



## **Manual 29**

# **Outage Scheduling Manual**

**Issued: April 2024**

**Version: 7.0**

**Effective Date: 04/16/2024**

**Committee Acceptance: 07/20/2023 OC**

**Recertified Date: 04/16/2024**

**Prepared By: NYISO Energy Market Operations**

New York Independent System Operator  
10 Krey Boulevard  
Rensselaer, NY 12144  
(518) 356-6060  
[www.nyiso.com](http://www.nyiso.com)

**Disclaimer: The information contained within this manual, along with other NYISO manuals, is intended to be used for information purposes only, and is subject to change. The NYISO is not responsible for the user's reliance on these publications, or for any erroneous or misleading material.**

# Table of Contents

<b>TABLE OF FIGURES</b> .....	<b>V</b>
<b>REVISION HISTORY</b> .....	<b>VI</b>
<b>1. INTRODUCTION TO OUTAGE SCHEDULING</b> .....	<b>1</b>
1.1.Acronyms and Definitions/Glossary.....	1
1.2.Business Days versus Calendar Days.....	1
1.3.Responsible Entity.....	1
1.4.Notification Sequence.....	2
<b>2. TRANSMISSION FACILITIES OUTAGES</b> .....	<b>3</b>
2.1.Transmission Facilities Outage Coordination .....	3
2.1.1. <i>Transmission Facilities Outages Impact on Congestion Settlements</i> .....	4
2.2.Transmission Facilities Outage Scheduling Procedures.....	5
2.2.1. <i>General Procedures for Annual Schedules</i> .....	5
2.2.2. <i>NYISO Analysis Procedure</i> .....	6
2.2.3. <i>Facility Outage Scheduling Procedures</i> .....	6
2.2.4. <i>On Shift Outage Scheduling Procedures</i> .....	9
2.2.5. <i>Switching Requests</i> .....	10
2.2.6. <i>Emergency Outages</i> .....	11
2.2.7. <i>In-Service Work and Relay Testing</i> .....	13
2.2.8. <i>Hot Line Work</i> .....	14
2.2.9. <i>Emergency Restoration of Facilities</i> .....	15
2.2.10. <i>Extensions of Outages</i> .....	15
2.3.System Reliability and Transfer Criteria.....	16
2.3.1. <i>Outage Impact Method</i> .....	17
<b>3. GENERATION FACILITIES OUTAGES</b> .....	<b>19</b>
3.1.Generation Facilities Outage Coordination.....	19
3.2.Generation Facilities Outage Scheduling Procedures .....	20
3.2.1. <i>Scheduled Generator Outage Coordination</i> .....	21
3.2.2. <i>On Shift Outage Procedures for Approved Generator Outage Schedules</i> .....	22
3.2.3. <i>Inactive Reserves</i> .....	23
3.2.4. <i>Forced Generator Outages (Full or Partial)</i> .....	24
3.2.5. <i>Unscheduled Generator Outages (Full or Partial)</i> .....	26
3.2.6. <i>Automatic Voltage Controlling Equipment and Power System Stabilizer Outages</i> .....	27
<b>4. OUTAGE SCHEDULING POLICY</b> .....	<b>29</b>
<b>5. EVALUATION, APPROVAL, AND DISSEMINATION OF OUTAGE SCHEDULES</b> .....	<b>31</b>
5.1.Annual Outage Schedule Information and Documentation Requirements .....	31

5.2.Schedule Changes .....	33
5.3.Transmission and Generation Evaluation and Approval Process .....	33
<b>6. OUTAGE SCHEDULING SOFTWARE.....</b>	<b>38</b>
6.1.Transmission Facilities Outage Scheduling Reports.....	39
6.1.1. <i>Daily Outage Schedules</i> .....	39
6.1.2. <i>Transfers Limitations Report</i> .....	39
6.1.3. <i>Outage Notifications to Transmission Owners</i> .....	39
6.1.4. <i>Daily Outage Schedules for the NYISO Control Center</i> .....	39
<b>ATTACHMENT A. NYISO FACILITIES REQUIRING COORDINATION AND NOTIFICATION .....</b>	<b>A</b>
<b>ATTACHMENT B. EXAMPLE SCHEDULES FOR GENERATOR OUTAGES .....</b>	<b>B</b>
<b>ATTACHMENT C. NOTIFICATION AND APPROVAL TIMELINE.....</b>	<b>E</b>

## Table of Figures

Figure 1: Annual Outage Schedules Time Line .....	32
Figure 2: Outage Request & ISO/TO Response Rules .....	36
Figure 3: GO Outage Request & TO / ISO Response .....	37

## Revision History

Version	Effective Date	Revisions
Initial Release	09/01/1999	<p>Section 2.1</p> <ul style="list-style-type: none"> <li>➤ Page 1: Annual Reliability</li> <li>➤ Page 3: Rationale for forced rescheduling</li> </ul> <p>Section 2.2.3</p> <ul style="list-style-type: none"> <li>➤ Pages 6, 7: Forced Full or Partial Generator Outages</li> </ul>
1.0	03/01/2001	<p>Section 1.2.3, Facility Outage Scheduling Procedure</p> <ul style="list-style-type: none"> <li>➤ NYISO Actions #3, second to last sentence: Also, the NYISO will deter the requested outage if notification is not received at least five days in advance.</li> <li>➤ Transmission Owner Actions #1a: Facilities under NYISO Control: At least five days before the proposed scheduled time and date. (See Attachment A).</li> </ul> <p>Attachment A</p> <ul style="list-style-type: none"> <li>➤ Replaced with a new version</li> </ul>
1.1	5/30/2002	<p>Section 3.1.1</p> <ul style="list-style-type: none"> <li>➤ In second paragraph, replaced "Section 2" with "Section 1."</li> </ul> <p>Section 3.1.2</p> <ul style="list-style-type: none"> <li>➤ Replaced current text with the following: <ul style="list-style-type: none"> <li>• "The NYISO coordinates and approves generator maintenance outage schedules as described in Section 2 of this manual. All maintenance requests, both original requests and schedule change requests, are made by the Generator Owner as per the guidelines found in section 3.2."</li> </ul> </li> </ul> <p>Section 3.2.1</p> <ul style="list-style-type: none"> <li>➤ In first bulleted item, replaced "Section 2" with "Section 1", in second bulleted item, replaced "Section 3" with "Section 2."</li> </ul>
2.0	10/28/2004	<p>Global</p> <ul style="list-style-type: none"> <li>➤ Reformatted document.</li> <li>➤ Changed all instances of <i>ISO</i> to <i>NYISO</i>.</li> <li>➤ Changed Exhibits to Figures.</li> <li>➤ Updated grammar and spelling.</li> <li>➤ Changed all references to "two days" to "two business days" and "five days" to "five business days."</li> <li>➤ Section 1.2.3 <ul style="list-style-type: none"> <li>• -Added Transmission Outage Scheduling section and accompanying text (TCC notification provisions).</li> <li>• Under NYISO Actions, deleted: "at least five days in advance," and replaced with "with the minimum notification time requirements."</li> </ul> </li> <li>➤ Section 1.3 <ul style="list-style-type: none"> <li>• Deleted Section 1.3.1, "Outage Impact on Interfaces Report."</li> </ul> </li> <li>➤ Section 1.4.1 <ul style="list-style-type: none"> <li>• Added bullet "Circuit ID and Description."</li> </ul> </li> <li>➤ Section 2.1 <ul style="list-style-type: none"> <li>• In Item 2, changed table reference wording and table header.</li> </ul> </li> <li>➤ Section 2.2.1 <ul style="list-style-type: none"> <li>• Deleted Item 7.b-NYISO Unit Scheduled Maintenance for the current and calendar year (see attachment B).</li> <li>• Added "Owner" to Generator Actions.</li> </ul> </li> </ul>

		<ul style="list-style-type: none"> <li>• Added text under Generator Owner Actions.</li> <li>➤ Section 3.2.1 <ul style="list-style-type: none"> <li>• Deleted bullet "(a) NYISO Unit Scheduled Maintenance Outages: This confidential report presents a list of all scheduled units, and MW on maintenance per month."</li> </ul> </li> <li>➤ Attachments <ul style="list-style-type: none"> <li>• Changed title designation from <i>Appendix</i> to <i>Attachment</i>.</li> </ul> </li> <li>➤ Attachment B <ul style="list-style-type: none"> <li>• Removed B-1, B-2, and B-4.</li> </ul> </li> </ul>
3.0	09/28/2011	<p>Global</p> <ul style="list-style-type: none"> <li>➤ Updates as discussed at SOAS</li> <li>➤ Reformatted per new template to standardize presentation.</li> <li>➤ Standardized labeling and numbering of graphical and tabular material.</li> <li>➤ Revised external-document links to explicitly cite URLs from which documents may be accessed.</li> <li>➤ Performed a major rewrite and reorganization of content including transmission and generation evaluation and approval process.</li> </ul> <p>Revision History Table</p> <ul style="list-style-type: none"> <li>➤ Changed column headings as follows: <ul style="list-style-type: none"> <li>• "Revision" changed to "Version"</li> <li>• "Changes" changed to "Revisions".</li> </ul> </li> <li>➤ Implemented minor stylistic and organizational changes.</li> </ul>
4.0	02/04/2013	<p>Section 1.3</p> <ul style="list-style-type: none"> <li>➤ Added sentence to include Demand Side Ancillary Service Providers (DSASP) as generation facilities.</li> </ul> <p>Section 4</p> <ul style="list-style-type: none"> <li>➤ Added DSASP to be included with generators.</li> </ul> <p>Section 6.1.3</p> <ul style="list-style-type: none"> <li>➤ Removed reference to daily phone call confirming receipt of notifications.</li> </ul> <p>Attachment A</p> <ul style="list-style-type: none"> <li>➤ Added new Associated designation.</li> </ul> <p>Multiple updates to incorporate TO requested changes and added new equipments.</p>
4.1	10/17/2013	<p>Section 3</p> <ul style="list-style-type: none"> <li>➤ Removed reference to TO concurrence prior to NYISO approval.</li> </ul> <p>Section 3.2.5</p> <ul style="list-style-type: none"> <li>➤ Removed reference to VSS and the Ancillary Service Manual.</li> <li>➤ Added criteria for NYISO approving AVR/PSS outages.</li> <li>➤ Changed the criteria for GO's coordinating AVR/PSSs to be consistent with NERC Standards.</li> </ul> <p>Attachment A</p> <ul style="list-style-type: none"> <li>➤ Added reference to ISO/TO Agreement and A1/A2 designations.</li> <li>➤ Multiple updates to incorporate TO requested changes and added new equipments.</li> </ul>
4.2	03/03/2015	<p>Section 3.2</p> <ul style="list-style-type: none"> <li>➤ Remove need for external NYCA generators to notify Local TO</li> </ul> <p>Attachment A</p> <ul style="list-style-type: none"> <li>➤ Multiple updates to incorporate TO requested changes.</li> </ul>
4.3	06/26/2015	<p>Section 3.2.3</p> <ul style="list-style-type: none"> <li>➤ Added a definition for Inactive Reserves including criteria.</li> </ul> <p>Section 3.2.4</p>

