ISO New England Operating Procedure No. 3
Transmission Outage Scheduling

Effective Date: ~~**January 4, 2017**~~**draft**

References:

NPCC Directory #1 Design and Operation of the Bulk Power System (Directory #1), Appendix F: Procedure for Operational Planning Coordination, Facilities Notification List - Attachment D

ISO New England Market Rule 1

Participants Agreement

Transmission Operating Agreement

ISO New England Operating Procedure No. 5 - ~~Generator, Dispatchable Asset Related Demand and Alternative Technology Regulation~~ Resource Maintenance and Outage Scheduling (OP-5)

ISO New England Operating Procedure No. 19 - Transmission Operations (OP-19)

ISO New England Operating Procedure No. 24 - Relay Protection Outages, Settings and Coordination (OP-24)

Master/Local Control Center Procedure No. 7 - Processing Transmission Outage Applications (M/LCC 7)

Master/Local Control Center Procedure No. 15 - System Operating Limit Methodology (M/LCC 15)

~~**Local Control Center Instructions:**~~

~~CONVEX: OI-0003 - Transmission System Work Control Process~~

~~Maine: AVANGRID Networks ECC Maintenance Outage Scheduling of Electrical Facilities~~

~~New Hampshire: OP-0003 Outage Application Requests~~

~~NSTAR: OP-3 Outage Scheduling~~

~~REMVEC/NGRID: REMVEC II Operating Procedure No. 3, Scheduling Outages of New England Control Center REMVEC Transmission Facilities~~

~~VELCO: VELCO Operating Procedure OP-3 Outage/Maintenance Scheduling~~

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I. INTRODUCTION

A. BACKGROUND

Transmission outages for construction, tests, maintenance or repair must be coordinated to ensure that reliability is maintained at levels prescribed by ISO New England (ISO) Operating Procedure No. 19 - Transmission Operations (OP-19). In addition, whenever possible, transmission and Generator/ Dispatchable Asset Related Demand (DARD) outages will be coordinated to reduce congestion costs. For importing areas, economic Generators/ DARDs within the area should **not** be scheduled out simultaneous with transmission facilities that significantly support area import capability. For exporting areas, Generator/ DARD outages within the area should be coordinated coincident with the outage of transmission facilities that significantly support area export capabilities.

In addition, this procedure [ISO New England Operating Procedure No. 3 - Transmission Outage Scheduling (OP-3)] is to be construed throughout as reflecting that ISO possesses the ultimate authority for approval of proposed schedules and rescheduling of proposed or approved transmission outages based on either reliability or market efficiency considerations. The processes described in OP-3 are those that ISO will generally use to consider outage approval, scheduling and rescheduling, but shall **not** diminish or limit ISO ultimate authority as described in the preceding sentence.

B. PURPOSE OF PROCEDURE

The purpose of OP-3 is to achieve the following:

- Facilitate the preparation, by each Transmission Owner (TO) and each Local Control Centers (LCC), of TO Long-Term and Short-Term outage plans for their transmission facilities
- Establish a Long-Term and Short-Term Outage request process and a timeline for such outage requests.
- Coordinate transmission outages with Generator/ DARD outages to plan for reliable operations and minimize congestion
- Establish a Long-Term and Short-Term Outage scheduling process that does **not** jeopardize the reliability of the transmission system and continues to minimize congestion
- Provide guidelines for responding to unplanned outages

OP-3 defines Category A Facilities, Category B Facilities, Major Transmission Elements (MTE) and Local Area Facilities and establishes criteria and guides for submitting, evaluating, approving, and disapproving or repositioning all work on these facilities. A complete list and description of Category A and B Facilities under the ISO New England Transmission Operating Agreement (TOA) can be found on the OASIS website. Whereas Local Area Facilities involve sub-transmission facilities (below 69kV) that have been delegated to LCCs within New England, a list of these facilities is **not** called for by the TOA between ISO and TOs **nor** required for purposes of OP-3.

II. DEFINITIONS

Definitions used in this Procedure:

"Capitalized terms used but **not** otherwise defined in OP-3 have the meanings ascribed thereto in the ISO Tariff, the ISO New England Manuals, the Second Restated New England Power Pool Agreement and the Participants Agreement."

- **Category A Facilities:**

  Category A Facilities as consisting of all transmission lines with a voltage level of 115 kV and above, except for those 115 kV transmission facilities specifically designated as Category B Facilities in accordance with the current TOA Categories of Transmission Facilities Section 2.01(e)(ii); all transmission interties between Control Areas; all transformers that have Category A Facilities connected to the lower voltage side of the transformer; all transformers that require a Category A Facility to be taken out of service when the transformer is taken out of service; and all breakers and disconnects connected to, and all shunts, relays, reclosing and associated equipment, dynamic reactive resources, Flexible Alternating Current Transmission System (FACTS) controllers, Special Protection Systems (SPSs), Phase Angle Regulating transformers (PARs), and other equipment specifically installed to support the operation of such transmission lines, interties, and transformers.

- **Category B Facilities:**

  Category B Facilities as consisting of all 115 kV radial transmission lines and all 69 kV transmission lines that are **not** interties between Control Areas; all transformers that have any Category B Facilities and **no** Category A Facilities connected to the lower voltage side of the transformer except to the extent such transformers are designated as Category A Facilities in accordance with the current TOA Categories of Transmission Facilities Section 2.01(e)(i); and all breakers and disconnects connected to, and all shunts, relays, reclosing and associated equipment, dynamic reactive resources, FACTS controllers, SPSs, PARS, and other equipment specifically installed to support the operation of such Category B Facilities.

- **Congestion Costs:**

  The estimated increased expenses resulting from forecasted real-time commitment or re-dispatch of "out of merit" Generators/DARDs and/or the forecasted real-time re-dispatch or de-commitment of "in merit" Generators/DARDs in the Energy & Reserves Markets to respect operating criteria.

- **Local Area Facilities:**

  The transmission facilities of a Participating Transmission Owner (PTO) within the New England Transmission System with a voltage level of less than 69 kV and all transformers that have **no** Category A Facilities or Category B Facilities connected to the lower voltage side of the transformer that are **not** listed in TOA Categories of Transmission Facilities Schedule 2.01(a), Schedule 2.01(b) and are **not** excluded facilities". Section 2.01(e)(iii) of the TOA defines Local Area Facilities as consisting of "all transmission facilities with a voltage level of less than 69 kV and

all transformers that have **no** Category A Facilities or Category B Facilities connected to the lower voltage side of the transformer.

