



memo

**To:** Participants Committee  
**From:** Marc Lyons, Secretary – Reliability Committee  
**Date:** December 23, 2013  
**Subject:** **ACTIONS OF THE RELIABILITY COMMITTEE – Revision 2**

This memo is to notify the Participants Committee (“PC”) of the actions taken by the Reliability Committee (“RC”) at its December 19, 2013 meeting.

**(Agenda Item 2) Meeting Minutes**

It was moved and seconded to approve the previously distributed minutes of the following RC meetings:

- November 19, 2013
- December 9, 2013

The motion to approve the minutes passed, based on a show of hands with none opposed and no abstentions.

**(Agenda Item 3.1) Norwalk Harbor Station Generation Non Price Retirement**

It was moved and seconded to recommend to ISO New England Inc. that the analyses performed for the Non-Price Retirement Requests submitted for Resource ID 521 – Norwalk Harbor 10 (3), Resource ID 519 – Norwalk Harbor 1, and Resource ID 520 – Norwalk Harbor 2, which has a Qualified Capacity of 341.925 Summer MW for the Capacity Commitment Period beginning June 1, 2017 were performed in accordance with Market Rule 1, Section III.13.2.5.2.5 and Planning Procedure 10, Section 7.

The motion passed based on a show of hands with none opposed and 15 abstentions (15 End User Sector).

**(Agenda Item 3.2) Citizens Block Load Non Price Retirement**

It was moved and seconded to recommend to ISO New England Inc. that the analysis performed for the Non-Price Retirement Request submitted for Resource ID 2424 – Citizens Block Load, which has a Qualified Capacity of 60.0 Summer MW and the partial Non-Price Retirement Request is for 30.0 MWs for the Capacity Commitment Period beginning June 1, 2017 was performed in accordance with Market Rule 1, Section III.13.2.5.2.5 and Planning Procedure 10, Section 7.

The motion passed based on a show of hands with none opposed and no abstentions.

**(Agenda Item 3.3) EnerNoc Demand Response Non Price Retirement**

It was moved and seconded to recommend to ISO New England Inc. that the analyses Non-Price Retirement Requests submitted for Resource IDs 17295, 17320, 37900, 17319, 37907, 17339, 17287, 37896, 37903, 37913, 38023, 38022, 37904, 38030, 37910, 38031, 37902, 37911, 38032, 37912, 38026, 37915, 37908, 38036, 37899, 38017, 37914, and 37916, which have a combined Summer Qualified Capacity of 553.414 MW for the Capacity Commitment Period beginning June 1, 2017 were performed in accordance with Market Rule 1, Section III.13.2.5.2.5 and Planning Procedure 10, Section 7.

The motion passed based on a show of hands with none opposed and no abstentions.

**(Agenda Item 3.5) Brayton Point Diesel 1 – 4 Generation Non Price Retirement**

It was moved and seconded to recommend to ISO New England Inc. that the [analyses performed for the](#) Non-Price Retirement Request submitted for Resource ID 354 – Brayton Point Diesel 1 – 4, which have a combined Summer Qualified Capacity of 9.912 MW beginning June 1, 2017 were performed in accordance with Market Rule 1, Section III.13.2.5.2.5 and Planning Procedure 10, Section 7.

The motion passed based on a show of hands with none opposed and 23 abstentions (5 Generation Sector, 1 Supplier Sector, 17 End User Sector).

**(Agenda Item 3.6) Brayton Point 1, 2, 3, 4 Generation Non-Priced Retirement Request**

It was moved and seconded to recommend to ISO New England Inc. that the [analyses performed for the](#) Non-Price Retirement Requests submitted for Resource IDs #350, Brayton Point 1, Resource IDs #351, Brayton Point 2, Resource IDs #352, Brayton Point 3, Resource IDs #353, Brayton Point 4, which had a Summer Qualified Capacity of 1525.187 MW beginning June 1, 2017 were performed in accordance with Market Rule 1, Section III.13.2.5.2.5 and Planning Procedure 10, Section 7.

The motion failed with 22.889% in favor based on a roll call vote. (Generation Sector 0.0% in favor, 17.17% opposed, 1 abstention; Transmission Sector, 17.17% in favor, 0.0% opposed, 0 abstentions, Supplier Sector 0.0% in favor, 17.17% opposed, 5 abstentions; Alternative Resource Sector 0.0% in favor, 14.17% opposed, 5 abstentions; Publicly Owned Sector 0.0% in favor, 17.17% opposed, 33 abstentions; End User Sector 5.72% in favor, 11.44% opposed, 19 abstentions).