		<ul style="list-style-type: none"> <li>➤ Added a definition for generator Forced Outages including criteria.</li> </ul>
4.4	06/30/2016	Attachment-only Revision Attachment A <ul style="list-style-type: none"> <li>➤ Clarification of Notify Time definition and criteria for facilities listed in Table A.1</li> </ul>
4.3.1	07/29/2015	Attachment A <ul style="list-style-type: none"> <li>➤ Bifurcated attachment from manual and replaced with reference link.</li> </ul>
4.5	09/14/2016	Attachment-only Revision Attachment A <ul style="list-style-type: none"> <li>➤ Updated Table A.1</li> </ul>
4.6	01/04/2017	Section 2.2.7 and 2.2.8 <ul style="list-style-type: none"> <li>➤ Changed wording to only include facilities under NYISO control and ties</li> </ul> Attachment A <ul style="list-style-type: none"> <li>➤ Updated Table A.1</li> </ul>
4.7	06/15/2017	Attachment-only Revision Attachment A <ul style="list-style-type: none"> <li>➤ Included new definition to designate a scheduled change of status of the facility</li> <li>➤ Updated Table A.1</li> </ul>
4.8	11/08/2017	Attachment-only Revision Attachment A <ul style="list-style-type: none"> <li>➤ Updated Table A.1</li> </ul>
4.9	05/03/2019	Section 2.1 <ul style="list-style-type: none"> <li>➤ Emergency recall time added to info needed for Transmission Owner requests</li> </ul> Section 2.2 <ul style="list-style-type: none"> <li>➤ Added Transmission Owners should expedite completion of outages to be consistent with NYSRC Rule C.3 R4</li> </ul> Section 2.2.1 <ul style="list-style-type: none"> <li>➤ Updated for consistency with Section 5.1</li> </ul> Section 2.2.3 <ul style="list-style-type: none"> <li>➤ Added e-mail as a way to submit Transmission outage requests and removed facsimile</li> </ul> Section 2.2.4 <ul style="list-style-type: none"> <li>➤ Updated If NYISO cancels the outage to If NYISO recalls the outage</li> </ul> Section 2.3 <ul style="list-style-type: none"> <li>➤ Added Western NY Export and Oswego Export interfaces</li> </ul> Section 3.2 <ul style="list-style-type: none"> <li>➤ Added clarity for subsections to Section 3.2</li> </ul> Section 3.2.4 <ul style="list-style-type: none"> <li>➤ Removed reference to May 1, 2015 effective date for forced outages greater than 120 days.</li> </ul> Section 3.2.4 and 3.2.5 <ul style="list-style-type: none"> <li>➤ Updated GO notification from NYISO Grid Ops to NYISO Scheduling</li> </ul> Section 4 <ul style="list-style-type: none"> <li>➤ Added criteria for GO's to coordinating primary frequency response equipment to be consistent with NERC Standards.</li> </ul>
5.0	3/16/2020	Section 3.2.4 <ul style="list-style-type: none"> <li>➤ Updated to be consistent with section 3.2.5</li> </ul> Section 4



		<ul style="list-style-type: none"> <li>➤ Added Hands Off directive language</li> </ul>
5.0	03/26/2021	Recertified without revisions
6.0	01/05/2022	<p>Section 2.2.1</p> <ul style="list-style-type: none"> <li>➤ Added and modified annual maintenance scheduling language to more clearly meet the business need</li> </ul> <p>Section 2.2.3</p> <ul style="list-style-type: none"> <li>➤ Added A1 and A2 to language for clarification</li> <li>➤ Removed an old reference to notifications being provided during Business Days</li> </ul> <p>Section 3.2</p> <ul style="list-style-type: none"> <li>➤ Added that ambient temperature derates are not needed</li> </ul> <p>Section 3.2.6</p> <ul style="list-style-type: none"> <li>➤ Changed reference to Automatic Voltage Regulator to Automatic Voltage Control Equipment</li> </ul> <p>Section 5.1</p> <ul style="list-style-type: none"> <li>➤ Added and modified annual maintenance scheduling language to more clearly meet the business need consistent with 2.2.1</li> </ul>
7.0	04/16/2024	<p>Recertified</p> <p>Global</p> <ul style="list-style-type: none"> <li>➤ Updated broken hyperlinks</li> <li>➤ Corrected ministerial grammatical errors</li> </ul> <p>Section 3</p> <ul style="list-style-type: none"> <li>➤ Clarified applicability of requirements to Aggregators of DER.</li> </ul>

# 1. INTRODUCTION TO OUTAGE SCHEDULING

This *Outage Scheduling Manual* is intended for the New York Independent System Operator (NYISO) staff and those entities who are responsible for notifying the NYISO of planned and unexpected changes to the operational availability of their transmission and generating facilities. These notifications are given in the form of requests to the NYISO for consideration and approval as Outage Schedules.

The following subsections are presented to better understand the detailed Outage Scheduling processes.

## 1.1. Acronyms and Definitions/Glossary

There is a glossary of terms and an acronym list on the NYISO Web site. They are located on the Market Training page, which can be accessed from the Services pull-down menu on the NYISO home page.

## 1.2. Business Days versus Calendar Days

References to “days” in this manual will be specified as NYISO “business days” or as “calendar days.” NYISO business days are Monday through Friday, except for NYISO designated holidays. Calendar days include all of the days in the year. An updated list of holidays is available at <https://www.nyiso.com/calendar>.

## 1.3. Responsible Entity

This manual lists the NYISO, Transmission Owner (TO), and Generator Owner (GO) as the entities that need to perform any required actions:

1. For the NYISO, the responsible department is also identified, as necessary.
2. For transmission facilities, the responsible entity could be either the owner, operator, or other. Transmission Owner is used in this manual for convenience only.
3. For generation facilities, the responsible entity could be either the owner, operator, or other. Generation facilities refer to all generators or Demand Side Ancillary Service Program Resources (DSASP Resources) located in the NYCA or supplying ICAP to the NYCA. Generator Owner is used in this manual for convenience only.

#### **1.4. Notification Sequence**

The reader should assume that the GO should directly notify the listed NYISO department unless stated otherwise, for example:

1. Notify the TO who then must notify the NYISO department, or
2. Notify the TO and the NYISO department.

## 2. TRANSMISSION FACILITIES OUTAGES

This section of the manual describes the scheduling of transmission facility outages. The following phrases used in this Outage Scheduling Manual have the following meaning:

- “Facilities expected to impact system Transfer Capability of the NYISO secured system” are those transmission facilities, under an outage condition, that effectively reduce the Transfer Capability of an NYISO transfer interface by a minimum of 150 MW.
- “Operative TCC month” is the calendar month(s) during which the facility outage is requested.

### 2.1. Transmission Facilities Outage Coordination

The NYISO coordinates all requests for transmission outages based on their potential impact on power system reliability.

The methods described in this section of the manual are used to determine whether system reliability and power transfer requirements are met, consistent with the New York State Reliability Council (NYSRC) Reliability Rules.

The NYISO will determine if reliability criteria violations will occur based on the requested transmission outages scheduled. This assessment will be performed as proposed outages are received so that TOs can be advised as soon as possible to help manage their outages.

The NYISO has authority to defer, postpone, or cancel scheduled transmission outages of facilities under NYISO operational control.

This includes:

1. Deferral to alternate dates of requested outages not yet approved by the NYISO.
2. Postponement and rescheduling of previously NYISO approved outages for which the associated TO has not yet committed resources.
3. Cancellation and rescheduling of previously NYISO approved outages for which the associated TO has committed resources. The NYISO will defer, postpone, or cancel requested transmission outages of facilities as listed in [Attachment A](#) of this manual, if a contingency on a NYISO monitored facility will result in a reliability criteria violation. Otherwise, the NYISO will approve the requested outage, or reschedule the outage as agreed to by the requesting TO.

The NYISO has final authority in postponing or canceling outages on transmission facilities under NYISO operational control, if the outage would violate established reliability criteria. When the NYISO postpones or cancels a transmission facility outage request, the NYISO provides alternate periods for the TO to schedule the required outage.

When the NYISO denies an Outage Schedule, the reasons for denial will be made available for review by all parties involved.

The NYISO is not responsible for the physical operation (such as the switching of transmission lines for maintenance or security) or actual maintenance of the transmission facilities as listed in Attachment A of this manual. These functions remain under the responsibility of the TOs. Switching authority under both normal and Emergency conditions on facilities within or affecting a TO's own transmission system also remains within the purview of the TO.

Transmission Owners have final authority in scheduling, postponing, or canceling outages on all transmission facilities except for those under NYISO operational control.

The following information must be provided regardless of the method of notification:

- a. Equipment Name
- b. Description of Work
- c. Posted Reason
- d. Request Type
- e. Schedule Type
- f. Emergency Recall Time
- g. Outage Type
- h. Start Date/Start Time of Outage
- i. End Date/End Time of Outage
- j. Local Generation Impact

See section 3.2 of the Outage Scheduler User's Guide for description.

<https://www.nyiso.com/manuals-tech-bulletins-user-guides>

#### **2.1.1. Transmission Facilities Outages Impact on Congestion Settlements**

Transmission facility outages can have an impact on congestion settlements related to the Day-Ahead Market and TCC Auction settlements, as described in Attachment N of the *NYISO Open Access Transmission Tariff* (available from the NYISO Web site at <https://www.nyiso.com/regulatory-viewer>). Attachment N defines the congestion rent shortfall charges and congestion rent surplus payments

to TOs, resulting from transmission facility outages and returns-to-service.

## **2.2. Transmission Facilities Outage Scheduling Procedures**

TOs should make an effort to expedite completion of an outage on facilities which impact the reliability of the power system.

To provide the NYISO with enough time to perform the required studies and verify power system thermal, voltage, and stability criteria, all transmission facilities outage requests are subject to the following procedures.

### **2.2.1. General Procedures for Scheduling Annual Maintenance**

These are the general procedures for submitting information and reports, general NYISO verifications, and rescheduling of outages to develop the annual maintenance schedules.

#### ***NYISO Actions***

1. Review the annual maintenance transmission facilities outage schedules submitted by TOs by November 1 of each year.
2. Determine impact on NYISO monitored reliability and transfer criteria, if a conflict exists that violates system reliability criteria.
3. Notify TOs and coordinate changes to the proposed schedule.
4. Post approved outages on the NYISO Open Access Same Time Information System (OASIS) site.
5. Make revisions of the approved Outage Schedules and post the updates on the NYISO OASIS site.

#### ***Transmission Owner Actions***

1. Submit the proposed annual maintenance transmission facilities outage schedules for all known outages of Facilities under NYISO Control (A1 facilities) for the coming calendar year, including daily outages, scheduled for three or more calendar days in succession by October 1 for each year in written form via available means.
2. Reschedule rejected requests in periods offered by the NYISO.
3. Submit updates to the annual maintenance transmission facilities to NYISO Scheduling Department consistent with section 2.2.3 for approval. Updates are processed on an on-going, first-come, first-serve basis.

### **2.2.2. NYISO Analysis Procedure**

The following procedure defines the applicable rules for scheduling outage requests in consideration of NYISO reliability.

#### ***NYISO Actions***

1. Perform the contingency analysis evaluation, as required.
2. Apply the System Reliability and Transfer Criteria described in [section 2.3](#) of this manual.

### **2.2.3. Facility Outage Scheduling Procedures**

All outage requests for Facilities under NYISO Control (A1 facilities) or other Facilities Requiring NYISO Notification (A2 facilities) that are not considered Emergencies by NYISO are processed according to the following procedure.