- **Long-Term Economic Approval:**

  A Planned Transmission Outage request that is submitted greater than 90 days in advance of the start date and satisfies reliability and economic evaluations, receives economic approval status from ISO. Short of reliability concerns, it is intended to provide a level of assurance that the request will be denied / cancelled only under extreme economic conditions.

- **Long-Term Transmission Outage:**

  A Planned Transmission Outage submitted for ISO Interim-Approval up to 2 years and greater than or equal to 21 days prior to the day the outage scheduled to begin.

- **Major Transmission Elements (~~-~~MTE)**:

  MTE are a subset of Category A Facilities and Category B Facilities that affect Generators/DARDs and may be further identified as, but **not** limited to, facilities defined or referenced in:

  - NPCC Facilities for Notification
  - Defined external interfaces
  - Defined internal interfaces
  - Restrictions on the operation of a Generator/DARD
  - A Transmission Operating Guide TOG)

  As a result of the above criteria, MTE (acting individually) may have a significant impact on the reliable and/or economic operation of the New England Transmission System and as a result, may have greater exposure to being cancelled or denied because of economic impacts than other transmission facilities.

  A list of MTE equipment is provided in Master/Local Control Center Procedure No. 7 - Processing Transmission Outage Applications (M/LCC 7).

- **Opportunity Outage**

  This is an outage that fails to satisfy the minimum advance notice time required for Planned Short-Term Transmission Outage processing and is submitted for ISO Approval as a result of an unexpected opportunity to accomplish work that would otherwise require another outage at a less opportune time. An Opportunity Outage is categorized as **neither** Planned **nor** Unplanned and is most often initiated by, but **not** limited to, any of the following: a Generator/DARD Unplanned Outage; an expedited completion of a Transmission or Generator/DARD outage (or project); or when the forecasted operating conditions are favorable for the work to be performed. An Opportunity Outage shall be coordinated to minimize the overall impact on system reliability and /or market efficiency.

An Opportunity Outage request shall be submitted to ISO **no** more than one hundred and twenty (120) hours prior to 0001 on the day when work is to begin and **no** less than twenty-four (24) hours prior to 0001 on the day when work is to begin. When the proper studies are completed and if the Opportunity Outage is approved, that Opportunity Outage is included in the DAM transmission topology assumptions. An Opportunity Outage, whether Approved or Implemented, shall **not** be permitted if that Opportunity Outage imposes additional restrictions on MW resources (Generators/DARDs and/or inter-ties) that would **not** otherwise exist in the absence of the Opportunity Outage.

An Opportunity Outage request submitted to ISO must adhere to the following additional conditions:

- Restoration (recall) time, does **not** exceed 8 hours
- Limited duration, does **not** exceed one 96 hour period
- If an underway transmission outage unexpectedly exceeds either of above timing criterion, the entire Opportunity Outage shall be converted to Forced
- This Opportunity Outage shall receive the lowest priority when competing with all other outage types that are Planned or Unplanned

- **Planned Outage:**

  A transmission outage request that satisfies the minimum advance notice times associated with either the Long-term or Short-term Transmission Outage processing.

- **Recall Time:**

  The measured time from when ISO/LCC requests an LCC/TO to safely restore a transmission element from outage state to in service.

- **Short-Term Transmission Outage:**

  A Planned Transmission Outage submitted for ISO Approval less than 21 days and greater than 120 hours prior to 0001 the day the outage is scheduled to begin.

- **Significantly Reduced Congestion Costs:**

  Reductions in forecasted real-time congestion and Net Commitment-Period Compensation (NCPC) costs resulting from the repositioning of a transmission outage are considered significant when the reduction minus the PTO's incremental direct costs for repositioning the outage exceeds $200,000 per week or any portion of a week.

- **Transmission Outage Request Flags**:

  One or more of the following additional identifiers may be associated with each outage to set outage priority as described in this definition section:

  - **Long-Term Economic Approval**
  - **Outage Overrun**

- **Transmission Outage Request Status:**

  One of the following:

  - **Active Status**
    - **Preliminary:** Planned Transmission Outage provided to ISO for informational purposes only; **no** studies shall be conducted until the outage has been moved to the status of Submitted
    - **Submitted:** Transmission outages prepared for ISO study and acceptance and awaiting Interim Approved Status or Approved Status
    - **Study:** Transmission outages actively being studied and evaluated by ISO to determine Interim Approved Status or Approved Status
    - **Negotiate:** Transmission outages under additional review and pending repositioning
    - **Interim Approved:** Transmission outages that have been studied and accepted by ISO through the Long-Term Transmission Outage process but waiting final Approved status through the Short-Term Transmission Outage Process
    - **Approved:** Transmission outages studied and accepted by ISO in accordance with the Short-Term Transmission Outage process
    - **Implemented:** Transmission outage that has begun, reflecting equipment taken out of service or in an abnormal state
  - **Non-Active Status**
    - **Withdrawn:** Preliminary Transmission outages that are **no** longer planned by the TO or have lapsed within 21 days prior to the start date
    - **Denied:** Transmission outage requests which have **not** been Approved
    - **Cancelled:** Previously Approved Transmission outages (Interim Approved or Approved) that have been called off by the TO, LCC or ISO.
    - **Completed:** A Transmission outage that had been returned to service

- **Unplanned Outage:**

  This is any outage that **cannot** be planned and fails to satisfy the lead times required for Planned Short-Term Transmission Outage processing. The following are the three types of Unplanned Outages:

  1. **Emergency Outage**

     The obvious failure of a piece of transmission equipment that comes out of service on its own or requires immediate operator intervention to remove it from service.

2. Forced Outage

The discovery of a problem that needs to be repaired as soon as crews, equipment, and/or corrective dispatch actions can be put in place to allow the work to be performed. By definition, a Forced Outage **cannot** be scheduled. More specifically:

- A Forced Outage **cannot** be delayed to avoid paying overtime rates; e.g., on a Friday, delaying a Forced Outage until Monday, rather than performing the work on Saturday. This implies that a Forced Outage must occur on consecutive days, except in the case described in the next bullet
- A Forced Outage **cannot** schedule an Alternate Date. If weather impairs safe work conditions, the outage can be moved to the next available fair weather day, and the planned end date/time shall be extended
- An Opportunity Outage that unexpectedly causes additional adverse impact on either system reliability or market efficiency beyond that which was originally anticipated. Typically this would be associated with the unexpected extension of the defined timing parameters.

