England Manuals and ISO New England Administrative Procedures; and (viii) such other factors as the ISO reasonably concludes are relevant to the foregoing determination. The ISO shall develop a Day-Ahead Energy schedule based on the applicable portions of the foregoing determination, and shall determine the Day-Ahead Prices resulting from such schedule. (b)

Not later than 1:30 p.m. of the day before each Operating Day, or such earlier deadline as may be

specified by the ISO in the ISO New England Manuals and ISO New England Administrative Procedures or such later deadline as necessary to account for software failures or other events, the ISO shall: (i) post the aggregate Day-Ahead Energy schedule; (ii) post the Day-Ahead Prices; and (iii) inform the Market Participants of their scheduled injections and withdrawals. In the event of an Emergency, the ISO will notify Market Participants as soon as practicable if the Day-Ahead Energy Market can not be operated.

(c) Following posting of the information specified in Section III.1.10.8(b), the ISO shall revise its schedule of Resources to reflect updated projections of load, conditions affecting electric system operations in the New England Control Area, the availability of and constraints on limited energy and other Resources, transmission constraints, and other relevant factors.

(d) Market Participants shall pay and be paid for the quantities of energy scheduled in the Day-Ahead Energy Market at the Day-Ahead Prices.

#### **III.1.10.9 Hourly Scheduling.**

(a) Following the initial posting by the ISO of the Locational Marginal Prices resulting from the Day-Ahead Energy Market, and subject to the right of the ISO to schedule and dispatch Resources and to direct that schedules be changed to address an actual or potential Emergency, a Resource Re-Offer Period shall exist from the time of the posting specified in Section III.1.10.8(b) until 2:00 p.m. on the day before each Operating Day or such other Re-Offer Period as necessary to account for software failures or other events. During the Re-Offer Period, Market Participants may submit revisions to Supply Offers, revisions to Demand Reduction Offers, and revisions to Demand Bids for any Dispatchable Asset Related Demand. Resources scheduled subsequent to the closing of the Re-Offer Period shall be settled at the applicable Real-Time Prices, and shall not affect the obligation to pay or receive payment for the quantities of energy scheduled in the Day-Ahead Energy Market at the applicable Day-Ahead Prices.

(b) During the Re-Offer Period, Market Participants may submit revisions to the price of priced External Transactions. External Transactions scheduled subsequent to the closing of the Re-Offer Period shall be settled at the applicable Real-Time Prices, and shall not affect the obligation to pay or receive payment for the quantities of energy scheduled in the Day-Ahead Energy Market at the applicable Day-Ahead Prices. A submission during the Re-Offer Period for any portion of a transaction that was cleared in the Day-Ahead Energy Market is subject to the provisions in Section III.1.10.7. A Market Participant may request to Self-Schedule an External Transaction and adjust the schedule on an hour-to-hour basis or request to reduce the quantity of a priced External Transaction. The ISO must be notified of the request not later than 60 minutes prior to the hour in which the adjustment is to take effect. The External

Transaction re-offer provisions of this Section III.1.10.9(b) shall not apply to Coordinated External Transactions, which are submitted pursuant to Section III.1.10.7.A.

(c) Following the completion of the initial Reserve Adequacy Analysis and throughout the Operating Day, a Market Participant may modify certain Supply Offer or Demand Bid parameters for a Generator Asset or a Dispatchable Asset Related Demand on an hour-to-hour basis, provided that the modification is made no later than 30 minutes prior to the beginning of the hour for which the modification is to take effect:

- (i) For a Generator Asset, the Start-Up Fee, the No-Load Fee, the fuel type (for dual-fuel Generator Assets), and the quantity and price pairs of its Blocks may be modified.
- (ii) For a Dispatchable Asset Related Demand, the quantity and price pairs of its Blocks may be modified.

(d) Following the completion of the initial Reserve Adequacy Analysis and throughout the Operating Day, a Market Participant may not modify any of the following Demand Reduction Offer parameters: price and demand reduction quantity pairs, Interruption Cost, Demand Response Resource Start-Up Time, Demand Response Resource Notification Time, Minimum Reduction Time, and Minimum Time Between Reductions.

(e) During the Operating Day, a Market Participant may request to Self-Schedule a Generator Asset or Dispatchable Asset Related Demand or may request to cancel a Self-Schedule for a Generator Asset or Dispatchable Asset Related Demand. The ISO will honor the request so long as it will not cause or worsen a reliability constraint. If the ISO is able to honor a Self-Schedule request, a Generator Asset will be permitted to come online at its Economic Minimum Limit and a Dispatchable Asset Related Demand will be dispatched to its Minimum Consumption Limit. A Market Participant may not request to Self-Schedule a Demand Response Resource. A Market Participant may cancel the Self-Schedule of a Continuous Storage Generator Asset or a Continuous Storage DARD only by declaring the facility unavailable.

