March 1, 2017

2017 Stakeholder Public Policy Requirements Submittals

As described in Brent Oberlin's memo to the Planning Advisory Committee (PAC) on January 11, 2017, members of the PAC were able to provide input on Public Policy Requirements to ISO New England and New England States Committee on Electricity (NESCOE). Five submittals were provided in a number of forms in addition to the provided template. Therefore, the information is being posted for stakeholders in two files which are posted on the "Public Policy Transmission Upgrades" section of the ISO web site. The first file is this "pdf" document which consists of the following, if provided: email, letter, and spreadsheet. In some cases, the information in the spreadsheet is extremely small, requiring the user to enlarge the image to make it readable. Therefore, a second file has also been made available on the web site which consists of a spreadsheet. In the spreadsheet there is a tab for each submittal that included a template submittal and a tab that combines each of the template submittals into one.

The four submittals and their associated formats are:

1. **AVANGRID – email, letter, template**
2. **Conservation Law Foundation – email, letter, template**
3. **National Grid – email, template**
4. **NextEra Energy Transmission – email, template**
5. **TDI New England – email, letter**

1. **AVANGRID – email, letter, template**

From:	Escudero Morandeira, Bernardo
To:	Public Policy
Subject:	[EXT] Comments of AVANGRID, Inc. to ISO-New England, Inc.'s Public Notification for Public Policy Requirements Submittals
Date:	Friday, February 24, 2017 4:40:54 PM
Attachments:	image001.jpg image002.jpg NESCOE - Letter to ISO New England - Comments for Public Policy Requirem....pdf Public Policy Requirements (W6021032-2x7AC2E).xlsx

*** EXTERNAL email. Please be cautious and evaluate before you click on links, open attachments, or provide credentials. ***

Dear Sirs,

AVANGRID submits the attached comments and Excel file to the New England States Committee On Electricity in response to the ISO-New England's Public Notification for Public Policy Requirements Submittals, issued January 11, 2017.

Sincerely,

Bernardo Escudero
Manager – Project Development

52 Farm View Rd
New Gloucester, ME 04260
Telephone 207.688.6325
Cell 585.469.7086
bernardo.escudero@cmpco.com

In the interest of the environment,
please print only if necessary and recycle.

February 25, 2017

Mr. Brent Oberlin
Director of Transmission Planning
ISO New England, Inc.
One Sullivan Road
Holyoke, MA 01040

RE: Comments of AVANGRID, Inc. to ISO-New England, Inc.'s Public Notification for Public Policy Requirements Submittals

Dear Mr. Oberlin:

AVANGRID, Inc., ("Avangrid" or the "Company") submits the following comments and attachment[1] to the New England States Committee On Electricity ("NESCOE") in response to the ISO-New England Inc.'s ("ISO-NE") Public Notification for Public Policy Requirements Submittals, issued January 11, 2017. Unless otherwise stated, all capitalized terms used herein are defined as set forth in the ISO-NE Transmission Markets and Services Tariff ("ISO-NE Tariff").

I. INTRODUCTION

A. Description of Avangrid

Avangrid is a diversified U.S.-based energy and utility holding company with more than $30 billion in assets and operations in 25 states. Avangrid's majority owner is IBERDROLA, S.A. Avangrid operates regulated utilities and electricity generation through two primary lines of

[1] Attachment 1 of this submission is the completed Public Policy Input Template spreadsheet, containing all relevant cross-references to the comments set forth herein.

business: Avangrid Networks includes eight electric and natural gas utilities, serving 3.1 million customers in New York and New England, and Avangrid Renewables operates 6.3 gigawatts of electricity capacity, primarily through wind power, in states across the United States. Headquartered in Bilbao, Spain, IBERDROLA, S.A. in turn is a global energy company which produces and supplies electricity to over 100 million people in the countries in which it operates.

Among Avangrid Networks' subsidiaries are two New England electric transmission and distribution utilities, The United Illuminating Company ("UI") and Central Maine Power Company ("CMP"). UI is a Connecticut corporation that provides service to residential, commercial, and industrial customers in a service area of approximately 355 square miles in the southwestern part of Connecticut. CMP, a Maine corporation, is Maine's largest electric transmission and distribution utility, providing transmission and distribution service to approximately 610,000 customers in southern, central, and western Maine. CMP directly owns approximately 2,585 miles of electric transmission lines and approximately 23,695 miles of electric distribution lines.

With the full support of AVANGRID and IBERDROLA, S.A., CMP is an active developer of transmission projects needed in New England to address the region's reliability, market efficiency, and public policy needs. CMP is currently pursuing multiple transmission projects in Maine to support the interconnection and delivery of clean energy resources from northern and western Maine and eastern Canada. CMP bid one and jointly bid another of these projects in the recent clean energy solicitation conducted by certain regulators and electric distribution

companies in Massachusetts, Connecticut, and Rhode Island (the "Tri-State RFP") and expects to propose one or more transmission solution as part of joint bids with generators of clean energy responsive to future RFPs[2] that seek to meet New England's Public Policy Requirements.

B. Summary of Avangrid's Comments

By these comments and accompanying attachment, consistent with Section 4A.1 of the ISO-NE Tariff, Avangrid provides input to NESCOE regarding (1) state Public Policy Requirements that drive New England transmission needs; and (2) particular transmission needs driven by the Public Policy Requirements.

Compliance with the Public Policy Requirements as summarized in Section II below will require generation of substantial amounts of new clean energy, including from clean energy resources located in renewables-rich Maine, as well as Quebec and Atlantic Canada. As summarized in Section III, additional high voltage transmission will be necessary to deliver that clean energy to the New England market. Avangrid recommends that NESCOE request ISO-NE to study that transmission need in a Public Policy Transmission Study ("PPTS") using appropriate planning assumptions that effectuate the Public Policy Requirements in a cost-effective manner, discussed in Section IV below.

II. NEW ENGLAND'S PUBLIC POLICY REQUIREMENTS

Through laws and regulations enacted over the last twenty years, the New England states have articulated Public Policy Requirements calling for substantial increases in the

[2] For example, in Massachusetts, Section 83D of An Act Relative to Green Communities, 2008 MASS. GEN. LAWS ch. 169, as amended by 2016 MASS. GEN. ACTS ch. 188, § 12, provides that the electric distribution companies within Massachusetts are required to jointly and competitively solicit proposals for clean energy generation not later than April 1, 2017.

amount of electrical energy procured from renewable energy resources to serve customers in the region. These Public Policy Requirements drive transmission needs in New England. This Section II provides a summary of these Public Policy Requirements.

The laws and regulations of all New England states require that retail electricity suppliers and transmission and distribution utilities serving retail customers adhere to renewable portfolio standards ("RPS"), by which regulated entities must procure threshold percentages of electricity supply or capacity from renewable sources, or obtain renewable energy certificates ("RECs"). RPS requirements in each state increase year-to-year until a target year, at which time RPS requirements either continue to increase or plateau at the target year level. With the exception of Maine, none of the RPS regimes in New England have reached their target year, and RPS requirements continue to increase on an annual basis. Concurrent with RPS requirements, Connecticut, Massachusetts and Rhode Island have established statutory requirements to reduce greenhouse gas ("GHG") emissions from in-state generators in furtherance of aspirational GHG reduction goals set by the New England Governors and the Eastern Canadian Premiers ("NEG/ECP"). Connecticut, Massachusetts, and Rhode Island have also authorized regulators or utilities to enter into long-term contracts for renewable energy supply, capacity, or RECs to ensure increased procurement of renewable resources. Taken together, these policies result in a substantial increase in the demand for renewable energy in New England.

A. Renewable Portfolio Standards (RPS)

1. Massachusetts

Under Massachusetts law, a retail electricity supplier's total annual retail electricity sales to an end user must include a minimum percentage of electrical energy sales with RPS Class I resources,[3] with specified amounts of such sold electricity set aside, or "carved out", for solar resources. A retail supplier is also responsible for obtaining a set percentage of supply from Class II resources – renewable generation sources in operation prior to January 1, 1998 and waste energy resources.[4] The following table provides the Massachusetts RPS Class I and Class II requirements through 2025:

Table 1: Massachusetts RPS Class I and Class II Requirements (Cumulative minimum Class I and Class II Resources as percentage of annual electrical energy sales)

Compliance Year (2016 – 2025)	Class I (including solar carve-out amounts)	Class II Renewables	Class II Waste Energy
2016	11.0	3.6	3.5
2017	12.0	3.6	3.5
2018	13.0	3.6	3.5
2019	14.0	3.6	3.5
2020	15.0	3.6	3.5
2021	16.0	3.6	3.5
2022	17.0	3.6	3.5
2023	18.0	3.6	3.5
2024	19.0	3.6	3.5
2025	20.0	3.6	3.5

[3] "RPS Class I resources" include generation units that use one or more of the following fuel sources: (1) solar photovoltaic or solar thermal electric energy; (2) wind energy; (3) ocean thermal, wave or tidal energy; (4) fuel cells; (5) landfill methane gas; (6) hydroelectric; (7) low-emission, advanced biomass power conversion technologies; (8) marine or hydrokinetic energy; and (9) geothermal energy. 225 MASS. CODE REGS. § 14.05. Under the applicable regulations, municipal utilities in Massachusetts are generally exempt from the RPS obligations. 225 MASS. CODE REGS. § 14.02 (definition of "Retail Electricity Supplier").

[4] *See* 225 MASS. CODE REGS. § 15.05.

After 2025, the RPS Class I requirement will increase by one (1) percent each year, unless modified by law. The RPS Class II requirements will remain unchanged. Based on the base case energy forecast included in the 2016 ISO-NE CELT report, Massachusetts will need approximately 13,000 GWh of clean energy by 2025 to satisfy these requirements, and approximately 14,400 GWh to meet its Clean Energy Credit ("CEC") requirements under the proposed Clean Energy Standard, as described below at Section II.B.[5]

In lieu of meeting RPS requirements by procurement of a sufficient percentage of electric energy sales through RPS Class I or Class II renewable resources, a supplier may also make an Alternative Compliance Payment ("ACP") in amounts established by the Massachusetts Department of Public Utilities ("DPU") on an annual basis.[6] For 2017, the ACP for Class I sources meeting the solar carve-out requirement is as much as $448/MWh, and $67.70/MWh for all other RPS Class I sources. For RPS Class II sources, the ACP is $27.79/MWh for renewables and $11.12/MWh for waste energy.[7]

2. New Hampshire

The RPS regime in New Hampshire requires electricity providers (other than municipal utilities) to obtain and retire RECs to meet or exceed increasing percentages of total megawatt-hours of electricity supplied by the provider to end-use customers, except to the extent that the

---

[5] *See* 2016 ISO-NE CELT Report, Forecast Data 2016, Worksheet 3: ISO-NE Control Area, States, & Sub-areas Energy & 50/50 Seasonal Peak Load - Forecast & 90% Confidence Intervals (Apr. 29, 2016) (83.5% Retail Load x 47,985 GWh x 27.1% (RPS) or 30% (CEC)).

[6] 225 CODE MASS. REGS. §§ 14.08 and 15.08.