**(Agenda Item 3.6) Nextera alternative motion on Brayton Point 1, 2, 3, 4 Generation Non-Priced Retirement Request**

A motion offered by Nextera Energy Resources was moved and seconded to recommend to ISO New England Inc. that the Non-Price Retirement Request submitted for Resource IDs #350, Brayton Point 1, Resource IDs #351, Brayton Point 2, Resource IDs #352, Brayton Point 3, Resource IDs #353, Brayton Point 4, which had a Summer Qualified Capacity of 1525.187 MW beginning June 1, 2017, be rejected.

This motion failed with 32.526% in favor based on a roll call vote. (Generation Sector 0.0% in favor, 17.17% opposed, 1 abstention; Transmission Sector, 17.17% in favor, 0.0% opposed, 0 abstentions, Supplier Sector 0.0% in favor, 17.17% opposed, 5 abstentions; Alternative Resource Sector 0.0% in

favor, 14.17% opposed, 5 abstentions; Publicly Owned Sector 0.0% in favor, 17.17% opposed, 33 abstentions; End User Sector 15.36% in favor, 1.81% opposed, 4 abstentions).

**(Agenda Item 5.1) Northern Pass Transmission Project – Proposed Plan Applications (PPAs) NU-13-T20, NU-13-T21, NU-13-T22, NU-13-T23, NU-13-T24, NU-13-T25, NU-13-T26, NU-13-X03**

The main motion was moved and seconded that the RC recommends that the ISO approval of this Project be subject to the following and that the Project may not energize unless the following is satisfied as determined by ISO New England to ensure no adverse impact in compliance with Section I.3.9:

1. The Northern Pass Transmission Project (“Project”) be limited to no more than 1200 MW of imports into the United States from Québec as measured at the point of interconnection at Deerfield Substation in New Hampshire, as studied and described in the report titled “The Northern Pass Transmission Project Proposed Plan Application Analysis”, performed by RLC Engineering dated December 2013 (“NPT PPA Analysis”) and subject to the system upgrades via the Proposed Plan Applications (“PPAs”) NU-13-T20 through NU-13-T26 and NU-13-X3.
2. In that the Project system impact study included Sub-Synchronous Torsional Interaction (“SSTI”) screening analyses in accordance with the Electric Power Research Institute (“EPRI”) guidelines, and those screening analyses illustrated a risk of potential interaction with a number of generators, as indicated in the report titled “The Northern Pass Transmission Project Proposed Plan Application Analysis”, performed by RLC Engineering dated November 2013, Northern Pass Transmission LLC (“NPT”) will complete a comprehensive SSTI and control interaction analysis in coordination with the Franklin HVDC converter, Franklin SVC and Deerfield SVC manufacturer(s). NPT will specify and install all detailed control systems for the Project to perform under the conditions considered in the NPT PPA Analysis, including those required to mitigate SSTI for existing generators and reduce the risk of SSTI with future generators, or detection at the existing generators to trip the Project, to ensure compliance with the applicable industry standards and good utility practice, and be deemed as acceptable to ISO New England, in consultation with the RC and affected generators, prior to the commercial operation of the Project, provided that the Project HVDC terminal will not trip or unacceptably reduce output in addition to the loss of another resource, including imports on other transmission facilities.
3. ISO New England will initiate and complete System Impact Studies as required for any Interconnection Request under Schedules 22 or 23 of the Tariff without consideration of the detailed control systems and SSTI mitigation of the Project described in Item #2 until NPT provides working models of those controls and SSTI mitigation to ISO New England that are deemed as acceptable to ISO New England in accordance with good utility practice. The Project SSTI mitigation and control design specified in the above Item # 2 must consider any valid Interconnection Request under Section 22 or 23 of the Tariff having its System Impact Study initiated or any plan for a modification to the system that has at least substantially completed analysis required under Section I.3.9 of the Tariff for the Project to demonstrate compliance with

Section I.3.9 of the Tariff. NPT will be responsible for the necessary upgrades identified by the ISO to mitigate the unacceptable interactions between existing and new Interconnection Requests and the Project until such time as it presents the approved working models described in this Item #3.