(f) During the Operating Day, in the event that in a given hour a Market Participant seeks to modify a Supply Offer or Demand Bid after the deadline for modifications specified in Section III.1.10.9(c), then:

- (i) the Market Participant may request that a Generator Asset be dispatched above its Economic Minimum Limit at a specified output. The ISO will honor the request so long as it will not cause or worsen a reliability constraint. If the ISO is able to honor the

request, the Generator Asset will be dispatched as though it had offered the specified output for the hour in question at the Energy Offer Floor.

- (ii) the Market Participant may request that a Dispatchable Asset Related Demand be dispatched above its Minimum Consumption Limit at a specified value. The ISO will honor the request so long as it will not cause or worsen a reliability constraint. If the ISO is able to honor the request, the Dispatchable Asset Related Demand will be dispatched at or above the requested amount for the hour in question.
- (g) During the Operating Day, in any interval in which a Generator Asset is providing Regulation, the upper limit of its energy dispatch range shall be reduced by the amount of Regulation Capacity, and the lower limit of its energy dispatch range shall be increased by the amount of Regulation Capacity. Any such adjustment shall not affect the Real-Time Reserve Designation.
- (h) During the Operating Day, in any interval in which a Continuous Storage ATRR is providing Regulation, the upper limit of the associated Generator Asset's energy dispatch range shall be reduced by the Regulation High Limit, and the associated DARD's consumption dispatch range shall be reduced by the Regulation Low Limit. Any such adjustment shall not affect the Real-Time Reserve Designation.
- (i) For each hour in the Operating Day, as soon as practicable after the deadlines specified in the foregoing subsection of this Section III.1.10, the ISO shall provide Market Participants and parties to External Transactions with any revisions to their schedules for the hour.

### **III.1.11 Dispatch.**

The following procedures and principles shall govern the dispatch of the Resources available to the ISO.

#### **III.1.11.1 Resource Output or Consumption and Demand Reduction.**

The ISO shall have the authority to direct any Market Participant to adjust the output, consumption or demand reduction of any Dispatchable Resource within the operating characteristics specified in the Market Participant's Offer Data, Supply Offer, Demand Reduction Offer or Demand Bid. The ISO may cancel its selection of, or otherwise release, Pool-Scheduled Resources. The ISO shall adjust the output, consumption or demand reduction of Resources as necessary: (a) for both Dispatchable Resources and Non-Dispatchable Resources, to maintain reliability, and subject to that constraint, for Dispatchable Resources, (b) to minimize the cost of supplying the energy, reserves, and other services required by the



Market Participants and the operation of the New England Control Area; (c) to balance supply and demand, maintain scheduled tie flows, and provide frequency support within the New England Control Area; and (d) to minimize unscheduled interchange that is not frequency related between the New England Control Area and other Control Areas.

#### **III.1.11.2 Operating Basis.**

In carrying out the foregoing objectives, the ISO shall conduct the operation of the New England Control Area and shall, in accordance with the ISO New England Manuals and ISO New England Administrative Procedures, (i) utilize available Operating Reserve and replace such Operating Reserve when utilized; and (ii) monitor the availability of adequate Operating Reserve.

#### **III.1.11.3 Dispatchable Resources.**

With the exception of Settlement Only Resources, Generator Assets that meet the size criteria to be Settlement Only Resources, External Transactions, nuclear-powered Resources and solar Resources, all Resources must be Dispatchable Resources in the Energy Market and meet the technical specifications in ISO New England Operating Procedure No. 14 and ISO New England Operating Procedure No. 18 for dispatchability.

A Market Participant that does not meet the requirement for a Dispatchable Resource to be dispatchable in the Energy Market because the Resource is not connected to a remote terminal unit meeting the requirements of ISO New England Operating Procedure No. 18 shall take the following steps:

1. By January 15, 2017, the Market Participant shall submit to the ISO a circuit order form for the primary and secondary communication paths for the remote terminal unit.
2. The Market Participant shall work diligently with the ISO to ensure the Resource is able to receive and respond to electronic Dispatch Instructions within twelve months of the circuit order form submission.

A Market Participant that does not meet the requirement for a Dispatchable Resource to be dispatchable in the Energy Market by the deadline set forth above shall provide the ISO with a written plan for remedying the deficiencies, and shall identify in the plan the specific actions to be taken and a reasonable timeline for rendering the Resource dispatchable. The Market Participant shall complete the remediation in accordance with and under the timeline set forth in the written plan. Until a Resource is dispatchable, it may only be Self-Scheduled in the Real-Time Energy Market and shall otherwise be treated as a Non-Dispatchable Resource.

