Appendix D -
Voltage Schedule Annual Transmittal Form

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This document is controlled when viewed on the ISO New England Internet web site. When downloaded and printed, this document becomes UNCONTROLLED, and users should check the Internet web site to ensure that they have the latest version. In addition, a Controlled Copy is available in the Master Control Room procedure binders at the ISO.
Voltage Schedule Annual Transmittal Form

[specify date]

Dear Lead Market Participant Contact:

This letter serves as the annual confirmation of your voltage control responsibilities as a Lead Market Participant (MP) for a Generator Asset in the ISO New England (ISO) markets in accordance with ISO New England Operating Procedure No. 12 - Voltage and Reactive Control (OP-12). This letter also serves to meet the applicable requirements of the North American Electric Reliability Corporation (NERC) Reliability Standards VAR-001 - Voltage and Reactive Control and VAR-002 - Generator Operations for Maintaining Network Voltage Schedules, which require each Transmission Operator to specify a voltage or Reactive Power schedule to be maintained by each Generator. As described below, follow up action to this letter is required from you. This letter is being provided for: [Market Asset name], Asset # [Market Asset ID #].

General responsibilities

Each Generator Asset in the ISO markets shall either hold a voltage schedule or receive an exemption of that obligation from the ISO. The voltage schedule may be either a transmission voltage schedule or a voltage schedule at less than transmission levels (< 69 kV).

References:

  - OP-14 requires that each Generator maintain an automatic voltage regulator (AVR) in service and regulating to the voltage schedule on all generating units comprising a Generator unless granted an exemption.

- ISO New England Operating Procedure No. 14 Appendix B - Generator and Asset Related Demand Reactive Data Explanation of Terms and Instructions for Data Preparation for ISO Form NX-12D (OP-14B)

- ISO New England Operating Procedure No.12 - Voltage and Reactive Control (OP-12)

- ISO New England Operating Procedure No. 12 Appendix B - Voltage and Reactive Schedules (OP-12B)

- Master/Local Control Center Procedure No. 8 - Coordination of Generator Voltage Regulator and Power System Stabilizer Outages, Attachment A - Generators Exempted from AVR Requirements (M/LCC 8A).

- NERC Reliability Standard VAR-001 - Voltage and Reactive Control

- NERC Reliability Standard VAR-002 - Generator Operations for Maintaining Network Voltage Schedules
Specific voltage requirements for your Generator Asset

Our records indicate that your voltage control requirements are as shown in one of the three options designated below.

OPTION A – Voltage control for transmission
☐ The asset has a voltage schedule in OP-12B (or is in the process of being added to OP-12B)

<table>
<thead>
<tr>
<th>Operational Voltage Schedules - On-Peak Period</th>
<th>Operational Voltage Schedules - Off-Peak Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>kV Schedule</td>
<td>Tolerance Band</td>
</tr>
<tr>
<td>kV High</td>
<td>kV Low</td>
</tr>
</tbody>
</table>


OPTION B – Voltage control for below transmission
☐ The Generator Asset has a voltage schedule at non-transmission levels (not listed in OP-12B)

<table>
<thead>
<tr>
<th>On-PeakPeriod</th>
<th>Off-Peak Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schedule (kV)</td>
<td>Schedule max (kV)</td>
</tr>
</tbody>
</table>

OPTION C - Exemption
☐ The Generator Asset has been exempted from AVR Requirements (listed in M/LCC 8A, or is in the process of receiving an exemption and being added to M/LCC 8A).

Note: M/LCC 8A is posted at http://www.iso-ne.com/static-assets/documents/rules_proceds/operating/mast_satllite/mlcc8_att_a.pdf

Follow up action required

The following actions are required depending on the voltage requirements specified above for your Generator Asset.

If your voltage requirements are specified in OPTION A:

Any Generator Asset with a voltage schedule listed in OP-12B (i.e., “OPTION A”) shall follow the above noted transmission voltage schedule, within the noted voltage schedule high and low values, as described in OP-12. Within 30 days of receiving this letter, please perform the tasks listed below and then “reply to all” to the email you received containing this letter to confirm that these tasks have been completed:

1. Provide these voltage schedules and requirements information to the entity that controls or operates (either remotely or locally) the voltage control equipment for the Generator Asset described in this letter.

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1 On-Peak is from 0700-2300 on weekdays that are not NERC holidays
2 Off-Peak is from 2300-0700 on weekdays, all weekends and NERC holidays.
2. Confirm in your reply email that the entity that controls or operates (either remotely or locally) the voltage control equipment for this Generator Asset has incorporated these voltage schedules and requirements information into its operating procedures.