3. Overrun Outage

This is any outage that fails to return to service by its planned end time, and the outage has extended into the next calendar day.

III. AUTHORITIES AND RESPONSIBILITIES

A. ISO AUTHORITIES AND RESPONSIBILITIES

ISO shall:

- Receive from LCCs, Long-Term and Short-Term Transmission Outage requests that were **not** disapproved by the LCCs, for all Category A Facilities, and for Category B Facilities if Generator/DARD output could be affected by the outage. Outage requests for Local Area Facilities that affect Generator/DARD output shall be processed using LCC and ISO New England Operating Procedure No. 5 Generator, Dispatchable Asset Related Demand and Alternative Technology Regulation Resource Maintenance and Outage Scheduling (OP-5) scheduling practices.
- Review proposed outages in the Long-Term and Short-Term Transmission Outage requests and compare them to Generator and DARD outage plans as follows:
    - Evaluate the impact of proposed transmission outages on the reliability of the New England Reliability Coordinator Area/ Balancing Authority Area (RCA/BAA) power system operations. Reposition or disapprove any outage that could be expected to violate reliability criteria for the New England Transmission System and for which repositioning the outage could reasonably be expected to improve reliability.
    - Work with LCCs to adjust Generator/DARD and transmission outages to minimize congestion costs. When warranted, and time permitting, perform economic analyses of outage alternatives to define and examine potential congestion costs. Reposition the outage if Significantly Reduced Congestion Costs are feasible, or where lesser congestion reduction is available and the TO(s) agree.
    - Have the authority to reposition or disapprove any outage that adversely impacts market efficiency.
    - Support outage scheduling related communications between TOs and Generator/DARD owners to assure affected parties are appropriately notified in a timely manner.
- Appropriately notify LCCs and Market Participants (MPs) of action regarding outage requests.
- Assign to the LCCs the function of receiving, evaluating, approving or disapproving transmission outage requests submitted by a TO, with respect to its impact on the reliability and congestion of LCC operations.
- Promote the continuous flow of information between ISO, LCCs, and TOs to match pending transmission outage work with planned or forced Generator/DARD outages to the extent practicable.
- Monitor the outage positioning activities of the TOs. ISO shall have the right to request that a TO provide information to ISO Market Monitoring concerning any

TO positioning of transmission facility outages, including the repositioning or cancellation of any Planned, Scheduled or Approved Outage .

- Assign each Long-Term and Short-Term Transmission Outage request a number, date stamp and Status. In general, the number, date stamp and Status will be used, if needed, to prioritize outage requests. ISO will attempt to resolve conflicting Long-Term and Short-Term Transmission Outage requests through discussions with the affected LCCs. When discussions **cannot** resolve the conflict, the Long-Term and Short-Term Transmission Outage that was Submitted earliest shall have priority.
- Post and maintain a list of requested outages with corresponding Status on the ISO Web Site within the limitations of the ISO Information Policy.

NOTE

In accordance with the ISO New England Information Policy and to avoid the potential exercising of market power by any entity, outages that obviously restrict a Generator/DARD (such as radial circuits to Generators/DARDs) will **not** be posted.

B. LCC AUTHORITIES AND RESPONSIBILITIES

LCCs shall:

- Receive TO Long-Term and Short-Term Transmission Outage requests from TOs for all Category A Facilities, and for Category B Facilities if Generator/DARD output could be affected by the outage. Outage requests for Local Area Facilities that affect Generator or DARD output shall be processed using LCC and ISO OP-5 scheduling practices
- Prior to submitting proposed outages to ISO for final evaluation and approval, review proposed Long-Term and Short-Term Transmission Outage requests and compare them with Generator/DARD outage plans and requests received from ISO as follows:
  - Evaluate the impacts of proposed transmission outages on the reliability of LCC operations. Reposition or disapprove any outage that could be expected to violate LCC reliability criteria and for which repositioning the outage could reasonably be expected to improve reliability
  - Identify and pursue cases where Generator/DARD and transmission outages could be adjusted to reduce/eliminate Congestion Costs and overall outage duration. In each case, LCCs will facilitate/coordinate outages as detailed in Section VI.B.1 of this procedure to achieve Significantly Reduced Congestion Costs, or to achieve lesser congestion reduction if the TO(s) agree.
- Forward Submitted Long-Term and Short-Term Transmission Outages to ISO for further evaluation and coordination
- Transmit ISO actions regarding outage requests to TOs
- Perform dispatching functions for all Category B and Local Area Facilities if Generator/DARD output is **not** affected by the outage, if assigned that responsibility by its Market Participants

- Promote a continuous flow of information between ISO and TOs to match pending transmission outage work with Generator/DARD outages to the extent practicable
- Verify that **non**-public transmission outage information and outage information associated with other Generators/DARDs is **not** shared with the Generator/DARD Owners contacted
- Refrain from engaging in multi-party communications simultaneously with Generator/DARD and TOs unless the transmission outage of concern only affects one Generator/DARD owner

C. TO AUTHORITIES AND RESPONSIBILITIES

TOs or their designees shall:

- Submit their proposed or updated transmission outage plans to their respective LCC and provide as much information as possible on the flexibility of shifting the requested period forward or backwards
- Work with LCCs and ISO to provide alternate outage dates when it is determined that congestion could be eliminated or reduced by doing so
- Propose changes to any requested outage promptly after circumstances develop and submit reasons for the change to the LCC
- When requested, submit information concerning the TO positioning of transmission facility outages to ISO
- ~~Coordinate with Market Participants the request for planned and unplanned testing and maintenance outages of relay protection systems that could reduce or impact normal operation~~
- Participating TOs will provide information regarding their direct costs for canceling outages to their LCC and ISO when requested.

NOTE

The PTO staff working on transmission outages may be provided with Generator/DARD outage information to assist in the establishment of outage plans and determining alternate dates. The PTO staff working on transmission outages shall **not** disclose this information to other parties.