[7] http://www.mass.gov/eea/energy-utilities-clean-tech/renewable-energy/rps-aps/retail-electric-supplier-compliance/alternative-compliance-payment-rates.html.

provider makes payments to the New Hampshire Public Utilities Commission for each megawatt-hour not met for a given class obligation through the acquisition of RECs. Under the current New Hampshire statute, RPS requirements will peak in 2025, by which date providers must procure at least 24.8 percent of retail load from renewable sources. The state's RPS regime includes four classes of eligible resources: Class I (new renewable energy),[8] Class II (new solar),[9] Class III (existing biomass/methane),[10] and Class IV (existing small hydroelectric), as set forth in the following table.[11]

Table 2: New Hampshire RPS Requirements[12]
(renewable sources as percentage of supply sales to end-use customers)

Year	Total Class I	Class II	Class III	Class IV	Total
2017	7.80	0.30	8.00	1.50	17.60
2018	8.70	0.30	8.00	1.50	18.50
2019	9.60	0.30	8.00	1.50	19.40
2020	10.50	0.30	8.00	1.50	20.30
2021	11.40	0.30	8.00	1.50	21.20
2022	12.30	0.30	8.00	1.50	22.10
2023	13.20	0.30	8.00	1.5	23.00
2024	14.10	0.30	8.00	1.50	23.90
2025 and beyond	15.00	0.30	8.00	1.50	24.80

[8] Class I sources include wind energy, geothermal energy, hydrogen derived from biomass fuels or methane gas, ocean thermal, wave, current, or tidal energy, methane gas, eligible biomass technologies, solar thermal energy, and limited other sources. N.H. REV. ST. ANN. § 362-F:4(I).

[9] Class II sources include solar technology that began operation after January 1, 2006. N.H. REV. ST. ANN. § 362-F:4(II).

[10] Class III sources include the production of electricity from eligible biomass technologies with gross nameplate of 25 megawatts or less; and methane gas. N.H. REV. ST. ANN. § 362-F:4(III).

[11] Class IV sources include the production of electricity from certain small hydroelectric energy sources that provided the facility began operation prior to January 1, 2006. N.H. REV. ST. ANN. § 362-F:4(IV).

[12] N.H. REV. ST. ANN. § 362-F:3.

Based on the base case energy forecast included in the 2016 ISO-NE CELT report, New Hampshire will need approximately 3,000 GWh of clean energy by 2025 to satisfy these requirements.[13]

ACP amounts vary by resource class. For 2017, ACPs are as follows per MWh: Class I, $56.02; Class I (thermal), $25.46; Class II $56.02; Class III $45.00; Class IV, $27.49.[14]

3. Connecticut

RPS standards in Connecticut require that Class I[15] renewable energy sources comprise an increasing percentage of each supplier's retail load through 2020. Suppliers must also incorporate sources of renewable energy from (1) additional Class I or Class II[16] sources; and (2) Class III[17] sources, as set forth in the following table.

---

[13] *See* 2016 ISO-NE CELT Report, Forecast Data 2016, Worksheet 3: ISO-NE Control Area, States, & Sub-areas Energy & 50/50 Seasonal Peak Load - Forecast & 90% Confidence Intervals (Apr. 29, 2016) (12,244 GWh x 24.8% (RPS)).

[14] N.H. Rev. St. Ann. § 362-F:10; http://www.puc.state.nh.us/sustainable%20energy/renewable_portfolio_standard_program.htm.

[15] A Class I renewable resource is energy derived from (1) solar power; (2) wind power; (3) a fuel cell; (4) geothermal; (5) landfill methane gas, anaerobic digestion or other biogas derived from biological sources; thermal electric direct energy conversion from a certified Class I renewable energy source; (5) ocean thermal power; (6) wave or tidal power; (7) low emission advanced renewable energy conversion technologies; (8) a run-of-the-river hydropower facility that began operation after July 1, 2003, and has a generating capacity of not more than 30 MW, provided the facility is not based on a new dam or a dam identified as a candidate for removal; and, (9) a biomass facility that uses sustainable biomass fuel. CONN. GEN. STAT. § 16-1(a)(20).

[16] Class II renewable resources is energy derived from (1) a trash-to-energy facility; (2) certain biomass facilities; and (3) and certain run-of-the-river hydropower facilities. *See* CONN. GEN. STAT. § 16-1(a)(21).

[17] Class III sources include electricity output from eligible (1) combined heat and power systems; or (2) waste heat recovery systems; or (3) demand-side management projects. *See* CONN. GEN. STAT. § 16-1(a)(38).

Table 3: Connecticut RPS Requirements[18] (*renewable sources as percentage of supply to meet retail load*)				
Deadline	Class I	Class I or II	Class III	Total
On or after 1/1/2017	15.5	3.0	4.0	22.5
On or after 1/1/2018	17.0	3.0	4.0	24.0
On or after 1/1/2018	19.5	3.0	4.0	26.5
On or after 1/1/2020	20.0	3.0	4.0	27.0

Based on the base case energy forecast included in the 2016 ISO-NE CELT report, Connecticut will need approximately 8,200 GWh of clean energy by 2025 to satisfy these requirements.[19]

Connecticut providers that fail to comply with the RPS during an annual period must pay $0.055 per kWh.[20]

4. Maine

The State of Maine established portfolio requirements for "new renewable capacity resources" as part of the Electric Industry Restructuring Act, 35-A M.R.S. § 3201, *et seq*. Under that act, beginning January 1, 2008, each competitive electricity provider doing business in the state was required to demonstrate as a condition of licensure that "new renewable capacity resources"[21] accounted for an increasing percentage of the supplier's retail portfolio of supply

[18] CONN. GEN. STATS. § 16-245a, *et seq*.

[19] *See* 2016 ISO-NE CELT Report, Forecast Data 2016, Worksheet 3: ISO-NE Control Area, States, & Sub-areas Energy & 50/50 Seasonal Peak Load - Forecast & 90% Confidence Intervals (Apr. 29, 2016) (97.5% retail load x 30,211 GWh x 27% (RPS)).

[20] CONN. GEN. STATS. § 16-245a(e)(1).

[21] 35-A M.R.S. § 3210(3-A)(A)(10). "Renewable capacity resource" is a source of electrical generation of 100 megawatts or less that relies on fuel cells, tidal power, solar arrays and installations, geothermal installations,

sources for retail electricity sales. For the period from January 1, 2017 to December 31, 2017, that required percentage is ten (10) percent.[22] Based on the base case energy forecast included in the 2016 ISO-NE CELT report, Maine will need approximately 1,150 GWh of clean energy by 2025 to satisfy these requirements.[23] In lieu of meeting the new renewable resource requirements under Maine law, a supplier may pay an ACP of $67.71 per MWh for 2017.[24]

Emphasis on increased retail supplier use of new renewable capacity resources is consistent with the goals of the Maine Wind Energy Act, 35-A M.R.S. § 3410, *et seq*., passed in 2003. There, the Maine legislature set state policy "to encourage the generation of electricity from renewable and efficient sources and to diversify electricity production on which residents of this State rely" and a goal of developing at least 8,000 MW of installed wind capacity by 2030, including 5,000 MW from generation facilities located in coastal waters.[25] To facilitate achievement of this goal, the state legislature set policy "to encourage the attraction of appropriately sited development related to wind energy, including any additional transmission

---

(footnote continued)

hydroelectric generators, and/or certain biomass generators that do not exceed 100 MW. 35-A M.R.S. § 3210 (2)(B-3). A resource is "new" if, after September 1, 2005, it (1) came into service; (2) was added to an existing facility; (3) resumed operation or was recognized by ISO-NE as a capacity resource, following a period of at least 2 (two) years' in length in which the facility was neither operated or recognized as a capacity resource by ISO-NE; or (4) was refurbished and is operating beyond its previous useful life and employing alternate technology that significantly increases the efficiency of the generation process. 35-A M.R.S. § 3210(2)(B-4).

[22] 35-A M.R.S. § 3210(3-A)(A)(10).

[23] *See* 2016 ISO-NE CELT Report, Forecast Data 2016, Worksheet 3: ISO-NE Control Area, States, & Sub-areas Energy & 50/50 Seasonal Peak Load - Forecast & 90% Confidence Intervals (Apr. 29, 2016) (11,521 GWh x 10% (RPS)).

[24] http://www.maine.gov/mpuc/electricity/electric_supply/documents/2017AlternativeComplaincePayment.pdf; 65-407, Ch. 311 § 7.

[25] 35-A M.R.S. §§ 3402 and 3401(1) and (2)(C).

and other energy infrastructure needed to transport additional offshore wind energy to market."[26]

5. Vermont

The State of Vermont set mandatory RPS in 2015.[27] The 2015 law requires the percentage of annual retail electric sales consisting of "total renewable energy" *i.e.*, any combination of "renewable energy"[28] or tradeable RECs, for each retail supplier, known as "Tier I" renewables, to be fifty-five (55) percent of each supplier's sales of retail power supply in 2017. Every three years after 2017 until 2032, the required percentage will increase by four (4) percent, when the total renewable energy requirement for each supplier will equal seventy-five (75) percent of annual retail sales, as set forth in the following table.

Table 4: Vermont RPS Requirements[29]

Year	Renewable Energy As Percent of Retail Sales (%)
2017	55
2020	59
2023	63
2026	67
2029	71
2032	75

[26] 35-A M.R.S. § 3404(1).

[27] Act No. 56 (H.40), *An Act Relating To Establishing A Renewable Energy Standard* (2015).

[28] Under Vermont law, "renewable energy" means "energy produced using a technology that relies on a resource that is being consumed at a harvest rate at or below its natural regeneration rate." VT. STAT. ANN. tit. 30, § 8002(21).

[29] Act No. 56 (H.40), *An Act Relating To Establishing A Renewable Energy Standard* at 13 – 14 (2015).

Based on the base case energy forecast included in the 2016 ISO-NE CELT report, Vermont will need approximately 3,400 GWh of clean energy by 2025 to satisfy these requirements.[30]

In lieu of purchasing renewable energy or tradeable RECs to meet the requirements of the 2015 law, retail suppliers may also make an ACP of $0.01/kWh of total renewable energy requirement, *e.g.*, for 2017, fifty-five (55) percent of the supplier's annual retail sales.[31]

6. Rhode Island

The State of Rhode Island implemented RPS requirements in 2004. Under the 2004 law, retail suppliers within the state were required "to obtain at least three percent of the electricity they sell at retail to Rhode Island end–use customers . . . from eligible renewable energy sources."[32] The law also provided that the required percentage obtained from such sources would increase annually until 2019. In 2016, the law was amended to extend the annual increases, up to a 38.5 percent ceiling in 2035, as set forth in the following table.

---

[30] *See* 2016 ISO-NE CELT Report, Forecast Data 2016, Worksheet 3: ISO-NE Control Area, States, & Sub-areas Energy & 50/50 Seasonal Peak Load - Forecast & 90% Confidence Intervals (Apr. 29, 2016) (5,466 GWh v. 63% (RPS)).

[31] VT. STAT. ANN. tit. 30, § 8005 (4)(A)(i – ii).

[32] R.I. GEN. LAWS ANN. § 39-26-4(a). Under Rhode Island law, renewable energy resources are in relevant part: (1) Direct solar; radiation; (2) the wind; (3) Movement or the latent heat of the ocean; (4) The heat of the earth; (5) Small hydro facilities; (6) Biomass facilities using eligible biomass fuels and maintaining compliance with current air permits; eligible biomass fuels may be co-fired with fossil fuels, provided that only the renewable energy fraction of production from multi-fuel facilities shall be considered eligible; and (7) Fuel cells using any of these resources. R.I. GEN. LAWS ANN. § 39-26-5(1)(1-8).