4. NPT will update the PPA studies for the Project, as determined by ISO New England, if any of the models and assumptions for the Project used in that analysis change for any reason, including those resulting from completion of the detailed design of the controls of the HVDC terminal or the SVCs comprising the Project. Any such update will consider: (1) any relevant Interconnection Request under Schedules 22 or 23 of the Tariff that has an initiated System Impact Study; (2) any plan for a modification to the system that has at least substantially completed analysis required under Section I.3.9 of the Tariff or has been supported by ISO New England to meet identified system needs.
5. NPT will require the HVDC converter manufacturer to use best efforts to employ a design that can recover from commutation failure and converter blocking in as close to 8 cycles (or less) as possible.
6. NPT will require Hydro Québec TransÉnergie to mitigate the risk of a single event that causes the loss of both the NPT HVDC and the Hydro Québec Phase II HVDC at the transmission line crossing south of the HQ Nicolet Substation in Québec by a method found to be acceptable by ISO New England. This can be accomplished by undergrounding the NPT HVDC at the crossing or another method found to be suitable.
7. The NPT project's Franklin terminal HVDC control scheme will be considered a Type 1 Control system in accordance with NPCC C-33.
8. The Project's HVDC facilities shall be designed such that it can withstand and continue operation through multiple commutation failures and/or blocking events consistent with the performance demonstrated in the dynamics testing of Extreme Contingencies.
9. NPT will perform a voltage coordination analysis to determine the switching of the Deerfield capacitors by the Deerfield SVC that is necessary in order to maintain adequate reactive reserve margin on the SVC.

Proposed in service date of the project is June 2017.

**A motion to amend this main motion was offered by Nextera to include as additional requirements/conditions the contents of their transmittal entitled *Nextera Comment on Generator NPT Conditions for SSTI 121613.docx* that was posted in the committee materials and that read as follows:**

**Northern Pass Elective Transmission Upgrade**  
**December 18, 2013 Conditions** (*Prepared by NextEra Energy*)

1. Northern Pass Transmission and Northeast Utilities (collectively, “NU”) completed the Northern Pass Transmission system impact study, which included the Sub-Synchronous Torsional Interaction (“SSTI”) screening analyses in accordance with Electric Power Research Institute guidelines, and those screening analyses illustrated a risk of potential interaction with a number of generators, as indicated in the report titled “The Northern Pass Transmission Project Proposed Plan Application Analysis,” performed by RLC Engineering dated November 2013 (the “NPT PPA Analysis”). As a result of such report, all generators identified in such report, as well as any additional generators that may be determined to be affected during the course of further detailed evaluations (collectively, the “Affected Generators”), ISO-NE and NU agree to the following conditions for the Northern Pass Transmission Project (the “Project”).
  - a. NU will complete a comprehensive SSTI and control interaction analysis (“Analysis”) in coordination with the Franklin HVDC converter, Franklin SVC and Deerfield SVC manufacturer(s). NU will specify all detailed control systems for the Project to perform under the conditions considered in the NPT PPA Analysis, including those required to mitigate SSTI for existing generators and reduce the risk of SSTI with future generators, or detection at the existing generators to trip the Northern Pass.
    - i. The Analysis must include a full and complete report of the impact on any generator equipment, including but not limited to exciters, generator breakers, transmission breakers, transformers, turbine generator, etc.
  - b. NU shall provide a copy of the Analysis to the Affected Generators and their selected designees as soon as it is available, including any studies, analysis, reports or other work product used to complete the Analysis done by any vendor of NU (e.g., vendor torsional interaction study).
2. If the torsional interaction study shows any risk or potential risk of impact (with the risk determination to be based on accepted industry practice, and confirmed by ISO-NE; to the extent there is a dispute, then the Affected Generator shall have sole right to determine if a risk exists), then:
  - a. NU shall provide appropriate solutions that fully and completely resolve the problem at the Franklin HVDC converter, and associated equipment (“Source”), first by deploying equipment, as necessary, such as filters, design changes, etc. so that the risk, and potential risk is eliminated. Since reliability is of utmost concern, NU shall implement these solutions at whatever cost necessary.
  - b. NU shall provide access to information for the Affected Generators and ISO-NE to independently evaluate the adequacy of NU’s proposed solution.