IV. ROUTING TRANSMISSION OUTAGE REQUESTS

The TO or MP requesting work on transmission facilities covered by OP-3 shall initially submit a transmission outage request to the appropriate LCC. This section describes the subsequent routing of transmission outage requests.

1. Facilities solely under the Jurisdiction of the LCC:

   Category B Facilities **not** affecting Generator/DARD output and all Local Area Transmission Facilities are under the jurisdiction of the LCC. The handling of outages for these facilities is a LCC function. Transmission outage requests are acted upon by the LCCs and need **not** be forwarded to ISO; however outages involving Local Area Facilities affecting a Generator/DARD shall be processed using LCC and ISO OP-5 scheduling practices. Outages involving Category B Facilities **not** affecting a Generator/DARD shall be sent to ISO in a daily summary sheet.

2. Facilities requiring assessment by the LCC and ISO:

   Unless the LCC disapproves the transmission outage request, the LCC shall review, study and record assumptions and results for Category A and Category B Facilities prior to forwarding to ISO for assessment.

3. Inter-LCC and Inter-Area Facilities:

   Because of the special communication requirements that apply when Transmission Outage requests involve Inter-LCC (i.e., facilities crossing LCC boundaries but **not** leaving the New England RCA/BAA) and Inter-RCA/BAA facilities, the LCC and ISO shall coordinate these transmission outage request as follows:

   - **Inter-LCC facilities:** The LCC shall forward transmission outage request to the adjacent LCC and to ISO for approval or disapproval
   - **Inter-RCA/BAA facilities - New York Independent System Operator (NYISO) and New Brunswick Power System Operator (NBPSO):** The LCC shall forward requests to the appropriate adjacent system dispatch agency and to ISO. ISO shall forward requests to the appropriate NPCC Reliability Coordinator/Balancing Authority (RC/BA) for approval or disapproval
   - **Inter-RCA/BAA facilities - TransEnergie:** The LCC shall forward transmission outage requests to ISO. ISO shall perform all coordination with TransEnergie. Transmission outage requests shall be forwarded to TransEnergie for approval or disapproval

4. Transmission outage requests initiated outside the New England RCA/BAA

   Transmission outage requests initiated by systems outside the New England RCA/BAA for work on inter-RCA/BAA facilities will first be communicated from the outside company to the involved LCC. If the LCC and outside company agree to times and dates for an outage, the outside company will forward the transmission outage request to its NPCC RC/BA who will assess the transmission outage request and if approved, forward it to ISO for approval under Section V or VI. ISO will notify the appropriate LCC.

5. Facilities on the NPCC Area Facilities for Notification List

   In addition to inter-RCA/BAA facilities, there are other facilities in each NPCC RCA/BAA that, if taken out-of-service, can affect adjacent RCAs/BAAs. These facilities are listed in the document entitled, NPCC Directory #1 Design and Operation of the Bulk Power System, Appendix F: Procedure for Operational Planning Coordination, Facilities Notification List - Attachment D. ISO shall forward transmission outage requests received from the LCCs, involving the New England RCA/BAA facilities listed in NPCC Directory #1, Appendix F, Attachment D, to the appropriate NPCC RCs/BAs for approval or disapproval. Transmission outage requests received by ISO from adjacent NPCC RCAs/BAAs, involving NPCC RCA/BAA facilities which can affect the New England RCA/BAA transmission system, shall be reviewed by ISO for approval under Section V or VI and reported to the appropriate LCCs.

V. LONG-TERM TRANSMISSION OUTAGE REQUESTS

A. SCOPE OF LONG-TERM TRANSMISSION OUTAGE REQUESTS

Long-Term Transmission Outage requests shall include Category A Facilities and Category B Facilities that affect Generator(s)/DARD(s). The outage of any associated equipment including but **not** limited to: breakers, disconnects, shunts, SVCs, STATCOMs, series reactors or capacitors and, PARs, SPSs shall be reported.

Relays, and rReclosing and SPS outages must also beshall be reported in accordance with ISO New England Operating Procedure No. 24 - Relay Protection Outages, Settings and Coordination (OP-24).

Unless cancelled, Interim-Approved Long-Term Transmission Outages shall automatically progress into the Short-Term Outage process, as described in Section VI of this Procedure.

B. MINIMUM ADVANCED NOTICE TIME-RESPONSE TIME FOR LONG-TERM TRANSMISSION OUTAGES

In accordance with LCC procedures, TOs or their designees shall submit their proposed or updated Long-Term Transmission Outages for all Category A Facilities and Category B Facilities if a Generator/DARD output could be affected by the outage. The LCCs or their designees shall submit the Long-Term Transmission Outage request in the Preliminary status to ISO. ISO will **not** take any action to study or coordinate outages with Preliminary status. Preliminary status shall be considered informational only and will **not** set scheduling priority based on timestamp. Preliminary status shall **not** be accepted within 21 days of the start date of the outage and any outages that were previously submitted and remain in Preliminary status shall be automatically withdrawn at 21 days prior to the start date. It is expected that once the TO confirms these outage plans with the LCC, that the Long-Term Transmission Outage request will be put into the Submitted status.

The LCCs shall provide Long-Term Transmission Outage requests in Submitted status that have been studied, approved and provide appropriate documentation as described in this procedure. This indicates to ISO that the Long-Term Transmission Outage request is ready for ISO study and establishes the timestamp used in setting scheduling priority. Submitted Long-Term Transmission Outage requests shall be accepted **no** sooner than 24 months and **no** later than 21 days prior to the start date of the transmission outage.

ISO shall study Long-Term Transmission Outage requests in the Submitted status. Prior to the ISO study, efforts to review and coordinate outages to reduce reliability and economic impact are underway. Once the ISO study begins or until the request is terminated, details of the Long-Term Transmission Outage request will be locked from any changes initiated by the LCC. ISO may require cancellation and/or a new submittal if significant changes are requested by the LCC. If further information supporting the outage is required, ISO will place the outage in Negotiate. Upon study completion, ISO shall apply a status of: Interim Approved or Denied and respond to the appropriate LCC.

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Long-Term Transmission Outage requests Submitted to ISO at least 90 days prior to the start of the outage, if approved through reliability studies may also be subjected to economic studies and possible repositioning. Facilities identified as MTE may be subjected to economic studies and possible repositioning. The process of Submitting Long-Term Transmission Outage requests involving an MTE facility at least 90 days prior to the start date of the outage does **not** ensure that it will be Approved **nor** does it set any scheduling priority over any other previously Submitted Long-Term Transmission Outage request. However, once such a request is approved for economics the applicant will have greater assurance that it will **not** be cancelled at a later date due to economic impacts.