Table 5: Rhode Island RPS Requirements[33] *(renewable sources as percentage of electricity supply sold to end-use customers)*					
2017	11.5	2024	22	2031	32.5
2018	13	2025	23.5	2032	34
2019	14.5	2026	25	2033	35.5
2020	16	2027	26.5	2034	37
2021	17.5	2028	28	2035	38.5
2022	19	2029	29.5	2036	38.5
2023	20.5	2030	31		

To achieve compliance, suppliers may also purchase NEPOOL-GIS certificates or make alternative compliance payments in the amount of $67.71/MWh.[34]

Based on the base case energy forecast included in the 2016 ISO-NE CELT report, Rhode Island will need approximately 1,800 GWh of clean energy by 2025 to satisfy these requirements.[35]

As reflected in the following table, for each of the New England states to achieve their respective RPS standards, New England will need a significant influx of clean energy over the coming years.

---

[33] *See* R.I. GEN. LAWS ANN. § 39-26-4(a); http://www.ripuc.org/utilityinfo/RES-Annual-Targets.pdf.

[34] *See* R.I. GEN. LAWS ANN. §§ 39-26-4(e) & 39-26-7; http://www.ripuc.org/utilityinfo/RES-ACPRate.pdf.

[35] *See* 2016 ISO-NE CELT Report, Forecast Data 2016, Worksheet 3: ISO-NE Control Area, States, & Sub-areas Energy & 50/50 Seasonal Peak Load - Forecast & 90% Confidence Intervals (Apr. 29, 2016) (7,528 GWh v. 23.5% (RPS)).

Table 6: New England States' RPS and Clean Energy Requirements in 2025			
State	2025 RPS %	Estimated 2025 Clean Energy to Satisfy RPS (MWh)	Estimated 2025 Clean Energy to Satisfy GHG Initiatives (MWh)
Connecticut	27	8,200	
Maine	10	1,150	
Massachusetts	27.1	13,000	14,400
New Hampshire	24.8	3,000	
Rhode Island	23.5	1,800	
Vermont	63	3,400	
Total		**27,550**	**28,650**

B. State and Regional Greenhouse Gas Emissions Initiatives

State laws imposing increasing RPS requirements are consistent with long-time state and regional measures seeking greenhouse gas ("GHG") emissions reductions over time, such as the action plans and resolutions issued by NEG/ECP, a body that meets on a regular basis to study and propose regional policy, including energy and environmental policy. For example, in the *Climate Change Action Plan 2001*, NEG/ECP set goals for future GHG emissions, such as reductions to: (1) 1990 levels by 2010; (2) ten (10) percent below 1990 levels by 2020; and (3) in the long term, to "[r]educe regional GHG emissions sufficiently to eliminate any dangerous threat to the climate."[36] NEG/ECP has reiterated these goals in several instances since 2001,

[36] NEG/ECP, *Climate Change Action Plan 2001*, https://www.novascotia.ca/nse/climate.change/docs/NEG-ECP.pdf.

including in 2015, when the conference established a target of decreasing GHGs by between thirty-five (35) percent and forty-five (45) percent below 1990 levels by 2030.[37]

NEG/ECP's action plans do not have the force of law, and its consistent calls for GHG emissions reductions are more aspirational than binding. NEG/ECP's regional, reductions-by-target-year model, however, has provided a useful framework for individual New England states in passing laws requiring substantial reductions in statewide levels of GHG emissions. For example, Connecticut must achieve at least a ten (10) percent reduction in GHG emissions over 1990 levels by 2020, and at least an eighty (80) percent reduction in GHG statewide emissions over 2001 levels by 2050.[38] Rhode Island likewise enacted the Resilient Rhode Island Act of 2014 which stipulates that greenhouse gas emissions must be reduced forty-five (45) percent below 1990 levels by 2035 and eighty (80) percent below 1990 levels by 2050.[39]

In Massachusetts, the *Global Warming Solutions Act* ("GWSA"), passed in 2008, mandates a twenty-five (25) percent reduction in GHG emissions statewide below 1990 levels by 2020, and additional reductions to eighty (80) percent of 1990 levels by 2050.[40] The recent Massachusetts Supreme Judicial Court decision in *Kain, et al. v. Massachusetts Department of Environmental Protection* ("*Kain*") held that the GWSA requires Massachusetts to promulgate regulations to ensure achievement of emissions reductions as mandated under the GWSA.[41]

---

[37] NEG/ECP, Resolution 39-1; *Resolution Concerning Climate Change* (2015), http://www.cap-cpma.ca/data/Signed%2039-1En.pdf.

[38] CONN. GEN STAT. § 22A-200A.

[39] R.I. GEN. LAWS ANN. § 42-6.2-2.

[40] MASS. GEN. LAWS CH. 21N, § 3(a – d).

[41] *Kain v. Dep't Envtl.* Protection, 474 Mass. 278 (2016).

After *Kain*, and as required by Governor Baker's Executive Order No. 569,[42] the Massachusetts Department of Energy Resources ("DOER") proposed such regulations in December 2016.[43]

Taken together, the proposed Massachusetts regulations reflect the Commonwealth's affirmative choice to seek additional procurement and use of clean energy resources. The proposed regulations also illustrate that such procurements will become less a matter of choice in the future, as complementary restrictions on GHG emissions increase demand for renewable energy resources. The proposed *Clean Energy Standard* ("CES")[44] would require retail sellers of electricity consumed in Massachusetts to purchase increasing amounts of clean energy for use by their customers, and thereby reduce the need to operate fossil-fueled power plants serving the regional electric grid, including such power plants in Massachusetts.

The CES achieves this objective by implementing "a sales portfolio standard to require retail electricity sellers to demonstrate the use of clean energy to generate a specified percentage of their electricity sales," consistent with the required GHG emissions reductions under the GWSA.[45] Retail electricity sellers would be required to procure clean energy credits ("CECs") on an annual basis in megawatt hours, corresponding to a percentage of electricity

---

[42] Executive Order No. 569, *Establishing An Integrated Climate Change Strategy For The Commonwealth* (Sept. 16, 2016).

[43] The proposed regulations are as follows: *Reducing Sulfur Hexafluoride Emission from Gas-Insulated Switchgear (GIS)*, 310 MASS. CODE REGS. 7.72; *Reducing Methane Emissions from Natural Gas Distribution Mains and* Services, 310 MASS. CODE REGS. 7.73; *Reducing GHG Emissions from Electricity Generating Units (EGUs)*, 310 MASS. CODE REGS. 7.74; *Clean Energy Standard*, 310 MASS. CODE REGS. 7.75; *Global Warming Solutions Act Requirements for Transportation*, 310 MASS. CODE REGS. 60.05; and *Carbon Dioxide Emission Limits for State Fleet Passenger Vehicles*, 310 MASS. CODE REGS. 60.06. The Massachusetts Department of Environmental Protection ("DEP") held public meetings regarding the set of proposed regulations, and received written comments through February 24, 2017.

[44] 310 MASS. CODE REGS. 7.75.

[45] DEP, *Background Document On Proposed New and Amended Regulations* ("*DEP Background Document*") at 24 (Dec. 16, 2016) at 24.

sales.[46] The CES would complement – not replace – the Massachusetts RPS regime. For example, any RECs allowing for compliance with RPS Class I requirements would also satisfy CEC requirements under the CES. At the same time, additional non-emitting energy sources that are either derived from an RPS Class I source but in excess of the RPS standard for a given year, or not deemed "renewable" under the RPS regulations, may constitute a CEC.[47]

Massachusetts' RPS Class I and CEC requirements are summarized in the following table.

Table 7: Massachusetts RPS Class I / CEC[48]
(RPS Class I and/or CEC eligible sources as percentage of supply sales to end-use customers)

Year	RPS Class I Requirement (%)	CEC Requirement (RPS Class I + CEC Only Sources) (%)
2018	13	16
2019	14	18
2020	15	20
After 2020	+1	+2

Other proposed regulations also reduce GHG emissions from fossil-fuel sources. These additional requirements would increasingly displace fossil-fuel sources and fossil-fuel powered equipment, and thus are expected to result in a corresponding increase in demand for renewable electricity resources, as more vehicles and equipment are electrified and fossil-fuel

[46] *Id.* at 24.

[47] Examples of energy sources that are not eligible as non-Class I RPS but may be CEC eligible are (1) large hydroelectric generators; (2) nuclear fuel plants; (3) fossil-fuel fired power plants that use carbon capture and sequestration to reduce emission to the required levels. *Id.* at 29.

[48] *Id.* at 26 – 27.

fired generation is restricted. For example, the *Global Warming Solutions Act Requirements for Transportation*,[49] establishes a "mass-based, annually declining aggregate targets on carbon dioxide ("CO_2") emissions from the transportation sector" within Massachusetts of 3.1 percent from a 1990 baseline GHG emissions level between 2013 and 2020.[50] Such reductions would in large part flow from the existing *Low Emission Vehicle Program*[51], as well as new declining limits on emissions levels from vehicles and other mobile equipment owned by the Massachusetts Department of Transportation and the Massachusetts Bay Transit Authority.

A companion regulation, *Reducing GHG Emissions From Electricity Generating Units*, would impose declining annual aggregate mass-based limits on GHG emissions from large fossil-fueled power plants in Massachusetts, and thereby ensure that emissions reductions resultant from compliance with the CES would occur in-state, as opposed to elsewhere on the regional electric grid.[52] The latter regulation is expected to pose challenges for the continued viability of fossil-fueled plants within Massachusetts, and render the availability of sources of renewable energy even more essential to meeting the Commonwealth's retail load.

C. Renewable Energy Solicitations

Consistent with state policies throughout New England fostering the development of renewable energy resources, several states have enacted laws authorizing regulators or utilities to solicit proposals from generators for the provision of renewable energy and to require

---

[49] 310 MASS. CODE REGS. 60.05 (Amended).

[50] *See DEP Background Document* at 9.

[51] 310 MASS. CODE REGS. 7.40.

[52] *DEP Background Document* at 24.

transmission and distribution companies to enter into long-term contracts for supply or capacity.[53]

1. Massachusetts

In Massachusetts, Section 83A of the Green Communities Act ("GCA"), required all distribution companies to solicit competitive proposals for both on- and offshore renewable energy at least twice during a five (5) year period beginning in 2009, for long-term contracts of ten (10) to fifteen (15) years in length to meet as much as three (3) percent of the distribution company's total energy demand.[54] Amendments to the GCA as set forth in the 2016 *An Act To Promote Energy Diversity*[55] require additional competitive solicitations for substantial amounts of both on-shore and offshore renewable energy. For on-shore renewable energy, distribution companies must solicit proposals by April 1, 2017 and enter into contracts for 9,450,000 MWh of renewable energy or RECs by December 31, 2022. For offshore wind energy resources, distribution companies must solicit proposals starting by July 1, 2017 for a total of 1,600 MW nameplate capacity to be in service by June 30, 2027. In both instances, any proposed contract is subject to a finding by the DPU that the proposed contract is a cost-effective mechanism for procuring renewable energy on a long-term basis.

---

[53] In November 2015, the states of Connecticut, Massachusetts, and Rhode Island issued the Tri-State RFP for proposals from private developers for clean energy and associated transmission pursuant to the authorizing legislation summarized in this section. https://cleanenergyrfpdotcom.files.wordpress.com/2015/11/clean-energy-rfp-final-111215.pdf. In October 2016, the soliciting parties selected a limited number of proposals for subsequent contract negotiations with the soliciting parties. Together, selected proposals represent approximately 460 MW of clean energy. These projects are estimated to produce approximately 958 GWh/year of clean energy, which represents less than 20 percent of the total amount requested in the solicitation. *See* https://cleanenergyrfp.com/2016/10/25/bidders-selected-for-contract-negotiation/.

[54] 2008 MASS. GEN. LAWS ch. 169, § 83A.

[55] *See* 2016 MASS. Acts ch. 188, § 12.

