New York ISO
Independent System Operator

UG 10

Outage Scheduler
User's Guide

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Revision History

Version	Effective Date	Revisions
1.0	10/15/2009	Initial Release
1.1	01/14/2010	Section 2.2 ➤ Updated link for accessing the *NYISO Market Participant User's Guide* secondary to NYISO Web site redesign. Section 2.3 ➤ Revised instructions and screenshots related to accessing the Outage Scheduler (iTOA) System secondary to NYISO Web site redesign. ➤ Added new screenshot as Figure 2-2 to illustrate new means of accessing the Outage Scheduler (iTOA) System secondary to NYISO Web site redesign, resulting in re-numbering of all subsequent figures within section 2. Section 3.3 ➤ Within the description of the Contact tab, clarified the source of default contact information (name, email, phone).
1.2	05/06/2011	Section 1.2 ➤ Removed note stating application was not available to TOs yet. Section 2.2 ➤ Added TO roles Section 2.3 ➤ Added TO Main Menu Section 3 ➤ Replaced all Generation screens with updated screens ➤ Added TO User Interface section 3.2 Section 4 ➤ Added TO and NYISO Approved Status Conditions Section 5 ➤ Added TO and NYISO Approved Action Buttons Section 6 ➤ Added TO Outage Request Process Flow Section 7 ➤ Added TO Outage Request List Section 8 ➤ Added TO Pending Request List Section 9 ➤ New – Added Uploading Outage Requests
2.0	10/10/2013	Table of Tables ➤ Added tables

		Section 1 ➡ Removed the word Generator from Section 8 ➡ Added Section 9 Section 1.4 ➡ Replaced Customer Service with Stakeholder Services Section 2.2 ➡ Replaced Customer Service with Stakeholder Services Section 2.3 ➡ Updated Figure 2-3 Section 3.1.3 ➡ Updated all Generation screens to include the Complete Status in the Status Bar Section 4.1 ➡ Added Completed to Request States Section 5.1 ➡ Added Figure 5-2 ➡ Added the Complete Button to the list of Action Buttons Section 6.1 ➡ Updated Figure 6-2 with Complete State Section 9.1 ➡ Added captions to figures Section 9.1.1.2 ➡ Added captions to tables ➡ Updated Table 9-1 with Complete Status Section 9.1.2.4 ➡ New – Added Completing a GO Outage Request Section 9.1.4.1 ➡ Added captions to figures and tables Section 9.1.4.2 ➡ Added caption to table ➡ Updated Table 9-4 with Complete Status Section 9.1.4.3 ➡ Added caption to table ➡ Updated Table 9-5 with Complete Status Section 9.1.5 ➡ Added captions to figures Section 9.2 ➡ New – Added TO Upload information Appendix A ➡ Added Acronyms

3.0	09/13/2016	Complete rewrite for transition to iTOA.
3.0	08/22/2018	Recertified
3.0	08/07/2020	Recertified Global ► Replaced screenshots ► Updated hyperlinks
3.1	10/11/2022	Recertified Global ► Updated for new Outage Management System (OMS) application
3.2	05/03/2023	Addition of section 10.2 Transmission and Generation Upload Introduction
4.0	12/20/2023	Updated software specifications section and added GOCP UG link in section 1.1.
4.1	08/14/2024	Recertified Global ► Corrected document formatting ► Updated Table of Figures

1. Introduction

This user guide is intended for Market Participants (MPs) and Transmission Owners (TOs) who are users of the NYISO Outage Scheduler (OMS) System. This user guide has been organized in the following fashion:

- [Section 1](#) serves as a general introduction.
- [Section 2](#) describes the hardware and software requirements to access the Outage Scheduler (OMS) System.
- [Section 3](#) describes how to create an outage request using the Outage Scheduler (OMS) System.
- [Section 4](#) describes the outage request status condition for the lifespan of an outage request.
- [Section 5](#) describes the actions available throughout the lifespan of an outage request.
- [Section 6](#) describes the process flow for an outage request lifespan.
- [Section 7](#) describes the Outage Request List report.
- [Section 8](#) describes the Pending Request List report.
- [Section 9](#) describes the Conflict Calendar.
- [Section 10](#) describes the Uploading Outage Request process.

1.1. Definition of an Outage Request

A generator outage request is a request by a Generation Owner (GO) to perform maintenance that impacts a generating unit. This can be in-service maintenance or removing equipment from service causing a unit outage or a derate.

A transmission outage request is a request by a Transmission Owner (TO) to perform maintenance that impacts a transmission facility. This can be in-service maintenance or removing a transmission facility from service for maintenance.

Outage scheduling procedures unique to Aggregations are managed through the Grid Operations Coordination Portal (GOCP). For information on Aggregation outage scheduling, please refer to the [Grid Operations Coordination Portal User's Guide](#) posted on NYISO website under Library, and then Manuals, Tech Bulletins, & Guides.

1.2. Description of the Outage Scheduler (OMS) System

The Outage Scheduler (OMS) System is a user-friendly, secure, Web-based application. The Outage Scheduler (OMS) System includes features that support the requirements to schedule an outage request or in-service test.

1.3. Outage Scheduler (OMS) System Users

The community of users for the Outage Scheduler (OMS) System are NYISO personnel and Market Participants.

1.4. Obtaining Help and Handling Error Messages

When help is required while using the Outage Scheduler (OMS) System software, please contact your Stakeholder Services Representative.

Error messages may appear occasionally while using this software. These messages will be displayed in a pop-up window with information about the error. After reading the message, close the window and proceed. If additional help or information is needed, please contact your Stakeholder Services Representative.

Additionally, there is a Help icon within the OMS application if you require further OMS support.

When the user hits the Help icon; a separate window will be presented:
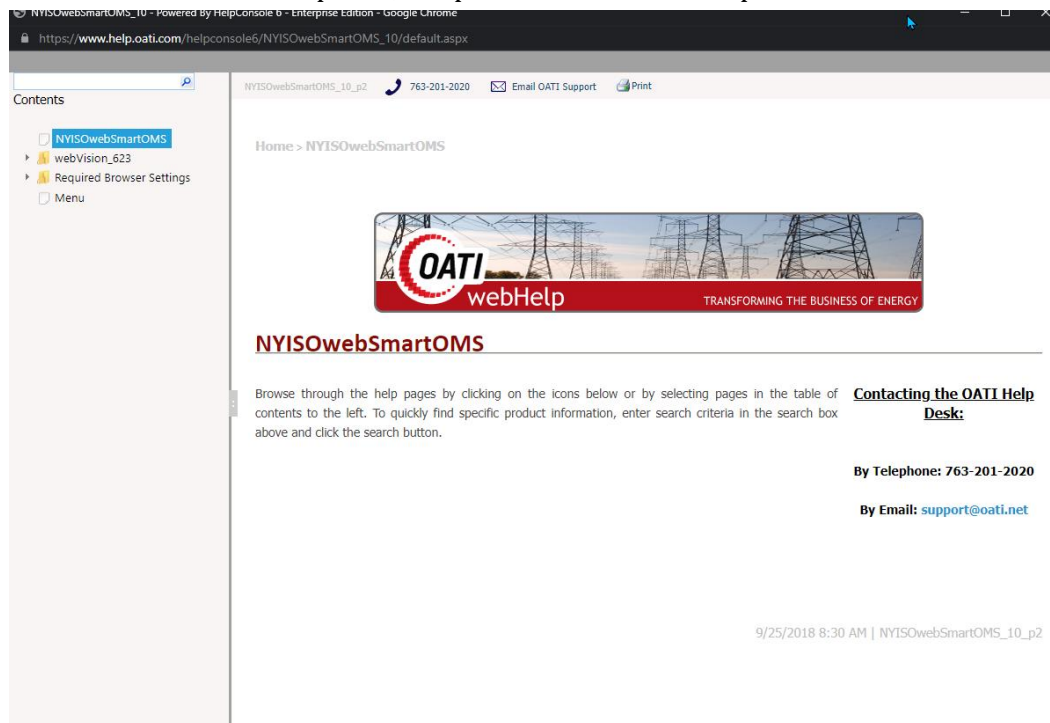
Users can use the Search feature or menu in the panel on the left to find content to review:

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2. User Requirements

The computer requirements for the user to run the Outage Scheduler (OMS) System are described in this section.

2.1. Computer Hardware and Software

The following are required to run the Outage Scheduler (OMS) System:

2.1.1. Hardware Specifications

	Recommended	Optimal
Graphics Memory (GPU)	512 MB of GDDR4 or higher	2GB GDDR5 or higher
Processor	(4 MB cache, 4 cores, 4 threads) or higher	(6 MB cache, 4 cores, 8 threads) or higher
RAM	8 GB	16 GB
HDD	SSD	M.2 SSD

2.1.2. Software Specifications

Product	Required
Operating System	64-bit
Browser	Google Chrome 96 or higher[2] Microsoft Edge 96 or higher[2] Mozilla Firefox - x64 - 96 or higher[2]
CSV	Spreadsheet application
PDF	PDF Reader

2.1.3. Network Specifications

	Recommended	Optimal
Network Connectivity	T1 internet connection	OATInet or other private network connection

2.2. Digital Certificates and MIS Privileges

All users must have a valid digital certificate installed on their respective computers and specific to their respective browsers to access the NYISO Outage Scheduler (OMS) System.

For more information on digital certificates (including applying, exporting, obtaining installing, and validating), please see the *NYISO Market Participant User's Guide,* available from the NYISO Web site at the following URL:

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

Existing MIS accounts need to be set-up with OMS privileges. At the organization level, this must be done by the NYISO. Once the organization is set up with the necessary privileges, the organization's MIS Administrator may then assign OMS privileges at the user level. If the MIS does not reflect the **OMS – GO OBSERVER, OMS – GO SCHEDULER, OMS – TO OBSERVER,** or **OMS – TO SCHEDULER** privileges in the **Privileges** area of the Organization Details display for your organization, contact the NYISO Stakeholder Services group as outlined in the section of the *NYISO Market Participant User's Guide* on Changing Privileges/Authorizations, Contact Information, and Classifications.

2.3. Logging in to the Outage Scheduler (OMS) System

Some screenshots in this user's guide were captured after resizing the application's window. This may have caused the application to wrap within the window and appear slightly different as compared to viewing in a fully sized browser window. Some screenshots were cropped for ease of presentation.

When opening a report your internet software may cause a new tab to open within the browser. In this case, the user may close the tab and will remain logged in to the system.

⌨ *To log in to the Outage Scheduler (OMS) System – MPs*

To access the Outage Scheduler (OMS) System, the user must have OMS privileges.

1. Point your browser to the NYISO Home page at www.nyiso.com (see Figure 1).

Figure 1: NYISO Home Page

2. On the NYISO Home page, position your mouse over the **Markets & Operations** header. The header expands to list related categories of information (see Figure 2).