A Long-Term Transmission Outage request that is Submitted to ISO at least 21 days prior to the start date of the outage and is approved for reliability will receive Interim Approval Status.

A Long-Term Transmission Outage request that is Submitted to the ISO at least 90 days prior to the start date of the outage, approved for reliability and selected for economic study and ultimately approved shall receive the flag Long-Term Economic Approval.

A Long-Term Transmission Outage request that is Submitted to ISO less than 90 days prior to the start date of the outage and is given the status of Interim Approved through the Long-Term Transmission Outage process may be subjected to economic studies and possible repositioning in the Short-Term Transmission Outage process. These Long-Term Transmission Outages will be at risk for cancellation for economic impact up to the time the outage actually begins.

C. LONG-TERM TRANSMISSION OUTAGE REVIEW MORATORIUM

1. Annual Forward Capacity Market (FCM) Reliability Review

   a. During the period when ISO is performing reliability reviews of FCM annual bilateral submissions for the upcoming FCM Capacity Commitment Period (CCP); Long-term Transmission Outage requests for outages that fall within June 1st through September 15th of the FCM CCP will be time stamped to establish review priority and held until the FCM bilateral reliability review process is completed.

      (1) Annual Bilateral reliability review period begins immediately following the close of the Annual Bilateral submission period for the applicable FCM CCP.

   b. During the period when ISO is performing reliability reviews of the FCM 3rd annual reconfiguration auction results for the applicable FCM CCP, Long-term Transmission Outage requests for outages that fall within June 1st through September 15th of the FCM CCP will be time stamped to establish review priority and held until the auction results reliability review is completed.

2. Monthly FCM Reliability Review

   a. During the period when ISO is performing reliability reviews of FCM monthly bilateral submissions and monthly reconfiguration auction results for the applicable month, Long-term Transmission Outage requests for outages that

fall within the applicable month will be time stamped to establish review priority and held until the reliability review process is completed.

D. REPOSITIONING LONG-TERM OUTAGE REQUESTS

ISO and LCCs, working with TOs, and Generators/DARDs, shall reposition outages; 1) that could be expected to violate reliability criteria or, 2) to reduce or eliminate Congestion Costs.

ISO and LCCs during their review can reposition the facility outage of a TO if it could be expected to violate reliability criteria. During their review, ISO and LCCs can also reposition the facility outage of a PTO if it could be expected to achieve Significantly Reduced Congestion Costs. Furthermore, an outage may be repositioned to avoid net costs less than the $200K threshold if agreed to by the involved TO(s).

ISO and the LCC, working with the PTO, will generally reschedule, within 90 days of the original schedule, any Long-Term Transmission Outage requiring repositioning for reliability violations or to achieve Significantly Reduced Congestion Costs. In the event that the 90-day period falls between June 1st and September 15th, ISO and the LCCs will generally reschedule such Long-Term Transmission Outage during a period that begins **no** later than October 31st.

TOs can propose changes to Long-Term Transmission Outage requests. The TO must notify the applicable LCC promptly after circumstances develop that necessitates such a change. The notification will include a description of the circumstances that led to the change request. The LCC will promptly forward the information to ISO. Changes to a Long-Term Transmission Outage request may result in a requirement to submit a new request, sacrificing any scheduling priority and shall be subject to ISO Market Monitoring review.

E. REPORTS - LONG-TERM TRANSMISSION OUTAGES PROJECTED OUT 24 MONTHS

ISO shall create and maintain a New England Long-Term Transmission Outage Report and post the report daily on the ISO web-site in accordance with the ISO New England Information Policy. This report shall incorporate outages in the following states, Preliminary, Submitted, Study, Negotiate and Interim-approved for the time frame beginning 24 months in advance of the current day and ending within 21 days of the current day.

VI. SHORT-TERM TRANSMISSION OUTAGE REQUESTS

A. MINIMUM ADVANCE NOTICE TIME - RESPONSE TIME FOR SHORT-TERM TRANSMISSION OUTAGES

Outages of transmission facilities may require extensive study and coordination, first by the LCC to assess local area reliability and perform rudimentary congestion analysis and then by ISO to assess bulk power system reliability and perform warranted detailed congestion analysis. Operating policies at the LCCs define minimum advance notice times for the submittal of Short-Term Transmission Outage requests from the TOs to the LCCs. These notice times are critical and designed to provide the LCCs with enough time to assess TO Short-Term Transmission Outage requests before denying them or forwarding them to ISO for further analysis and ultimate approval.

Similarly, ISO needs enough time to assess the Short-Term Transmission Outage requests and deny or approve them. Furthermore, Approved outages must be known in time for use in the settlement of the Day Ahead Markets (DAMs), and TOs must know in time to coordinate final steps to arrange equipment and manpower needed to do the work. To provide adequate time for this analysis and coordination, application advance notice times, and ISO response times, have been established.

Transmission Facilities

1. In general, all Category A Facility outages and Category B Facility outages that affect a Generator/DARD shall require the submittal of a Short-Term Transmission Outage application. LCCs and neighboring RCs/BAs shall submit Short-Term Transmission Outage requests for these facilities to ISO at least one hundred and twenty (120) hours prior to 0001 on the day when work is to begin (Example: An outage positioned to begin at 0800 on Monday must be submitted to ISO before 0001 on Wednesday the week prior.) ISO shall approve/disapprove requests at least 24 hours prior to 0001 on the day the work is to begin. ISO shall also have the authority to waive either of these timeframes.

2. To facilitate the submittal of Short-Term Transmission Outage requests for specific transmission facilities, a detailed guide is provided in M/LCC 7. The format of the guide goes by voltage level and the type of transmission facility, which is a natural logic structure for considering transmission facilities. Minimum advance notice times are given for each type of facility. These times reflect the practical application of facility categories defined in this document.

3. LCCs do **not** have to submit requests to ISO for outages involving Local Area Facilities. However, outage requests for Local Area Facilities that affect a Generator/DARD output shall be processed using LCC and OP-5 scheduling practices.