Dispatchable Resources in the Energy Market are subject to the following requirements:

- (a) The ISO shall optimize the dispatch of energy from Limited Energy Resources by request to minimize the as-bid production cost for the New England Control Area. In implementing the use of Limited Energy Resources, the ISO shall use its best efforts to select the most economic hours of operation for Limited Energy Resources, in order to make optimal use of such Resources consistent with the dynamic load-following requirements of the New England Control Area and the availability of other Resources to the ISO.
- (b) The ISO shall implement the dispatch of energy from Dispatchable Resources and the designation of Real-Time Operating Reserve to Dispatchable Resources, including the dispatchable portion of Resources which are otherwise Self-Scheduled, by sending appropriate signals and instructions to the entity controlling such Resources. Each Market Participant shall ensure that the entity controlling a Dispatchable Resource offered or made available by that Market Participant complies with the energy dispatch signals and instructions transmitted by the ISO.
- (c) The ISO shall have the authority to modify a Market Participant's operational related Offer Data for a Dispatchable Resource if the ISO observes that the Market Participant's Resource is not operating in accordance with such Offer Data. The ISO shall modify such operational related Offer Data based on observed performance and such modified Offer Data shall remain in effect until either (i) the affected Market Participant requests a test to be performed, and coordinates the testing pursuant to the procedures specified in the ISO New England Manuals, and the results of the test justify a change to the Market Participant's Offer Data or (ii) the ISO observes, through actual performance, that modification to the Market Participant's Offer Data is justified.
- (d) Market Participants shall exert all reasonable efforts to operate, or ensure the operation of, their Dispatchable Resources in the New England Control Area as close to dispatched output, consumption or demand reduction levels as practical, consistent with Good Utility Practice.
- (e) Settlement Only Resources are not eligible to be DNE Dispatchable Generators.

Wind and hydro Intermittent Power Resources that are not Settlement Only Resources are required to receive and respond to Do Not Exceed Dispatch Points, except as follows:

- (i) A wind or hydro Intermittent Power Resource not capable of receiving and responding to electronic Dispatch Instructions will be manually dispatched.

(ii) A Market Participant may elect, but is not required, to have a wind or hydro Intermittent Power Resource that is less than 5 MW and is connected through transmission facilities rated at less than 115 kV be dispatched as a DNE Dispatchable Generator.

(iii) A Market Participant with a hydro Intermittent Power Resource that is able to operate within a dispatchable range and is capable of responding to Dispatch Instructions to increase or decrease output within its dispatchable range may elect to have that resource dispatched as a DDP Dispatchable Resource.

(f) The ISO may request that dual-fuel Generator Assets that normally burn natural gas voluntarily take all necessary steps (within the limitations imposed by the operating limitations of their installed equipment and their environmental and operating permits) to prepare to switch to secondary fuel in anticipation of natural gas supply shortages. The ISO may request that Market Participants with dual-fuel Generator Assets that normally burn natural gas voluntarily switch to a secondary fuel in anticipation of natural gas supply shortages. The ISO may communicate with Market Participants with dual-fuel Generator Assets that normally burn natural gas to verify whether the Market Participants have switched or are planning to switch to an alternate fuel.

#### **III.1.11.4 Emergency Condition.**

If the ISO anticipates or declares an Emergency Condition, all External Transaction sales out of the New England Control Area that are not backed by a Resource may be interrupted, in accordance with the ISO New England Manuals, in order to serve load and Operating Reserve in the New England Control Area.

#### **III.1.11.5 Dispatchability Requirements for Intermittent Power Resources.**

- (a) Intermittent Power Resources that are Dispatchable Resources with Supply Offers that do not clear in the Day-Ahead Energy Market and are not committed by the ISO prior to or during the Operating Day must be Self-Scheduled in the Real-Time Energy Market at the Resource's Economic Minimum Limit in order to operate in Real-Time.
- (b) Intermittent Power Resources that are not Settlement Only Resources, are not Dispatchable Resources, and are not committed by the ISO prior to or during the Operating Day must be Self-Scheduled in the Real-Time Energy Market with the Resource's Economic Maximum Limit and Economic Minimum Limit redeclared to the same value in order to operate in Real-Time. Redclarations must be updated throughout the Operating Day to reflect actual operating capabilities.
- (c) Wind and solar Generator Assets that are not Settlement Only Resources shall electronically transmit meteorological and forced outage data, as specified below, to the ISO, over a secure

network, using the protocol specified in the ISO Operating Documents, for the development and deployment of wind and solar power production forecasts.

Wind Generator Assets that are not Settlement Only Resources shall provide the ISO with the following site-specific meteorological and forced outage data in the manner described in the ISO Operating Documents:

- (i) at least once every 30 seconds: wind speed, and wind direction;
- (ii) at least once every 5 minutes: ambient air temperature, standard deviation of ambient air temperature, ambient air pressure, standard deviation of ambient air pressure, ambient air relative humidity, and standard deviation of ambient air relative humidity;
- (iii) at least once every 5 minutes: Real-Time High Operating Limit, Wind High Limit, wind turbine counts; and
- (iv) at least once every hour at the top of the hour for the next 48 hours and by 1000 each day for the next 49 to 168 hours: Wind Plant Future Availability.