#### ***NYISO Actions***

1. Receive and acknowledge TOs' facilities outage requests. The NYISO will approve outages in the order received.
2. The NYISO will determine if reliability violations will occur so that TOs can be advised as soon as possible to help manage their outages.
3. The NYISO will defer, postpone, or cancel requested transmission outages of Facilities under NYISO Operational Control if a contingency on a NYISO monitored facility will result in a reliability criteria violation.
4. The NYISO will disapprove/reject the requested outage if notification is not received within the minimum notification time requirements. Otherwise, the NYISO will approve the requested outage, or reschedule the outage as agreed to by the requesting TO.
5. Prepare and issue the following reports every calendar day:
  - a. NYISO Daily Outage Schedule
  - b. NYISO Transfer Limitations
  - c. Daily Outage Notifications for each TO
  - d. Daily Scheduled Outages Report for the NYISO Power Control Center.

#### ***Transmission Owner Actions***

#### *Transmission Outage Scheduling*

1. Submit via e-mail, telephone, or other means available the outage requests, based on best available information, within minimum notification time and requirements as provided in this *Outage Scheduling Manual*:
  - a. Facilities expected to impact system Transfer Capability of the NYISO secured system: No later than 30 calendar days before the first day of the operative TCC month with the exception of:
    - i) Outage requests that the NYISO and TO agree cannot prudently be delayed, based on reliability concerns, to the next or later operative TCC month(s), or
    - ii) Outage requests for weekend, NYISO observed holiday, or weekday off-peak periods, or
    - iii) Outage requests for a period within an operative TCC month throughout which significant congestion is not expected to occur in the judgment of the NYISO.

Facility outage requests that are expected to impact system Transfer Capability of the NYISO secured system may be submitted more than 30 calendar days before the first day of the operative TCC month and, if necessary, revised by the TO provided the revision is submitted no later than 30 calendar days before the first day of the operative TCC month.

- b. Facilities Under NYISO Control expected to impact system Transfer Capability less than 150 MW: At least five calendar days before the proposed scheduled time and date.
    - c. Facilities Requiring NYISO Notification: At least two calendar days before the proposed scheduled time and date.
  2. Specific facility notification times are identified in [Attachment A](#) of this manual. The 30 calendar day notification requirement is in advance of the first day of the operative TCC month. For example, all facility outage requests during the month of June that are expected to impact system Transfer Capability of the NYISO secured system must be submitted by May 1.

#### *Transmission Outage Scheduling Affecting Local Reliability Commitment*

1. Transmission Owners in the New York Control Area (NYCA) must coordinate scheduling of transmission facility outages with the NYISO. This includes verifying that a specific generator is available for commitment, if required during the transmission outage.



2. Transmission Owners must submit a maintenance outage request to the NYISO Scheduling Department. If that request requires a specific generator be committed or remain on line during the outage, that information must be provided when the request is made. The NYISO will record the details of the outage.
3. Transmission Owners must perform the following with respect to outages:
  - a. Verify that any required generators are available for commitment during the outage.
  - b. Review the Day-Ahead Market generation commitment to determine that the required generation is scheduled. If it is not scheduled, the TO must notify the NYISO Grid Operations Department that a unit commitment for local reliability is required, identifying the generators required and the Start Date/Start Time and End Date/End Time of the local reliability commitment.
  - c. Notify the GOs of the commitment after the NYISO has approved the local reliability commitment.
4. If a transmission outage request requires a specific generator remain offline or derated during the outage, that information must be provided when the request is made. Notification of an outage impacting a generator will be made to the affected generator via the NYISO scheduling software.

#### *Transmission Outage Rescheduling*

1. Facilities expected to impact system Transfer Capability of the NYISO secured system:
  - a. Wherever possible, in the event of a NYISO or TO cancellation of an approved outage request fewer than 30 calendar days before the first day of the operative TCC month, a transmission outage will be rescheduled within the same operative TCC month if both of the following conditions are met:
    - i) The outage will be expected to have similar impact to Day-Ahead or Real-Time Market system Transfer Capabilities as in the originally scheduled period.
    - ii) The outage will be submitted within the minimum notification time of two calendar days.
  - b. In the event that cancelled facility work cannot be rescheduled to meet the above conditions but cannot be prudently delayed based on reliability concerns, then the

cancelled facility work may be rescheduled within the same or another operative TCC month; provided the work is rescheduled in a manner that is close as practical to the above conditions.

2. Facilities under NYISO Operational Control expected to impact system Transfer Capability less than 150 MW
  - a. Consider rescheduling outage requests deemed by the NYISO to have a substantial impact on Transfer Capability.
  - b. Reschedule unapproved outage requests.
3. Facilities Requiring NYISO Notification: consider rescheduling outage requests deemed by the NYISO to have a substantial impact on Transfer Capability.

#### *Transmission Outage Cancellation*

1. Provide reasons for the cancellation of an outage request for review by the NYISO Grid Operations Department and NYISO Market Monitoring and Performance Department.

#### **2.2.4. On Shift Outage Scheduling Procedures**

On shift outage scheduling by the NYISO is performed according to the following procedure.

#### ***NYISO Actions***

1. After being notified by the TO of its intention to proceed with a prescheduled outage:
  - a. Check the online Outage Scheduler function to verify that the requested outage has been prescheduled.
  - b. Study the system conditions for thermal, voltage, or stability violations including the equipment outage before outage starts.
  - c. If required, take the necessary actions to ensure that the outage will not violate reliability criteria and make all the necessary pre-outage Notifications.
2. Notify the TO via telephone, to proceed with the actual switching sequence, when the pre-outage actions have been taken and it has been determined that the outage can proceed.
3. Assess the post-contingency conditions for thermal, voltage, or stability violations, after being notified by the TO that the equipment is out of service. If the NYISO determines that the reliability criteria will be violated as a result of the outage, the

NYISO will take appropriate actions to correct the problem.

4. After receiving notification from the TO that the outaged equipment is restored and in normal working condition, take the necessary actions to remove restrictions placed on the NYISO monitored facilities for the outage. Equipment restored to service with a derated capacity or with an operational deficiency will be logged appropriately.

#### **Transmission Owner Actions**

1. Before starting the actual switching sequence, notify the NYISO Grid Operations Department via telephone of its intention to proceed with a Scheduled Outage and then wait for NYISO approval to proceed.
2. Upon receiving approval from the NYISO, proceed with the switching sequence to remove the equipment from service.
3. Notify the NYISO Grid Operations Department immediately after the facility has been removed from service.
4. If the NYISO recalls the outage, return the facility to service as soon as possible.
5. Notify the NYISO Grid Operations Department immediately after completing the scheduled work, in preparation for restoring the outaged equipment to service. The TO will notify NYISO Grid Operations Department of the restoration intent, however, for the sake of reliability will begin the process of restoring the facilities promptly.
6. Upon receiving approval from the NYISO, proceed with the actual restoration sequence to return the facility to service.
7. Inform the NYISO Grid Operations Department immediately after the equipment is restored to service and of any derated capacity or operational deficiency with that facility. The TO must take appropriate measures to correct the problem as soon as possible.

#### **2.2.5. Switching Requests**

Short duration changes in equipment status for the purpose of removal from and restoring to service other associated equipment is classified as *switching*.

Switching requests may be made on shift provided the request meets each of the following requirements:

1. The request is directly related to an appropriately prescheduled outage or the

request is to exercise a disconnect switch.

2. The duration of the switching request does not exceed two hours.
3. The TO notifies the NYISO Grid Operations Department a minimum of two hours prior to the start of the switching.
4. The switching is requested to take place during off peak hours or when significant congestion is not expected to occur in the judgment of the NYISO.
5. The switching request will not violate applicable reliability criteria.

#### **2.2.6. Emergency Outages**

Planned outages are normally evaluated prior to the calendar day on which they are scheduled to begin. However, there are situations when special operating conditions, or Emergency Outage requests by TOs, require additional study cases to be performed. Special operating conditions that require an Emergency Outage of transmission facilities, whether they are identified by the NYISO or by a TO, will be evaluated immediately by the NYISO according to the following procedures.

##### ***NYISO Actions***

1. The NYISO will perform the following:
  - a. Obtain a description of the special condition or emergency.
  - b. Identify components involved in the emergency.
  - c. Determine any special conditions related to the outage.
  - d. Request the Start Date/Start Time and End Date/End Time, if known, of the Emergency Outage.
2. Evaluate the impact of the Emergency Outage, if possible. If the nature of the Emergency Outage is such that it cannot be delayed, approval will be given, but appropriate mitigating measures will be implemented to ensure compliance with reliability criteria.
3. Ask the TO requesting the outage to consider delaying the outage if the following conditions apply to the request: the outage meets reliability criteria but has a substantial impact on Transfer Capability in conjunction with previously scheduled outages.
4. If conditions permit, the NYISO will perform the following after coordinating the Emergency Outage request:

- a. Inform the appropriate TOs of the impending Emergency Outage.
  - b. Make all the necessary pre-outage verifications and adjustments to the NYISO monitored facilities as required.
5. Notify the requesting TO via telephone, to proceed with the actual switching sequence.
  6. Assess the post-contingency conditions for thermal, voltage, or stability violations, after being notified by the TO that the equipment is out of service. If the NYISO determines that the reliability criteria will be violated as a result of the outage, the NYISO will take appropriate actions to correct the problem.
  7. Include Emergency Outage and all changes to the Outage Schedule in the daily reports.
  8. After receiving notification from the TO that the outaged equipment is restored to service and in normal working condition, take the necessary actions to remove restrictions placed on the NYISO monitored facilities for the outage. Equipment restored to service with a derated capacity or with an operational deficiency will be logged appropriately.
  9. Inform the appropriate TOs of the conclusion of the Emergency Outage.

***Transmission Owner Actions***

1. Inform the NYISO Grid Operations Department immediately after determining that an Emergency Outage is required.
2. Provide the NYISO Grid Operations Department with the following information:
  - a. Description of the special condition or emergency.
  - b. List of applicable components to be taken out-of-service.
  - c. Any special conditions related to the outage.
  - d. Start Date/Start Time and End Date/End Time, if known, of the Emergency Outage.
3. Notify the NYISO Grid Operations Department via telephone of their intention to proceed with an Emergency Outage before starting the actual switching sequence and then wait for NYISO authorization to proceed, if the nature of the emergency allows time to do so.
4. Removal of the equipment from service without first notifying the NYISO Grid

Operations Department must only be done for safety purposes and to prevent further damage to equipment. If such action is taken, the TO must immediately notify the NYISO Grid Operations Department of the action after the equipment is safely out of service.

5. Upon receiving approval from the NYISO, proceed with the switching sequence to remove the equipment from service.
6. Notify the NYISO Grid Operations Department immediately after the facility has been removed from service.
7. Notify the NYISO Grid Operations Department immediately after completing the emergency work in preparation for restoring the outaged equipment to service. The TO will notify NYISO Grid Operations Department of the restoration intent, however, for the sake of reliability will begin the process of restoring the facilities promptly.
8. Upon receiving the approval from the NYISO, proceed with the actual restoration sequence to return the facility to service.
9. Inform the NYISO Grid Operations Department immediately when the equipment is restored to service and of any derated capacity or operational deficiency with the facility. The TO must take appropriate measures to correct the problem as soon as possible.

#### **2.2.7. In-Service Work and Relay Testing**

In-service maintenance or testing of relays on transmission facilities under NYISO Operational Control and on all inter-company and inter-control area ties is allowed under this procedure:

##### ***NYISO Actions***

1. The NYISO will perform the following:
  - a. Identify facilities involved in the test.
  - b. Request the Start Date/Start Time and End Date/End Time of the in-service relay test.
  - c. Evaluate the impact of the in-service relay test.
  - d. List approved in-service relay testing in daily outages notification for each TO.