   In general, complex outages, particularly those involving more than one LCC and/or dispatch entities outside the New England RCA/BAA, will require significantly longer coordination efforts. Consequently, discussions of these outages by involved parties must begin several months early to coordinate the system for the expected work. General information on these outages will first be submitted by the TOs via the Long-Term Transmission Outage process. Details

on these outages shall be submitted to LCCs and in turn to ISO as soon as TOs have finalized arrangements.

B. SHORT-TERM TRANSMISSION OUTAGE REVIEW AND APPROVAL PROCESS

LCC Review and Action:

1. Upon receipt of requests for work on Category A Facilities or Category B Facilities that affect Generator/DARD output, the LCC shall perform the following:

   a. Prior to submittal for ISO Short-Term Outage Request approval, the LCC shall review all Scheduled Outages and Short-Term Transmission Outage requests and compare them with Generator/DARD outage requests received from ISO. Evaluate Short-Term Transmission Outage requests to assure reliable operation. Disapprove any Short-Term Transmission Outage request that violates any LCC operating procedure or is determined to be in violation of any ISO OP or TOG.

   b. Prior to submittal to ISO for Short-Term Outage Request approval, the LCC shall, working with ISO, identify cases where Generator/DARD and transmission outage positions could potentially be adjusted to achieve Significantly Reduced Congestion Costs, or (with TO consent) where lesser congestion reduction can be achieved. In each case, facilitate/coordinate repositioning as follows:

      (1) Discuss and assess the preliminary plan for outage repositioning with ISO

      (2) Contact the TO for additional flexibility in their timing of the outage. (Generator/DARD outage information can be discussed with the PTO as required).

      (3) After consulting with the TO, if needed, proceed as follows depending on whether the case involves; i) an importing area, ii) Generator/DARD or exporting area involving a single owner or, iii) an exporting area involving multiple Generators/DARDs owned by multiple Owners.

         (a) Importing Local Area

         For an importing local area, the simultaneous outage of transmission supplying the local area along with Generator(s)/DARD(s) within the local area can increase congestion and, in severe cases, jeopardize system reliability. To relieve this, the following actions will be taken to try to position the transmission, generation and DARD outages so that they occur at different times:

         - Contact the applicable Generator/DARD Owners to determine if there is additional flexibility in their outage position
         - Contact the TO for additional flexibility in their position. (Generator/DARD outage information can be discussed with the PTO as required.)
         - If required, continue to alternately contact the TO and the Generator/DARD Owner until a determination is made by ISO on

whether or **not** activities can be positioned to reduce/eliminate congestion

NOTE

If actions above are **not** sufficient to relieve congestion, ISO will dispatch Generators/ DARDs in accordance with the congestion management process or change the timing of the transmission outage.

(b) Generator/DARD or Exporting Local Area Involving a Single Owner

This scenario involves a Short-Term Transmission Outage that will restrict the commitment or dispatch of Generators/DARDs owned by a single company (i.e., a line leaving a generating station). The following actions will be taken as soon as possible to try to change or create outage positions so that Generators/DARDs and transmission outages occur simultaneously, thereby relieving the potential locked-in Generators/DARDs.

- Contact the applicable Generator/DARD owner to determine if there is additional flexibility in their outage application. If the Short-Term Transmission Outage involves a radial circuit to a Generator/DARD, details about the transmission outage can be shared with the Generator/DARD Owner. Additionally, **non**-radial transmission outage information can be shared with the Generator/DARD Owner if the Short-Term Transmission Outage solely affects that Generator/DARD Owner
- Contact the TO for additional flexibility in their timing of the outage. (Generator/DARD outage information can be discussed with the PTO as required.)
- If required, continue to alternately contact the PTO and Generator/DARD owner until a determination is made by ISO on whether or **not** activities can be positioned to reduce/eliminate congestion
- The PTO may contact the Generator/DARD Owner directly to facilitate positioning of outages

(c) Exporting Local Area Involving multiple Generators/DARDs owned by multiple companies

This case involves a Short-Term Transmission Outage that will restrict the commitment or dispatch of Generators/DARDs within an exporting local area that contains several units owned by different Generator/DARD owners. The following actions will be taken to try to change or create outage positions so that Generators/DARDs outages and Short-Term Transmission Outages occur simultaneously, thereby relieving the potential locked-in Generator/DARD.

- Contact the applicable Generator/DARD owners to determine if there is additional flexibility in their outage position in the order that

their outage request was received

- Contact the TO for additional flexibility in their position. (Generator/DARD outage information can be discussed with the PTO as required.)
- If required, continue to alternately contact the TO and Generator/DARD owners until a determination is made by ISO on whether or **not** activities can be positioned to reduce/eliminate congestion
- If units with outage requests are exhausted or **no** outage requests exist, contact affected Generator/DARD owners randomly, in a manner to be determined by the LCC, without preference to any one Generator/DARD owner. Inform each Generator/DARD owner that a Short Term Transmission Outage (**no** details) may result in their unit being restricted and determine if they desire to coordinate an outage of their unit with the Short Term Transmission Outage
- If required, continue to alternately contact the TO and Generator/DARD owners until a determination is made on whether or **not** activities can be positioned to reduce/eliminate congestion costs

NOTE

If actions above do **not** alleviate constraints, ISO will dispatch Generators/DARDs in the constrained export area based on its congestion management process or change the position of the transmission outage.

c. Once the Short-Term Transmission Outage has initial approval, either with or without a corresponding Generator/DARD outage: 1) notify adjacent LCCs and/or systems outside of the New England RCA/BAA that may be affected by the requested work, and 2) forward the application to ISO with the following information:

(1) Facility (name and nomenclature).

(2) Reason for application (work to be done).

(3) Emergency restoration time in hours.

(4) Time and date switching is to begin.

(5) Time and date the facility is to be restored to normal operation.

(6) LCCs and/or systems outside of the New England RCA/BAA to whom notifications have been given.

(7) Other information pertinent to the application that may affect ISO decision, such as a request to revise a Generator/DARD outage schedule to address congestion issues with the transmission outage.

(8) LCC analysis results and approval including contingencies and limiting elements, local voltage constraints, must run Generators/DARDs and restricted Generators/DARDs.

NOTE

Requests submitted by adjacent NPCC RCs/BAs must also be accompanied by information listed in items (1) through (8) above.