- c. NU shall install appropriate monitoring and mitigation equipment that provide methods for testing to validate equipment performance both initially and on a going-forward basis as requested. NU shall share the testing and monitoring results with Affected Generators and ISO-NE. All monitoring and mitigation equipment shall meet design and manufacturer specifications. NU shall work with manufacturer and ISO-NE initially and on an on-going basis as needed to perform as-built operational testing to confirm that all equipment is operating according to specifications.
    - i. NU shall provide ISO-NE with telemetry point data on continuous basis so ISO-NE can confirm the monitoring and mitigation equipment is operational, as that allows the Franklin HVDC converter to be in normal operation. If the monitoring and mitigation equipment is out of service for any reason, then the Franklin HVDC converter should not be allowed to operate.
  - d. Notwithstanding the foregoing, at the request of any Affected Generator, NU shall pay for the protection and monitoring equipment at Affected Generators. NU shall have a continuing obligation to pay for operation, maintenance, testing, repair, and upgrade costs of any such equipment. This may include, but is not limited to:
    - i. Vibration monitors on generator equipment;
    - ii. Relays at generators that trips the NU HDVC Terminal with response time sufficient to avoid damage to the generator's equipment if a harmonic vibration is sensed at the generator;
    - iii. Relays at generators that alarm the affected generator if a harmonic vibration is sensed at that generator;
    - iv. Testing of monitoring equipment and relays, and share testing results with generators and ISO-NE.
  - e. For all monitoring and mitigation equipment, as applicable, ISO-NE will establish in advance minimum design standards for how quickly such equipment will be able to respond. NU must adhere to such standards for any such equipment.
  - f. The NU HDVC Terminal shall not be connected to the grid until the mitigating measures in this Section 2 have been successfully tested and confirmed to operate as intended. Such measures must be deemed acceptable to ISO New England prior to the commercial operation of the Project.
  - g. Notwithstanding the above, if NU is unable to resolve a problem that is a risk or potential risk to the Affected Generators, NU shall only be allowed to operate the facility in a manner that mitigates the risk.
3. NU will indemnify generators against economic harm that may accrue if the mitigation measures fail to act as intended and damage to generators ensues, including both consequential and direct damages.

4. NU agrees and acknowledges that the Franklin HVDC converter cannot be operated during system restoration conditions. The Franklin HVDC Converter shall only operate when the system is or has been restored to normal service and reflects stable conditions.

The Nextera motion to amend failed with 48.471% in favor based on a roll call vote. (Generation Sector 17.17% in favor, 0.0% opposed, 4 abstention; Transmission Sector, 0.0% in favor, 17.17% opposed, 1 abstention, Supplier Sector 12.87% in favor, 4.29% opposed, 7 abstentions; Alternative Resource Sector 0.0% in favor, 14.17% opposed, 2 abstentions; Publicly Owned Sector 13.53% in favor, 3.64% opposed, 1 abstentions; End User Sector 4.9% in favor, 14.05% opposed, 1 abstention).

The unamended main motion failed with 55.055% in favor based on a roll call vote. (Generation Sector 0.0% in favor, 17.17% opposed, 4 abstention; Transmission Sector, 17.17% in favor, 0.0% opposed, 1 abstention, Supplier Sector 3.43% in favor, 13.73% opposed, 5 abstentions; Alternative Resource Sector 14.17% in favor, 0.0% opposed, 4 abstentions; Publicly Owned Sector 17.17% in favor, 0.0% opposed, 32 abstentions; End User Sector 3.12% in favor, 14.05% opposed, 1 abstention).

**(Agenda Item 5.2) Footprint Generator and Salem Harbor Transmission Project - Proposed Plan Application (PPAs) FP-13-G01, NEP-13-T12**

Resolved, the Reliability Committee recommends that ISO New England Inc. determine that implementation of the Footprint Generator and Salem Harbor Transmission Project described in Proposed Plan Applications (“PPAs”) FP-13-G01 & NEP-13-T12 from Footprint Salem Harbor Development LP (“FP”) and New England Power Company (“NEP”) as detailed in Mr. Jonathan Salsman’s December 11, 2013 and Mr. Scott Silverstein’s December 9, transmittal to Mr. Donald Gates, Chair, Reliability Committee, will not have a significant adverse effect on the stability, reliability or operating characteristics of the transmission facilities of the applicant, the transmission facilities of another Transmission Owner or the system of a Market Participant.

**FP-13-G01** – Generator notification from Footprint Power Salem Harbor Development LP (“FP”) for the construction of two combined cycle (1 gas turbine, one steam turbine) generating units, each with a combined net output of 337.0 MWs (~~647.0~~674.0 MWs total net output) at the existing Salem Harbor generation site located in Salem, MA.

**NEP-13-T12** – Transmission notification from New England Power Company (“NEP”) for the construction of a single new 115 kV bay with two circuit breakers at the existing Salem Harbor Substation in support of the Footprint Generator project.

Proposed in service date of FP-13-G01 is May 31, 2016 and NEP-13-T12 is June 2016.