##### ***Transmission Owner Actions***

1. For normally scheduled in-service relay tests, the TO must notify the NYISO Scheduling Department at least one business day before the proposed scheduled

Start Date, for which the work is to be scheduled. The TO must provide the NYISO Scheduling Department the following:

- a. List of transmission facilities that could be impacted by the test (e.g., line, breaker, capacitor bank, etc.).
  - b. Start Date/Start Time and End Date/End Time of the in-service relay test.
2. For same day work, the TO must notify the NYISO Grid Operations Department as soon as possible of their need to perform such work that day. The TO must provide the NYISO Grid Operations Department the following:
    - a. List of transmission facilities that could be impacted by the test (e.g., line, breaker, capacitor bank, etc.).
    - b. Start Time and End Time of the same day in-service relay test.
  3. The TO must perform testing such that appropriate measures that would mitigate the impact of the test are taken.
  4. The TO must inform the NYISO Grid Operations Department when the testing has been completed and of any derated capacity or operational deficiency with that facility. The TO must take appropriate measures to correct the problem as soon as possible.

#### **2.2.8. Hot Line Work**

Hot line work, as referred to in this procedure, is defined as work on or near any transmission line which requires automatic re-closing to be removed from the line or manual re-closing to be held off for the protection of personnel working on or near such facilities.

#### ***NYISO Actions***

1. The NYISO will perform the following:
  - a. Identify lines included in the work.
  - b. Request the Start Date/Start Time and End Date/End Time of the hot line work.
  - c. If required, evaluate the impact of the hot-line work.

#### ***Transmission Owner Actions***

1. For normally scheduled hot line work, notify the NYISO Scheduling Department of hot line work on any transmission facilities under NYISO Operational Control and on all inter-company and inter-control area ties 115 kV and above. One day prior notification is required except for emergency situations.

2. For emergency situations the TO must notify the NYISO Grid Operations Department immediately after determining that hot line work will be required.
3. Notify the NYISO Grid Operations Department when automatic re-closing is disabled or manual closing is being held off on the line where the work is being performed.
4. Notify the NYISO Grid Operations Department immediately of any problems or outages relating to hot line work in progress.
5. Notify NYISO Grid Operations Department when hot line work is completed and the automatic re-closing has been enabled.

#### **2.2.9. Emergency Restoration of Facilities**

When the NYISO determines that emergency conditions can be averted or alleviated by the restoration of transmission facilities out of service for scheduled work, and the work is of such nature that the facility can be restored within a reasonable recall time, the following procedure will apply.

##### ***NYISO Actions***

1. Request the restoration of facilities deemed helpful in alleviating the emergency condition.
2. Evaluate continuously the emergency situation and determine if any further attempt should be made to restore the facility, in the event a transmission facility cannot be returned to service using the pre-established procedure for emergency restoration.

##### ***Transmission Owner Actions***

1. Have restoration procedures in place as part of the outage request for emergency restoration when so requested by NYISO. These will include estimates of time required to restore the facility to service under these conditions.
2. Evaluate the emergency situation and determine if any further attempt should be made to restore the facility in coordination with the NYISO Grid Operations Department, in the event that the transmission facility cannot be returned to service using the emergency restoration procedure.

#### **2.2.10. Extensions of Outages**

Although the planning of scheduled outages should always include a realistic allocation of time to accomplish the expected scope of work, it is inevitable that situations will occur that force the extension of the End Date/End Time of a scheduled outage due to unforeseen



circumstances. The following actions will be taken in such cases.

#### **NYISO Actions**

1. Modify the existing Outage Schedule as required. This includes performing all the necessary reliability studies described in the previous sections according to the extension time required.
2. Notify affected TOs whose prescheduled outage requests must be rescheduled or canceled due to these extensions.
3. Post the new revised schedule in OASIS and update daily reports.

#### **Transmission Owner Actions**

1. If the equipment outage extension does not meet the minimum notification required by section 5.3 of this Outage Scheduling Manual, notify the NYISO Grid Operations Department immediately of the delay and the new planned schedule so that a review can be made of the impact of this extension on system reliability.
2. If the equipment outage extension meets the minimum notification required by [section 5.3](#) of this *Outage Scheduling Manual*, notify the NYISO Scheduling Department.

### **2.3. System Reliability and Transfer Criteria**

The NYISO uses the approved Outage Schedules to determine operating transfer limits for the monitored interfaces. The following is the current list:

1. Internal Interfaces:
  - a. WESTERN NY EXPORT
  - b. DYSINGER EAST
  - c. WEST CENTRAL
  - d. OSWEGO EXPORT
  - e. MOSES SOUTH
  - f. CENTRAL EAST
  - g. TOTAL EAST
  - h. UPNY/CONED
  - i. SPRAINBROOK/DUNWOODIE SOUTH
2. External Interfaces:

- a. CSC-NPX
- b. NPX-CSC
- c. HQ-NYISO
- d. NYISO-HQ
- e. IMO-NYISO
- f. NYISO-IMO
- g. ISONE-NYISO
- h. NYISO-ISONE
- i. 1385-NPX
- j. NPX-1385
- k. NYISO-PJM
- l. PJM-NYISO
- m. PJM-NEPTUNE
- n. SCH-HQ IMPORT/EXPORT
- o. CEDARS-HQ
- p. HQ-CEDARS
- q. SCH-PJM\_VFT
- r. SCH-VFT\_PJM

### 2.3.1. Outage Impact Method

The method described below quantifies an outage's impact on the NYISO monitored interfaces. The interface impact method is used because it includes the effect of the outaged facility power flow distribution in addition to the change on the affected interface's thermal, voltage, and stability limits. It is important to remember that changes in the generation dispatch can affect the interface impact.

The Outage Interface Impact is best described by the following formula:

**Where:**

$$OII = \frac{\{FIL_{max} - [FOI_L + (FIL_{max} * FT_{SF} * FO_{IDF}) - (FF_{FIL_{max}} * FO_{IDF})]\}}{1 + (FT_{SF} * FO_{IDF})}$$

OII = Outage Interface Impact

$FIL_{max}$  = All Facilities in service Interface limit  $FOI_L$

= Facility Outage Interface limit

$FT_{SF}$  = Facility Transfer shift factor for change at interface flow  $FO_{IDF}$  =

Interface distribution factor for the Facility Outage  $FF_{FIL_{max}}$  = Facility Flow

at all facilities in service limit interface

To mitigate the impact of specific maintenance outages on system operations, operating measures are coordinated in advance with the affected TOs and included as part of the outage request or proposed Outage Schedule. These measures include but are not limited to:

1. Opening of additional circuit breakers or reconfiguring stations to minimize the impact of normal or stuck-breaker contingencies.
2. Scheduling the outage during off-peak hours, or weekends, when the anticipated NYISO monitored facilities power flows are lower.
3. Scheduling the outage when a specific generator configuration is more suitable.

### 3. GENERATION FACILITIES OUTAGES

This section of the manual describes the scheduling of generation facility outages.

The NYISO has the responsibility to ensure sufficient capacity is expected to be available to serve all NYCA load on an annual basis. This is accomplished using the NYISO maintenance outage coordination procedure. All Installed Capacity (ICAP) providers are required to abide by NYISO maintenance coordination, and all other generating resources are required to inform the NYISO of their annual maintenance plans. All requirements for Generator Operators operating generating units shall apply to Aggregators operating Aggregations. For more information, please refer to the Aggregation Manual and Grid Operations Coordination Portal User's Guide available here: <https://www.nyiso.com/manuals-tech-bulletins-user-guides>.

The Transmission Owners in the New York control area have the responsibility to maintain their local reliability requirements. This is accomplished by requiring local TO concurrence with all generator outage requests. This authority ensures all local Transmission Owner reliability concerns are addressed.

#### 3.1. Generation Facilities Outage Coordination

The NYISO coordinates and approves generator Outage Schedules according to the following procedure.

##### ***Annual Reliability***

1. All generators located in the NYCA or supplying ICAP to the NYCA must submit a confidential notification of their proposed Outage Schedule in accordance with Northeast Power Coordinating Council (NPCC) time schedules to the NYISO. The GOs must provide proposed Outage Schedules for the next two calendar years by September 1 of the current year.  
  
If a GO notified the NYISO sometime after September 1 that it will be an ICAP provider, then its proposed Outage Schedule will be reviewed to see if it will result in the NYISO having insufficient reserves. If the proposed Outage Schedule will result in insufficient reserves, then the GO will be directed to move its outage to a period where its outage is not expected to compromise the reliability of the electric system.
2. Using the proposed Outage Schedules, the NYISO will perform a reliability assessment to determine if projected Operating Reserve over the next two calendar years will be adequate. This reliability assessment will compare projected Operating Capacity with the forecast NYCA peak Load for each week (where Operating Capacity equals NYCA ICAP less Proposed Outage Schedules less Projected Unavailable Capacity) as illustrated on the "Market Data Reports and Info" area of the NYISO Web site. The NYISO will post the projected weekly Operating Reserve margins for all Market Participants for the two calendar year projection. If no Operating

Reserve deficiencies are projected, Steps 3, 4, and 5, below, will not be needed, so the NYISO will proceed directly to Step #6.

3. If Operating Reserve deficiencies are projected for the upcoming calendar year, the NYISO will request that generators located in the NYCA and/or supplying ICAP to the NYCA voluntarily reschedule their proposed outages.
4. Based on voluntary reschedules, the NYISO will rerun the reliability assessment. If Operating Reserve deficiencies are projected to remain (for the upcoming calendar year) after voluntary rescheduling, the NYISO will invoke forced rescheduling of outages planned by generators supplying ICAP to the NYCA to ensure that projected Operating Reserve over the upcoming calendar year is adequate.

These reschedules will be based on:

- a. Adherence to applicable Reliability Rules [i.e., those rules, standards, procedures, and protocols developed and promulgated by the New York State Reliability Council (NYSRC) — in accordance with North American Electric Reliability Council (NERC), Northeast Power Coordinating Council (NPCC), Federal Energy Regulating Committee (FERC), Public Service Commission (PSC), and the Nuclear Regulatory Commission (NRC) standards, criteria, rules and regulations, and other criteria — and the Local Reliability Rules pursuant to the NYSRC Agreement];
- b. Minimizing the number of Outage Schedules impacted;
- c. Minimizing the shifting of Outage Schedule Start Date/Start Times.

Forced rescheduling will be completed by December 1 of the prior calendar year. No compensatory payments will be made to generators as a result of forced rescheduling of planned outages.

5. The NYISO will post the projected weekly Operating Reserve margins for all Market Participants for the next two calendar years.
6. Requests for approval of changes in generator Outage Schedules will first require a repeat of the above steps starting with Step 2.

### **3.2. Generation Facilities Outage Scheduling Procedures**

This section describes the procedures for reporting and scheduling of generator outages within the NYCA and/or supplying ICAP to the NYCA.

Generator Owners must notify the NYISO and the local Transmission Owner when a generator is scheduled

for an outage or when a generator is forced into an outage. For all subsections of section 3.2, Generator Owners must notify the NYISO but there is no requirement for ICAP suppliers backing imports to notify a local Transmission Owner. This notification does not preclude the need for the GO to adjust affected Market Information System (MIS) bids to reflect the generator outage or to coordinate the generator outage with the local TO. Ambient temperature derates should not be included in generator derates submitted to the NYISO Outage Scheduling Group.