2. ISO Review and Reliability Study for Short-Term Transmission Outages:

   Upon receipt of a request from a LCC for a Short-Term Transmission Outage, ISO shall:

   a. Assign the application an identification number.

   b. Forward requests involving inter-RCA/BAA or NPCC Directory #1, Appendix F, Attachment D facilities to the appropriate NPCC RC/BA for approval or disapproval.

   c. Inform, as required, other LCCs or NPCC RCs/BAs.

   d. Conduct reliability studies in sufficient detail to:

      (1) Identify the more severe probable first contingencies (there may be several).

      (2) Identify voltage constraints and thermally limiting contingencies and elements, expected flows on limiting elements, ratings [Normal, Long-Term Emergency (LTE), Short-Term Emergency (STE), Drastic Action Limit (DAL),] of limiting elements and provide distribution and adjustment factors. Determine if any pre-defined stability constraints must be followed.

      (3) Document system Generator/DARD patterns and transmission configurations expected during the time work is to occur, i.e., Generators/DARDs and transmission facilities out of service, Generators/DARDs required to be in service, etc.

      (4) Interchange schedules, flows across pre-determined interfaces and/or flows on major inter-RCA/BAA tie lines.

      (5) Determine action required prior to beginning work and after work has begun to ensure compliance with OP-19.

      (6) Determine bulk power supply area protection Generator/DARD requirements (units and energy availability).

      (7) Determine "locked in" Generators/DARDs. Include Generators/DARDs that must be left off-line, and online Generators/DARDs that must be dispatched at reduced loads.

   e. A Short-Term Transmission Outage request with the Status of Submitted and Study should be repositioned before an Approved or Interim Approved outage

is repositioned. Outage priority is established in Section VIII of this procedure.

f. With respect to routine transmission or Generator/DARD maintenance, in the event that a Generator/DARD outage conflicts with a requested Short-Term Transmission Outage, the Generator/DARD outage will normally have priority except in the 7 days immediately preceding the start of the Short-Term Transmission Outage in which case the outages will be prioritized according to the time at which the outage request is received. ISO may adjust this priority due to reliability concerns.

g. Obtain approval or disapproval from adjacent NPCC RC/BA, if applicable.

h. Approve or disapprove the request

C. NOTIFICATIONS

When the review and assessment has been completed, ISO will communicate its conclusions to the appropriate LCCs and/or adjacent NPCC RCs/BAs. ISO will notify those LCCs and adjacent NPCC RCs/BAs that received preliminary notification of the requested work, even if that notification was from an agency other than ISO. If a Generator/DARD outage position or reduction was revised or initiated during processing of the Short-Term Transmission Outage request (i.e., to eliminate congestion), ISO will contact the Generator/DARD owner to confirm the revision to their position.

1. Notification in case of Approval

   When approving a Short-Term Transmission Outage request, ISO shall provide the conclusions of its reliability study in sufficient detail that all affected systems recognize the impact of the approved work. The conclusions should cover at least those items listed in Section VI.B.2.d.

2. Notification in case of Disapproval

   When giving a Short-Term Transmission Outage request disapproval notification, ISO shall state the reasons for disapproval. Those reasons shall be specific and relate to items listed in Section VI.B.2.d or to achieve Significantly Reduced Congestion Costs.

   Once a Short-Term Transmission Outage request for approval is disapproved, that request is considered completed. To accomplish the work, a new request must be submitted as described in Section VI.D.

3. Notification in case of Cancellation

   An LCC or an adjacent NPCC RC/BA may subsequently cancel a Short-Term Transmission Outage request for work on a New England RCA/BAA facility that has been forwarded to ISO.

   The party initiating such action shall determine and communicate to other affected parties the specific reasons for the cancellation

   Once cancellation has been made, the Short-Term Transmission Outage request is considered completed. ISO shall notify the appropriate LCCs and adjacent

NPCC RCs/BAs of the request status change. To accomplish the work, a new request shall be submitted as described in Section VI.D.

4. Posting of Short-Term Transmission Outages

   For transmission outages that are scheduled to occur from 20 days up to and including Real-Time, ISO shall post each transmission outage (other than Cancelled, Withdrawn or Denied) on the ISO Web Site in accordance with the ISO Information Policy. Any revision shall be updated on the web site in a timely manner.

D. RE-SUBMITTAL

To request approval of work that has been Denied or Cancelled, a new request with a new request number and a new review and reliability study shall be processed as though **no** previous request had been provided.

The one exception to this is when an "Alternate Date" has been supplied on the original request form. The “Alternate Date” is the working day following the last date for the outage. In the event the "Alternate Date" is used for repositioning the work, the existing request will be used and all necessary review and study shall again be processed for this work to be performed on the "Alternate Date".

VII. UNPLANNED OUTAGES

A. SUBMISSION OF REQUESTS

The following describes processes for providing requests (which will be processed per Section VI of this procedure) for the three different types of Unplanned Outages.

1. **Emergency Outage**

   Market Participants shall submit requests for Emergency Outages of transmission facilities immediately to the LCC. If the request is for Category A Facilities or Category B Facilities, the LCC shall immediately forward the request to ISO.

2. **Forced Outage**

   Market Participants shall notify their LCC as soon as the need for a Forced Outage is identified. The LCC shall immediately notify ISO about the Forced Outage. The Forced Outage should **not** be officially submitted until the LCC has reasonable assurance from the Market Participant that system conditions, crews and equipment are available for the job.

3. **Overrun Outage**

   Market Participants shall notify their LCC as soon as the need for an Overrun Outage is identified and the LCC shall immediately communicate this information to ISO.

B. RESPONSE TO UNPLANNED OUTAGES

If time exists while crews, equipment, and/or corrective dispatch action arrangements are being made, the LCC shall provide ISO with all pertinent information to allow for study of the outage and prioritization with other dispatch requirements.

In either event, the flow of information regarding the Unplanned Outage shall follow the outlines shown on Attachments 1 through 9. The timing requirements and various approval steps do **not** apply to most Unplanned Outages. Unplanned Outages shall be subject to ISO Market Monitoring review.