Figure 2: Expanded NYISO Markets & Operations Header Highlighting _Market Access Login_ Link
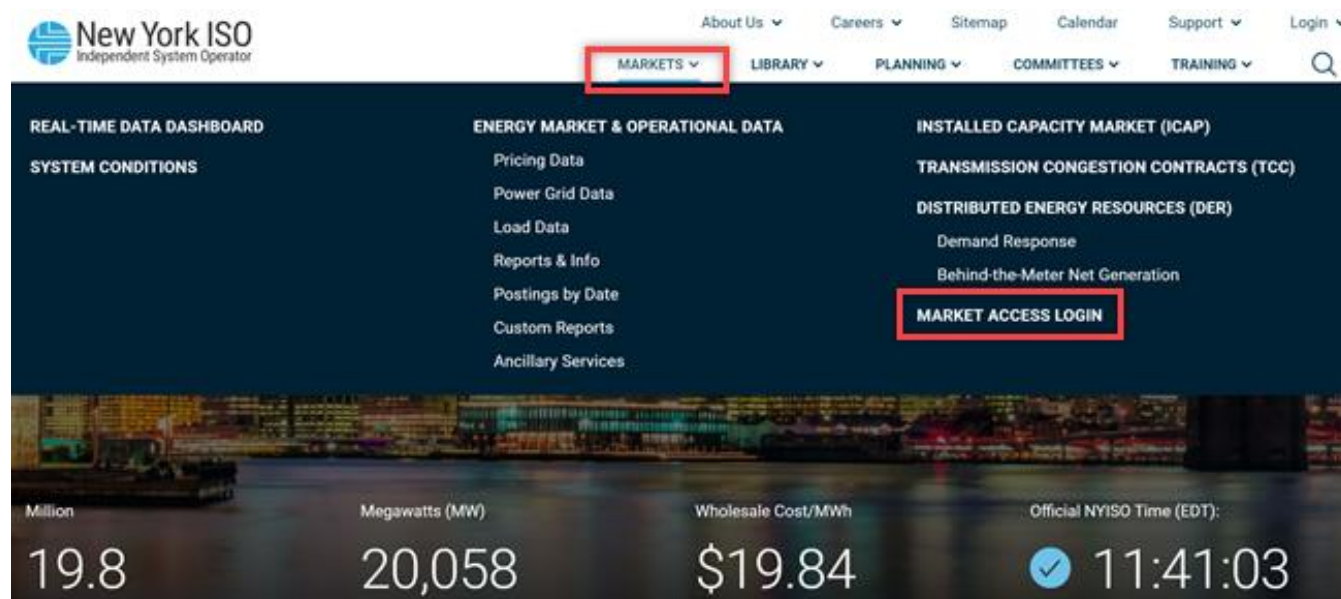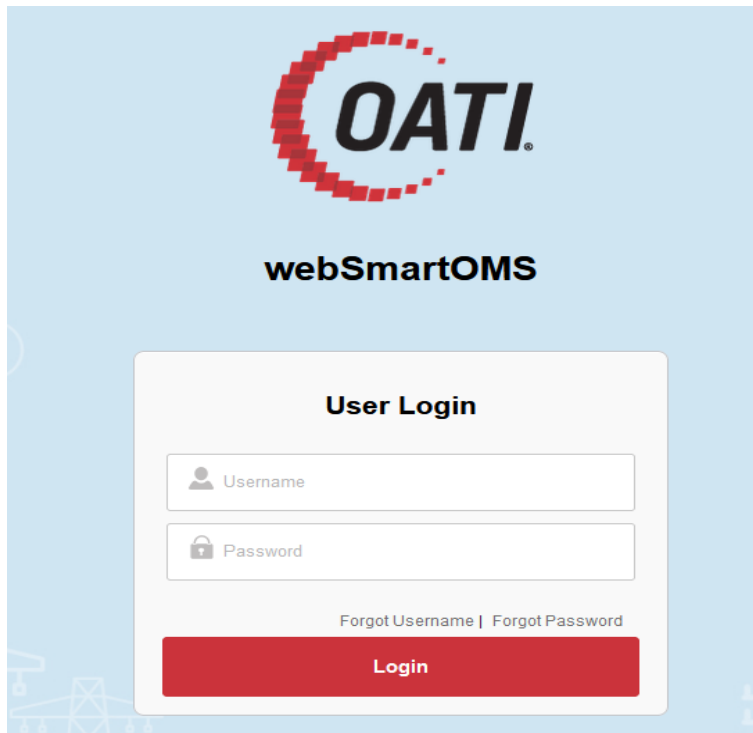
3. Under the **Market & Operational Data** category in the displayed list, activate the **Market Access Login** link (see Figure 2). The Market Access Login Web page is displayed (see Figure 3).

Figure 3: Market Access Login Web Page Highlighting _User Login_ Link for the Outage Scheduler (OMS) System
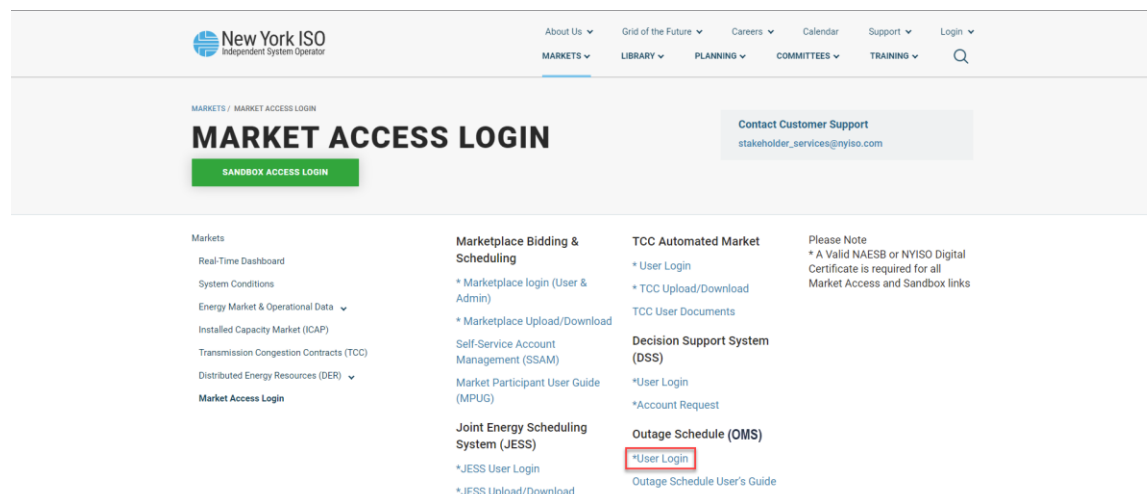
4. Under the **Outage Schedule (OMS)** heading, choose **User Login**.

    The Outage Scheduler Login page is displayed (as shown in Figure 4).

Figure 4: NYISO Outage Scheduler (OMS) Login Page

5. In the corresponding fields, type your MIS **Username** and **Password**.

    The password is case sensitive.

6. Activate the **Login** button.

    By default, following login, the Outage Scheduler Main Menu is displayed (as shown in Figure 5 and Figure 6, following). Depending on the role(s) assigned to your Username you will be presented with either a Generation Main Menu or a Transmission Main Menu.

Figure 5: NYISO Outage Scheduler (OMS) Dashboard (TO)
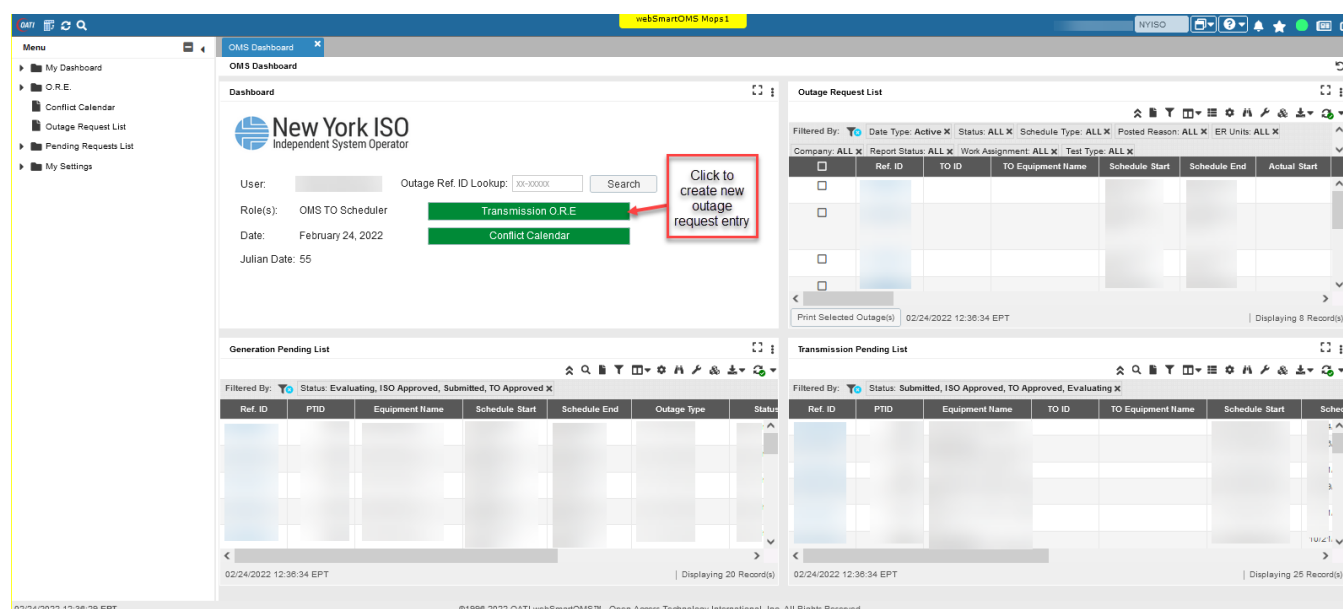
Figure 6: NYISO Outage Scheduler (OMS) Dashboard (GO)
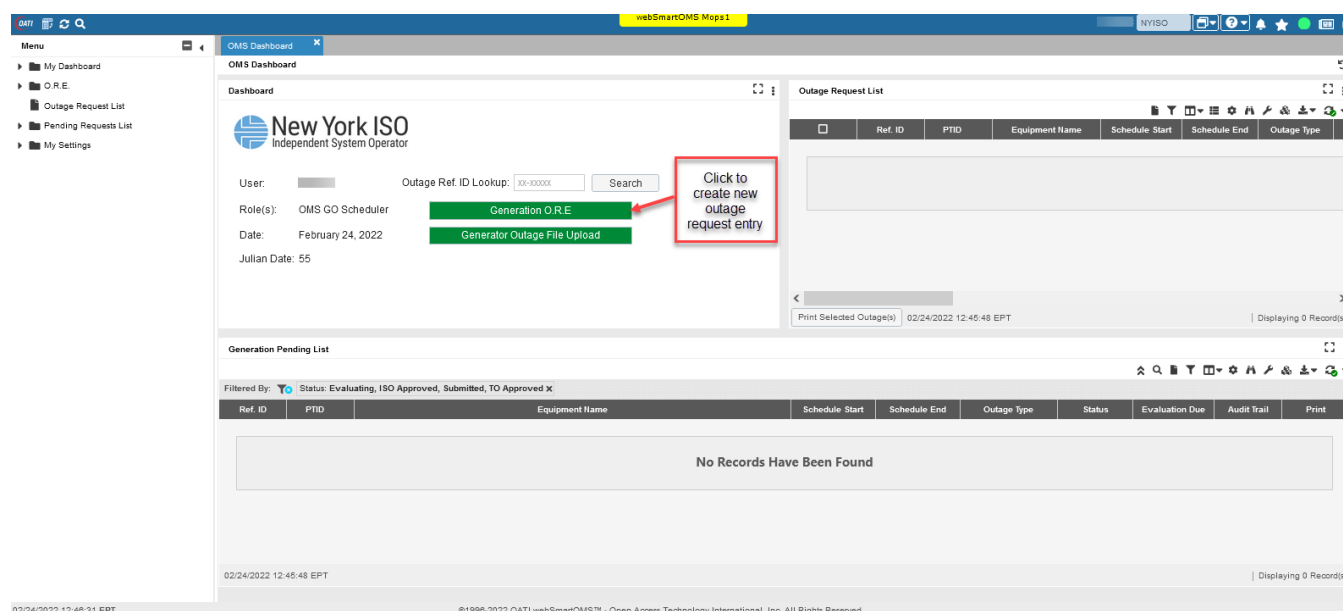
From this menu you can access the Web forms to create a new outage request, produce a list of all outage requests, produce a list of requests having the status of Submitted or Evaluating, use of a transmission outage conflict calendar and upload generation outage requests.

3. New Outage Request

There are substantial differences between the Outage Request Entry pages for a generation outage request and a transmission outage request. For these reasons, the requests are discussed separately. The Generation Outage Request Entry is covered in Section 3.1 and the Transmission Outage Request Entry is covered in Section 3.2.

3.1. New Outage Request (Generation)

3.1.1. Generation Outage Request Entry Process

The user may access a new Outage Request Entry from the OMS Dashboard (refer to Figure 6). The user enters information on the General tab and Schedule tab before selecting the Create Action thus "Creating" the request. All required information must be entered before the user can proceed with submission. After creation of the outage the following controls will be available.

- **Save:** Saves the outage request data.
- **Copy:** Opens a new outage request, duplicating the information from the current request. User has the option to copy all information including schedules, or a subset of information about the request.
- **Print to File:** Creates a PDF displaying the Generation Outage Report for the current outage request.

3.1.2. Required Information for a Generation Outage Request

The following information is required when creating a generation outage request:

- General Tab
  - GO Outage ID – Unique Outage ID
  - Request Type – Drop-down list selection
  - Schedule Type – Drop-down list selection
  - Description of Work – Open text field (50 alphanumeric characters)
  - PTID – Selectable list of authorized generator PTIDs
  - Outage Type – Drop-down list selection
- Schedule Tab
  - Schedule Start – Start date of outage request entered as MM/DD/YYYY 24HH:MM, or use calendar application to choose the desired date.
  - Schedule End – End date of outage request entered as MM/DD/YYYY 24HH:MM or use calendar application to choose the desired date.