### **3.2.1. Scheduled Generator Outage Coordination**

Generator Outage Schedule is the basis for determining that the available ICAP meets the NYISO requirements. This generator Outage Schedule shows all anticipated generator outages for the current and next two calendar years and is prepared by the NYISO with the information submitted by GOs. Unless otherwise specified, this information is treated as confidential. The following procedure is used to produce this generator Outage Schedule.

#### ***NYISO Actions***

1. Prepare load forecasts for weekly peak loads for the current and next two calendar years and include them in the NYISO Maintenance Load and Capacity Surveys.
2. Receive the individual GO's proposed Outage Schedules for the current and next two calendar years.
3. Determine schedule conflicts that cause available Operating Reserve to fall below requirements of the NYCA.
4. Coordinate schedule changes with the appropriate GOs to alleviate those projected deficiencies.
5. Prepare the following report that comprises the NYISO Generator Outage Schedules: NYISO Maintenance Load and Capacity Survey for the next two calendar years. The survey is posted only for the total NYCA.
6. Revise the NYISO Generator Outage Schedules upon receiving the GO's updates.

#### ***Generator Owner Actions***

The NYISO Scheduling Department must be notified of outages as soon as practicable. This notification does not preclude notification to other NYISO departments that may be required, or the need for the GO to adjust affected MIS bids to reflect the generator outage.

1. Provide the NYISO Scheduling Department and local TO with unit outage and rescheduled unit outage requests, based on best available information at the time, no later than 30 calendar days before the first day of the operative TCC month. The generation asset owner may schedule or

reschedule a unit outage on a shorter time frame if the following conditions are met:

- a. The NYISO Scheduling Department and TO agree that there is no reliability criteria violation.
- b. The unit outage or rescheduled unit outage request must be submitted to the NYISO Scheduling Department and the TO within the minimum notification time of two calendar days.

Generation Owners are required to provide reasons for cancellation to be reviewed by the NYISO Scheduling Department, NYISO Grid Operations Department, and NYISO Market Monitoring and Performance Department.

2. Reschedule conflicting generator outages as required by the NYISO.

If the information provided is replacing or revising an earlier Outage Schedule that has been reported, the GO must request cancellation of the previous Outage Schedule when providing the new information.

The following information must be provided regardless of the method of notification:

- a. MIS Generator Name
- b. Generator Point Identifier (PTID)
- c. Derate to MW
- d. Generator DMNC
- e. Generator Owner Name
- f. Transmission Owner Sub-zone
- g. Reason for the Outage
- h. Start Date/Start Time of Outage
- i. End Date/End Time of Outage
- j. Name and Telephone Number of the Person Reporting the Outage Schedule
- k. Does this outage replace or modify an existing outage or record? (Y/N)
- l. Details if Yes.

See section 3.1 of the Outage Scheduler User's Guide for description. <https://www.nyiso.com/manuals-tech-bulletins-user-guides>

Examples of the information to be supplied to the NYISO Scheduling Department are presented in [Attachment B](#) of this manual.

**3.2.2. On Shift Outage Procedures for Approved Generator Outage Schedules**  
**NYISO Actions**

When authorizing a scheduled generator outage:

1. Inform affected TOs of the impending generator outage.
2. Make all the necessary pre-outage verifications and adjustments to the NYISO monitored facilities, if any are required.
3. Update the status of the outage in the Online Outage Scheduler function.
4. Give the requesting GO authorization to remove the generator out of service after all necessary system adjustments are complete. If it is determined that the generator outage cannot be accommodated, the NYISO may cancel the outage for rescheduling at a later date.
5. Verify the post-contingency conditions for thermal, voltage, or stability violations after being notified by the GO that the generator is out of service. If the NYISO determines the reliability criteria will be violated as a result of the outage, the NYISO will take appropriate actions to correct the problem.
6. Inform the appropriate TOs of the generator outage.
7. After the generator is returned to service, take the necessary actions to remove restrictions placed on the NYISO monitored facilities.
8. When the generator is returned to service, inform the appropriate TOs.

#### ***Generator Owner Actions***

Before starting the process of taking the generator out of service, notify the NYISO and local Transmission Owner of the intention to proceed with a scheduled generator outage and then wait for NYISO and TO authorization to proceed.

1. Notify the NYISO Grid Operations Department after the generator has been removed from service.
2. Before starting the process to restore the generator to service, submit a new bid and confirm the generator commitment.
3. Inform the NYISO Grid Operations Department immediately when any generator is restored to service and of any derated capacity or operational deficiency with the generator. The GO must take appropriate measures to correct the problem as soon as possible.

#### **3.2.3. Inactive Reserves**

A generator which is unavailable to produce Energy for a limited period of time not to exceed six months, for reasons that are not equipment related, as defined in the Market Services Tariff, is considered to be in



Inactive Reserves. Notification shall be provided to the NYISO Scheduling Department and local TO with unit outage no later than 30 calendar days before the first day of the operative TCC month.

***NYISO Actions***

Obtain the following information:

- a. Generator(s) involved in the outage
- b. Reason for the Outage
- c. Start Date/Start Time and End Date/End Time

***Generator Owner Actions***

Report to the NYISO Grid Operations Department the following information:

- a. Generator(s) involved in the outage
- b. Reason for the Outage
- c. Start Date/Start Time and End Date/End Time

**3.2.4. Forced Generator Outages (Full or Partial)**

A forced generation outage is a serious event that can impact power system stability and reliability. Depending on the capacity of the generator(s) affected, the power system can change from normal operational status to an emergency condition. Even if a single generator outage does not cause this effect by itself, it is extremely important that the NYISO knows the correct status of all generators located in the NYCA and/or serving load in the NYCA. In cases where generators suffer a full or partial outage, the following procedure will apply.

A Forced Outage is defined as "An unscheduled inability of a Market Participant's Generator to produce Energy that does not meet the notification criteria to be classified as a scheduled outage or de-rate as established in ISO Procedures." A Generator in a Forced Outage will no longer be ICAP eligible at the end of the month which contains the 180th day from the start date of the Forced Outage unless the Market Participant has Commenced Repair of its Generator. See the Market Services Tariff for a description of the evidence and decision regarding Commence Repair.

See the Market Services Tariff for additional information and criteria.

***NYISO Actions***

1. Obtain the following information about the generation forced outage:
  - a. Generator(s) involved in the outage
  - b. Reason for the full or partial generation outage
  - c. If unit advises it has not been forced offline but is not operating due to economic factors,

advise that a Forced Outage is not the appropriate outage and Generator should advise the NYISO it is in Inactive Reserves.

- d. Any special conditions related to the full or partial generation outage
- e. Start Date/Start Time and End Date/End Time of the generation outage
2. If a Forced Outage is greater than 120 days in duration, request status reports every thirty days from start date, unless no change to report from previous report; request confirmation of return date at 90 days.
3. Change generator status or limits appropriately in the Energy Management System.
4. Assess the post-contingency conditions for thermal, voltage, or stability violations, after being notified by the GO that a generator is out of service or derated. If the NYISO determines that the reliability criteria will be violated as a result of the outage, the NYISO will take appropriate actions to correct the problem.
5. Inform the appropriate TOs.
6. After the generator is returned to service, take the necessary actions to remove restrictions placed on the NYISO monitored facilities.
7. When the generator is restored to normal service, inform the appropriate TOs.

#### **Generator Owner Actions**

1. Inform the Transmission Owner and NYISO Grid Operations Department (through the TO as soon as possible).
2. Determine and report to the NYISO Scheduling Department the following information:
  - a. Generator(s) involved in the full or partial forced outage
  - b. Reason for the full or partial outage
  - c. Any special conditions related to the full or partial outage
  - d. Start Date/Start Time and End Date/End Time of the full or partial outage
3. If a Forced Outage is greater than 120 days in duration, provide status reports every thirty days from start date, unless no change to report from previous report. Provide confirmation of return date at 90 days.
4. If a Forced Outage has an expected return date not before 180 days, provide Repair Plan no later than 120 days from the start date. See the Market Services Tariff for description of a Repair Plan. Market Participant will have to Commence Repair of its Forced Out unit to continue its unit in a Forced Outage beyond the last day of the month in which the 180th

day from the start date falls. See the Market Services Tariff for a description of the evidence and decision regarding Commence Repair.

5. When a generator on full or partial forced outage becomes available for service again, it may submit a new bid in-day for potential commitment in the Real-Time Commitment (RTC), or Special Resource Evaluation (SRE), or Day-Ahead for potential commitment by Security Constrained Unit Commitment (SCUC).
6. Inform the NYISO Grid Operations Department through the TO immediately when any generator is available and of any derated capacity or operational deficiency with the generator.

### **3.2.5. Unscheduled Generator Outages (Full or Partial)**

These procedures apply to GOs supplying (or wishing to qualify for supplying) ICAP to the NYISO, who require unscheduled and unplanned outages that arise due to a generator's auxiliary equipment failure or minor breakdowns. These outages require deratings or partial outages on the generator and do not meet the minimum notification time for scheduled generator outages. The procedure to manage these outages follows:

#### ***NYISO Actions***

1. The NYISO will obtain the following information:
  - a. Reason for the unscheduled generator outage
  - b. Generator(s) involved in the outage
  - c. Any special conditions related to the outage
  - d. Requested Start Date/Start Time and End Date/End Time of the generator outage
2. Based on current generator outage information, perform a reliability assessment to determine capability adequacy.
3. Disapprove and inform the requesting GO if the unscheduled generator outage request will violate reliability criteria.
4. Coordinate a new schedule for the generator outage with the GO, if needed.

#### ***Generator Owner Actions***

1. Notify the NYISO Grid Operations Department through the TO as soon as possible after determining that a generator will require an unscheduled full or partial outage.
2. Determine and report to the NYISO Scheduling Department the following information:
  - a. Generator(s) involved in the full or partial unscheduled outage
  - b. Reason for the full or partial outage

- c. Any special conditions related to the full or partial outage
- d. Start Date/Start Time and End Date/End Time of the full or partial outage
3. Adjust MIS bids to reflect the generator outage:
  - a. For day-ahead analysis, the bids must be adjusted before the closing time for the Day-Ahead Evaluation market.
  - b. For on shift requests, the necessary information must be available at the NYISO Grid Operations Department one hour before the closing time for the next Real-Time Commitment (RTC) evaluation period.
4. Coordinate a new schedule for the generator outage with the NYISO Scheduling Department, if needed.

### **3.2.6. Automatic Voltage Controlling Equipment and Power System Stabilizer Outages**

Automatic voltage controlling equipment (AVCE), could include, but is not limited to, an Automatic Voltage Regulator (AVR) for non-inverter-based resources or inverters capable of automatic voltage control for inverter-based resources, and Power System Stabilizers (PSSs) on generating units play a very important part in maintaining both generator and power system stability during major disturbances. The NYISO requires that the controlling equipment and stabilizers remain in service during such disturbances unless damage to the generator is imminent. The NYISO keeps control and encourages minimization of outages of automatic voltage controlling equipment for maintenance or any other purpose. The following actions describe the procedure for requesting and approving maintenance of (AVCE) and PSSs.