Solar Generator Assets that are not Settlement Only Resources shall provide the ISO with the following site-specific meteorological and forced outage data in the manner described in the ISO Operating Documents:

- (i) at least once every 5 minutes: ambient air temperature, standard deviation of ambient air temperature, ambient air pressure, standard deviation of ambient air pressure, ambient air relative humidity, standard deviation of ambient air relative humidity, irradiance, wind speed, and wind direction;
- (ii) at least once every 5 minutes: Real-Time High Operating Limit, and Solar High Limit; and
- (iii) at least once every hour at the top of the hour for the next 48 hours and by 1000 each day for the next 49 to 168 hours: Solar Plant Future Availability.

#### **III.1.11.6 Non-Dispatchable Resources.**

Non-Dispatchable Resources are subject to the following requirements:

- (a) The ISO shall have the authority to modify a Market Participant's operational related Offer Data for a Non-Dispatchable Resource if the ISO observes that the Market Participant's Resource is not operating in accordance with such Offer Data. The ISO shall modify such operational related Offer Data based on observed performance and such modified Offer Data shall remain in effect until either (i) the affected Market Participant requests a test to be performed and coordinates the testing pursuant to the procedures specified in the ISO New England Manuals, and the results of the test justify a change to the Market Participant's Offer Data or (ii) the ISO observes, through actual performance, that modification to the Market Participant's Offer Data is justified.
  
- (b) Market Participants with Non-Dispatchable Resources shall exert all reasonable efforts to operate or ensure the operation of their Resources in the New England Control Area as close to dispatched levels as practical when dispatched by the ISO for reliability, consistent with Good Utility Practice.

**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

**ISO New England Inc. and  
New England Power Pool**

**Docket No. ER21-\_\_\_\_-000**

## TESTIMONY OF STEPHEN M. GEORGE

## I. INTRODUCTION

**Q: PLEASE STATE YOUR NAME, POSITION, AND BUSINESS ADDRESS.**

A: My name is Stephen M. George. I am employed by ISO New England Inc. (the “ISO” or “ISO-NE”), where I am Manager of Operational Performance, Training and Integration in the System Operations and Market Administration Department. My business address is One Sullivan Road, Holyoke, MA, 01040.

**Q: PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE AND EDUCATIONAL BACKGROUND.**

A: As Manager of Operational Performance, Training and Integration, I am responsible for the team assigned to support the System Operations and Market Administration Department through project management and integration, training of system operators and operations support personnel, administration of operational procedures and documentation, and human performance improvement.

1 I have been with the ISO since 2004. From December 2004 to April 2010, I was  
2 a System Operator, and from May 2010 to June 2011 I was a Senior System  
3 Operator. From July 2011 to August 2012, I was a Lead Business Analyst in the  
4 Operational, Performance, Training and Integration group. Prior to becoming the  
5 Manager of Operational Performance, Training and Integration, from September  
6 2012 to August 2016, I was Supervisor, Operations Analysis and Integration.

7  
8 Before joining the ISO in 2004, I served in the U.S. Navy for six years as a  
9 submarine nuclear propulsion plant operator. As such, I have more than 23 years  
10 of energy industry experience in control room and system operations.

11  
12 I hold a Bachelor of Science in Applied Science and Technology, Nuclear  
13 Engineering Technology from Thomas Edison State University and a Master of  
14 Business Administration from the University of Massachusetts.

15

16 **Q: WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

17 A: The purpose of my testimony is to explain proposed revisions to the ISO New  
18 England Transmission, Markets and Services Tariff (“Tariff”), the result of which  
19 will be that most “front-of-the-meter” solar facilities will be required to provide  
20 operational and meteorological data to the ISO. The solar operational and  
21 meteorological data requirements are similar to those currently in place for wind-  
22 powered facilities, which currently reside in the Large Generator Interconnection

1 Agreement (“LGIA”),<sup>1</sup> part of Schedule 22 of the ISO New England Open Access  
2 Transmission Tariff. As part of this filing, wind and solar data requirements will  
3 be included in Market Rule 1. As provided in the Tariff changes, additional  
4 details will be included in ISO-NE Operating Procedures for both the wind and  
5 solar data requirements respectively. They will be included in Appendices F and  
6 H to ISO New England Operating Procedure No. 14 - Technical Requirements for  
7 Generators, Demand Response Resources, Asset Related Demands, and  
8 Alternative Technology Regulation Resources (“OP-14”).  
9

10 **Q: WHY DOES THE ISO NEED SOLAR FACILITIES TO PROVIDE**  
11 **OPERATIONAL AND METEOROLOGICAL DATA?**  
12

13 A: The ISO needs solar facilities to provide the operational and meteorological data  
14 described in the proposed Tariff revisions so that it can continue to reliably and  
15 efficiently operate the system as the penetration of solar facilities increases over  
16 the next several years.  
17

18 **Q: PLEASE EXPLAIN THE SCOPE OF YOUR TESTIMONY**

19 I will discuss the following topics:

20 1) General reliability concerns associated with increased capacity from solar  
21 facilities interconnecting to the New England Transmission System in the  
22 future.

23 2) Applicability and description of the operational and meteorological data

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<sup>1</sup> Capitalized terms used but not defined in this testimony have the meanings ascribed to them in the Tariff.



requirements for solar facilities.