2. Connecticut

Connecticut law authorizes state regulators to solicit proposals, on behalf of Connecticut alone or in conjunction with other ISO-NE states, for renewable energy from several sources, including Class I renewable energy sources, large-scale hydropower, and any associated transmission. Pursuant to *An Act Concerning Affordable and Reliable Energy*, regulators may select proposals for Class I renewable energy sources, large-scale hydropower, and associated transmission that in the aggregate "do not exceed three hundred seventy-five million cubic feet of natural gas capacity or the equivalent megawatts of electricity", approximately 4,000 MW.[56] Any proposed agreement between a renewable resources generator and distribution company is subject to a finding by the Connecticut Public Utilities Regulatory Authority ("PURA") that such an agreement is cost effective and in the best interests of ratepayers.

3. Rhode Island

Rhode Island requires that each electric-distribution company (1) solicit proposals from renewable energy developers on an annual basis; and (2) enter into long-term contracts of up to fifteen (15) years with such generators that submit commercially reasonable proposals. The contracts may be for the purchase of energy, capacity, and attributes from newly-developed, renewable energy resources. In addition, beginning in 2014, Rhode Island law requires annual solicitations for capacity until the electric distribution company has entered into capacity contracts totaling ninety (90) MW.[57]

---

[56] Public Act No. 15-107; S.B. No. 1078; *see also* Public Act No. 13-303.

[57] *See* R.I. Gen. Laws Ann. § 39-31; http://programs.dsireusa.org/system/program/detail/1095.

III. NEW ENGLAND'S TRANSMISSION NEEDS

The Public Policy Requirements of the New England states make clear the region's intention that increasing amounts of customers' electricity shall come from clean energy resources, including energy derived from wind, solar, and hydropower sources. Achievement of this policy imperative depends on New England's meeting two threshold requirements. First, there must be sufficient available cost effective supply that allows for procurement of the required amounts of clean energy. Second, the New England Transmission System must be able to deliver all such generated clean energy to customers. Avangrid submits that obtaining an adequate supply of clean energy to comply with the Public Policy Requirements will require procurement of substantial solar and wind energy resources from Maine, as well as from hydropower and other renewable resources in Quebec and Atlantic Canada. The primary transmission need, then, is to ensure that such additional clean energy from these locations is deliverable to the New England Transmission System in a safe, reliable and cost effective manner.

A. Maine and Eastern Canada Possess Abundant Clean Energy Resources To Help Meet The Public Policy Requirements.

The State of Maine, and particularly western and northern Maine, possesses substantial solar and wind clean energy resources. Of the approximately 4,500 total megawatts of on-shore wind and solar clean energy resources associated with Active Projects as listed in the ISO-NE interconnection queue, approximately 4,200 megawatts, or ninety-three (93) percent of all planned solar and on-shore wind in New England, is located in the RSP Zones of (1) Northeast

Maine (2,900 megawatts); and (2) West and Central Maine/Saco Valley (1,300 megawatts), respectively.[58] Given the aggressive procurements of clean energy resources envisaged in the Public Policy Requirements, access to Maine clean energy resources will be necessary to the New England states' fulfilling their RPS and climate change policies, as summarized above in Section II.

Several New England states also permit hydropower as an eligible source of clean power generation to satisfy the Public Policy Requirements. There are, however, very few hydropower sources now in ISO-NE's interconnection queue, and no projects of substantial size. In contrast, there are abundant existing and in-development hydropower resources in Quebec and Atlantic Canada that could meet a large proportion of New England's need for clean energy resources. Moreover, given the intermittent energy of the solar and wind energy resources in development, it is likely that such Canadian hydropower will be necessary to ensure the availability of sufficient clean energy resources for the New England states to meet the Public Policy Requirements.[59]

---

[58] *See* Interconnection Requests for New England Control Area: Generation, elective Transmission Upgrade and Transmission Service Requests (Projects as of 2/1/2017), https://www.iso-ne.com/static-assets/documents/2014/09/interconnection_request_queue.pdf.

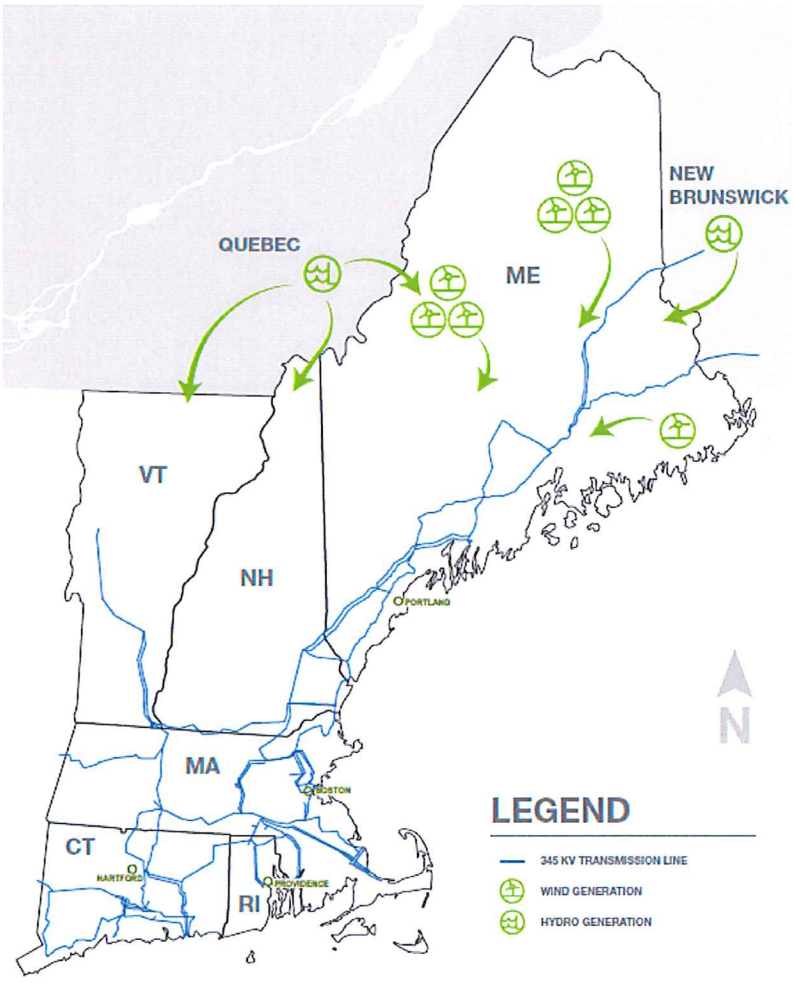
[59] For example, based on statistics from the National Renewable Energy Laboratory ("NREL") Avangrid estimates that to generate the entire 9,450 GWh/year called for by recent Massachusetts legislation entirely from solar resources could require upwards of 52,000 acres of flat-panel photovoltaic solar panels. *See* National Renewable Energy Laboratory, *Land Use Requirements for Solar Power Plants in the United States* at v (Table ES-1) (June 2013). For comparison, the City of Boston contains approximately 57,363 acres.

B. Additional Transmission Will Be Needed To Transport Maine and Canadian Clean Energy To New England Customers.

As stated above, meeting the Public Policy Requirements will depend on the deliverability of additional clean energy resources from Maine and Canada to the New England Transmission System. That deliverability will require the construction of additional high voltage transmission facilities to facilitate the interconnection and delivery of clean energy generators in those locations to the New England Transmission System.

Figure 1 below provides a summary map of the anticipated high voltage transmission facility needs required to make such renewable wind, solar, and hydropower resources deliverable throughout New England. The combined generation and transmission resources depicted in Figure 1 in western and northern Maine track closely the Maine Clean Power Connection ("MCPC") and Maine Renewable Energy Interconnect ("MREI") as proposed by CMP, and CMP and Emera Maine, respectively, in response to the 2015 Tri-State RFP.

Figure 1: Summary of High Voltage Transmission Facility Needs



IV. THE REGIONAL PLANNING PROCESS

As discussed above, New England's Public Policy Requirements call for procurement of substantial additional amounts of clean energy in the coming years. Meeting those requirements will render necessary the construction of additional high voltage transmission facilities to deliver that clean energy, particularly from northern and western Maine, as well as from Quebec and Atlantic Canada, to customers throughout New England. Avangrid

respectfully requests that NESCOE submit to ISO-NE a request for a PPTS that examines these public policy requirements and related transmission needs and identifies appropriate solutions, taking into account the input of the Planning Advisory Committee and potentially impacted stakeholders, including Avangrid. Avangrid looks forward to providing input to the ISO-NE throughout the planning phase, including regarding the scope, parameters, and assumptions of the PPTS.

In this Section IV, Avangrid provides initial input to NESCOE and ISO-NE regarding important aspects of the PPTS. Avangrid submits that the PPTS should prioritize not only system reliability, but also a cost-effective approach to transmission planning that accounts for (1) available capacity, or headroom, on the existing New England Transmission System; (2) the important relationship between planning assumptions and the cost of clean energy and associated, high voltage transmission facilities; and (3) the Public Policy Requirements' emphasis on delivered energy, rather than capacity.

A. Cost-Effective Use of New England's Robust Transmission System

As set forth in Section III above, the Public Policy Requirements of the New England states require the construction of additional transmission to deliver clean energy from Maine and Quebec and Atlantic Canada to all New England customers. The planning studies to determine the necessary transmission, however, should recognize as a starting point that the existing New England Transmission System is a robust and reliable system capable of delivering significant quantities of incremental clean energy. ISO-NE accordingly should tailor any proposed transmission solution to account for these capabilities.

In recent years, New England customers have invested billions of dollars to improve the reliability and transfer capability of the region's bulk transmission system in order to meet NERC, NPCC, and ISO-NE standards. Because of these improvements, the bulk transmission system is robust and flexible, and has unused transmission capacity, or headroom, across many of its existing interfaces. To address regional transmission needs in a cost-effective manner, the region should first make use of this headroom to deliver at least a portion of the new clean energy required to meet the Public Policy Requirements, before building large and costly new transmission paths to deliver the needed clean energy. This approach is preferable not only because it makes cost-effective and full use of existing transmission capabilities, but also inasmuch as it will minimize the cost of achieving the Public Policy Requirements and thereby help maintain public support for clean energy initiatives.

B. The Relationship Between Planning Assumptions and Clean Energy Costs

The new generation and transmission projects necessary to meet the Public Policy Requirements will require ISO-NE to determine that such new projects will have no significant adverse effect on the reliability or operating characteristics of the bulk transmission system, pursuant to Section I.3.9 of the ISO-NE Tariff. In these system impact study analyses, the planning assumptions used will have a direct effect on the resultant transmission upgrades deemed necessary to permit the interconnection of the needed incremental clean energy generation resources. In the event that more conservative assumptions are used in the system impact and interconnection study process, more substantial and costly transmission upgrades

will be required, thus increasing the cost of the needed clean energy for New England customers.

The on-going Maine Resource Integration Study is illustrative of this challenge. As discussed above, much of the potential new clean energy resources in development in New England are located in western and northern Maine. ISO-NE is in the process of studying the cluster enabled transmission facilities needed to integrate increasing quantities new clean energy generation in these areas to the New England Transmission System. The parameters and assumptions ISO-NE uses for this integration study will directly impact the amount and cost of transmission upgrades found necessary and in turn the total cost of the needed, incremental clean energy generation. In the studies completed to date, ISO-NE, for example, has studied the transmission needed to ensure that the proposed, new renewable resources may deliver their full output at the same time that essentially all of the existing thermal generation and wind generation in Maine is operating at nameplate capacity and the interface flows from New Brunswick are at their allowed maximum. Not surprisingly, these very conservative assumptions, typically used in transmission reliability studies, demonstrate the need for significant and costly transmission upgrades to permit the interconnection of the new resources.