#### ***NYISO Actions***

1. Maintain a log of the AVCE and PSSs taken out of service, and their return to service.
2. Approve AVCE and PSS outage requests for routine maintenance contingent upon the following conditions:
  - a. No more than six AVCE on units greater than 40 MW capability or larger will be allowed out of service simultaneously throughout the NYCA, with a limit of three in the Area east of the Central/East Interface, and three more west of the Central/East Interface.
  - b. No more than one generator PSS that impacts a common Stability Limit will be allowed out of service throughout the NYCA.
3. Deny requests for routine maintenance outages of AVCE and PSSs if these conditions are not met or if power system conditions do not warrant such an outage.
4. Verify the log of AVCE and PSS outages when notified of an Emergency Outage. If the above

conditions are not met with the new outage, take the necessary steps to normalize conditions, including canceling routine maintenance in progress.

***Generator Owner Actions***

1. Coordinate with the NYISO the outage of AVCE and PSSs on generators with 20 MW capability or larger.
2. Maintain strong excitation fields at all times on all generators whose AVCE are out of service.
3. Request permission for routine AVCE and PSS outages from the NYISO Scheduling Department and notify the controlling TO of NYISO approval.
4. Notify the NYISO Grid Operations Department and controlling TO immediately of Emergency Outages of AVCE and PSSs.
5. Coordinate with the NYISO Scheduling Department to reschedule the outage when routine maintenance is denied.

## 4. OUTAGE SCHEDULING POLICY

This section of the manual describes the NYISO's outage scheduling policy.

Under the provisions of the NYISO Agreement, NYISO Tariff, and NYISO Transmission Owner (TO) Agreement, the NYISO is responsible for coordination of all types of outages on the following NYISO monitored facilities:

- Transmission Facilities under NYISO Operational Control
- Transmission Facilities Requiring NYISO Notification
- Generators monitored by the NYISO

Outages of transmission and generation facilities affect the reliability of the power system. Consequently, the NYISO is assigned the responsibility to coordinate outages to maintain reliable operation of the NYS Power System in accordance with Good Utility Practice and the Reliability Rules as established by the New York State Reliability Council (NYSRC).

During times where reliable operation of the grid is at increased risk, the NYISO may issue a Hands Off directive. Hands Off means the NYISO may 1) cancel or recall all or some A1 and A2 transmission facility outages, 2) cancel Hot Line work, In-Service Relay work, or In-Service work on A1 facilities, and 3) recommend TO cancel In-Service Relay work and Hot Line work on A2 facilities for the specified period. This includes but is not limited to periods of forecasted extreme weather condition.

Outages of NYISO monitored facilities refer to outages on all associated equipment including but not limited to:

- Transmission lines and components (conductors, insulators, and structures).
- Generators or DSASP Resources located in the NYCA and/or supplying ICAP to the NYCA. (For more details, see the *NYISO Installed Capacity Manual*, available from the NYISO Web site at the following URL: <https://www.nyiso.com/manuals-tech-bulletins-user-guides>)
- Switching equipment (circuit breakers and all types of switches).
- Voltage control equipment (power transformers, generator AVCE, load tap changers, synchronous condensers, static capacitors, static inductors, and static VAR compensators or SVCs).
- Primary frequency response equipment such as governors or equivalent controls
- Phase angle regulators (PARs) and HVDC converters.
- Power system stabilizers (PSSs).
- Associated monitoring, control and protection equipment.

The specific transmission facilities within the NYCA under the scope of these guidelines and procedures are contained in [Attachment A](#) of this manual.

These lists are updated by mutual consent between the NYISO and the TO. Current lists of these facilities are posted and maintained by the NYISO on its OASIS site.

## 5. EVALUATION, APPROVAL, AND DISSEMINATION OF OUTAGE SCHEDULES

This section of the manual describes processing of Outage Schedules. All scheduled outage requests are evaluated to determine their impact on system reliability and transmission transfer capabilities.

In cases where multiple requested outages are determined to have a substantial effect on the Transmission System but criteria can still be met, the parties may be requested to consider changing Outage Schedules if possible. However, if system reliability cannot be maintained, the NYISO has final authority in denying the outages.

Transmission Owners and Generator Owners must submit their respective Outage Schedules to the NYISO, according to the guidelines and procedures of this manual.

### 5.1. Annual Outage Schedule Information and Documentation Requirements

To plan major outages adequately, the NYISO requires the annual coordination of all known outages that include daily outages scheduled for three or more calendar days in succession for the next calendar year for all transmission facilities under NYISO control and the next two calendar years for generators located in or supplying ICAP to the NYCA. Separate schedules for transmission facilities and generation facilities are maintained by the NYISO.

- **Transmission Facilities:** Each TO is required to submit its annual maintenance transmission facilities schedules for facilities under NYISO control (A1 facilities) prior to October 1<sup>st</sup> of each year. These schedules are reviewed and approved by the NYISO according to the procedures in [section 2](#) of this manual.
- **Generation Facilities Outage Schedules:** Each GO is required to submit its generator Outage Schedules for the next two calendar years by September 1 of the current year to comply with NYISO and NPCC requirements. These schedules are reviewed and in the case of generators supplying ICAP to the NYCA, approved by the NYISO according to the procedures in [section 3](#) of this manual. The NYISO will make available via the TOA outage scheduling system, approved generator outages before December 1st of each year.
- **NYISO Maintenance Load and Capacity Survey:** This report represents a weekly summary of NYISO total generating capacities and reserves, and adequacy studies as affected by scheduled generator outages.

The NYISO is responsible for maintaining continuously updated Transmission Facilities Outage Schedules and Generation Facilities Outage Schedules for the current and next calendar year.

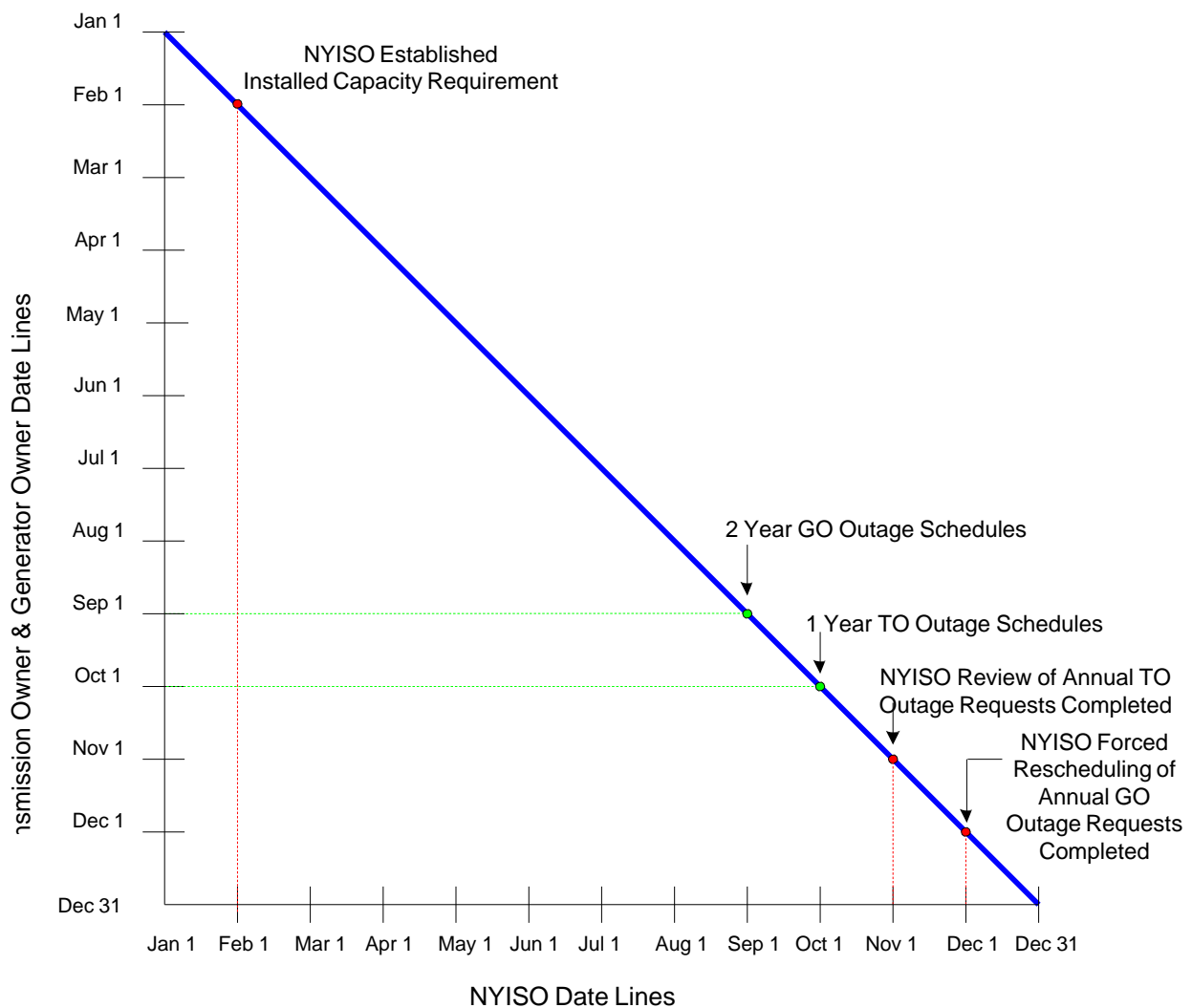


The NYISO revises and issues the Outage Schedule at least quarterly, or more frequently, if major changes occur.

Upon NYISO approval of the transmission outage schedules, these are transmitted to all Market Participants via the OASIS system per NPCC requirements.

Figure 1 shows the datelines required for the different reports or schedules to be posted or submitted by TOs and GOs.

**Figure 1: Annual Outage Schedules Time Line**



## 5.2. Schedule Changes

The NYISO has procedures to evaluate and coordinate changes to the approved schedule on a day-to-day basis. Any changes to the Outage Schedules by either TOs, GOs, or the NYISO will require a review of the affected Outage Schedule, and, if necessary, a revised schedule will be reissued and posted by the NYISO.

To allow the NYISO enough time to make these evaluations and coordinate any necessary changes, minimum advance notice times are enforced. If system reliability and transfer criteria can be met, the outage is approved and posted accordingly. If the criteria cannot be met, again, the NYISO reschedules the outage in coordination with the requesting party.

## 5.3. Transmission and Generation Evaluation and Approval Process

This section describes how transmission and generator outage notifications are processed together with a timeline that summarizes the steps in this process. At a higher level, the process:

- Predefines conflicting transmission and generation outages, when possible, and
- Establishes priority of outage approval based on the nature of the work requested.

### ***Critical Outages***

Critical outages are defined as:

1. Transmission facility outages that may not be allowed with certain transmission or generator outages in order to meet reliability requirements.
2. Generator outages that may not be allowed with certain transmission or generator outages in order to meet reliability requirements. These critical generator outages will be initially determined from the Local TO applications of the Reliability Rules document and LRR rules.

All outages, both critical and non-critical, will be scheduled according to the priority and notification procedures described in this section.

### ***Priority of Outage Approval***

The priority of transmission and generator outage approval is based on the order requested within the following groups:

1. **Unscheduled Trouble Work:**
  - a. **Unscheduled Trouble Work** will be given priority over conflicting Routine Maintenance (greater than 16 calendar days duration or less than or equal to 16

calendar days duration, approved or unapproved).

2. Routine Maintenance:
  - a. Outage duration greater than 16 calendar days will be given priority over conflicting unapproved outages that are less than or equal to 16 calendar days.
  - b. Outages, regardless of expected duration, once approved, cannot be displaced by other Routine Maintenance. Applies to Transmission Facilities under NYISO Operational Control and Transmission Facilities Requiring NYISO Notification.
  - c. Approved Routine Maintenance outages cancelled due to system conditions (including Unscheduled Trouble Work) will retain their request submit date when determining first come first serve priority versus other conflicting unapproved outages.