3) Use of operational and meteorological solar data in the immediate future.

4) Eventual use of operational and meteorological solar data to incorporate solar facilities into the Do Not Exceed (DNE) Dispatch construct that already incorporates wind and intermittent hydro facilities.

5) A Tariff change to clarify the use terminology for solar power technologies.

6) Moving the operational and meteorological data requirements for wind facilities from the LGIA to Market Rule 1

## II. TESTIMONY

### A. Reliability Concerns Associated with More Numerous Solar Facilities Interconnecting to the System

**Q: PLEASE DESCRIBE THE EXTENT TO WHICH SOLAR FACILITIES ARE CURRENTLY PARTICIPATING IN THE NEW ENGLAND MARKETS.**

**A:** As of the date of this testimony, approximately 4,000 MW of nameplate capability from solar-powered facilities is interconnected to the New England power system. Of that 4,000 MW of solar capability, approximately 350 MW of nameplate capability is currently participating in ISO-NE markets as Generator Assets and must therefore meet the requirements of OP-14. The remaining 3,650 MW of nameplate solar capability (not subject to OP-14 requirements) is seen as a load reduction during real-time operations. This second category of resources may participate in ISO-NE energy markets as a supply or demand-side resource (inclusive of Settlement Only Resources), it may participate in the Forward Capacity Market, or it may not participate in the New England Markets at all..

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**Q: CAN YOU DESCRIBE THE OUTLOOK FOR SOLAR RESOURCES IN NEW ENGLAND OVER THE NEXT SEVERAL YEARS?**

A: There are currently more than 4,000 MW of solar and hybrid (solar/storage) projects, approximately 3,250 MW of which have nameplate capabilities greater than 5 MW in the ISO-NE interconnection queue. This total is expected to grow as the six New England states continue to encourage the development of non-fossil fuel energy sources, including, but not limited to, solar, wind, and storage facilities, to meet their respective decarbonization objectives. This does not include the MW pending in state interconnection queues for projects interconnected to the distribution system and other small, behind-the-meter projects. A significant portion of the 4,000 MW of capacity in ISO-NE’s interconnection queue includes facilities with nameplate capabilities in excess of 20 MW and is anticipated to participate in the New England Markets as Generator Assets and, as such, would be subject to the proposed solar operational and meteorological data requirements. While not all of these projects will come to fruition (for a variety of reasons), it is clear that a significant increase in the number of solar facilities can be anticipated in the years to come in New England. In addition, given the data in the queue regarding proposed interconnection locations, the ISO anticipates that some of these projects, which tend to be larger in size than those currently operating in the region, are choosing locations where transmission system congestion has occurred historically. As additional resources are interconnected, it may exacerbate areas of localized congestion.

1 **Q: DO SOLAR FACILITIES CREATE OPERATIONAL CHALLENGES FOR**  
2 **THE ISO AT PRESENT, OR WILL THEY CREATE THEM IN THE**  
3 **FUTURE?**

4  
5 A: Solar facilities are not creating operational challenges for the ISO at the present  
6 time. Specifically, to date, the ISO has not observed any notable congestion or  
7 other major reliability impacts on the New England Transmission System  
8 resulting from the solar facilities currently connected to the grid. This is due  
9 largely to the relatively small size of each facility and the strength of both the  
10 transmission and distribution systems in the areas where most of the existing solar  
11 facilities have interconnected.

12  
13 In the future, however, the increased capacity from solar facilities could result in  
14 operational challenges. Specifically, solar facilities, like wind facilities, are  
15 intermittent in nature, and their output can change very quickly as a result of  
16 changes in the weather. The ISO must properly account for the highly variable  
17 nature of these intermittent resources, and their speed of movement, in order to  
18 maintain reliable and efficient operation of the system.

19  
20 For example, for export-constrained areas of the system, the ISO will need to  
21 understand forecasted increases in solar output during the various operational time  
22 horizons contemplated in the proposed data requirements in order to continuously  
23 operate the transmission system within its limits as solar facilities ramp online.  
24 Similarly, for import-constrained areas of the system, the ISO will need to  
25 understand forecasted decreases in solar output during those same operational

1 time horizons in order to continuously operate the transmission system within its  
2 limits as solar facilities ramp offline.

3

4 Moreover, to maintain compliance with NERC balancing standards, again given  
5 the variability and fast-ramping capability of solar facilities, the ISO will need a  
6 comprehensive understanding of anticipated changes in solar output over the  
7 years to come. Finally, from an overall system capacity perspective as well as  
8 from a local reserve zone perspective, the ISO will need an accurate  
9 understanding of forecasted solar output during each operational time horizon in  
10 order to meet system capacity needs without over or under commitment of  
11 resources.