The motion to recommend a determination of no adverse effects passed based on a show of hands with none opposed and one abstention (End User Sector).

**(Agenda Item 5.3) Newtown Substation Circuit Breaker Project - Proposed Plan Application (PPA) NU-13-T17**

Resolved, the Reliability Committee recommends that ISO New England Inc. determine that implementation of the Newtown Substation Circuit Breaker Project described in Proposed Plan Application (“PPA”) NU-13-T17 from Northeast Utilities Service Company (“NU”) as detailed in Mr. Paul Liang’s November 13, 2013 transmittal to Mr. Donald Gates, Chair, Reliability Committee, will not have a significant adverse effect on the stability, reliability or operating characteristics of the transmission facilities of the applicant, the transmission facilities of another Transmission Owner or the system of a Market Participant.

**NU-13-T17** – Transmission notification from Northeast Utilities Service Company (“NU”) for the installation of a new 115 kV circuit breaker at the Newtown Substation located in Newtown, CT. splitting the 1760 and 1876 lines into two independent line to provide optimization of the line relay settings for the most reliable operation. Also, tripping and reclosing selectivity will be improved.

Proposed in service date of the project is December 31, 2014.

The motion to recommend a determination of no adverse effects passed based on a show of hands with none opposed and no abstentions.

**(Agenda Item 5.4) Peaslee Substation/Kingston Substation Project - Proposed Plan Applications (PPAs) NU-13-T31, UES-13-T01**

Resolved, the Reliability Committee recommends that ISO New England Inc. determine that implementation of the Peaslee Substation/ Kingston Substation Project described in Proposed Plan Applications (“PPAs”) NU-13-T31 & UES-13-T01 from Northeast Utilities Service Company (“NU”) and Unil Energy Systems (“UES”) as detailed in Mr. Jim DiLuca’s and Mr. James Goudreault’s December 3, 2013 transmittals to Mr. Donald Gates, Chair, Reliability Committee, will not have a significant adverse effect on the stability, reliability or operating characteristics of the transmission facilities of the applicant, the transmission facilities of another Transmission Owner or the system of a Market Participant.

**NU-13-T31** – Transmission notification from Northeast Utilities Service Company (“NU”) for the construction of the 115 kV Peaslee Switching Station consisting of a five circuit breakers in a ring bus configuration (PTF). Construction of a 115-kV overhead circuit, approximately 5.5 miles (PTF). Protection and Control additions and changes at remote terminals, including Scobie Pond, Chester (Pulpit Rock), Brentwood, Great Bay, Kingston (PTF and Non-PTF). Construction of two 115-kV radial overhead circuits, each approximately 1500 feet, to supply a new Unil 115/34.5-kV Substation (Non-PTF).

**UES-13-T01** - Transmission notification from Unil Energy Systems (“UES”) for the construction of the 115kV – 34.5kV Kingston distribution stepdown substation, consisting of a two 60MVA stepdown transformers, 115kV circuit breakers, 34.5kV capacitor banks and 34.5kV circuit breakers for transformer and distribution line protection (non-PTF) along with protection and control additions/changes at Kingston (Non-PTF).

Proposed in service date of the project is June 2016.

The motion to recommend a determination of no adverse effects passed based on a show of hands with none opposed and no abstentions.

**(Agenda Item 6.1) ISO New England Operating Procedure No. 6 (OP 6)**

It was moved and seconded to recommend Participants Committee support for retirement of ISO New England Operating Procedure No. 6 (OP 6), together with such other changes as discussed and agreed to at the meeting] and such other non-material changes as may be approved by the Chair and Vice-Chair of the Reliability Committee following the meeting. The retirement of OP 6 – System Restoration is to move the responsibilities to OP 1A and MLCC 18.

The motion to recommend approval to the Participants Committee passed based on a show of hands with none opposed and no abstentions.

**(Agenda Item 6.2) ISO New England Operating Procedure No. 1A (OP 1A)**

It was moved and seconded to recommend Participants Committee support for implementation of ISO New England Operating Procedure No. 1A (OP 1A), together with such other changes as discussed and agreed to at the meeting] and such other non-material changes as may be approved by the Chair and Vice-Chair of the Reliability Committee following the meeting. The implementation of OP 1A – Central Dispatch Operating Responsibility and Authority of ISO New England, the Local Control Centers and Market Participants – Assignment of Responsibilities is to add new language describing requirements for system restoration as a result of the retirement of OP 6.

The motion to recommend approval to the Participants Committee passed based on a show of hands with none opposed and no abstentions.