C. ~~UNEXPECTED RELAY OUTAGES~~

~~ISO has identified certain relay protection systems that require additional notification to PRC_Review@iso-ne.com when remaining Out-of-Service. Refer to Master/Local Control Center Procedure No. 15 - System Operating Limits Methodology (M/LCC 15) and the M/LCC 15 Attachments for identification of affected protective relay groups and Master/Local Control Center Procedure No. 7 - Processing Transmission Outage Applications (M/LCC 7) and the M/LCC 7 Attachments for the reporting process and required information. The purpose of providing detailed information regarding the relay outage is to limit, to the extent possible, the duration of a relay package outage for transmission facilities with impacts outside the local area. These relay packages are part of redundant relay schemes and only one of the redundant schemes is removed from service for testing or repair. The review is **not** intended for ISO to approve of the reason for the outage or to facilitate the repair; the purpose of~~

~~the review is for ISO to remain apprised of the TO/TOP actions that are undertaken to return all facilities to service in a timely manner. A failure by the TO/TOP to remediate the unexpected relay outages may require ISO to implement system operational adjustments, which may include but are **not** limited to:~~

- ~~Equipment/facility outage~~
  - ~~Transmission and/or Generator/DARD~~
- ~~Reduced transfers~~
- ~~Load shed~~

VIII. TRANSMISSION OUTAGE PRIORITY

When a conflict arises with another transmission outage previously scheduled, the ISO shall attempt to resolve conflicting Long-Term and Short-Term Transmission Outage requests through discussions with the affected LCCs. When discussions **cannot** resolve the conflict, the respective priorities of the outages shall be established according to the types of outage and the outage status in the following order (highest to lowest priority):

1. Unplanned Outage (Emergency or Forced)
2. Long-Term Transmission Outage with Interim Approved Status and the Long-Term Economic Approval flag:
3. Long-Term Transmission Outage with Interim Approved Status
4. Short-Term Outages
5. Opportunity Outage

If the above priorities do **not** resolve the conflict, the earliest requested transmission outage shall have priority.

IX. OUTAGE WORK REPORTS

A. LOCAL CONTROL CENTER TRANSMISSION WORK REPORT

Daily by 1000, each LCC shall forward to ISO and, if appropriate, to the adjacent LCCs a report that includes all equipment listed as Category B Facilities, which does **not** affect Generator/DARD output that is to be worked on during the following day. (The Friday report shall include equipment positioned to be worked on during Saturday, Sunday and Monday. Work on holidays shall be reported on the last regular weekday before the holiday). The report shall include outage times when work is to begin and end.

Following the Local Control Center Transmission Work Report, other reports from the LCC to ISO and, if appropriate, to the adjacent LCCs shall include any additional work outage for the following day and/or outage work during the following day that is cancelled or postponed.

B. REVIEW OF TRANSMISSION WORK

Once work has been approved and Local Control Center Transmission Reports have been completed, both ISO and the LCCs shall operate according to the published outage application times. The party initiating the change shall communicate any changes, for any reason. All affected parties shall be notified of the change in work times.

On the night shift prior to the day the work is scheduled, ISO and the LCCs shall discuss the day's upcoming work to ensure that all parties are up to date on work times for switching and equipment work

Each LCC shall confirm final approval of the transmission outage application by ISO Security Operator before switching begins. ISO shall be informed immediately when equipment is taken out of service and/or restored to service.

X. ANNUAL REPORT ON OUTAGE PROCESSING

ISO in coordination with the LCCs and PTOs shall prepare and issue an annual report on transmission outages and coordination. The report shall assess accuracy of inputs and calculation of congestion cost savings. The long-term impacts of ISO, LCC and PTO changes to outages shall be assessed and identify potential opportunities to further minimize congestion costs identified.

OP-3 REVISION HISTORY

Document History (This Document History documents action taken on the equivalent NEPOOL Procedure prior to the RTO Operations Date as well revisions made to the ISO New England Procedure subsequent to the RTO Operations Date.)

Rev. No.	Date	Reason
- -	01/04/17	For previous revision history, refer to Rev 10 available through Ask ISO;
Rev 11	11/18/11	Delete Section X, modified Long Term Transmission Outage submission timetable
Rev 12	11/13/13	Biennial review by procedure owner; Global, minor format, grammar , punctuation, etc., changes per current practices and management expectations; Added new Section VII.C providing direction for unexpected relay outages; Modified title for Section IV.5 to delete "Critical"; Modified Section VII.C; Added MLCC 15 to References Section
Rev 13	01/30/15	Modified MTE definition, updated OP-5 title, minor editorial corrections;
Rev 13.1	09/16/15	Periodic review performed requiring no changes; Made administrative changes required to publish a Minor Revision per SOP-RTMKTS.0201.0010 Section 5,6 and sub-Section 5.6.1; ;
Rev 14	04/13/16	Deleted MTO Flag and associated references; Removed Long Term (ten day) transmission outage review period; Added clarifying language for processes and definitions (promoted the consideration of all transmission outages in the FTR monthly auctions, defined "recall time, implemented and completed", provided clarification to economic outages for MTE, removed the term "relay" and replaced with "communicate"; Deleted language describing activity and processes covered in Manual M-06
Rev 15	01/04/17	Biennial review completed by the procedure owner; Added required corporate document identity to all page footers; References Section, deleted the following documents (they are not referred to in this document) Common System Dispatch Instructions for Hydro-Quebec: TransEnergie and ISO New England, ± 450 kV DC Lines Radisson-Nicolet-Sandy Pond (Phase II) GEN-C-040, Market Participants Service Agreement, Other Transmission Operating Agreements(s), OP-1, SOP-OUTSCH.0030.0020, SOP-OUTSCH.0030.0025, SOP-RTMKTS.0060.0020: Global, minor format, grammar , punctuation, etc., changes per current practices and management expectations; Section II, added clarifying language to Long Term Transmission Outage Definition, moved Opportunity Outage and modified its definition and clarifying language, modified definition of Unplanned Outage; Section VI.C.4. Transmission Outage, added clarifying language for posting Long Term Transmission Outage report; Modified Section VII Unplanned Outages, (removed VII.A.4, Opportunity Outage); Truncated the Revision History per SOP-RTMKTS.0210.0010 Section 5.6;
Rev 16	draft	References Section: • Updated OP-5 title; • Added OP-24; Changes made to provide coordination with new OP-24 content that addresses protection outage requirements; • III.C , deleted 5th bullet; • V.A, modified 1st paragraph; • VII.C, deleted entire sub-section;

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