12

13 From a process perspective, given the anticipated increase in solar capacity  
14 participating in the New England Markets as Generator Assets, existing protocols  
15 for dispatch of solar facilities will require future enhancements. For instance,  
16 solar facilities currently participating as Generator Assets in the New England  
17 Markets are operated as non-dispatchable resources.<sup>2</sup> As such, they do not  
18 receive periodic electronic dispatch instructions from the ISO but rather are  
19 subject to manual, verbal dispatch from ISO system operators, as needed. The  
20 ISO anticipates that increased amounts of solar facilities could potentially lead to  
21 more frequent manual curtailments during peak solar output and/or during times

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<sup>2</sup> Pursuant to Section III.1.11.3 of the Tariff, currently, with the exception of Settlement Only Resources, Generator Assets that meet the size criteria to be Settlement Only Resources, External Transactions, nuclear-powered Resources, and photovoltaic Resources, all Resources must be Dispatchable Resources

1 of low system loads, which the ISO would be required to implement via phone  
2 calls from ISO system operators to solar resources' Designated Entities, which are  
3 the entities responsible for receiving and implementing ISO Dispatch Instructions  
4 for each applicable resource.

5  
6 **B. Applicability and Description of Data Requirements for Solar**  
7 **Facilities**  
8

9 **Q: WHICH SOLAR FACILITIES WILL BE REQUIRED TO PROVIDE**  
10 **OPERATIONAL AND METEOROLOGICAL DATA?**  
11

12 **A:** Under the proposed Tariff revisions, only solar facilities that are registered as  
13 Generator Assets, and that are not Settlement Only Resources, will be required to  
14 provide the requisite operational and meteorological data to the ISO. In order to  
15 be eligible to be a Settlement Only Resource, a resource must be smaller than 5  
16 MW and connected to the system at < 115 kV. In general terms, this means that  
17 small facilities located behind a retail meter are not subject to the proposed  
18 requirements, and so the operational and meteorological data requirements will  
19 not apply, for example, to residential rooftop solar systems. The ISO has  
20 responsibility for reliable operation of the transmission system, and so it generally  
21 does not need visibility into the status of very small facilities or those located  
22 deep in the distribution system, unless such facilities participate in New England  
23 Markets as Generator Assets that are not Settlement Only Resources.

24  
25 Today, there are approximately 350 MW (nameplate capacity) of solar facilities  
26 that will be subject to the operational and meteorological data requirements, and,

1 as I noted previously, there are approximately 3,250 MW (nameplate capacity) of  
2 solar facilities in the interconnection queue that will also be subject to the  
3 requirements if and when they achieve commercial operation.

4  
5 **Q: PLEASE DESCRIBE THE OPERATIONAL AND METEOROLOGICAL**  
6 **DATA THAT SOLAR FACILITIES SUBJECT TO THE PROPOSED**  
7 **TARIFF CHANGES WILL BE REQUIRED TO PROVIDE, THE**  
8 **FREQUENCY WITH WHICH THE DATA MUST BE UPDATED, AND**  
9 **THE MEANS BY WHICH THE DATA WILL BE PROVIDED TO THE**  
10 **ISO.**

11  
12 A: Solar facilities subject to the proposed data requirements will have to provide the  
13 following meteorological data to the ISO via telemetry at least once every five  
14 minutes: ambient air temperature; standard deviation of ambient air temperature;  
15 ambient air pressure; standard deviation of ambient air pressure; ambient air  
16 relative humidity; standard deviation of ambient air relative humidity; solar  
17 irradiance; wind speed; and wind direction.

18  
19 Solar facilities subject to the proposed data requirements will have to provide the  
20 following non-meteorological data to the ISO via telemetry at least once every  
21 five minutes: Real-Time High Operating Limit and Solar High Limit.

22  
23 Under the proposed Tariff changes the new defined term “Solar High Limit,” is  
24 “the estimated power output (MW) of a solar Generator Asset given the Real-  
25 Time solar and weather conditions, taking into account equipment outages, and  
26 absent any self-imposed reductions in power output or any reduction in power  
27 output as a result of a Dispatch Instruction, calculated in the manner described in

1 the ISO Operating Documents.” Additional details on Solar High Limit will be  
2 included in Appendix H to OP-14 (“OP-14H”) – Solar Plant Operator Guide.

3  
4 Solar facilities subject to the proposed operational data requirements will also  
5 have to provide Solar Plant Future Availability to the ISO via a web service  
6 platform at the top of each hour for the next 48 hours and by 10:00 each day for  
7 the next 49 to 168 hours.

8  
9 Under the proposed Tariff changes, the new defined term “Solar Plant Future  
10 Availability is “the forecasted Real-Time High Operating Limit of a solar  
11 Generator Asset, calculated in the manner described in the ISO Operating  
12 Documents”. Additional details on “Solar Plant Future Availability” will be  
13 included in OP-14H, which will go into effect upon Commission acceptance of  
14 the proposed Tariff revisions.