The order of approval within subparts 1 and 2 above is based on the first come first served concept and is honored for generation and transmission outages. Outages will be approved in the order received.

#### ***Notification and Approval Timeline***

The current timeline is illustrated by Figure 3 and is summarized as follows.

Transmission Owner/NYISO response to outages is driven by request advance notice, Start Date/Start Time, and End Date/End Time of the outage:

1. Requests submitted 150 calendar days and greater before the outage start date will be responded to by 90 calendar days before the outage start date.
2. Requests submitted between 150 and 120 calendar days before the outage start date will be responded to within 60 calendar days of the request submit date.
3. Requests submitted between 120 and 90 calendar days before the outage start date will be responded to by 60 calendar days before the outage start date.
4. Requests submitted between 90 and 44 calendar days before the outage start date will be responded to within 30 calendar days of the request submit date.

#### ***Outage Request Duration > 7 days***

1. Requests submitted between 44 and 32 calendar days before the outage start date will be responded to within 30 calendar days of the request submit date.
2. Requests submitted between 32 and 2 calendar days before the outage start date will be responded to by 2 calendar days before the outage start date.

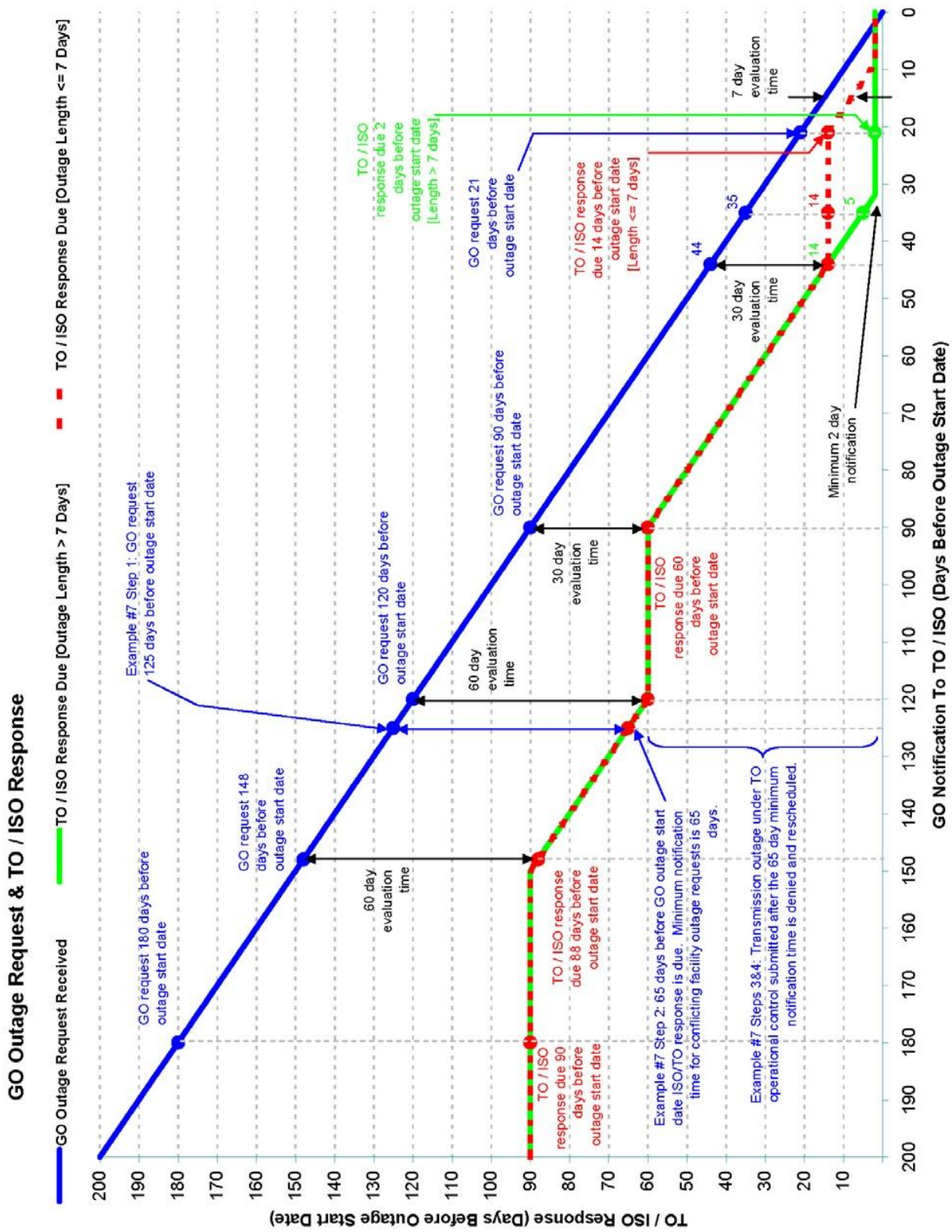
**Outage Request Duration <= 7 days**

1. Requests submitted between 44 and 21 calendar days before the outage start date will be responded to within 14 calendar days of the outage start date.
2. Requests submitted between 21 and 9 calendar days before the outage start date will be responded to by 7 calendar days of the submit date.
3. Requests submitted between 9 and 2 calendar days before the outage start date will be responded to by 2 calendar days before the outage start date.
4. A generator outage request may be denied by either the NYISO or local TO if the outage would violate established reliability criteria. Denial of an outage request is to be accompanied by a reason and alternate date. Outages resubmitted for the alternate date will be approved.
5. Outage approval notification will be sent to the GO by the NYISO after both the NYISO and local TO have approved the request.
6. Outage requests submitted with less than the TO/NYISO minimum evaluation time may be denied due to insufficient evaluation time. Minimum evaluation time is 30 calendar days for outages greater than or equal to 7 days in duration, and 7 calendar days for outages less than 7 days in duration.
7. A previously approved TO or GO outage may be rescheduled with agreement by all parties.
8. These notification time requirements apply to all Transmission Facilities Requiring NYISO Notification, but do not give the NYISO operational control over Transmission Facilities Requiring NYISO Notification.

**Figure 2: Outage Request & ISO/TO Response Rules**

Outage Request Duration (Days)	GO Request Before Outage (Days)	ISO/TO Response Before Outage Start (Days)	ISO/TO Response After Request (Days)
-	> 150	90	> 60
-	150 - 120	90 - 60	60
-	120 - 90	60	60 - 30
-	90 - 44	60 - 14	30
> 7 Days	44 - 32	14 - 2	30
>7 Days	32 - 2	2	30 - 0
<= 7 Days	44 - 21	14	30 - 7
<= 7 Days	21 - 9	14 - 2	7
<= 7 Days	9 - 2	2	7 - 0

Figure 3: GO Outage Request & TO / ISO Response



## 6. OUTAGE SCHEDULING SOFTWARE

This section of the manual describes the software to process outage schedules. The NYISO is in the process of developing and implementing software to enhance the existing user interfaces and better facilitate the outage scheduling process. Until this work is completed, the NYISO will process Outage Schedules as efficiently as conditions permit. The following list of eight items describes the planned additional software functionality:

1. Authorized users will be able to submit generation and transmission outage requests via a Web interface.
2. The current status of a transmission/generation outage will be available to all affected parties (GO and TO) as appropriate, for example:
  - a. Submitted
  - b. Received
  - c. Evaluating
  - d. TO Approved
  - e. NYISO Approved.
3. Notification of outage approval will be made via electronic means, such as e-mail or the Web interface.
4. Reason for denial will be included in the outage status notification.
5. All approved transmission outages will be posted to OASIS.
6. Efficient means to review, update, and make available current *Outage Scheduling Manual* Attachment A information.
7. Allow the TO requesting a transmission outage to specify the outage is for “Other TO.”
8. The processing of outage requests and responses will be automated to the practical extent feasible.

The Outage Scheduler is used by the NYISO to keep track of scheduled equipment outages in the modeled network. This software, based on the current production system, provides a user interface for entering equipment Outage Schedules, as well as reviewing existing schedules. It comprises both offline and online systems.

## **6.1. Transmission Facilities Outage Scheduling Reports**

The following sections describe the different reports produced by the NYISO during the outage scheduling process.

### **6.1.1. Daily Outage Schedules**

The NYISO produces this report and posts it daily on OASIS. It contains a day-to-day summary of all approved Outage Schedules for at least the next 30 calendar days. This report lists the following information:

- Equipment name
- Equipment identification
- Outage type for each day scheduled

### **6.1.2. Transfers Limitations Report**

As part of the outage scheduling activities, the NYISO posts the Transfer Limitations Report to OASIS every calendar day. This report covers the scheduled NYISO monitored outages for the next one and one half years and their anticipated impact on the power system. This report summarizes:

- Scheduled outages
- Affected NYISO monitored interfaces and OASIS transmission paths
- Outage impact of affected OASIS transmission paths
- All lines in service capability of the OASIS transmission paths.

### **6.1.3. Outage Notifications to Transmission Owners**

The NYISO issues outage notifications to TOs every calendar day via email or other available means. These notifications cover all requested outages affecting each individual TO. Each such notification highlights the following information:

- NYISO approved outages and other outages scheduled by all TOs or other control areas.
- Canceled outages for the given TO.
- Updated outages for the given TO.

### **6.1.4. Daily Outage Schedules for the NYISO Control Center**

This is the NYISO Daily Schedule Outage Summary internal report distributed daily to its Power Control Center with the scheduled outages for the next calendar day. This report lists the following



information:

- Scheduled Start Date/Start Time
- Scheduled End Date/End Time
- Equipment Name
- From and To Bus Names
- Equipment Voltage
- Transmission Owner
- Purpose of the Outage

## Attachment A. NYISO Facilities Requiring Coordination and Notification

This attachment is available at the link provided below. It can also be found by going to the Outage Scheduling Manual located in the Manuals>Operations folder on the NYISO Manuals & Guides Web site:

<https://www.nyiso.com/manuals-tech-bulletins-user-guides>

## Attachment B. Example Schedules for Generator Outages

Attachment B contains the following information:

- [Table B.1](#): Generator Annual Maintenance Schedule
- [Table B.2](#): Single Occurrence Generator Outage