As the holding company of transmission utilities committed to providing safe and reliable service at all times, Avangrid appreciates ISO-NE's vigilance in preserving reliability as new resources seek to interconnect to the transmission system. At the same time, Avangrid is concerned that public support for achievement of the Public Policy Requirements could erode

unless the region strikes the balance between reliability and New England's public policy-driven demand for clean energy. Should the cost of required transmission upgrades drive up the cost of needed clean energy to prohibitive levels, New England's public policy objectives could be frustrated. Avangrid accordingly encourages NESCOE to work closely with ISO-NE and the ISO-NE Planning Advisory Committee ("PAC") through the PPTS to achieve the dual imperatives of maintaining system reliability while not allowing the selected planning requirements and assumptions to make clean energy cost prohibitive for New England customers.

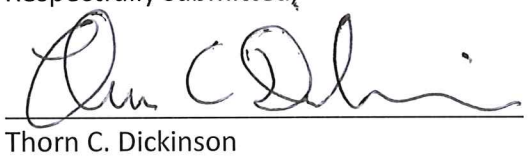
C. Planning Standards Should Reflect Policy Goals

As NESCOE engages with ISO-NE and PAC stakeholders in the PPTS, it is important to ensure that the planning standards used to determine the transmission upgrades necessary to allow the interconnection of the needed clean energy generation reflect the stated objective of the Public Policy Requirements for clean energy, not capacity. In planning the transmission system to accommodate interconnection of new clean energy generation, transmission upgrades should be made that will allow such generators to deliver clean energy during most hours of the planning year (8,760 hours), in order to provide the large amounts of clean energy called for by the Public Policy Requirements. Importantly, to satisfy this demand for energy (as opposed to capacity), such generators, however, may not need to operate without risk of curtailment during <u>all</u> hours of the year. Accordingly, the transmission system need not be planned to ensure deliveries from these generators during all system conditions, including highly stressed conditions at the system peak with all existing generators dispatched on. Rather, to meet the Public Policy Requirements in the most cost effective manner, the

transmission system should be designed to permit the interconnection of these resources to maximize deliveries under expected conditions, consistent with the I.3.9 no adverse impact standard.

In short, planning assumptions should reflect policy. To meet New England's Public Policy Requirements for clean energy, NESCOE should work with ISO-NE and PAC stakeholders to ensure that all planning and interconnection studies are done so as to maximize energy deliveries in the most cost effective manner.

Respectfully submitted,



Thorn C. Dickinson
Vice President – Business Development
AVANGRID Networks

AVANGRID COMMENTS

Attachment: Public Policy Requirements

February 25, 2017

Entity	Ref #	Federal	State	Municipality	County	Other	Description of Public Policy Requirement *(below reference to Avangrid comments section and page number)*	Reference to law, statute, regulation, etc.	Does the identified statute or regulation expressly require the construction of transmission infrastructure? If so, identify all relevant provisions.	Explanation of how public policy requirement drives transmission need *(below reference to Avangrid comments section and page number)*	Possible type and location (area/ substation) of transmission facilities that may be needed *(below reference to Avangrid comments section and page number)*	Are compliance alternatives identified in the statute or regulation? If so, identify all relevant provisions.	Does the statute or regulation provide for non-compliance alternatives, such as non-compliance monetary payments? If so, please identify all relevant provisions.	Any other additional information Entity feels is relevant
Avangrid	1	N/A	MA	N/A	N/A	N/A	II.A.1 (pp. 5 - 6)	225 Mass. Code Regs. 14.00, *et seq.*	No	III (pp. 18 - 21)	III (pp. 18 - 21)	225 Mass. Code Regs. 14.08	225 Mass. Code Regs. 14.12	*See Comments*
Avangrid	2	N/A	MA	N/A	N/A	N/A	II.A.1 (pp. 5 - 6)	225 Mass. Code Regs. 15.00, *et seq.*	No	III (pp. 18 - 21)	III (pp. 18 - 21)	225 Mass. Code Regs. 15.08	225 Mass. Code Regs. 15.12	*See Comments*
Avangrid	3	N/A	MA	N/A	N/A	N/A	I.B (p. 3); II.C.1 (pp. 19 - 20)	2008 Mass. Gen. Laws ch. 169, § 83A	No	III (pp. 18 - 21)	III (pp. 18 - 21)	N/A	N/A	*See Comments*
Avangrid	4	N/A	MA	N/A	N/A	N/A	I.B (p. 3); II.C.1 (pp. 19 - 20)	2016 Mass. Acts ch. 188, § 12	No	III (pp. 18 - 21)	III (pp. 18 - 21)	N/A	N/A	*See Comments*
Avangrid	5	N/A	MA	N/A	N/A	N/A	II.B. (pp. 14 - 18)	Mass. Gen. Laws Ch. 21N, § 3(a - d)	No	III (pp. 18 - 21)	III (pp. 18 - 21)	N/A	N/A	*See Comments*
Avangrid	6	N/A	MA	N/A	N/A	N/A	II.B (pp. 14 - 18)	Mass. Exec. Order 569	No	III (pp. 18 - 21)	III (pp. 18 - 21)	N/A	N/A	*See Comments*
Avangrid	7	N/A	MA	N/A	N/A	N/A	II.B (pp. 14 - 18)	310 Mass. Code Regs. 7.72, *et seq.*	No	III (pp. 18 - 21)	III (pp. 18 - 21)	N/A	N/A	*See Comments*
Avangrid	8	N/A	MA	N/A	N/A	N/A	II.B (pp. 14 - 18)	310 Mass. Code Regs. 7.73, et seq.	No	III (pp. 18 - 21)	III (pp. 18 - 21)	N/A	N/A	*See Comments*
Avangrid	9	N/A	MA	N/A	N/A	N/A	II.B (pp. 14 - 18)	310 Mass. Code Regs. 7.74, *et seq.*	No	III (pp. 18 - 21)	III (pp. 18 - 21)	N/A	N/A	*See Comments*
Avangrid	10	N/A	MA	N/A	N/A	N/A	II.B (pp. 14 - 18)	310 Mass. Code Regs. 7.75, *et seq.*	No	III (pp. 18 - 21)	III (pp. 18 - 21)	N/A	N/A	*See Comments*
Avangrid	11	N/A	MA	N/A	N/A	N/A	II.B (pp. 14 - 18)	310 Mass. Code Regs. 60.05, *et seq.*	No	III (pp. 18 - 21)	III (pp. 18 - 21)	N/A	N/A	*See Comments*
Avangrid	12	N/A	MA	N/A	N/A	N/A	II.B (pp. 14 - 18)	310 Mass. Code Regs. 60.06, *et seq.*	No	III (pp. 18 - 21)	III (pp. 18 - 21)	N/A	N/A	*See Comments*
Avangrid	13	N/A	NH	N/A	N/A	N/A	II.A.2 (pp. 6 -7)	N.H. Rev. St. Ann. § 362-F:3	No	III (pp. 18 - 21)	III (pp. 18 - 21)	N/A	N/A	*See Comments*
Avangrid	14	N/A	NH	N/A	N/A	N/A	II.A.2 (pp. 6 -7)	N.H. Rev. St. Ann. § 362-F:4(I - IV)	No	III (pp. 18 - 21)	III (pp. 18 - 21)	N/A	N/A	*See Comments*
Avangrid	15	N/A	NH	N/A	N/A	N/A	II.A.2 (pp. 6 -7)	N.H. Rev. St. Ann. § 362-F:10	No	III (pp. 18 - 21)	III (pp. 18 - 21)	N.H. Rev. St. Ann. § 362-F:10(II)	N.H. Rev. St. Ann. § 362-F:10(II)	*See Comments*
Avangrid	16	N/A	CT	N/A	N/A	N/A	II.A.3 (pp. 8 - 9)	Conn. Gen. Stats. § 16-245a	No	III (pp. 18 - 21)	III (pp. 18 - 21)	Conn. Gen. Stats. § 16-245a(e)	Conn. Gen. Stats. § 16-245a(e)	*See Comments*
Avangrid	17	N/A	CT	N/A	N/A	N/A	II.A.3 (pp. 8 - 9)	Conn. Gen. Stat §16.1, *et seq.*	No	III (pp. 18 - 21)	III (pp. 18 - 21)	N/A	N/A	*See Comments*
Avangrid	18	N/A	CT	N/A	N/A	N/A	II.C.2 (p. 20)	Public Act No. 13-103	No	III (pp. 18 - 21)	III (pp. 18 - 21)	N/A	N/A	*See Comments*
Avangrid	19	N/A	CT	N/A	N/A	N/A	II.C.2 (p. 20)	Public Act No. 15-107; S.B. No. 1078	No	III (pp. 18 - 21)	III (pp. 18 - 21)	N/A	N/A	*See Comments*
Avangrid	20	N/A	CT	N/A	N/A	N/A	II. B (p. 15)	Conn. Gen. Stat § 22a-200a	No	III (pp. 18 - 21)	III (pp. 18 - 21)	N/A	N/A	*See Comments*
Avangrid	21	N/A	ME	N/A	N/A	N/A	II.A.4 (pp. 9 - 11)	35-A M.R.S. § 3201, *et seq.*	No	III (pp. 18 - 21)	III (pp. 18 - 21)	N/A	N/A	*See Comments*
Avangrid	22	N/A	ME	N/A	N/A	N/A	II.A.4 (pp. 9 - 11)	35-A M.R.S. § 3410, *et seq.*	No	III (pp. 18 - 21)	III (pp. 18 - 21)	N/A	N/A	*See Comments*
Avangrid	23	N/A	ME	N/A	N/A	N/A	II.A.4 (pp. 9 - 11)	65-407, Ch. 311 § 3(C)	No	III (pp. 18 - 21)	III (pp. 18 - 21)	65-407, Ch. 311 § 3C	65-407, Ch. 311 § 7	*See Comments*
Avangrid	24	N/A	VT	N/A	N/A	N/A	II.A.5 (pp. 11 - 12)	Act No. 56 (H.40), An Act Relating To Establishing A Renewable Energy Standard (2015)	No	III (pp. 18 - 21)	III (pp. 18 - 21)	N/A	N/A	*See Comments*
Avangrid	25	N/A	VT	N/A	N/A	N/A	II.A.5 (pp. 11 - 12)	Vt. Stats. Ann., tit. 30, § 8002, 8005	No	III (pp. 18 - 21)	III (pp. 18 - 21)	VT. STAT. ANN. tit. 30, § 8005(4)(A)	VT. STAT. ANN. tit. 30, § 8005(4)(A)	*See Comments*
Avangrid	26	N/A	RI	N/A	N/A	N/A	II.A.6; (p. 12)	R.I. Gen. Laws Ann. § 39-26-4	No	III (pp. 18 - 21)	III (pp. 18 - 21)	R.I. Gen. Laws Ann. § 39.26-4(e)	R.I. Gen. Laws Ann. § 39.26-4(e)	*See Comments*
Avangrid	27	N/A	RI	N/A	N/A	N/A	II.C.3 (p. 20)	R.I. Gen. Laws Ann. § 39-31	No	III (pp. 18 - 21)	III (pp. 18 - 21)	N/A	N/A	*See Comments*

Category	Explanation
Entity	Name of Commenter/Company
Reference #	Unique number
Public Policy Requirement Enacted at Federal, State, Municipality, County or other level	Indicate where (e.g. US, CT, Norwich, and Middlesex). Only one entry per Ref #
Description of Public Policy Requirement	Explain PPR
Reference to law, statute, regulation, etc.	Where is the public policy requirement defined (specific site)
Does the identified statute or regulation expressly require the construction of transmission infrastructure? If so, identify all relevant	Indicate whether the identified statute or regulation expressly requires the construction of transmission facilities (yes or no). If yes, identify the relevant provisions.
Explanation of how public policy requirement drives transmission need	Why is transmission needed to meet this requirement?
Possible type and location (area/substation) of transmission facilities that may be needed	Where could transmission be built to meet this need (area and/or substation location)
Are compliance alternatives identified in the statute or regulation? If so, identify all relevant	Explain whether compliance alternatives are considered in the statute. If so, please identify all relevant provisions.
Does the statute or regulation provide for non-compliance alternatives, such as non-compliance monetary payments? If so, please identify all relevant provisions.	Explain whether the statute or regulation provides for non-compliance alternatives. If so, please identify all relevant provisions.
Any other additional information Entity feels is relevant.	Information beyond what is asked for above

2. Conservation Law Foundation – email, letter, template

From:	Ismay, David
To:	Public Policy
Cc:	Oberlin, Brent; Lyons, Marc; Hunt, Heather; Capra, Dorothy; Cunningham, Greg; Elmer, Jerry
Subject:	[EXT] PPR Submittal
Date:	Saturday, February 25, 2017 1:06:37 PM
Attachments:	image001.jpg image002.jpg 2017-02-25 CLF PPR Submittal.pdf

---

Attached please find Conservation Law Foundation's submittal regarding Order 1000 related Public Policy Requirements driving transmission needs relating to the New England Transmission System.