15

16 **C. ISO Use of the Operational Data from Solar Facilities in the**  
17 **Immediate Future**

18

19 **Q: HOW WILL THE ISO USE OPERATIONAL AND METEOROLOGICAL**  
20 **DATA FROM SOLAR FACILITIES IN THE IMMEDIATE FUTURE?**

21

22 **A:** Initially, the ISO will compile the operational data it receives from all solar  
23 facilities that are subject to the proposed requirements. As I more fully explain  
24 below, in the future, the compiled data will be used to develop an accurate  
25 resource-specific solar forecast, which will be necessary for the DNE Dispatch  
26 construct to apply to solar facilities. ISO-NE will propose additional Tariff

1 changes at a future date to accommodate DNE Dispatch for solar facilities and  
2 once the DNE Dispatch construct applies to solar facilities, the facilities will need  
3 to have a directly connected Remote Terminal Unit in order to receive electronic  
4 dispatch instructions.

5  
6 The ISO anticipates that the process to develop the solar power production  
7 forecast will be similar to the current wind forecast process. Specifically, the  
8 solar power production forecast would likely include a short-term forecast for the  
9 next 4 hours (which is updated every 5 minutes), a medium-term forecast for the  
10 next 48 hours (which is updated every three hours), and a long-term forecast  
11 extending 168 hours into the future (which is updated daily).

12  
13 In addition, operational data from solar facilities will provide increased situational  
14 awareness to ISO-NE operations staff because they can begin to use the data to  
15 better understand the future hour capability of solar facilities and to gain insight  
16 into the real-time meteorological conditions that are driving the output of the  
17 resource, in order to mitigate the potential operational challenges previously  
18 mentioned.

19 **D. Future Use of Operational Data from Solar Facilities to**  
20 **Incorporate Them in the DNE Dispatch Construct**  
21

22 **Q: YOU EARLIER MENTIONED THE DNE DISPATCH CONSTRUCT.**  
23 **HOW ARE THE SOLAR OPERATIONAL AND METEOROLOGICAL**  
24 **DATA REQUIREMENTS RELATED TO DNE DISPATCH?**  
25



1 A: Currently, the DNE Dispatch construct applies to wind and intermittent hydro  
2 facilities. The ISO's ultimate objective is to extend the DNE Dispatch construct  
3 to solar facilities that participate in the Real-Time Energy Market. Under the DNE  
4 Dispatch construct, the ISO would be able to send electronic dispatch instructions  
5 to each solar facility participating in the Real-Time Energy Market to indicate the  
6 maximum level of energy that the system can reliably support from the facility.  
7 In order to do so for solar facilities in the same manner as is done for wind  
8 facilities, the ISO needs to have an accurate, site-specific real-time power  
9 production forecast for each solar facility. Implementation of this forecast  
10 capability depends on having accurate and timely data on all the factors that may  
11 influence a solar facility's energy output.

12  
13 As I explained previously, the initial step to implementing the DNE Dispatch  
14 construct is to begin the collection of the data that will be used to develop and  
15 tune the power production forecast model. Once the model is tested and  
16 calibrated, DNE Dispatch can be extended to solar resources. This is the same  
17 process the ISO completed in 2011-2012 to develop the five-minute wind plant  
18 forecast used to electronically dispatch wind facilities using DNE Dispatch  
19 instructions.

20  
21 The ISO anticipates that DNE Dispatch of solar facilities will begin in the 2022-  
22 2023 timeframe, but no specific implementation date has yet been established. As

1 I noted earlier, minor Tariff changes will be needed to include solar facilities in  
2 DNE Dispatch.

3

4 **E. Tariff Change to Clarify the Use of Terminology for Solar Power**  
5 **Technologies**

6  
7 **Q: PLEASE DESCRIBE THE TARIFF CHANGE THAT CLARIFIES THE**  
8 **USE OF SOLAR POWER TERMINOLOGY.**

9  
10 **A:** Solar technologies fall into two general categories – photovoltaic panels that  
11 convert sunlight into direct current electricity, and solar thermal, which uses  
12 focused sunlight to heat a storage medium to high temperatures, which can then  
13 be used to produce steam to turn a turbine generator. At present, only solar  
14 photovoltaic panels are used in, or proposed for, New England. Both solar  
15 photovoltaic panels and solar thermal facilities have been developed in the  
16 Western United States.

17

18 Market Rule 1 currently uses the different terms “solar,” “photovoltaic,” and  
19 “solar photovoltaic” in different locations. The difference in terminology might  
20 be read to imply a subtle difference in meaning that is not actually intended. To  
21 avoid any potential confusion that could result from inconsistent use of  
22 terminology, an instance of “photovoltaic” is being replaced by “solar” in Section  
23 III.1.11.3, where the Tariff language is intended to refer to all types of solar  
24 technology. At present, New England does not have any solar thermal facilities.  
25 However, using the generic term “solar” in the Tariff will make the provisions  
26 applicable to solar thermal resources if and when they are developed in New

1 England. In contrast, the use of “photovoltaic” in Section III.1.5.2 (h) is retained,  
2 as the audit rules in this section are specifically designed to be apply to solar  
3 photovoltaic resources.