3.1.3. Steps to Create a Generation Outage Request

🖥 ***To create a generation outage request***

1. Log in to the Outage Scheduler (OMS) System as outlined in Section 2.3.
2. Choose the **Generation O.R.E.** option (refer to Figure 6).
   The page illustrated in Figure 7 following, is displayed:

Figure 7: NYISO GO Outage Request Entry Form

The GO Outage Request Entry pages can be accessed through the tabs in number 3 of Figure 7. The General tab is the "What" page that gathers the outage request reason, the type of outage request, the schedule type, and the equipment involved. The Schedule tab is the "When" page that gathers the start and end dates for each piece of equipment on the outage request. The Contact tab defines "Who" from the requesting entity needs to know when the outage request status changes or who evaluators should contact for additional information or clarification.

> There are features that are consistent throughout the NYISO Outage Scheduler (OMS) application such as the Status Indicator (see number 1 in Figure 7) and the Action Bar (number 2 in Figure 7), which lists all of the common functions that a user should require. The state of the request may influence the functions that are allowed.

3. On each of the displayed tabs, provide and/or review all required information, using the following as a reference in doing so:

Figure 8: NYISO GO Outage Request Entry Form - General Tab
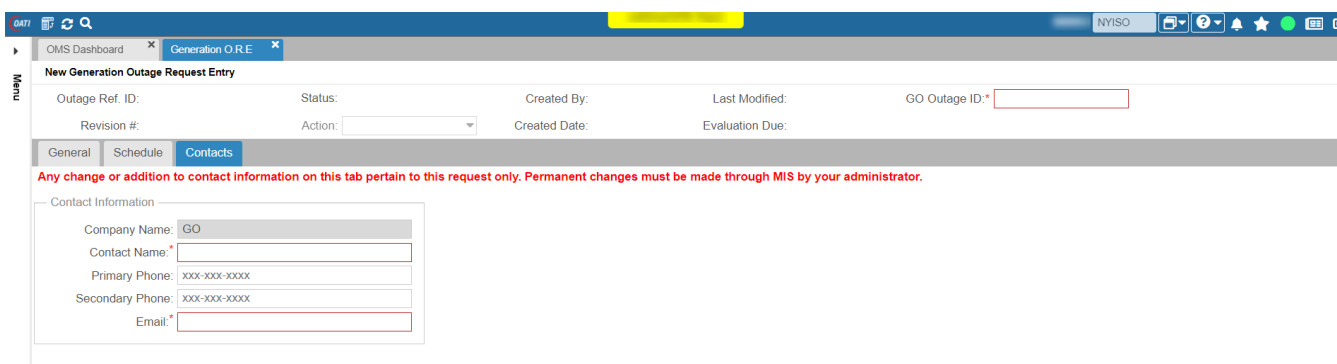
- **General Tab** (see [Figure 8)](#)

  This form is used to enter summary information for an outage request. The user will enter information that includes Request Type, Schedule Type, Emergency Restoration Time, Description of Work, Comments, and each Generator ID (PTID) that pertains to the outage. For each PTID selected enter the Outage Type, along with Maximum and Minimum Output, Point of Injection and Point of Withdrawal Limits, Test Type, and AVR Unit # (where applicable).

Figure 9: NYISO GO Outage Request Entry Form - Schedule Tab

- **Schedule Tab** (see [Figure 9](#))

  This form is used to enter schedule information for each PTID in the outage defining a start and end date/time for the outage request. The start of the outage request is the earliest start time for any individual component of the request, and the end of the request is the latest return or end time for any individual component of the request. Via the corresponding buttons, users can also **Select Equipment**, Apply the start, and end date/time to each piece of equipment selected. Users can also update the start and end date by individual schedule. The start and end times can be different between the devices.

Figure 10: NYISO GO Outage Request Entry Form - Contact Tab

- **Contact Tab** (see Figure 100)

  This form is used to enter or change contact information (name, email, and phone) for notification of updates to the outage request. The primary contact is automatically displayed, based on the username of the user creating the outage request. The contact information entered here will apply to *only* this outage and will not be a permanent change to contact information in MIS. More than one email address can be entered in the email box by separating each address with a comma. The email address(es) on this page will receive an email notification any time the state of the request changes.

  > The default contact information is the contact information from the MIS User Contact, which is listed on the MIS User Details page.

3.2. New Outage Request (Transmission)

3.2.1. Transmission Outage Request Entry Process

The user may access a new Outage Request Entry from the OMS Dashboard (refer to Figure 6). The user enters information on the General tab and Schedule tab before selecting the Create Action thus "Creating" the request . All required information must be entered before the user can proceed with submission. After creation of the outage the following controls will be available.

- **Save:** Saves the outage request data.
- **Copy:** Opens a new outage request, duplicating the information from the current request. User has the option to copy all information including schedules, or a subset of information about the request.
- **Print to File:** Creates a PDF displaying the Generation Outage Report for the current outage request.

3.2.2. Required Information for a Transmission Outage Request

The following information is required when creating a transmission outage request:

- General Tab
  - Request Type – Drop-down list selection
  - Schedule Type – Drop-down list selection
  - Posted Reason – Drop-down list selection
  - Description of Work – Open text field (50 alphanumeric characters)
  - TO ID – Selectable list of authorized equipment
  - Outage Type – Drop-down list selection
  - Local Generation Impacted – Yes or No (Selecting Yes requires further information about the impacted generator(s))
    - PTID – Selectable list of authorized equipment
    - Impact Type – Drop-down list selection
    - Period – Drop-down list selection
    - Upper Operating Limit – Numeric user entry
- Schedule Tab
  - Schedule Start – Start date of outage request entered as MM/DD/YYYY 24HH:MM, or use calendar application to choose the desired date
  - Schedule End – End date of outage request entered as MM/DD/YYYY 24HH:MM, or use calendar application to choose the desired date
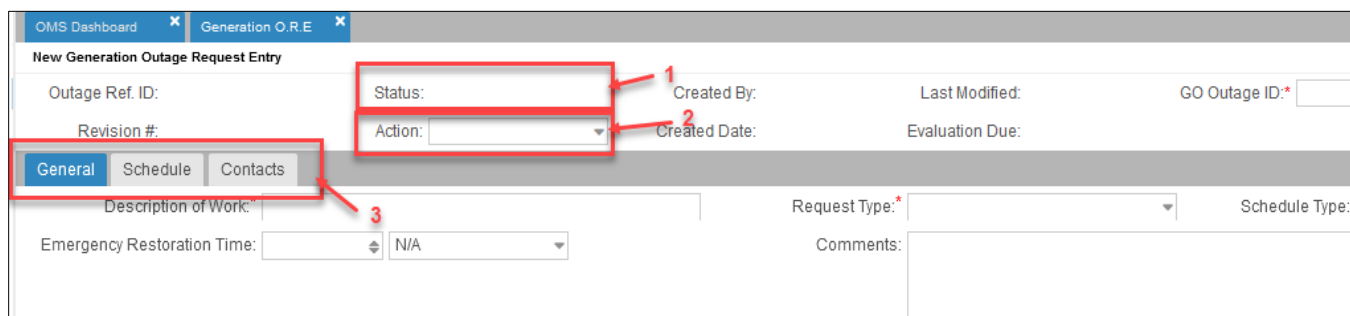
3.2.3. Steps to Create a Transmission Outage Request
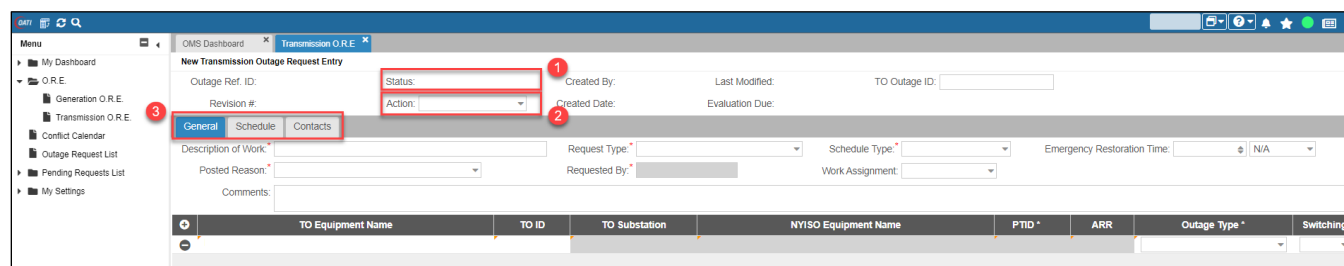
💻 ***To create a transmission outage request***

1. Log in to the Outage Scheduler System as outlined in Section 2.3.
2. Choose the **Transmission O.R.E.** option (refer to Figure 5).

   The page illustrated in Figure 11, following, is displayed:
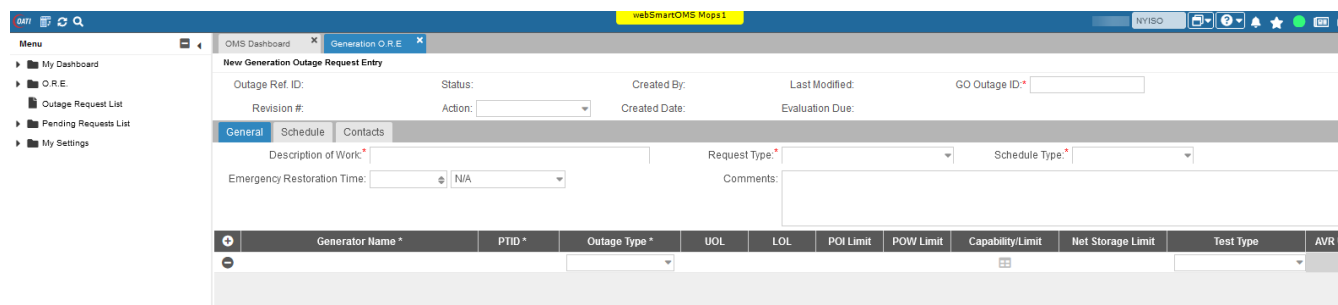
Figure 11: NYISO TO Outage Request Entry Form
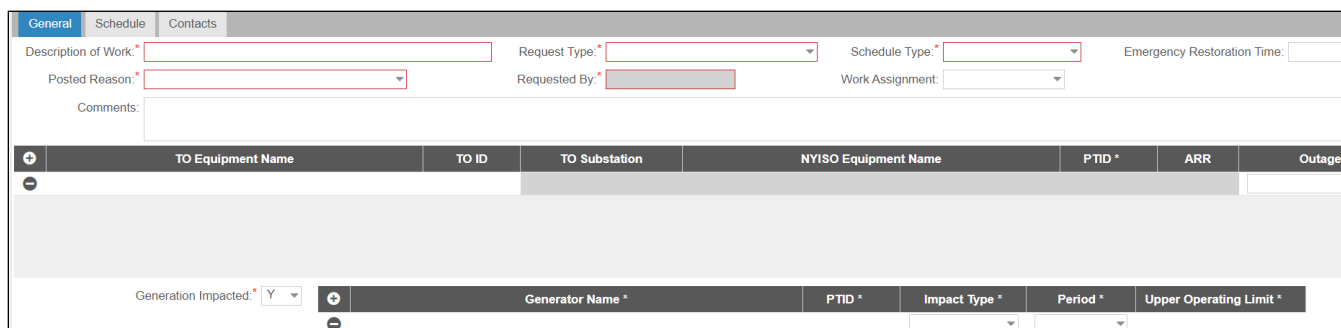
The TO Outage Request Entry pages can be accessed through the tabs in number 3 of Figure 11. The General tab is the "What" page that gathers the outage request reason, the type of outage request, the schedule type, and the equipment involved. The Schedule tab is the "When" page that gathers the start and end dates for each piece of equipment on the outage request. The Contact tab defines "Who" from the requesting entity needs to know when the outage request status changes or who evaluators should contact for additional information or clarification.