R,

David Ismay
Senior Attorney
CLF Massachusetts

62 Summer Street
Boston, MA 02110
D:617-850-1777
F:617-350-4030
E:dismay@clf.org

clf
conservation law foundation

For a thriving New England

CLF Massachusetts
62 Summer Street
Boston MA 02110
P: 617.350.0990
F: 617.350.4030
www.clf.org

February 25, 2017

By Electronic Mail (*PublicPolicy@iso-ne.com*)

Mr. Brent Oberlin
Director of Transmission Planning
ISO New England Inc.
1 Sullivan Rd.
Holyoke, MA 01040

Re: Public Policy Requirements Submittal

Dear Mr. Oberlin:

Enclosed please find NEPOOL Member Conservation Law Foundation's ("CLF's") submittal regarding Order 1000 related Public Policy Requirements ("PPRs") as requested by ISO New England ("ISO-NE") by written notice on January 11, 2017 and by verbal direction during its Planning Advisory Committee meeting on February 23, 2017.

Consistent with ISO-NE's recognition that regional transmission improvements are needed in order to realize the states' environmental goals and related mandates,[1] CLF's submittal identifies three PPRs that, individually and in the aggregate, drive transmission needs relating to the New England Transmission System. Although CLF understands that it is ISO-NE's obligation to develop "the high-level concepts that could meet transmission needs" responsive to identified PPRs as well as "a rough estimate of the costs and benefits" thereof,[2] CLF anticipates that the Public Policy Transmission Upgrades necessary to cost-effectively meet the PPRs identified herein are likely to include transmission assets similar in type, size, and function to those studied by ISO-NE in the course of its Maine Resource Integration Study, its 2015 Economic Study

[1] ISO-NE, *2017 Regional Electricity Outlook* (Jan. 2017), at 5 ("From the CEO") ("Connecting additional remote clean-energy resources is also going to require improvements on the transmission system."); *id.* at 14 ("The Region Is Attracting New Generation, but Transmission Improvements Are Needed to Interconnect More Wind Power. . . Because of the large distances from some of the proposed onshore wind power projects to the existing grid, major transmission system upgrades will be needed to deliver more of this power to far-away consumers."); ISO-NE, *2015 Regional Electricity Outlook* (Jan. 2015), at 27 ("Transmission is needed to bring renewables to market. Realizing the states' environmental goals will mean improving the power system's ability to bring the energy from remote wind units and Canadian hydro resources to regional demand centers.")
[2] ISO-NE, *Transmission Planning Process Guide* (Oct. 6, 2016), Section 3.1.5.

(Evaluation of Offshore Wind Deployment), its 2016 Economic Study (Scenarios 2, 3, and 6), and its Interconnection Queue Clustering Project.

Thank you for inviting CLF to make this submittal, and please do not hesitate to contact me if you have any questions regarding it.

Sincerely,

David Ismay
Senior Attorney
Conservation Law Foundation
D: 617-850-1777
E: dismay@clf.org

Encl.

cc: Heather Hunt, NESCOE (heatherhunt@nescoe.com)
Dorothy Capra, NESCOE (dorothycapra@nescoe.com)
Marc Lyons, ISO-NE (mlyons@iso-ne.com)
Brent Oberlin, ISO-NE (boberlin@iso-ne.com)

Public Policy Input Template *Submitted on Febrary 25, 2017 by Conservation Law Foundation (as requested by ISO-NE during Feb. 23, 2017 Planning Advisory Committee meeting).*

Entity	Ref #	Federal	State	Municipality	County	Other	Description of Public Policy Requirement	Reference to law, statute, regulation, etc.	Does the identified statue or regulation expressly require the construction of transmission infrastructure? If so, identify all relevant provisions.	Explanation of how public policy requirement drives transmission need	Possible type and location (area/substation) of transmission facilities that may be needed	Are compliance alternatives identified in the statute or regulation? If so, identify all relevant provisions.	Does the statute or regulation provide for non-compliance alternatives, such as non-compliance monetary payments? If so, please identify all relevant provisions.	Any other additional information Entity feels is relevant
Conservation Law Foundation	1		**VT, NH, ME, MA, RI, CT**				**Existing state laws and regulations requiring approx. 20% of ISO-NE load by 2025, and approx. 25% of ISO-NE load by 2030, to be served by qualified renewable generation.**	**VT (30 V.S.A. § 8001 et seq.; VT S.209 (2008)); NH (RSA 362-F; Admin. Rules, PUC 2500; PUC Order No. 25,844); ME (35-A M.R.S. § 3210; 2011 Public Law 413; CMR 65-407-311); MA (G.L. c. 25A, §§ 11F, 11F1/2; 225 CMR 14.00 -16.12); RI (Gen. Laws § 39-26-1 et seq.; 2016 H.B. 7413; CRIR 90-060-015); CT (Gen. Stat. § 16-245a et seq.; 2015 Public Act No. 15-194)**	**No, *but see* ISO-NE, 2017 Regional Electricity Outlook (Jan. 2017), at 5 ("From the CEO") ("Connecting additional remote clean-energy resources is also going to require improvements on the transmission system."); *id.* at 14 ("The Region Is Attracting New Generation, but Transmission Improvements Are Needed to Interconnect More Wind Power. . . Because of the large distances from some of the proposed onshore wind power projects to the existing grid, major transmission system upgrades will be needed to deliver more of this power to far-away consumers."); ISO-NE, *2015 Regional Electricity Outlook* (Jan. 2015), at 27 ("Transmission is needed to bring renewables to market. Realizing the states' environmental goals will mean improving the power system's ability to bring the energy from remote wind units and Canadian hydro resources to regional demand centers.")**	**Public Policy Requirement ("PPR") #1 "drives [regional] transmission need" suitable for study in a Public Policy Transmission Study ("PPTS") due to the geography of ISO-NE's area of responsibility, in which approximately 75% of system load that by law must increasingly be served by renewable generation is concentrated in highly developed/densely populated areas that themselves lack, and are physically distant from areas with, cost-effective renewable generation resources sufficient to meet PPR #1. *See, e.g.* , ISO-NE 2017 Regional Electricity Outlook at 5, 14; ISO-NE 2015 Regional Electricity Outlook at 27 (In order to "bring renewables to market" to realize the state's existing codified requirements for renewable generation will, system-wide, require "major transmission system upgrades.").**	**The type and location of the transmission necessary to cost-effectively satisfy PPR #1 will be studied by ISO-NE as detailed in Section 3.1.5 of ISO-NE's Transmission Planning Process Guide (Oct. 6, 2016) ("During the initial phase of the PPTS, ISO shall develop a rough estimate of the costs and benefits of the high-level concepts that could meet transmission needs that are defined in the project scope."). Based on the size of the PPR and the geography of ISO-NE's area of responsibility, CLF anticipates that transmission facilities similar to those studied by ISO-NE in its Maine Resource Integration Study, 2015 Economic Study, 2016 Economic Study (for Scenarios 2, 4, and 6) and in its Interconnection Queue Clustering Project are likely indicative of the possible type and location of the transmission that may be necessary to cost-effectively satisfy PPR #1.**	**Yes, *see* "Reference to law, statute, regulation, etc. " for Ref. 1.**	**PPR #1 cannot be satisfied by monetary payments: it is not a tax; it is a requirement for the service of specified amounts of retail electricty by renewable generation. By law, alternative compliance payments must be set "at levels that shall stimulate the development of new . . . renewable energy generating sources" and funds collected from such payments must be used to "further the commercial development of RPS . . . Renewable Generation Units[.]" *See, e.g.* , MA G.L. c. 25A, § 11F(h); MA 225 CMR 14.08(d).**	

Public Policy Input Template *Submitted on Febrary 25, 2017 by Conservation Law Foundation (as requested by ISO-NE during Feb. 23, 2017 Planning Advisory Committee meeting).*

Entity	Ref #	Federal	State	Municipality	County	Other	Description of Public Policy Requirement	Reference to law, statute, regulation, etc.	Does the identified statue or regulation expressly require the construction of transmission infrastructure? If so, identify all relevant provisions.	Explanation of how public policy requirement drives transmission need	Possible type and location (area/substation) of transmission facilities that may be needed	Are compliance alternatives identified in the statute or regulation? If so, identify all relevant provisions.	Does the statute or regulation provide for non-compliance alternatives, such as non-compliance monetary payments? If so, please identify all relevant provisions.	Any other additional information Entity feels is relevant
Conservation Law Foundation	2		**MA**				**MA requirement for procurement by reasonable contract of 9.45TWh/year of electricity generated by hydropower and/or hydropower plus RPS generation sources for delivery by Dec. 31, 2022; and for reasonable procurement of 1,600MW of off-shore wind generation by Jun. 30, 2027.**	**Massachusetts Energy Diversity Act of 2016 (H.4568 (2016))**	**Yes, *see* H.4568 (2016), § 12 (adding 2008 Stat. 169, §§ 83C and 83D); i*d* .(§ 83C (b), (d) and § 83D (d)).**	**PPR #2 "drives [regional] transmission need" suitable for study in a PPTS because it requires the procurement through 2027 of approximately 15TWh of electricity generated by hydropower and renewable generation that can only be delivered with the addition of regional transmission assets. *Accord* ISO-NE 2017 Regional Electricity Outlook at 5, 14; ISO-NE 2015 Regional Electricity Outlook at 27 .**	**The type and location of the transmission necessary to cost-effectively satisfy PPR #2 will be studied by ISO-NE as detailed in Section 3.1.5 of ISO-NE's Transmission Planning Process Guide. Based on the size of the PPR and the geography of ISO-NE's area of responsibility, CLF anticipates that transmission facilities similar to those studied by ISO-NE in its Maine Resource Integration Study, 2015 Economic Study, 2016 Economic Study (for Scenarios 2, 4, and 6) and in its Interconnection Queue Clustering Project are likely indicative of the possible type and location of the transmission that may be necessary to cost-effectively satisfy PPR #2.**	**No.**	**N/A**	