3. Confirm that these voltage schedules match those submitted in the Generator NX-12D form and, if they are different, update the NX-12D form with these voltage schedules and submit the new form to ISO. The NX-12D form shall be completed according to the instructions contained in OP-14B.

4. Indicate whether or not the entity that controls or operates (either remotely or locally) the voltage control equipment for the Generator Asset has visibility of the bus voltage that is of the same voltage class as its voltage schedule.

If your voltage requirements are specified in OPTION B:

Any Generator Asset with a voltage schedule at levels below transmission levels (i.e., “OPTION B”) shall confirm the noted voltage schedule and voltage schedule maximum and minimum values. Per OP-14, ISO and the LCCs may revise the noted voltage schedule, as necessary. Within 30 days of receiving this letter, perform the tasks listed below and then “reply to all” to the email you received containing this letter to confirm that these tasks have been completed:

1. Confirm that the voltage schedule and voltage schedule maximum and minimum values are acceptable or, if deemed unacceptable, provide an explanation in your reply email.

2. If the voltage schedule and voltage schedule maximum and minimum values are confirmed to be acceptable, then:
   a. Provide these voltage schedules and requirements information to the entity that controls or operates (either remotely or locally) the voltage control equipment for the Generator Asset described in this letter.
   b. Confirm that the entity that controls or operates (either remotely or locally) the voltage control equipment for the Generator Asset has incorporated these voltage schedules and requirements information into its operating procedures.

3. Confirm that these voltage schedules match those submitted in the Generator NX-12D form and, if they are different, update the NX-12D form with these voltage schedules and submit the new form to ISO. The NX-12D form shall be completed according to the instructions in OP-14B.

4. Indicate whether or not the entity that controls or operates (either remotely or locally) the voltage control equipment for the Generator Asset has visibility of the bus voltage that is of the same voltage class as its voltage schedule.

If your voltage requirements are specified in OPTION C:

Any Generator Asset with an exemption in M/LCC-8, Attachment A (i.e., “OPTION C”) is not required to follow a voltage schedule, or to have its AVR in voltage control mode; instead, the Generator Asset shall be operated in the agreed-upon reactive performance mode (i.e. constant power factor or constant reactive output) to preclude adverse reliability impacts. Within 30 days of receiving this letter, please perform the tasks listed below and then “reply to all” to the email you received containing this letter to confirm that these tasks have been completed:

1. Provide a description of your reactive controls and operation in lieu of maintaining a voltage schedule through use of your AVR or its equivalent.
Questions?

Questions regarding the voltage schedules and requirements described in this letter may be directed to me and the following e-mail address:

vtfcontact@iso-ne.com

Sincerely,

[LCC contact person name]

[LCC name]

Cc:

Designated Entity Operations Management Contact

vtfcontact@iso-ne.com

OP-12, Appendix D Revision History

<table>
<thead>
<tr>
<th>Rev. No.</th>
<th>Date</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rev 0</td>
<td>01/23/14</td>
<td>Initial version</td>
</tr>
<tr>
<td>Rev 1</td>
<td>03/21/14</td>
<td>This revision (Rev 1) reflects clarifications and corrections to the approved Rev 0 template that would be used in actual transmittals sent to Lead Market Participants in Q1 2014. There are no changes to intent in these revisions. The revisions were made to avoid confusion and to minimize questions that could arise if the approved Rev 0 template were used.</td>
</tr>
<tr>
<td>Rev 2</td>
<td>12/09/14</td>
<td>Replaced Heavy Load with On-Peak and Light Load with Off-Peak consistent with changes made to both OP-12 and OP-12B.; Removed all references correlating Heavy Load to On-Peak and Light Load to Off-Peak. Added On-Peak and Off-Peak definitions consistent with the change made in OP-12B.</td>
</tr>
<tr>
<td>Rev 3</td>
<td>02/18/16</td>
<td>Biennial review by Procedure Owner; Changes to reflect new fields in NX-12 Software for Voltage Schedules;</td>
</tr>
<tr>
<td>Rev 3.1</td>
<td>01/29/18</td>
<td>Biennial review by Procedure Owner completed requiring no changes; Made administrative changes required to publish a Minor Revision;</td>
</tr>
<tr>
<td>Rev 4</td>
<td>08/02/19</td>
<td>Biennial review by procedure owner; Globally, made editorial changes consistent with current conditions, practices and management expectations; Created a new &quot;References&quot; section which lists associated documents instead of describing them in the &quot;General Responsibilities&quot; section.; Removed 69 kV threshold from Option A and B classification; Clarified that the NX-12D form must be submitted according to OP-14B instructions;</td>
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</tbody>
</table>