**Table B.1: Generator Annual Maintenance Schedule**

<b>COMPANY: Generator Operating Co.</b> <b>CONTACT: Janet Doe</b> <b>TELEPHONE: 765-234-9876</b>									
<b>GENERATOR ANNUAL MAINTENANCE SCHEDULE</b> <b>REMAINING CURRENT YEAR OUTAGE SCHEDULE</b>									
	MIS UNIT NAME	PTID	UNIT MW SIZE	DERATE TO MW	SUBZONE	START DATE/TIME	END DATE/TIME	REASON	REVISION(Y/N), DETAILS
1.	GEN A	32695	35.0	0.0	NVIPC MV	Oct. 6, 00:00	Oct. 12, 23:59	Annual Maintenance	N
2.	GEN B	34746	50.0	0.0	CON ED NY CITY	April 10, 00:00	April 13, 23:59	Annual Maintenance	Y, replaces May 15-18, 2001
3.	GEN C	32634	100.0	50.0	CON ED NY CITY	July 3, 00:00	July 6, 23:59	Unit 1 Boiler	N
4.	GEN C	32634	100.0	50.0	CON ED NY CITY	Aug. 15, 00:00	Aug. 18, 23:59	Unit 2 Boiler	N
5.	GEN D	33742	60.0	30.0	CEN HUD MV	June 12, 00:00	June 14, 23:59	Re-tubing Unit 1	N
6.	GEN D	33742	60.0	30.0	CEN HUD MV	Sept. 20, 00:00	Sept. 22, 23:59	Re-tubing Unit 2	Y, replaces July 10-12, 2001
7.	GEN E	31960	75.0	0.0	RGE GENESEE	Nov. 14, 08:00	Nov. 17, 17:00	Annual Maintenance	N
8.	GEN F	31324	50.0	0.0	NYSEG WEST	May 10, 00:00	May 16, 23:59	Annual Maintenance	N
9.									
10.									
CURRENT YEAR + 1 YEAR OUTAGE PROJECTION									
	MIS UNIT NAME	PTID	UNIT MW SIZE	DERATE TO MW	SUBZONE	START DATE/TIME	END DATE/TIME	REASON	REVISION(Y/N), DETAILS
1.	GEN A	32695	35.0	0.0	NVIPC MV	Oct. 8, 00:00	Oct. 14, 23:59	Annual Maintenance	N
2.	GEN B	34746	50.0	0.0	CON ED NY CITY	April 12, 00:00	April 15, 23:59	Annual Maintenance	N
3.	GEN C	32634	100.0	0.0	CON ED NY CITY	May 6, 00:00	May 12, 23:59	Annual Maintenance	N
4.	GEN D	33742	60.0	0.0	CEN HUD MN	June 14, 00:00	June 20, 23:59	Annual Maintenance	N
5.	GEN E	31960	75.0	0.0	RGE GENESEE	Sept. 28, 00:00	Oct. 2, 23:59	Annual Maintenance	Y, replaces Nov 16-20, 2001
6.	GEN F	31324	50.0	0.0	NYSEG WEST	May 12, 00:00	May 18, 23:59	Annual Maintenance	N
7.									
8.									
CURRENT YEAR + 2 YEAR OUTAGE PROJECTION									
	MIS UNIT NAME	PTID	UNIT MW SIZE	DERATE TO MW	SUBZONE	START DATE/TIME	END DATE/TIME	REASON	REVISION(Y/N), DETAILS
1.	GEN A	32695	35.0	0.0	NVIPC MV	Oct. 14, 00:00	Oct. 20, 23:59	Annual Maintenance	N
2.	GEN B	34746	50.0	0.0	CON ED NY CITY	April 14, 00:00	April 17, 23:59	Annual Maintenance	N
3.	GEN C	32634	100.0	0.0	CON ED NY CITY	April 6, 00:00	April 12, 23:59	Annual Maintenance	N
4.	GEN D	33742	60.0	0.0	CEN HUD MN	June 16, 00:00	June 22, 23:59	Annual Maintenance	N
5.	GEN E	31960	75.0	0.0	RGE GENESEE	Nov. 18, 08:00	Nov. 21, 23:59	Annual Maintenance	N
6.	GEN F	31324	50.0	0.0	NYSEG WEST	May 15, 00:00	May 20, 23:59	Annual Maintenance	N
7.									
8.									

**Table B.2: Single Occurrence Generator Outage**

Item	Information Required	Example Provided
1.	MIS Generator Name	Generator_ABC
2.	Generator Point Identifier (PTID)	12345
3.	Generator DMNC	150.0 MW
4.	Derated to MW	0.0 MW
5.	Generator Owner Name	Generator Operating Co.
6.	Transmission Owner Sub zone	NMPC Mohawk Valley
7.	Reason for the Outage	CI & first Stage Overhaul
8.	Start Date/Start Time of Outage	01/14/2007 00:00
9.	End Date/End Time of Outage	01/20/2007 23:59
10.	Name and Telephone Number of the Person Reporting the Outage Schedule	John Doe, Phone: 555-345-6789
11.	Does this outage replace or modify an existing outage on record? (Y/N)	Y
12.	Details if yes:	Replaces outage originally scheduled for start 01/07/2007 00:00 and end 01/14/2007 23:59.

## Attachment C. Notification and Approval Timeline

Attachment C contains outage scheduling examples.

**Table C.1: Outage Scheduling Examples**

Step	Example #1	Event Date	Submit Date	Start Date/Time	End Date/Time	Advance Notice (Days)	Duration (Days)	ISO/TO Response Due
1	9 day duration generation outage submitted 165 days in advance of the outage start	9/25/07	9/25/07	3/8/08	3/16/08	165	9	12/9/07
2	19 day duration transmission outage submitted 159 days in advance of the outage start (conflicts with step 1 outage)	10/3/07	10/3/07	3/10/08	3/28/08	159	19	12/11/07
3	90 days before the generation outage (<=16 days) starts NYISO and TO response is due. The generation outage was submitted first but conflicts with the transmission outage (>16 days), both are in the Routine Maintenance category. Generation outage is denied and rescheduled.	12/9/07						
4	90 days before the transmission outage starts NYISO response is due.	12/11/07						
Step	Example #2	Event Date	Submit Date	Start Date/Time	End Date/Time	Advance Notice (Days)	Duration (Days)	ISO/TO Response Due
1	24 day duration generation outage submitted 165 days in advance of the outage start	9/25/07	9/25/07	3/8/08	3/31/08	165	24	12/9/07
2	19 day duration transmission outage submitted 159 days in advance of the outage start (conflicts with step 1 outage)	10/3/07	10/3/07	3/10/08	3/28/08	159	19	12/11/07
3	90 days before the generation outage (>16 days) starts the NYISO and TO response is due. The generation outage was submitted first and conflicts with the transmission outage (>16 days), both are in the Routine Maintenance category, both are >16 days duration. Generation outage is approved.	12/9/07						
4	90 days before the transmission outage (>16 days) starts the NYISO response is due. A conflicting generation outage has been requested 1st and approved. The transmission outage is denied and rescheduled.	12/11/07						

Step	Example #3	Event Date	Submit Date	Start Date/Time	End Date/Time	Advance Notice (Days)	Duration (Days)	ISO/TO Response Due
1	24 day duration generation outage submitted 165 days in advance of the outage start	9/25/07	9/25/07	3/8/08	3/31/08	165	24	12/9/07
2	90 days before the generation outage (>16 days) starts the NYISO and TO response is due. The generation outage does not conflict with anything and is approved.	12/9/07						
3	4 day duration transmission outage submitted 3 days in advance - for Trouble Work (conflicts with step 1 outage)	3/5/08	3/5/08	3/8/08	3/11/08	3	4	3/6/08
4	2 days before the transmission outage (Trouble Work) starts the NYISO response is due. A conflicting generation outage has been requested 1st and been approved by NYISO and TO. The generation outage is cancelled and rescheduled. The transmission outage approved.	3/6/08						

*Note: Requesting equipment out for Trouble Work does not change the minimum notification requirements.*

Step	Example #4	Event Date	Submit Date	Start Date/Time	End Date/Time	Advance Notice (Days)	Duration (Days)	ISO/TO Response Due
1	24 day duration transmission outage submitted 165 days in advance of the outage start	9/25/07	9/25/07	3/8/08	3/31/08	165	24	12/9/07
2	90 days before the transmission outage (>16 days) starts the NYISO response is due. The transmission outage does not conflict with anything and is approved.	12/9/07						
3	4 day duration generation outage submitted 3 days in advance - for Trouble Work (conflicts with step 1 outage)	3/5/08	3/5/08	3/8/08	3/11/08	3	4	3/6/08



4	2 days before the generation outage (Trouble Work) starts the NYISO response is due. A conflicting transmission outage has been requested 1st and been approved by NYISO. The transmission outage is cancelled and rescheduled. The generation outage approved.	3/6/08							
---	---	--------	--	--	--	--	--	--	--

*Note: Requesting equipment out for Trouble Work does not change the minimum notification requirements.*

Step	Example #5	Event Date	Submit Date	Start Date/Time	End Date/Time	Advance Notice (Days)	Duration (Days)	ISO/TO Response Due
1	9 day duration generation outage submitted 116 days in advance of the outage start	11/20/07	11/20/07	3/15/08	3/23/08	116	9	1/15/08
2	60 days before the generation outage (<=16 days) starts the NYISO and TO response is due. The generation outage does not conflict with anything and is approved.	1/15/08						
3	25 day duration transmission outage submitted 36 days in advance (conflicts with step 1 outage)	1/31/08	1/31/08	3/7/08	3/31/08	36	25	3/1/08
4	Step 3 outage (>7days duration submitted <90 days in advance ---> maintains sliding scale 30 day evaluation period) response from NYISO is due 6 days before the start of the outage.	3/1/08						
5	Step 3 outage (>16 days) is denied and rescheduled because although it is a higher category of Routine Maintenance, the conflicting outage in step 1 has already been approved.							

*Note: Response time lines do not reduce minimum notification requirements.*

Step	Example #6 (Recognizing TO Operational Control)	Event Date	Submit Date	Start Date/Time	End Date/Time	Advance Notice (Days)	Duration (Days)	ISO/TO Response Due
1	30 day duration generation outage submitted 125 days in advance of the outage start.	11/20/08	11/20/08	3/25/09	4/23/09	125	30	1/19/09
2	65 days before the generation outage starts the NYISO and TO response is due. Any facility outage that conflicts with the previously submitted generator outage requested in Step 1 must be submitted to the ISO by the ISO/TO Response Due Date. Denial of the generator outage due to the conflict with the facility outage must be submitted to the ISO by the ISO/TO Response Due Date along with the reason for the conflict and alternate dates. Otherwise the generator outage is approved.	1/19/09						
3	5 day duration transmission outage under TO operational control is submitted to the NYISO 65 days in advance of the outage start which conflicts with the generation outage submitted in Step 1. TO denies generator outage due to conflict with transmission outage under TO operational control. TO provides reason for the conflict to the NYISO. TO provides alternate dates for generator outage of 3/30/09 - 4/28/09.	1/19/09	1/19/09	3/25/09	3/29/09	65	5	
4	Step 1 generation outage is denied and offered the reschedule dates in step 3 because although the generation outage was submitted first, the conflicting transmission equipment is under TO operational control and the TO has met the notification requirement set by the generation outage request NYISO/TO Response Due Date of 1/19/09.	1/19/09						

Step	Example #7 (Recognizing TO Operational Control)	Event Date	Submit Date	Start Date/Time	End Date/Time	Advance Notice (Days)	Duration (Days)	ISO/TO Response Due
1	30 day duration generation outage submitted 125 days in advance of the outage start.	11/20/08	11/20/08	3/25/09	4/23/09	125	30	1/19/09
2	65 days before the generation outage starts the NYISO and TO response is due. Any facility outage that conflicts with the previously submitted generator outage requested in Step 1 must be submitted to the NYISO by the NYISO/TO Response Due Date. Denial of the generator outage due to the conflict with the facility outage must be submitted to the NYISO by the NYISO/TO Response Due Date along with the reason for the conflict and an alternate date. Otherwise the generator outage is approved.	1/19/09						
3	5 day duration transmission outage under TO operational control is submitted to the ISO 4 days in advance of the outage start, which conflicts with the generation outage submitted in Step 1 and approved in Step 2.	3/21/09	3/21/09	3/25/09	3/29/09	4	5	3/23/09
4	Step 3 transmission outage is denied and rescheduled because although the transmission equipment is under TO operational control, the notification requirement determined by the conflicting generation outage request NYISO/TO Response Due Date of 1/19/09 was not met.	3/23/09						