> There are features that are consistent throughout the NYISO Outage Scheduler (OMS) application such as the Status Indicator (see number 1 in Figure 11) and the Action Bar (number 2 in Figure 11), which lists all of the common functions that a user should require. The state of the request may influence the functions that are allowed.
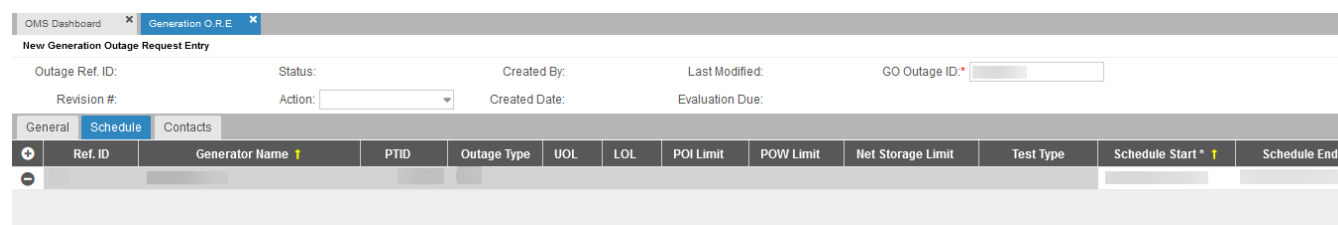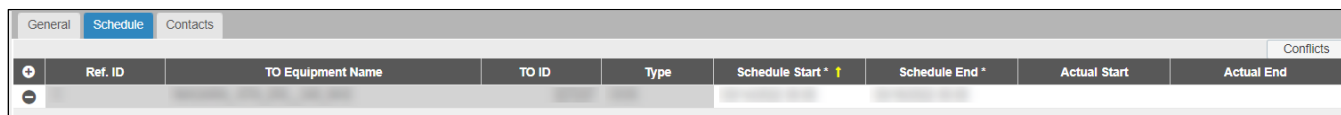
3. On each of the displayed tabs, provide and/or review all required information, using the following as a reference in doing so:

Figure 12: NYISO TO Outage Request Entry Form - General Tab

- **General Tab** (see Figure 12)

  This form is used to enter summary information for an outage request. The user will enter information that includes Request Type, Schedule Type, Emergency Restoration Time, Posted Reason, Description of Work, Comments, each TO ID or PTID that pertains to the outage and for each TO ID selected, and the Outage Type. For TOs that do not use their own unique identifier numbers (TO ID), this field will be populated with the associated NYISO PTID in its place. Generator impact information will also be entered on this tab.
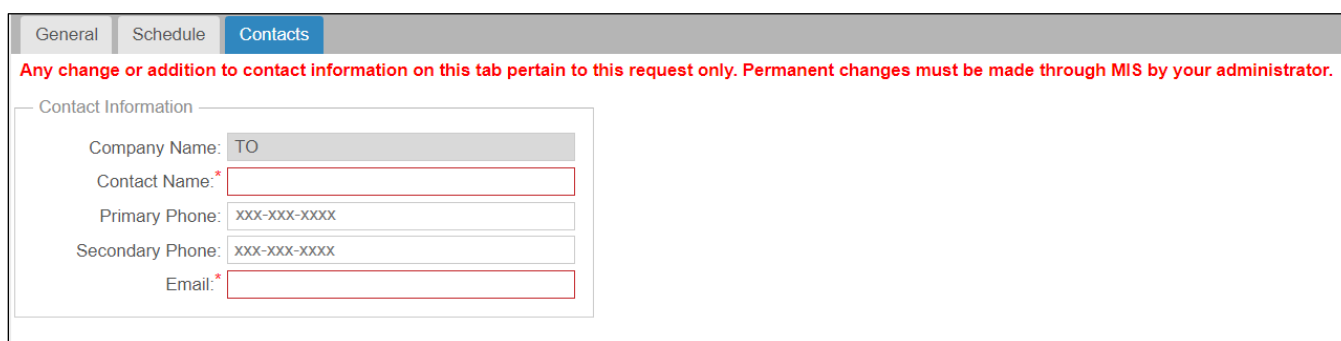
Figure 13: NYISO TO Outage Request Entry Form - Schedule Tab

- **Schedule Tab** (see Figure 13)

    This form is used to enter schedule information for each piece of equipment ID (TO ID or PTID) in the outage including a start and end date for the outage request. The start of the request is the earliest start time for any individual component of the request, and the end of the request is the latest return time for any individual component of the request. Via the corresponding buttons, users can also **Select Equipment**, Apply the start, and end date to each piece of equipment selected. Users can also update the start and end date by individual ID. The start and stop times can be different between devices.

Figure 14: NYISO TO Outage Request Entry Form - Contact Tab

- **Contact Tab (see Figure 14)**

    This form is used to enter or change contact information (name, email, and phone) for notification of updates to the outage request. The primary contact is automatically displayed, based on the username of the user creating the outage request. The contact information entered here will apply to only this outage and will not be a permanent change to contact information in MIS. More than one email address can be entered in the email box by separating each address with a comma. The email address(es) on this page will receive an email notification any time the state of the request changes.

    > The default contact information is the contact information from the MIS User Contact, which is listed on the MIS User Details page.

4. Request Status Conditions

4.1. Request States

Nine different states may be associated with a request throughout its lifespan, as outlined below:

- **TO or GO Created**

  Request information as entered has been saved and stored in the Outage Scheduler (OMS) database(s). The outage request has not been submitted to the NYISO and TO evaluators.

- **Submitted to NYISO**

  The request has been submitted to NYISO/TO for evaluation, but the evaluators (NYISO/TO) have not yet started the evaluation process.

- **Evaluating**

  The NYISO evaluators have begun evaluating the outage request.

- **TO Approved**

  The TO evaluators have reviewed the outage request and agreed that the request can occur on the date/time specified for the request. In the case of a generation request, the TO is the local TO where the generator is located. In the case of a transmission request, the TO would be an owner or switching authority.

- **NYISO Approved**

  The NYISO evaluators have reviewed the request and agreed that the request can occur on the date/time specified for the request.

- **Approved**

  Both the NYISO and the TO evaluators have reviewed the request and have agreed that the request can occur on the date/time specified.

- **Denied**

  The NYISO/TO evaluators have reviewed the request and have determined that it cannot reliably occur as requested. The NYISO will provide a reason for the denial and alternate dates when the outage is denied.

- **Modified**

  A request that was previously evaluated, either approved or denied, is being edited. The user who is modifying the request is required to enter a reason for the modification.

- **Cancelled**

    The submitter has decided to withdraw the request any time after the outage was submitted for evaluation. To have the request for cancellation recognized, the user who cancels the request is required to enter a reason for the cancellation. The request information remains in the Outage Scheduler (OMS) database(s) and can be displayed.

A cancellation is non-reversible.

- **Completed**

    This status is only available for generation requests. For an ongoing and approved request, the user can accurately reflect the early completion of the request. The user who is completing the request is required to enter the time and date of job completion. Requests will automatically become completed after the scheduled end time has lapsed thus preserving the record for tracking purposes.

A completion is non-reversible.

5. Actions

5.1. Actions

Action button is used to move a request between the various states. Allowable actions depend on the current state of the request and the role of the user. If the user is associated with a TO, they will have the ability to Delete, Submit, Modify, Cancel, TO Approve and Deny requests. If the user is associated with a GO, they will have the ability to Delete, Submit, Modify, Cancel, and Complete requests.

Delete

The **Delete** action is used by a user to remove all information associated with a particular request.

> The Delete action is allowed only until the outage request has been submitted for evaluation. **THIS ACTION CANNOT BE REVERSED.**

Submit

The **Submit** action changes the request state to *Submitted*. This action is used when the author of the request is satisfied with the request and wants the request to be evaluated by the NYISO and/or TO.

Modify

The **Modify** action is used to edit a request that is in the *Approved* or *Denied* state. The user is required to enter a reason for the modification before being allowed to save the outage request changes.

TO Approve

The **TO Approve** action is used by a Transmission Owner to approve a generator request for a generator that is located within the TO's service territory. It is also used by a TO to approve a transmission request for which the TO is an owner or the switching authority. A GO user will not have this option.

TO Deny

The **TO Deny** action is used by a Transmission Owner to deny a generator request for a generator that is located within the TO's service territory. It is also used by a TO to deny a transmission request for which the TO is an owner or switching authority. A GO user will not have this option.

Cancel

A user can use the Cancel action to cancel a request any time after the request is in a *Submitted* state. The user is required to enter a reason for the cancellation before being allowed to save the cancellation.

> The information for a cancelled outage request remains in the Outage Scheduler (OMS) database(s) and can be displayed. **THIS ACTION CANNOT BE REVERSED.**

Complete

The **Complete** action is used by a Generation Owner to complete an outage request earlier than its originally Scheduled End Date. This can only be done in the *Approved* state of an ongoing outage request. The user is required to enter the Job Completion Date and Time before being allowed to save the completion.

There is also an Auto Complete function for Generation requests. This is an automatic job completion function which runs daily, at a pre-determined time, and marks all Generation requests with an Approved status and a Scheduled End Date in the past to a status of Complete. Please note that Complete Status emails will not be sent for requests that have been set to Complete via this automatic process.

The information for a completed outage request remains in the Outage Scheduler (OMS) database(s) and can be displayed. **THIS ACTION CANNOT BE REVERSED.**

Below is a table of the "Available" actions for a TO:

Request Status	Conditions	Available Action			
TO Created	if requestor is Associated, Owner or SA	Submit	Delete		
Submitted	if requestor is Associated, Owner or SA	Cancel			
Modified	if requestor is Associated, Owner or SA	Submit			
Evaluating	if requestor is Associate and request not yet approved by TO	Cancel			
Evaluating	if requestor is Owner or SA and request not yet approved by TO	Cancel		Deny	Approve
Evaluating	if requestor is Associated	Cancel			
Evaluating	if not requestor but is Owner or SA and not yet approved by TO			Deny	Approve
ISO Approved	if requester is Owner or SA	Cancel	Modify	Deny	
TO Approved	if requester is Owner or SA	Cancel	Modify	Deny	
TO Approved	if requester is Associated	Cancel	Modify		
Approved	if requester is Owner or SA	Cancel	Modify	Deny	
Denied by ISO	if requestor is Associated, Owner, or SA	Cancel	Modify		

6. Process Flow

6.1. Outage Request Process Flow (GO User)

Figure 15 shows the process flow diagram, illustrating the actions required to move a request from *No Status* to *Created, Submitted, Evaluating, Approved,* Denied, Modified, Canceled, *or Completed.*

Figure 15: GO Outage Request Process Flow Diagram
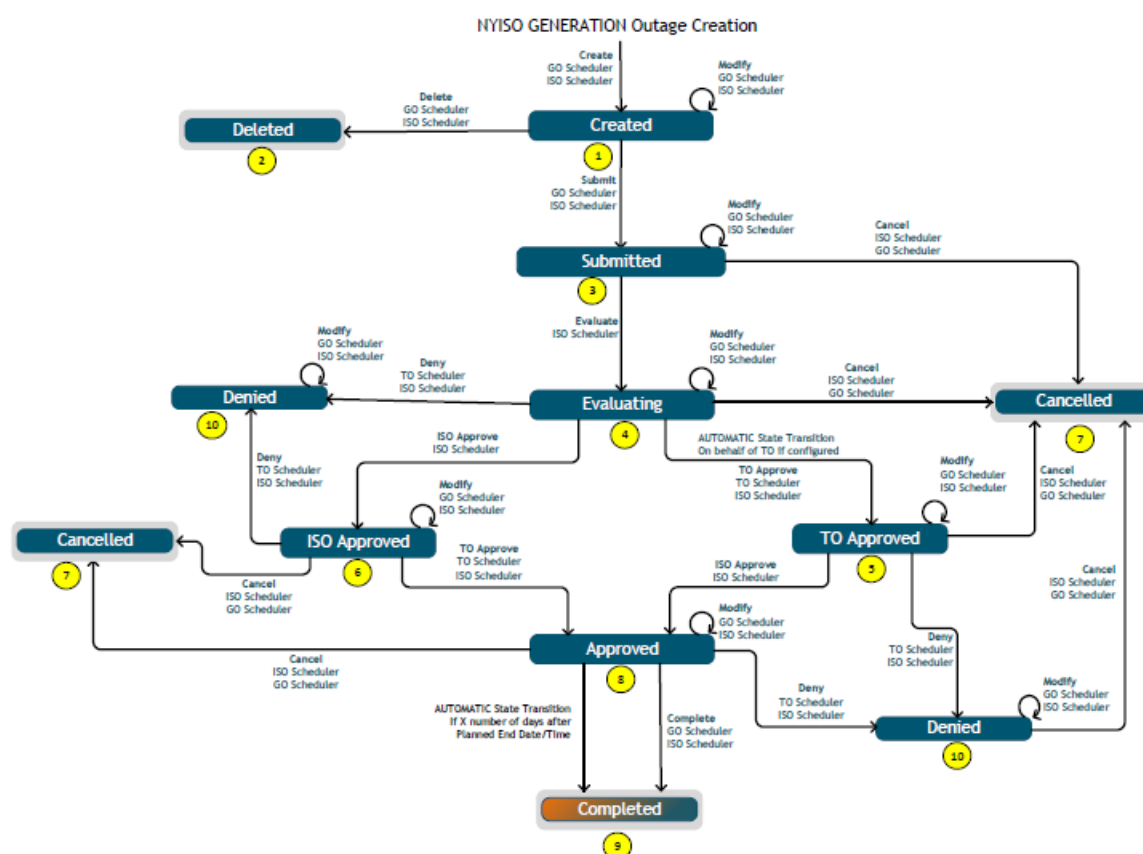
6.2. Outage Request Process Flow (TO User)