Public Policy Input Template *Submitted on Febrary 25, 2017 by Conservation Law Foundation (as requested by ISO-NE during Feb. 23, 2017 Planning Advisory Committee meeting).*

Entity	Ref #	Federal	State	Municipality	County	Other	Description of Public Policy Requirement	Reference to law, statute, regulation, etc.	Does the identified statue or regulation expressly require the construction of transmission infrastructure? If so, identify all relevant provisions.	Explanation of how public policy requirement drives transmission need	Possible type and location (area/substation) of transmission facilities that may be needed	Are compliance alternatives identified in the statute or regulation? If so, identify all relevant provisions.	Does the statute or regulation provide for non-compliance alternatives, such as non-compliance monetary payments? If so, please identify all relevant provisions.	Any other additional information Entity feels is relevant
Conservation Law Foundation	3		**MA, CT**				**MA requirement that 2050 emissions be no greater than 80% of 1990 levels in MA; CT requirement that 2050 emissions be no greater than 80% of 2001 levels in CT.**	**MA Global Warming Solutions Act, 2008 Stat. 298; MA G.L. c. 21N, § 3; CT Global Warming Solutions Act, Gen. Stat. § 22a–200 et seq.**	**No, *but see, e.g.* , ISO-NE 2017 Regional Electricity Outlook at 5, 14; ISO-NE 2015 Regional Electricity Outlook, at 27 ("Transmission is needed to bring renewables to market. Realizing the states' environmental goals will mean improving the power system's ability to bring the energy from remote wind units and Canadian hydro resources to regional demand centers."); *accord* ISO-NE, 2016 Economic Study (Scenarios 2, 3, and 6: indicating the type and scope of new transmission required to deliver ISO-NE aggregate emissions that comply with MA and CT GWSA requirements; Scenarios 1, 4, and 5: indicating business as usual resulting in ISO-NE aggregate emissions that do not meet MA and CT GWSA emissions levels).**	**PPR #3 "drives [regional] transmission need" suitable for study in a PPTS because compliance withe PPR #3 will require the addition to the ISO-NE system of a volume of new renewable generation resources sufficient in size to require the addition of regional transmission assets. *See, e.g.* , ISO-NE 2015 Regional Electricity Outlook, at 27; *accord* ISO-NE 2017 Regional Electricity Outlook at 5, 14; *see also* MA *Clean Energy and Climate Plan* (Dec. 29, 2010), at 97-103 (complying with GWSA will require 80% - 100% "of the electricity consumed in Massachusetts [to] come[] from near zero carbon sources"); MA *Clean Energy and Climate Plan* (Dec. 31, 2015), at 16 (complying with GWSA will require "expanded availability of clean electricity, and electrification of the transportation and heating sectors . . . [which will require] new infrastructure, including transmission lines").**	**The type and location of the transmission necessary to cost-effectively satisfy PPR #3 will be studied by ISO-NE as detailed in Section 3.1.5 of ISO-NE's Transmission Planning Process Guide. Based on the size of the PPR and the geography of ISO-NE's area of responsibility, CLF anticipates that transmission facilities similar to those studied by ISO-NE in its Maine Resource Integration Study, 2015 Economic Study, 2016 Economic Study (for Scenarios 2, 4, and 6) and in its Interconnection Queue Clustering Project are likely indicative of the possible type and location of the transmission that may be necessary to cost-effectively satisfy PPR #3.**	**No.**	**N/A**	

3. **National Grid – email, template**

From:	Ahmed, Syed
To:	Public Policy
Cc:	Galaburda, Daniel
Subject:	[EXT] National Grid Public Policy Submission
Date:	Monday, February 27, 2017 10:38:48 AM
Attachments:	ISO-NE public_policy_Proposal.xlsx

*** EXTERNAL email. Please be cautious and evaluate before you click on links, open attachments, or provide credentials. ***

In response to ISO-NE's solicitation for Public Policy, please find attached the public policy proposal from national Grid.

Thanks
Syed Ahmed
National Grid

Public Policy Input Template

Entity	Ref #	Federal	State	Municipality	County	Other	Description of Public Policy Requirement	Reference to law, statute, regulation, etc.	Does the identified statue or regulation expressly require the construction of transmission infrastructure? If so, identify all relevant provisions.	Explanation of how public policy requirement drives transmission need	Possible type and location (area/substation) of transmission facilities that may be needed	Are compliance alternatives identified in the statute or regulation? If so, identify all relevant provisions.	Does the statute or regulation provide for non-compliance alternatives, such as non-compliance monetary payments? If so, please identify all relevant provisions.	Any other additional information Entity feels is relevant
National Grid	1	X					Consistent with federal directives, there is a need to identify ways to continually operate the Phase I/II HVDC interconnection between Quebec and New England to the full rated capacity of 2,000 MW.	10 C.F.R Sections 205.320 to 205.329,[1] as implemented in Presidential Permit 76-1.[2]	The regulation does not expressly require the construction of transmission facilities. The Presidential Permit does direct utilities in the region to identify ways to maximize the use of Phase I/II. Specifically, Article 3 of Presidential Permit 76-1 requires that "operating studies shall be performed on an ongoing basis to: identify, from time to time, regional conditions under which the permitted facilities may be operated in isolated mode at the 2000 MW level, without jeopardizing regional reliability or placing restrictions on the Mid-Atlantic and Northeast system.	Transmission facilities or upgrades are needed to facilitate the increase of hydroelectric energy procurement to separate the power source feeding into the HVDC Phase I/II line between Quebec and New England. These upgrades would eliminate the Loss of Single source limit and thereby would allow the region to utilize the full continuous capacity of 2,000MW of the Phase I/II link.	Transmission upgrades necessary to alleviate the operating constraint on HVDC Phase I/II in the Northeast Region.	The Presidential Permit does not specify the manner in which continuous operation of the Phase I/II HVDC line at 2,000 MW is to be attained.	The Presidential Permit and related regulations do not provide for non-compliance alternatives.	HVDC Phase I/II was built during late 1980's and place into full commercial operation in 1990. At 2,000 MW, it is one of the largest single sources of power in New England. New England utilities have most of the capacity rights to the line and periodically utilities with rights to capacity on the line resell such rights on their OASIS pages. Hydro Quebec historically has been a major buyer of these rights but other entities have made significant purchases as well. HVDC Phase I/II is contributing economical and clean energy to regional power need since its inception of operation. The HVDC link also plays an important role helping in achieving the ISO-NE region wide renewable energy mix. Given the size of the HVDC Phase I/II interconnection, joint PJM/NYISO/ISO-NE studies have concluded that the loss of these facilities at high levels of imports could have a worse effect on the New York ISO (NYISO) and PJM than the worst internal contingency that these individual systems normally protect against. Under inter-pool agreements, the New York Independent System Operator (NYISO) and PJM must operate their bulk power systems to support a New England loss-of-source contingency no more severe than the largest internal contingency that these individual systems normally protect against. Under these agreements, NYISO and PJM must maintain their bulk power system and/or re-dispatch generation to permit a Phase I/II limit of at least 1,200 MW. A recently completed ISO-NE economic study [3] concluded that continuous operation of Phase I/II HVDC link at its installed capacity limit of 2000MW is likely to bring economic, reliability and environmental benefits. The report shows that the region could see a drop in hourly average locational marginal price (LMP) by approximately 15-17% while reducing the system wide annual production costs by approximately $500 million. This economic study scope did not include the Forward Capacity Market (FCM) benefits this may bring to the region.
	2													

Category	Explanation
Entity	Name of Commenter/Company
Reference #	Unique number
Public Policy Requirement Enacted at Federal, State, Municipality, County or other level	Indicate where (ie US, CT, Norwich, and Middlesex). Only one entry per Ref #
Description of Public Policy Requirement	Explain PPR
Reference to law, statute, regulation, etc.	Where is the public policy requirement defined (specific site)
Does the identified statue or regulation expressly require the construction of transmission infrastructure? If so, identify all relevant provisions.	Indicate whether the identified statute or regulation expressly requires the construction of transmission facilities (yes or no). If yes, identify the relevant provisionss.
Explanation of how public policy requirement drives transmission need	Why is transmission needed to meet this requirement?
Possible type and location (area/substation) of transmission facilities that may be needed	Where could transmission be built to meet this need (area and/or substation location)
Are compliance alternatives identified in the statute or regulation? If so, identify all relevant provisions.	Explain whether compilance alternatives are considered in the statute. If so, please identify all relevant provisions.
Does the statute or regulation provide for non-compliance alternatives, such as non compliance monetary payments? If so, please identify all relevant provisions.	Explain whether the statue or regulation provides for non-compliance alternatives. If so, please identify all relevant provisions.
Any other additional information Entity feels is relevant	Information beyond what is asked for above

[1] https://www.gpo.gov/fdsys/pkg/CFR-2002-title10-vol3/pdf/CFR-2002-title10-vol3-part205-subpartW-subjectgroup-id108.pdf

[2] https://energy.gov/sites/prod/files/oeprod/DocumentsandMedia/PP-76-1_VETCO.pdf

[3] https://www.iso-ne.com/static-assets/documents/2014/10/2013_economic_study_final.pdf

4. **NextEra Energy Transmission – email, template**

From:	Cicale, Nicholas
To:	Public Policy
Cc:	Lyons, Marc; Oberlin, Brent; Sherman, Christopher; Gibelli, Stephen; Garwood, Steve
Subject:	[EXT] Public Policy Requirements Submittal
Date:	Friday, February 24, 2017 2:11:18 PM
Attachments:	NEET PPTU Final Template.xlsx

Marc, Brent and other ISO representatives of interest:

Please find NextEra Energy Transmission's Public Policy Requirements submittal attached. Do not hesitate to contact me if any follow-up is necessary. Thank you for taking NextEra's submittal under advisement.

Very best regards,
Nick Cicale

Nicholas J. Cicale, Esq.*
Senior Regulatory Affairs Analyst
NextEra Energy Transmission, LLC
700 Universe Boulevard
Juno Beach, Florida 33408
Office: (561) 694-3980
Mobile: (203) 305-2558