4

5 F. **Moving the Data Requirements for Wind Facilities from the**  
6 **LGIA to Market Rule 1**  
7

8 **Q: PLEASE EXPLAIN WHY THE EXISTING DATA REQUIREMENTS FOR**  
9 **WIND FACILITIES ARE BEING REMOVED FROM THE LGIA AND**  
10 **INCLUDED IN MARKET RULE 1.**

11

12 A: Schedule 22 of the ISO’s Tariff, which includes the *pro forma* LGIA, contains  
13 requirements that apply to wind facilities that are 20 MW or larger and  
14 interconnect to the transmission system pursuant to the ISO interconnection  
15 procedures. However, while resources smaller than 20 MW still have the  
16 potential to impact system reliability if not monitored and managed by system  
17 operators, similar requirements do not exist in the Small Generator  
18 Interconnection Agreement (“SGIA”). Furthermore, including the wind and solar  
19 data requirements in the LGIA and SGIA would not capture facilities that  
20 interconnect under state interconnection procedures.

21

22 The only way to have the requirements for wind facilities apply to all facilities  
23 for which system operators need real-time visibility is to locate the data  
24 requirements and applicability criteria in Market Rule 1, where the rules apply  
25 irrespective of the particular interconnection procedures under which a facility  
26 interconnects to the transmission system.

27

1 Locating the requirements in Market Rule 1 (with additional details in Appendix  
2 F to ISO New England Operating Procedure No. 14 – Wind Plant Operator Guide  
3 (OP-14F)) will also result in the need for fewer non-conforming submissions of  
4 non-conforming Interconnection Agreements the Federal Energy Regulatory  
5 Commission (“Commission”). At present, any deviation from the data  
6 requirements for wind generators contained in the *pro forma* LGIA necessitates  
7 that the agreement be filed with the Commission. Moving the operational and  
8 meteorological data requirements for wind facilities to Market Rule 1 will  
9 eliminate this burden.

10 **Q: HOW WILL MOVING THE WIND DATA REQUIREMENTS IMPACT**  
11 **THE ISO’S WIND POWER PRODUCTION FORECAST?**  
12

13 A: The requirements that will be contained in Market Rule 1 for wind facilities will  
14 more clearly define the forced outage and meteorological data required for  
15 production of the wind power forecast, but the moving of the requirements will  
16 not impose additional burdens on the wind facilities nor will it impact the process  
17 for production of the wind power forecast.

18  
19 The requirements that will be included in Market Rule 1 will also establish clear  
20 time periods for the submission of information, with additional details contained  
21 in OP-14F. The LGIA does not include that level of detail. This will ensure both  
22 Market Participants’ and the ISO’s expectations regarding this data are clear.

23  
24 **Q: PLEASE EXPLAIN WHY CERTAIN REQUIREMENTS IN THE LGIA**  
25 **ARE NOT BEING INCLUDED IN MARKET RULE 1.**  
26

1 A: The LGIA contains static wind plant data requirements that are not being  
2 relocated to Market Rule 1. These static data requirements, which describe the  
3 physical layout of the wind plant and associated equipment relevant to the design  
4 and operation of the wind plant, are not subject to the Commission's Order No.  
5 764 requirements, which were specific to meteorological and forced outage data.  
6 As the static data requirements do not fall into those categories, the ISO proposes  
7 to remove them from the *pro forma* Interconnection Agreements and retain them  
8 in OP-14F. Similar to the data requirements that will be contained in Market Rule  
9 1, the static data requirements will apply to all wind facilities registered with the  
10 ISO regardless of interconnection location or jurisdiction.

11  
12 **Q: PLEASE DESCRIBE THE NEW TERMINOLOGY FOR WIND**  
13 **FACILITIES THAT WILL BE INCLUDED IN MARKET RULE 1 AS**  
14 **PART OF THE PROPOSED TARIFF CHANGES.**  
15

16 A: Similar to the newly defined terms "Solar High Limit" and "Solar Plant Future  
17 Availability," the ISO is proposing to include new definitions for wind facilities:  
18 "Wind High Limit" and "Wind Plant Future Availability." The term "Wind High  
19 Limit" will be defined as "the estimated power output (MW) of a wind Generator  
20 Asset given the Real-Time weather conditions, taking into account equipment  
21 outages, and absent any self-imposed reductions in power output or any reduction  
22 in power output as a result of a Dispatch Instruction, calculated in the manner  
23 described in the ISO Operating Documents." The term Wind Plant Future  
24 Availability will be defined as "the forecasted Real-Time High Operating Limit of  
25 a wind Generator Asset, calculated in the manner described in the ISO Operating  
26 Documents." These definitions will ensure consistent terminology use across

1 different types of wind facilities, and additional details for each type will be  
2 included in OP-14F .

3

4 **Q: DOES THIS CONCLUDE YOUR TESTIMONY?**

5

6 A: Yes.

1 I declare that the foregoing is true and correct.

2

3 Executed on May 21, 2021.

4

5

6

7

Stephen M. George  
Stephen M. George

## **New England Governors, State Utility Regulators and Related Agencies\***

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## **New England Governors, State Utility Regulators and Related Agencies\***

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