[Figure 16](#) shows the process flow diagram, illustrating the actions required to move a request from *No Status* to *Created, Submitted, Evaluating Approved,* Denied, Modified, or *Canceled.*
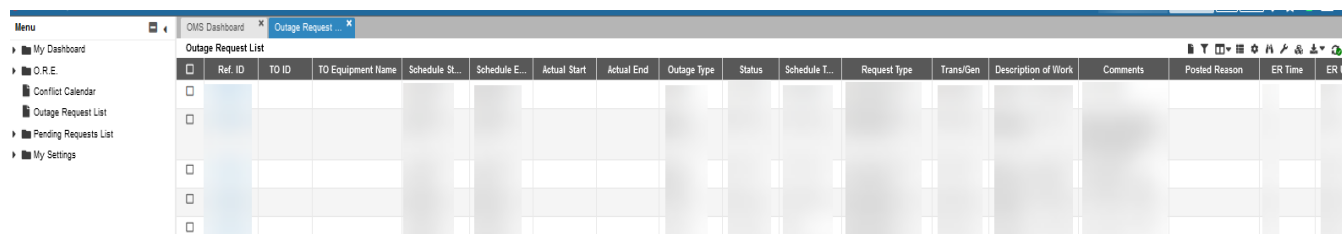
Figure 16: TO Outage Request Process Flow Diagram
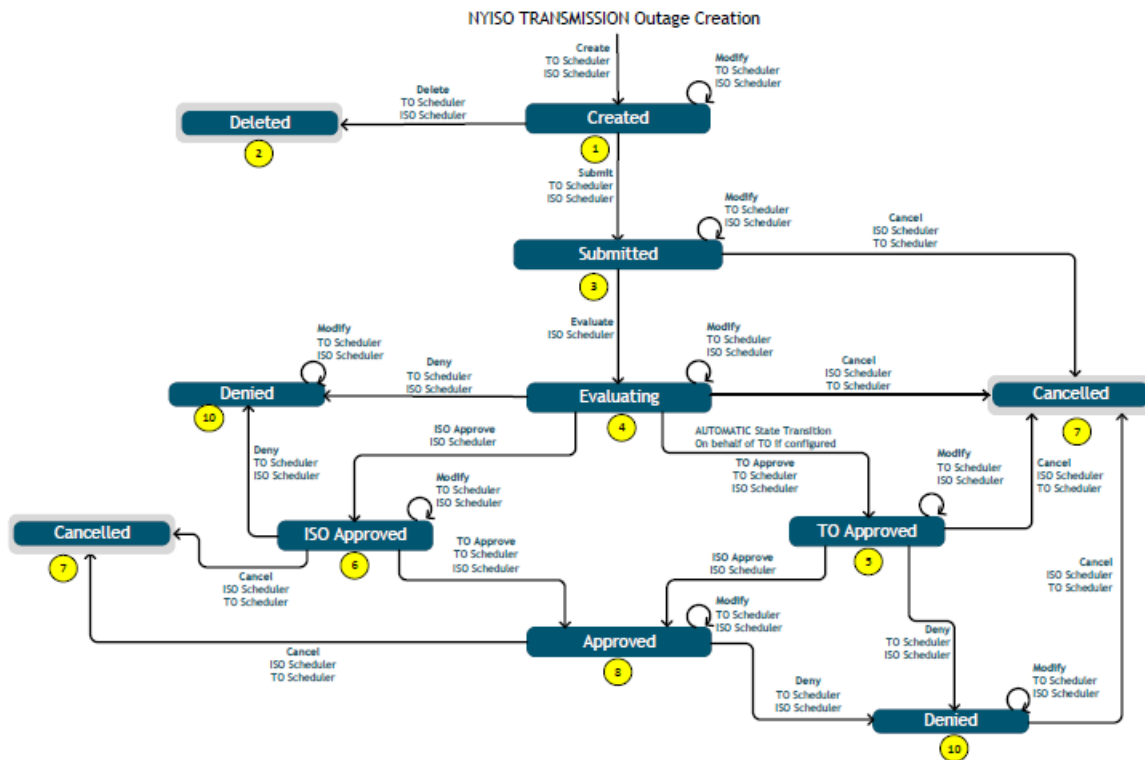
7. Outage Request List

The Outage Request List Main Menu option (refer to Figure 5 and Figure 6) provides the user with a list of all requests the user is allowed to view. In the case of a TO user, the TO Outage Request List will look like Figure 17.
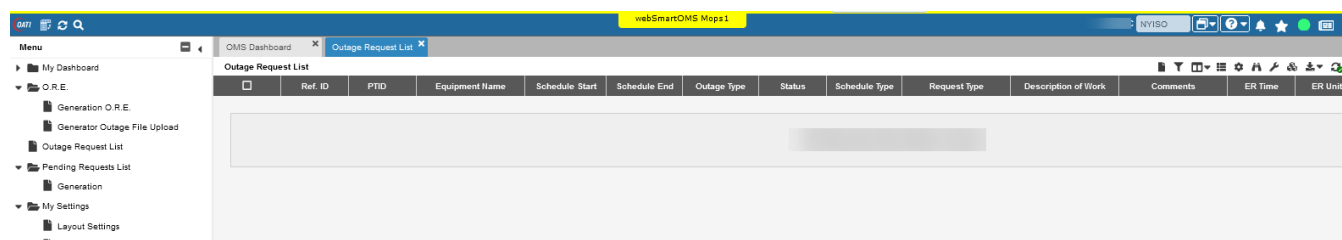
Figure 17: NYISO Outage Scheduler (OMS): TO Outage Request List

In the case of a GO user the GO Outage Request List will look like Figure 18:

Figure 18: NYISO Outage Scheduler (OMS): GO Outage Request List

The Reference ID is automatically assigned to a request when the request is first saved. The Revision Number is automatically incremented anytime the request is edited and saved. The remainder of the information in this report is either information that was entered by the user or the state of each request. The buttons listed below are used to manipulate the individual rows on this display.
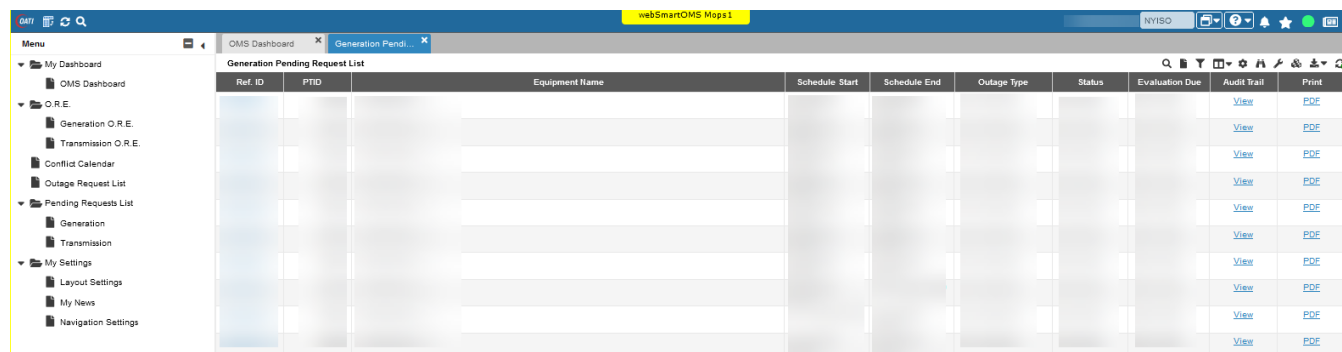
Purposes of these buttons are as follows:
- **New Request** – Takes the user to the Outage Request Entry page.
- **Filter –** Allows the user to enter information that will be used to search the Outage Scheduler (OMS) database(s) for entries. Filtering is available for all fields. User may also filter data using the column headers.
- **Column Configuration –** Allows user to configure the columns available in the table for viewing. User may rearrange column order using this function or by selecting and dragging columns in the desired order.
- **Display Views –** Allows user to retain table view settings as a saved display view.
- **Export Options –** Allows user to export the table to either CSV or XLSX.
- **Real Time Updates –** Allows user to enable/disable real time updating of the Outage Request List.
- **View Request –** To view/open an outage request click on the Ref. ID.
- **Print Selected Outages –** Allows user to print the cover page of selected outage(s) to PDF.

8.   Pending Request List

The Pending Request List Main Menu option (refer to Figure 5 and Figure 6) displays outage request information for equipment authorized for the user having a status of *Submitted, Evaluating, ISO Approved, or TO Approved* only (see Figure 19).

Figure 19: NYISO Outage Scheduler: Generation Pending Request List

> The buttons displayed on this form have the same functionality as discussed in Section 7.

The Transmission Pending Request List Main Menu option (refer to Figure 6) displays outage request information for equipment authorized for the user having a status of *Submitted, Evaluating, ISO Approved, or TO Approved* (see Figure 20). This screen is available to TO users only.

Figure 20: NYISO Outage Scheduler: Transmission Pending Request List

9. Conflict Calendar

The Conflict Calendar is a new feature within the NYISO OMS system available to TO. This display allows TO users to enter the PTID of the equipment they are looking to schedule and a start date of a 34 day period, returning a GANTT style calendar view of conflicting outages that have been entered into the system for ease of coordination. This GANTT view of conflicting outages will be displayed in a calendar format allowing users to quickly determine potential open dates for maintenance.

Figure 21: NYISO Outage Scheduler (OMS): Conflict Calendar
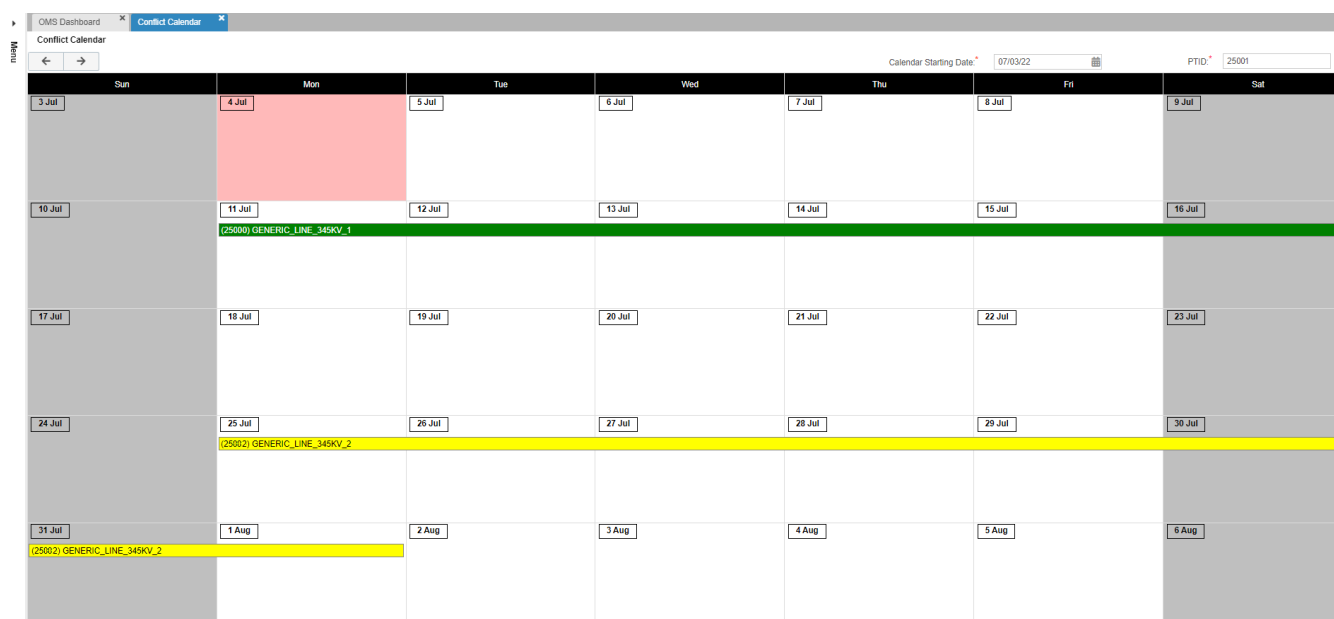
Each outage is color coded based on the outage request status. Colors correspond as follows:

- Submitted (Yellow)
- Evaluating (Yellow)
- TO Approved (Yellow)
- ISO Approved (Yellow)
- Approved (Green)
- Denied (Red)

The Scheduled Start Date/Time and Scheduled End Date/Time can be viewed by hovering over the outage profile. More detailed outage information can be obtained by clicking on the outage to display a summary of outage request information. See Figure 22and Figure 23.