*Admitted in Connecticut, District of Columbia, New Hampshire and New York

Public Policy Input Template

NEET	Ref #	State	Description of Public Policy Requirement	Reference to law, statute, regulation, etc.	Does the identified statute or regulation expressly require the construction of transmission infrastructure? If so, identify all relevant provisions.	Explanation of how public policy requirement drives transmission need	Possible type and location (area/substation) of transmission facilities that may be needed	Are compliance alternatives identified in the statute or regulation? If so, identify all relevant provisions.	Does the statute or regulation provide for non-compliance alternatives, such as non-compliance monetary payments? If so, please identify all relevant provisions.	Any other additional information Entity feels is relevant
NEET	1	MA	Competitive Solicitation Long-term contracts for offshore wind and clean energy generation resources.	St. 2016, C. 188, section 12, G.L. c. 30A, section 2 and 220 C.M.R. sec. 23.00-24.00	No.	All offshore wind requires the construction of new transmission, and most clean energy generation resources eligible for the competitive solicitation require transmission service for delivery to the Commonwealth.	Transmission infrastructure to facilitate interconnection and delivery of wind resources in Northern and Western Maine, similar to that described in ISO-NE's draft Maine Renewable Integration Study and in the description of the related Cluster Enabling Transmission Upgrade (CETU). In addition, transmission infrastructure to deliver the output of these Maine wind resources to the MA hub, including transmission to increase key interface limits including but not limited to ME/NH, N-S, NNE-Scobie+394 interfaces. In addition, transmission infrastructure required for the delivery of hydro electric generation from Quebec into New England, deliverable to the MA Hub should be studied as this too would support this Public Policy objective. Specifically, ISO-NE should study a 1000-1200MW HVDC transmission line under both the minimum interconnection standard and the capacity capability statndard from Hydro Quebec's Appalache Substation into Maine and terminating at Larrabee Road Substation, coupled with the upgrades to allieviate the Surowiec-South Interface, along with the other interfaces referred to above, taking into account a range of 0MW-2000MW of additional wind development in Maine In addition, ISO-NE should study transmission upgrades to facilitate development of off-shore wind with Points of Interconnection at Barnstable Substation, Brayton Pont Substation and Kent County Substation, as discussed in ISO-NE's 2015 Economic Study.	Compliance alternatives are not identified.	It does not.	
NEET	2	MA	Requires for the reduction of greenhouse gases below 1990 levels.	St. 2008, C. 298, sections 1-18.	No.	The reduction of greenhouse gases requires the use of more renewable or carbon-free generation and less fossil-fired generation. The transmission of renewable energy to meet the Global Warming Solutions Act targets create the necessity for the construction of transmission for delivery of such resources to the Commonwealth.	Same as reference item no. 1	Yes, the Commonwealth is to evaluate the benefits of various greenhouse gas reduction measures.	The executive office has the authority to monitor compliance with and enforce any *rule*, regulation, order, emissions limitation, emissions reduction or market-based compliance mechanism adopted by the executive office or department.	
NEET	3	MA	Renewable energy portfolio standard & alternative energy portfolio standard programs.	C. 25A, section 11F; 225 CMR 14.00 - 16.00	No.	Requires a certain percentage of the Commonwealth's electricity to come from renewable energy.	Same as reference item no. 1	An electric supplier may procure renewable energy from sources identified in subsections (b), (c) and (d).	Yes, the department has regulations outlining procedures allowing retail suppliers to discharge its compliance obligations by making alternative compliance payments.	
NEET	4	MA	Participation in group purchasing of electricity.	C. 164, section 137	No.	Permits any non-profit institution, agency, executive office, department, board, commission, bureau, division or authority of commonwealth, including the executive, legislative and judicial branches of the commonwealth, or of any political subdivision thereof to become a member of any competitively procured program organized and administered, by or on behalf of any public instrumentality of the commonwealth or of any subsidiary organization for the purpose of group purchasing of electricity.	Same as reference item no. 1	It is a permissive statute, not a mandate.	It does not.	
NEET	5	MA	"Establishing An Integrated Climate Change Strategy for the Commonwealth"	Executive Order No. 569	No.	The order encourages the development of more resilient infrastructure.	Incorporate storm-hardening criteria into ISO-NE's planning procedures for reliability, and explicitly allows for the recovery of such storm-hardening related costs via the RNS Rate.	Section mandates that the Secretary of Energy and Environmental Affairs shall coordinate and make consistent new and existing efforts to mitigate and reduce greenhouse gas emissions to build resilience and adapt to the impacts of climate change. Section 2 requires the Department of Environmental Protection to promulgate final regulations that satisfy the mandate of Section 3(d) of Chapter 21N of the General Laws by August 11, 2017, having designed such regulations to ensure that the Commonwealth meets the 2020 statewide emissions limit mandated by the Global Warming Solutions Act. Section 3 requires the Secretary of Energy and Environmental Affairs and the Secretary of Public Safety to coordinate efforts across the Commonwealth to strengthen the resilience of communities, prepare for the impacts of climate change and prepare for and mitigate damage from extreme weather events.	It does not.	
NEET	6	MA	Green Communities	C25A, section 10	No.	The Green Communities program is designed to reduce energy consumption and costs, reduce pollution and facilitate the development of renewable and alternative energy resources.	Same as reference item no. 1	Yes, there is a prescribed qualification process designated as a green community.	It does not.	
NEET	7	MA	Community Clean Energy Resiliency Initiative	DOER Grant Program	No.	Grant program focused on municipal resilience that uses clean energy technology solutions to protect communities from interruptions in energy services due to severe climate events made worse by the effects of climate change.	Same as reference item no. 1	No.	It does not.	
NEET	8	CT	Act concerning affordable and reliable energy	Conn. Gen. Stat. § 15-107	Yes. The act states the solicitation should pursue any associated transmission for the purpose of balancing energy deliveries and improving economic viability.	To reduce electric demand and improve resiliency and grid reliability in the state, the commissioner should look at load management, the state's conservation programs, Class I renewable energy sources and Class III sources and any associated transmission.	Same as reference item no. 1	No	No	
NEET	9	CT	Act concerning Connecticut's clean energy goals	Conn. Gen. Stat. § 13-303	No it does not	By generating more means for renewable energy and reducing costs for their ratepayers, this will generate more opportunities for construction of transmission.	Same as reference item no. 1	No	No	
NEET	10	CT	Measures to reduce federally mandates congestion charges	Conn. Gen. Stat. § 16 -243m	No it does not	Manner in which FMCCs may be reduced.	Same as reference item no. 1	No	No	
NEET	11	CT	Electric deregulation - provision of affordable, safe and reliable electricity is key to continuing growth of this state and to the health, safety and general welfare of its residents	Conn. Gen. Stat. § 16 -244	No it does not	In order for the state to continue to grow, maintain a competitive market, preserve and bolster electric reliability, this would ensure that all requirements and necessary efforts in order for the electric grid to maintain its safety and reliability would be utilized. In order to meet those demands construction of transmission infrastructure is advisable.	Same as reference item no. 1	No	No	
NEET	12	CT	Transmission line project review	Conn. Gen. Stat. § 16 - 244p	Speaks to procurement of transmission lines.	The Department of Energy and Environmental Protection shall review the procurement of transmission lines that could possibly lower electricity rates for ratepayers.	Same as reference item no. 1	No	No	
NEET	13	CT	Implementation of the Integrated Resources Plan	Conn. Gen. Stat. § 16a - 3a-b	No it does not	When the Integrated Resources Plan requires procurement of new sources of generation, such will create the need for the construction of new or upgrade of existing transmission to transmit renewable energy sought to meet the Plan's requirements.	Same as reference item no. 1	No	No	
NEET	14	CT	Comprehensive Energy Strategy	Conn. Gen. Stat. § 16a - 3d	No it does not	The Comprehensive Energy Strategy will determine energy policies, long-range energy planning objectives, determine the least-cost mix of energy supply sources. By restructuring the State's supply plan, or even determining a long-range energy plan, such can show an increase in demand which will require the construction or upgrade of transmission lines.	Same as reference item no. 1	No	No	

NEET	15	CT	Office of Policy and Management. Duties and powers.	Conn. Gen. Stat. § 16a - 4a	No it does not	Interregional plans for physical, social and economic development of the state must be prepared, including energy capabilities and requirements. By displaying the energy capabilities and requirements this could drive the need of transmission.	Same as reference item no. 1	No	No	
NEET	16	CT	Renewable Portfolio Standards for Connecticut	Connecticut Renewable Portfolio Standard	No it does not	2017 renewables ~22.5%, 2018 renewables ~24%, 2019 renewables ~26.5%, 2020 renewables ~27%. The policy creates financial incentives for development of renewable energy projects by ensuring a market and steady stream of revenue for renewable generators. In order to meet these annual standards, new generation will need to be built thus creating new construction for transmission lines.	Same as reference item no. 1	No	No	

Category	Explanation
Entity	Name of Commenter/Company
Reference #	Unique number
Public Policy Requirement Enacted at Federal, State, Municipality, County or other level	Indicate where (e.g. US, CT, Norwich, and Middlesex). Only one entry per Ref #
Description of Public Policy Requirement	Explain PPR
Reference to law, statute, regulation, etc.	Where is the public policy requirement defined (specific site)
Does the identified statute or regulation expressly require the construction of transmission infrastructure? If so, identify all relevant provisions.	Indicate whether the identified statute or regulation expressly requires the construction of transmission facilities (yes or no). If yes, identify the relevant provisions.
Explanation of how public policy requirement drives transmission need	Why is transmission needed to meet this requirement?
Possible type and location (area/substation) of transmission facilities that may be needec	Where could transmission be built to meet this need (area and/or substation location)
Are compliance alternatives identified in the statute or regulation? If so, identify all relevant provisions.	Explain whether compliance alternatives are considered in the statute. If so, please identify all relevant provisions.
Does the statute or regulation provide for non-compliance alternatives, such as non-compliance monetary payments? If so, please identify all relevant provisions.	Explain whether the statute or regulation provides for non-compliance alternatives. If so, please identify all relevant provisions.
Any other additional information Entity feels is relevant	Information beyond what is asked for above

5. TDI New England – email, letter

Oberlin, Brent

From: Josh Bagnato <Josh.Bagnato@chvtllc.com>
Sent: Friday, February 24, 2017 8:56 AM
To: Public Policy
Subject: [EXT] TDI-NE Comments on Public Policy and Transmission
Attachments: TDI-NE Comments on Public Policy and Transmission.pdf

Dear ISO-NE and NESCOE,

On behalf of TDI-NE, please see attached comments regarding Public Policy and the New England Transmission System.

Sincerely,

Josh Bagnato
VP, Project Development
Transmission Developers Inc.
802-477-3830
Josh.Bagnato@transmissiondevelopers.com

TDI New England
A Blackstone Portfolio Company

February 23, 2017

New England States Committee on Electricity
655 Longmeadow St.
Longmeadow, MA 01106

Subject: **Public Policy Requirements and the New England Transmission System**

Dear NESCOE,

Champlain VT, LLC d/b/a TDI New England ("TDI-NE") appreciates this opportunity to provide NESCOE with input regarding state and federal Public Policy Requirements identified as driving transmission needs relating to the New England Transmission System, and regarding particular transmission needs driven by those Public Policy Requirements. As the developer of the New England Clean Power Link[1] ("NECPL"), TDI-NE is committed to developing new transmission infrastructure in New England that will support the import of clean energy to meet the region's economic, environmental and public policy goals.

While all New England states have public policies designed to promote the development of renewable and/or clean energy resources, those policies justifiably differ by state. For example, in 2016, the Commonwealth of Massachusetts enacted legislation[2] requiring the solicitation of approximately 9.45 TWhs per year of clean energy for purchase by the electric distribution companies that operate in Massachusetts. No other New England state currently has a comparable requirement to solicit and potentially purchase such quantities of clean energy.

In response to that legislation, the Massachusetts Department of Energy Resources and the electric distribution companies have begun developing a competitive Request for Proposals ("RFP") to meet this public policy requirement, with the RFP to be issued no later than April 1, 2017. TDI-NE anticipates that multiple proposals will be submitted in response to this RFP and that:

- any proposal selected under this RFP will require the development of some transmission infrastructure,

[1] For more information on the Project, please visit: www.necplink.com
[2] House Bill No. 4568, "An Act to Promote Energy Diversity"

- each response to the RFP will identify the transmission infrastructure required to implement the proposal, and each proposal will reflect the cost of such transmission infrastructure.

Thus, while the aforementioned legislation could be interpreted as a state level public policy requirement that drives the need for transmission in New England, TDI-NE strongly recommends that the contemplated competitive MA RFP serve as the exclusive mechanism for identifying the proposal that best meets the objectives of the legislation, and in doing so, identifies the transmission infrastructure that will optimally meet this public policy requirement.

Thank you for the opportunity to provide these comments, and please do not hesitate to contact TDI-NE as appropriate.

Sincerely,

Donald Jessome

CEO

TDI-NE