Figure 22: NYISO Outage Scheduler (OMS): Conflict Calendar – Date/Time Hover
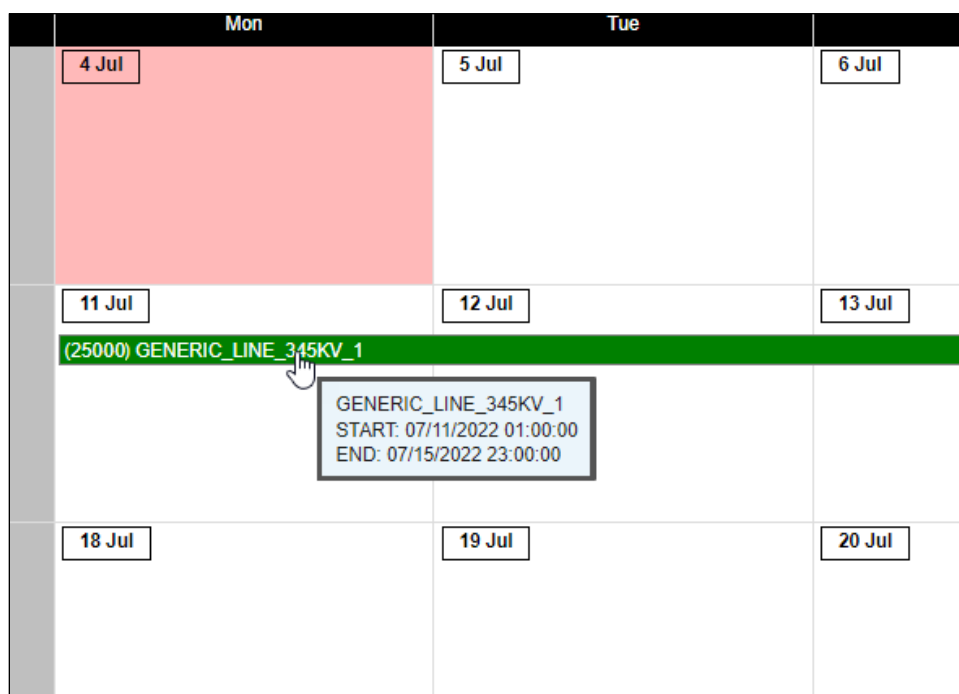
Figure 23: NYISO Outage Scheduler (OMS): Conflict Calendar – Outage Detail

10. Uploading Outage Requests

This section describes uploading an outage request via a CSV or an XML file. Generation outage requests can be uploaded via CSV or XML. Transmission outage requests can be uploaded via XML.

10.1. Generation Upload Introduction

Section 10, Figure 24, describes an interactive method for entering data into the NYISO OMS Outage Scheduler. The method is based on interactive Web Browser technology. This section describes the equivalent functionality using an application user interface developed by the Generator Owner. This method requires that all information is prepackaged into files which are then sent to the NYISO Outage Scheduler. This interface is provided for quick and efficient transfer of substantial amounts of data between Generator Owners and NYISO.

The NYISO Outage Scheduling application (OMS) has a facility for the uploading of generation outage requests as a comma separated values (.CSV) file. At the present time, this facility is not available for transmission outages. The upload process is initiated via a "Generator Outage File Upload" selection on the GO Dashboard. The .CSV file may contain just a single outage request, or multiple outage requests.

CSV File

The data that is prepared by the Market Participant is a file consisting of multiple records, each one with one or more comma separated value fields. This type of file is known as comma separated value, or CSV.

Templates

Each type of data is described as a template. Data submission and the corresponding responses are described. Responses to uploads are automatic. The Market Participant does not have to query the Outage Scheduler to get information as to the status of a data upload.

The following flowcharts describe the upload process and the three levels of validation that are performed on the uploaded file.

Figure 24: Generation Upload and Validation Flowchart
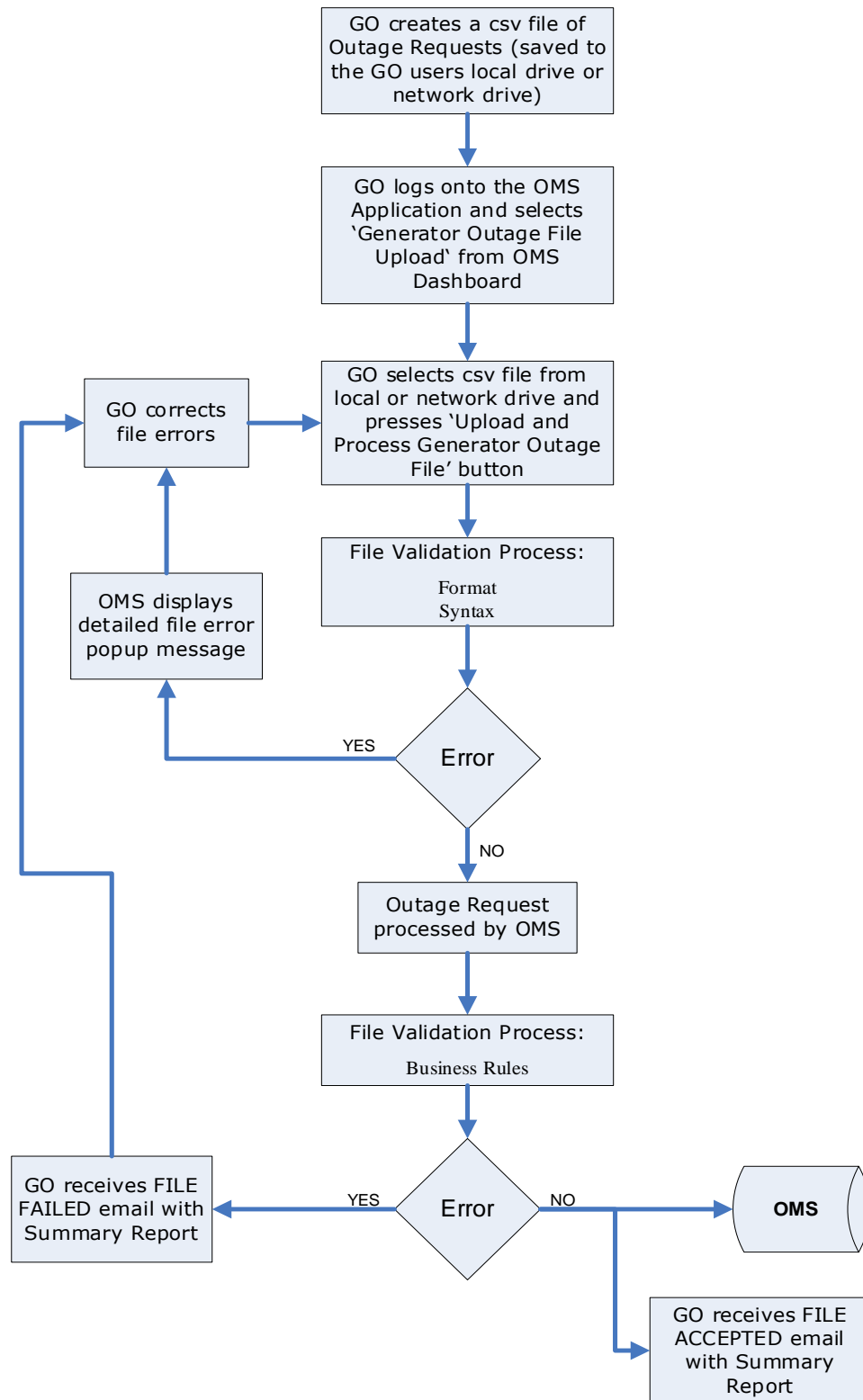
10.1.1. Overview of the Upload Templates

The upload request templates have a header and body.

10.1.1.1. Template Header

The header of the upload request is delimited by ampersands (&) that separate the various records of the header. All upload requests require a two-record header as follows:

1. *SUBMISSION_TYPE* – Indicates the type of outage request that is being supplied
2. *DATA ROWS* – The number of records that follow

Valid SUBMISSION_TYPE values are:

- *GENERATION* – Submit Generator Outage Request
- *TRANSMISSION* – Submit Transmission Outage Request (not valid currently)

Sample Header Record:

```
SUBMISSION_TYPE=GENERATION&
DATA_ROWS=25&
```

10.1.2. Template Body (Generation)

The Body of a Generation Outage Request can contain up to two components for each outage request. To identify the two components of an outage request, the upload .CSV file will contain a record type indicator to identify the component. The two components are:

General Information Record

The General record has an 'Action' data field (Submit, Modify, Cancel, and Complete) to describe the purpose of the record.

Items in **Bold** are **required**

Commas are NOT supported in free form text fields

Request Type, Schedule Type, and Emergency Restoration Time Label values are presented with drop-down menu values in OMS. These text values have an associated numeric lookup code ID assigned in OMS. The descriptions above provide the numeric lookup code ID and the associated text value. The GO Upload .CSV file will require the use of the numeric lookup code ID.

Figure 25: General Information Record

General	Format	Description
Record Type	Character (09)	Value will be 'GENERAL'
Outage Action	Character (08)	Values include: 'SUBMIT' 'MODIFY' 'CANCEL' 'COMPLETE'
GO Outage ID	Character (20)	GO generated Outage ID **REQUIRED** for 'SUBMIT' Outage Action (must be unique) Used also for 'MODIFY', 'CANCEL' or 'COMPLETE' action with or in the absence of an Outage ID.
OMS Reference ID	Character (20)	OMS generated Outage ID Used only for 'MODIFY', 'CANCEL' or 'COMPLETE' action with or in the absence of a GO Outage ID.
* **Request Type**	Number (03)	Values Include: 620 'Annual Routine Maintenance' 902 'Forced AVR/PSS Outage' 624 'Forced Outage' 993 'Inactive Reserves' 880 'Miscellaneous' 994 'Mothball' 626 'Scheduled AVR/PSS Outage' 621 'Scheduled Routine Maintenance' 625 'Scheduled Test' 623 'Unscheduled Trouble Maintenance'
* **Schedule Type**	Number (03)	Values Include: 540 'DAILY' 92 'DAILY (NO WEEKENDS)' 90 'CONTINUOUS'
Emergency Restoration Time	Number (7,2)	**REQUIRED** if Emergency Restoration Time Label = 'Minutes', 'Hours', or 'Days' Default is NULL
* Emergency Restoration Time Label	Number (03)	**REQUIRED** if Emergency Restoration Time has a value Default is NULL Values Include: 453 'Minutes' 454 'Hours' 455 'Days' 517 'N/A' 795 'Completion'
Description of Work	Character (50)	Free form text. Text needs to be enclosed in " "

Comments	Character (360)	Free form text. Text needs to be enclosed in " " Default is NULL
Alternate Contact	Character (50)	Default is NULL
Alternate Email	Character (50)	Default is NULL
Alternate Phone	Character (18)	Default is NULL
Reason	Character (240)	**REQUIRED** for Modification or Cancellation of Outage Request Free form text. Text needs to be enclosed in " " Default is NULL
Complete End Date	Date/Time	Completion End Date of Equipment Outage **REQUIRED** only if outage action = Complete Format: mm/dd/yyyy 24hh:mm Default is NULL

Equipment Information Record

The Equipment record describes what individual pieces of equipment are being affected by the outage request and how.

Items in **Bold** are **required**

Commas are NOT supported in free form text fields

Equipment Outage Type, and Test Type values are presented with drop-down menu values in OMS. These text values have an associated numeric lookup code ID assigned in OMS. The descriptions above provide the numeric lookup code ID and the associated text value. The GO Upload .CSV file will require the use of the numeric lookup code ID.

Figure 26: Equipment Information Record

Equipment	Format	Description
Record Type	Character (09)	Value will be 'EQUIPMENT'
PTID	Number (09)	Unique PTID
*Equipment Outage Type	Number (03)	Values Include: 843 'Out of Service' 844 'Derate' 901 'In Service Work' 951 'POI Derate'
Upper Operating Limit	Number (8,3)	Applicable if Request Type = 'Derate' If Request Type = 'Out of Service', value must be 0 Value must be Positive Default is NULL
Lower Operating Limit	Number (8,3)	Applicable if Request Type = 'Derate' If Request Type = 'Out of Service', value must be 0 Value can be Positive or Negative Default is NULL
POI Limit	Number (8,3)	Applicable if Request Type = 'Derate' Value must be Positive Default is NULL
POW Limit	Number (8,3)	Applicable if Request Type = 'Derate' Value must be Negative Default is NULL
Net Storage Limit	Number (9,3)	Applicable if Request Type = 'Derate' Value must be Positive Default is NULL
*Test Type	Number (03)	**REQUIRED** if Request Type = Request Type = 'Scheduled Test'. Values Include: 867 'Generator Test - Other' 868 'Black Start Test' 869 'DMNC Test' 870 'VAR Test' 871 'RATA Test' 872 'Mill Fineness Check' 873 'Reheat Int/Stop Vly Leak Test' 874 'N2 Leakage Test' 875 'Boiler Efficiency Test' 876 'GT Monthly OP Test' 877 'Particulate Test' 878 'NOx Test' 879 'Full Load Fuel Oil Test'

New York ISO

AVR Unit	Number (03)	Applicable when Request Test = 'Forced AVR/VSS Outage' or 'Scheduled AVR/VSS Outage' Default is NULL Values include: 1-50.
Schedule Start Date	Date/Time	Format mm/dd/yyyy 24hh:mm
Schedule End Date	Date/Time	Format mm/dd/yyyy 24hh:mm

10.1.3. Addition Upload Rules and Requirements

The GO Upload .CSV file can contain multiple Outage Requests. Each new request will contain a General record and an Equipment record. OMS will identify a new request when a General record type is encountered in the file.

10.1.3.1. Submitting a new GO Request

The submission of a new Outage Request will require the following record types:

- one General record with an Outage Action = 'Submit,' and a blank OMS Reference ID,
- a minimum of one or more Equipment records(s)

10.1.3.2. Modifying a GO Request

The modification to a Request must contain either the OMS Outage ID or the GO Outage ID.

The GO Outage ID field will need to be populated on the previously submitted Request either by submitting it on the initial GO Upload .CSV file or entering it later via the OMS web-based screen.

If the OMS Outage ID is supplied, it will be used to locate the correct Request. Otherwise, the correct record will be selected using the GO Outage ID.

The required components for a Modify are:

- One General record with an Action = 'MODIFY' and either the GO Outage ID or OMS Outage ID, Schedule Type and Reason fields populated.
- In addition, all the Equipment records in the Request will be required. These equipment record(s) can consist of existing equipment record(s) that are not being modified, equipment record(s) that are being modified, or equipment record(s) that are being added. All the Equipment records are required because; a 'MODIFY' request will trigger the OMS application to delete all existing pieces of equipment in the referenced outage request from the OMS database and add all the Equipment record(s) on the MODIFY .CSV file.
- Any Requests that previously had been part of an upload that contained multiple pieces that do not have any changes do not have to be included as a modification upload. Only Requests that are being modified must be included.

10.1.3.3. Cancelling a GO Outage Request

The cancellation of a Request will require the following records:

- A General record with an Outage Action = 'Cancel,' either the GO Outage ID or OMS Outage ID and Reason fields populated.
  If the OMS Outage ID is supplied, it will be used to locate the correct outage request. If the OMS Outage ID is not supplied, the correct record will be selected using the GO Outage ID.

10.1.3.4. Completing a GO Request
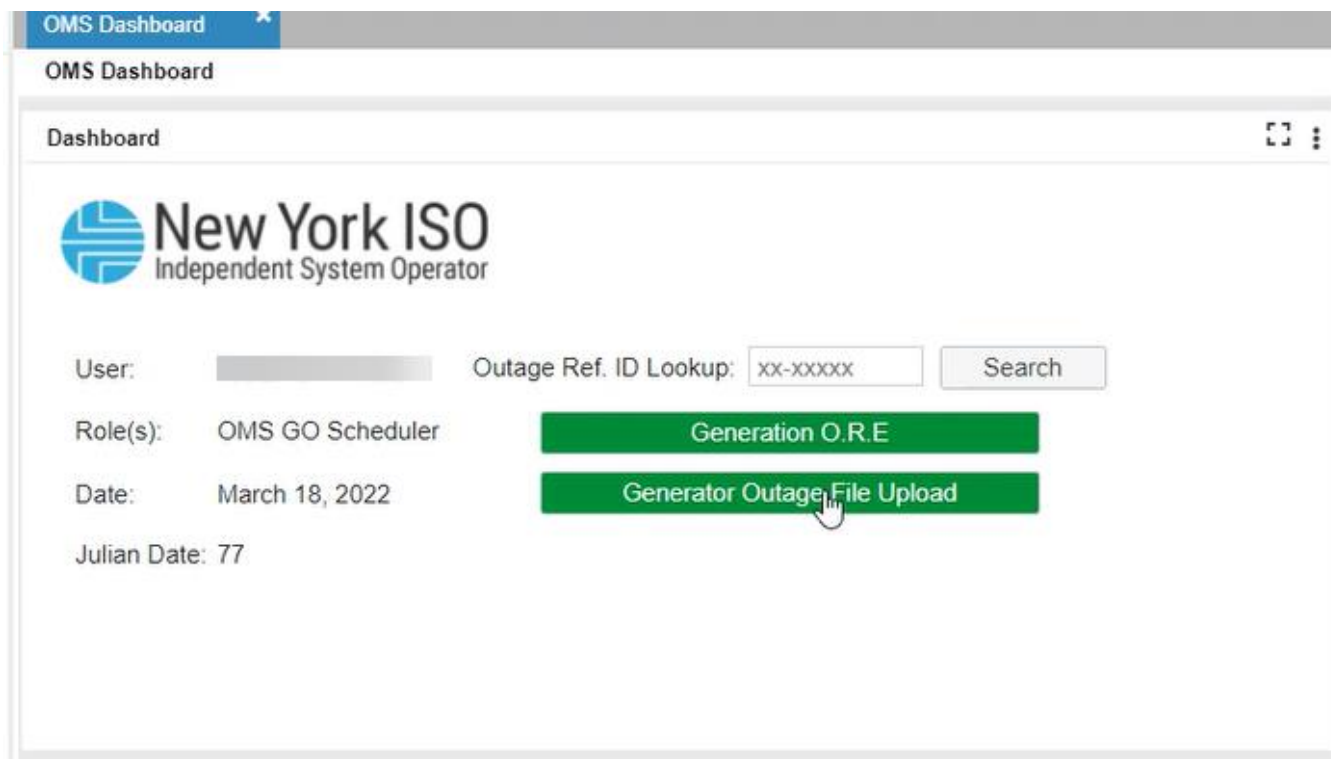
The completion of a Request will require the following records:

- A general record with an Action = 'Complete,' either the GO Outage ID or OMS Outage ID and the new Actual End Date fields populated.
- If the OMS Outage ID is supplied, it will be used to locate the correct Request. If the OMS Outage ID is not supplied, the correct record will be selected using the GO Outage ID. The list of all Requests will first be filtered so that only Requests that the submitting User has access to will be searched for the matching GO Outage ID. This pre-filtering mitigates the possibility of a GO Organization accessing another GO Organization's identical GO Outage ID.
- The Request must be in the Approved state in order for a Complete action to be performed.

10.1.4. Upload Process

Using the Upload batch interface requires selecting "Generator Outage File Upload" from the GO's OMS Dashboard.
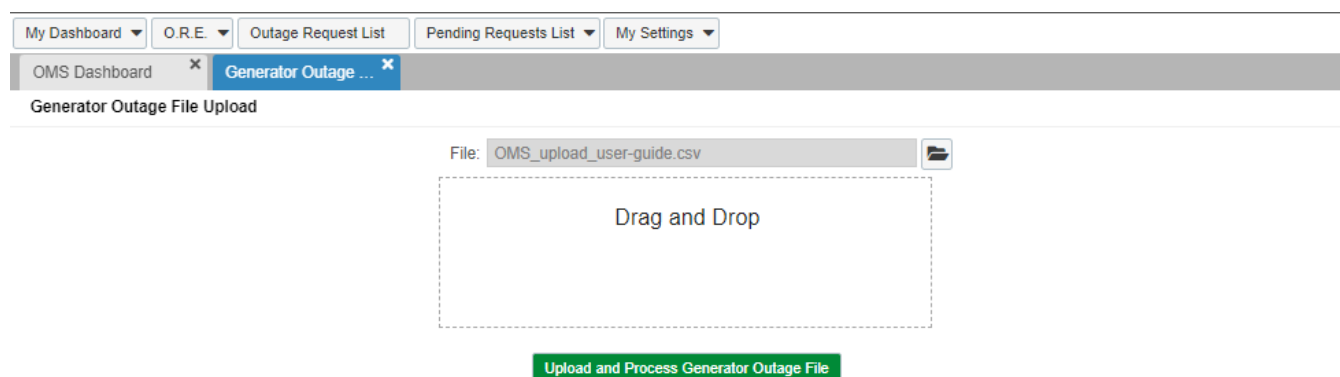
Figure 27: NYISO Outage Scheduler (OMS) - GO Upload

Figure 28: NYISO Outage Scheduler (OMS) - GO Upload

The user then selects a file from their local disk by typing a file name or using the (file) Browse button. The user may also utilize the "Drag and Drop" capability to select their upload file. When the user clicks on the "Upload and Process Generator Outage File" button, the input file is sent to the Web Server, where it is received by the OMS Outage Scheduler application. The OMS application processes the .CSV file and provides on-screen validation results and emails these same results to the logged-in user's email address.

Figure 29: NYISO Outage Scheduler (OMS) - GO Upload success message
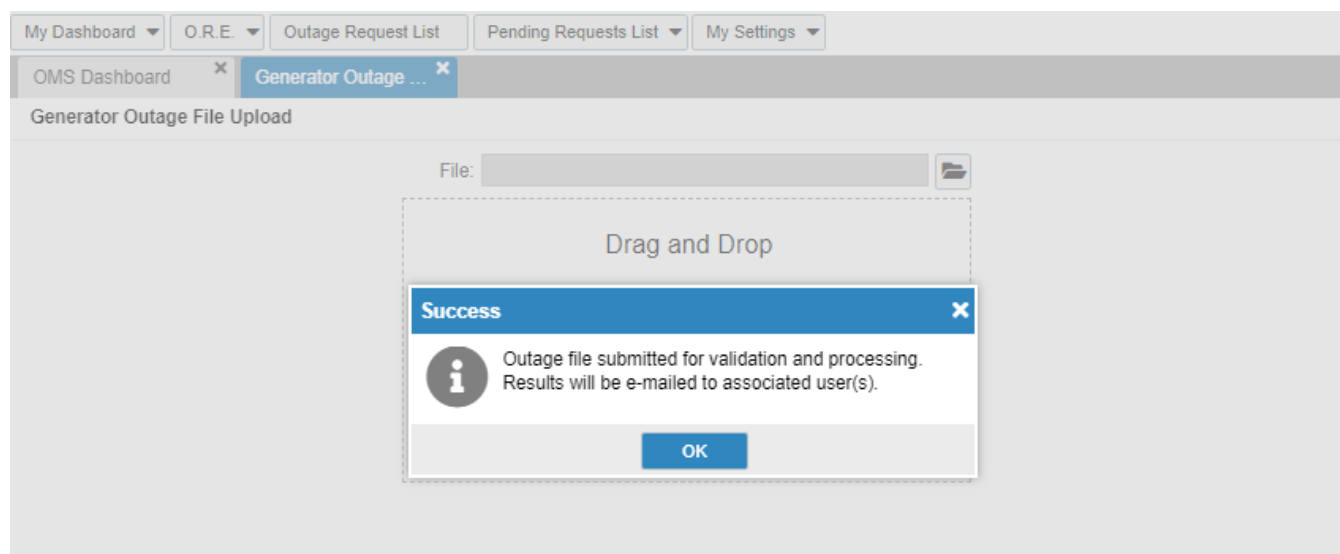
Figure 30: NYISO Outage Scheduler (OMS) - GO Upload accepted email

[EXT] GENERATION - Uploaded Outage Request Accepted

D
donotreply@oati.net
To

↩ Reply   ↩ Reply All   → Forward   ⋯

Please direct replies to genplan@nyiso.com

- Validation started.
- Format Validation Passed.
- Syntax Validation Passed.
- Business Validation Warning due to:
    - Overlapping outage(s) exist. Outage Ref. ID(s): 22-02312
- Business Rule Validation Passed.
- GO Outage Request 'UG_6-14-A' (Outage Ref. ID: 22-02365) has been successfully Submitted .

10.1.5. CSV Validation

As described in the flowchart in Section 10.1, there are three levels of validation of the .CSV file. The three levels of validation are Format, Syntax, and Business Rules. If an error is detected the system will continue validation to identify all potential errors in the file at once. The file is then rejected, and an error message is displayed within OMS. The body of the message will describe the error that was encountered.

Once a .CSV file is uploaded it can be immediately processed and validated. Each Outage Request record in the .CSV file can be sequentially processed and submitted. Examples of the process are given below using uploaded .CSV files as examples of submitted input.

10.1.5.1. Format Validation

The Format Validation pass initially checks for errors or missing information in the header records. If the header Submission Type and the number of data rows are correct, the Format Validation checking can continue to verify that the data rows contain valid record types (General and Equipment). A General record must be the first record in an Outage Request and followed by one or more Equipment records. The following table lists all the Format Validation errors.

Figure 31: Format Validation Errors

Format Validation Errors	
Invalid Submission Type in Header. Submission Type must be GENERATION	If data value submitted on .CSV file is not 'GENERATION' file is in error
Invalid Submission Type for Requesters Role.	If the Requester is logged in as a Generator Owner, they cannot submit a Transmission Outage and vice-versa.
Invalid Number of Rows in File	If number of rows submitted in .CSV file is not equal to value submitted on Header Record – file is in error.
Invalid Record Type. Values include 'GENERAL' and 'EQUIPMENT.'	If Record Type submitted on .CSV file is not 'GENERAL' or 'EQUIPMENT' – field is in error. Must contain at least one of each.
Invalid 'SUBMIT' Request	If the .CSV file contains a General record with an Outage Action = 'Submit' and does not have at least one Equipment record – the file is in error.

The following example would be rejected by the Format Validation pass as the header record says that there are five data rows and there are only four rows. Both the CSV and error message are shown in the following figures. The error message is generated within OMS upon detecting the error in the Format Validation process specifying that the data rows do not match what was defined in the file.

Figure 32: Generation Upload CSV – Format Error

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	SUBMISSION_TYPE=GENERATION&												
2	DATA_ROWS=5												
3	GENERAL	SUBMIT	TEST-GO-ID		621	90	1	455	Description of Work	Comments	Contact Name	Generic_email@GOuser.com	800-888-8888
4	EQUIPMENT	12340	843	0	0						01/01/2023 07:00	01/01/2023 19:00	
5	EQUIPMENT	12341	843	0	0						01/01/2023 07:00	01/01/2023 19:00	
6	EQUIPMENT	12342	843	0	0						01/01/2023 07:00	01/01/2023 19:00	

Figure 33: Generation Upload Message – Format Error
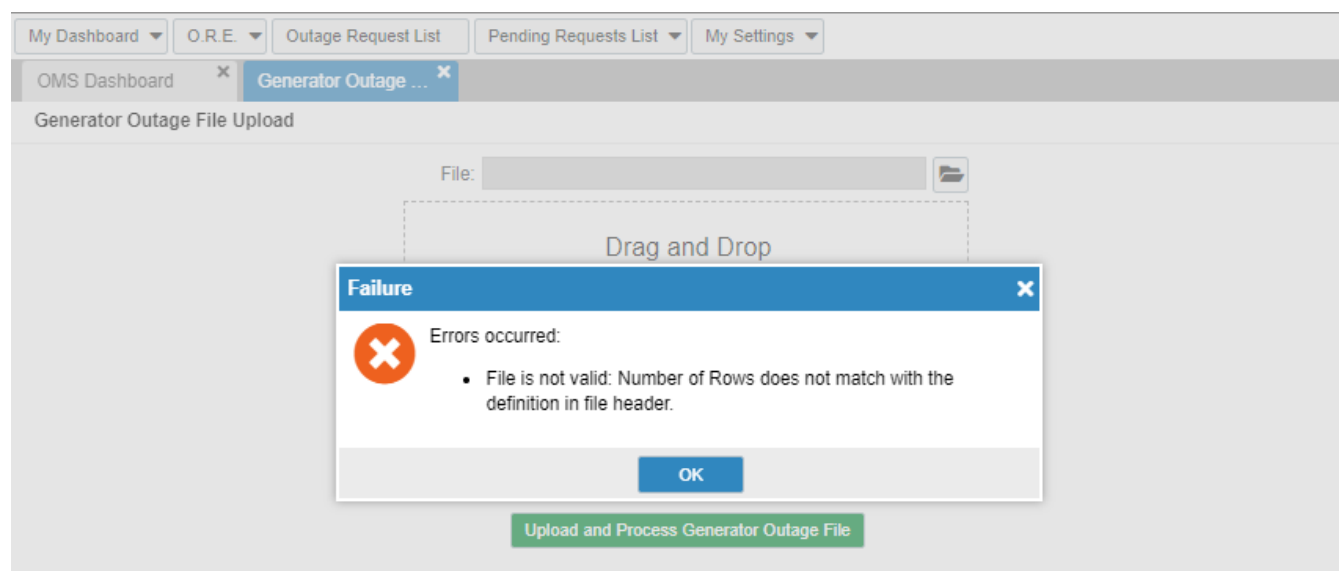
10.1.5.2. Syntax Validation

The second validation performed is a syntax check. This will encompass validating that the correct component records are present for each individual outage request in the CSV file. Additionally, data item values that will be used as a lookup code on an OMS table will be validated. The following table lists all the Syntax Validation errors.

Figure 34: Syntax Validation Errors

Syntax Validation Errors	
Invalid Format - field name must be a numeric value.	If data value submitted on .CSV file is not numeric – field is in error.
Invalid field name. Value cannot be greater than 999.	If data format definition is NUMBER (03), and data value submitted on. CSV file is >999 – field is in error.
Missing Required Data – data field name	If any of the data items do not have a value submitted on the. CSV file – the file is in error. These are required fields. Outage Action Request Type Schedule Type Description of Work PTID Outage Type Schedule Start Date Scheduled End Date
Required GO or OMS Outage ID is missing.	If Outage Action = 'MODIFY,' 'CANCEL' or 'COMPLETE,' either the GO Outage ID or the OMS Outage ID is required.
Invalid OMS Outage ID.	If Outage Action = 'SUBMIT' and OMS Outage ID is populated – file is in error.

Syntax Validation Errors	
Invalid OMS Outage ID for User.	If user submitting an Outage Action = 'MODIFY,' 'CANCEL,' or 'COMPLETE' is not authorized to access the referenced OMS Outage ID - file is in error.
Invalid Outage Action. Values include 'SUBMIT,' 'MODIFY,' 'CANCEL,' 'COMPLETE.'	If Outage Action submitted on .CSV file is not 'SUBMIT,' 'MODIFY,' 'CANCEL,' or 'COMPLETE' – field is in error.
Invalid Outage Request Type.	Outage Request Type submitted on .CSV file is not found in OMS tables.
Invalid Schedule Type.	Schedule Type submitted on .CSV file is not found in OMS tables.
Invalid Equipment Outage Type.	Equipment Outage Type submitted on .CSV file is not found in OMS tables.
Invalid Test Type.	Test Type submitted on .CSV file is not found on OMS tables.
Invalid Emergency Restoration Time Label.	Data value submitted on .CSV file is not found in OMS tables.
Invalid field name. Text must be enclosed in "."	Data value submitted on .CSV file for Description of Work, Reason or Comments is not enclosed in "."
Invalid Format for date. Correct format is mm/dd/yyyy hh:mm.	Data value is not submitted in correct format – field is in error.
Invalid Month: value	Data value submitted on .CSV file is in error.
Invalid Day: value.	Data value submitted on .CSV file is in error.
Invalid Hour: value.	Data value submitted on .CSV file is in error.
Invalid Minute: value.	Data value submitted on .CSV file is in error.

The following example would be rejected by the Syntax Validation pass as the entered Scheduled End dates are not valid entries. Both the CSV and error message are shown in the following figures. The error message is generated within OMS upon detecting the error in the Syntax Validation process specifying that the data contains invalid dates.

Figure 35: Generation Upload CSV – Syntax Error

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	SUBMISSION_TYPE=GENERATION&												
2	DATA_ROWS=4												
3	GENERAL	SUBMIT	TEST-GO-ID		621	90	1	455	Description of Work	Comments	Contact Name	Generic_email@GOuser.com	800-888-8888
4	EQUIPMENT	12340	843	0	0						01/01/2023 07:00	06/31/2023 19:00	
5	EQUIPMENT	12341	843	0	0						01/01/2023 07:00	06/31/2023 19:00	
6	EQUIPMENT	12342	843	0	0						01/01/2023 07:00	06/31/2023 19:00	

Figure 36: Generation Upload Message – Syntax Error
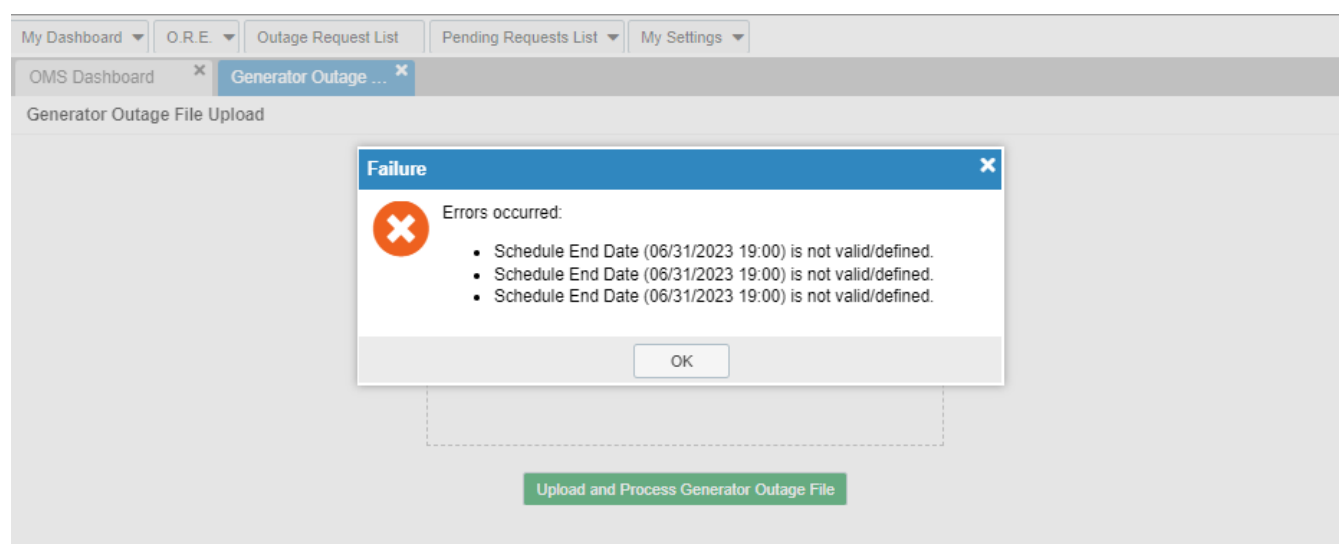
10.1.5.3. Business Rules Validation

The final validation performed is on applicable business rules. In the Business validation process, each record within the entire outage request (General record and all Equipment records) must pass the validation rules for the outage request to be submitted. The following table lists all the Business Rule Validation errors.

Figure 37: Business Rules Validation Errors

Business Rules Validation Errors	
Invalid PTID value. User is not authorized to schedule the referenced PTID.	If user is not authorized to schedule against the referenced PTID submitted on the Outage Request – field is in error.
WARNING: Invalid Max Unit Output. Max Unit Output cannot be greater than DMNC value – value MW.	If data value submitted on .CSV file is greater than the DMNC value in the OMS table GEN_DMNC – field is in error. This error will trigger a warning message in the email reply, but the file will still process.
Invalid AVR unit value for Request Type.	If data value submitted on .CSV file is greater than zero, and Request Type NOT = 'Forced AVR/VSS Outage' OR 'Scheduled AVR/VSS Outage' – field is in error.
Invalid Date Range. Scheduled End Date/Time must be equal to or later than Scheduled Start Date/Time.	If Scheduled End Date is less than Scheduled Start Date – field is in error.
WARNING: Overlapping Outage Request with OMS Outage ID XX-XXXX (toa_app_data.app_num)	Overlapping outages are defined as two or more outages that have the same PTID and the Schedule Start/End Dates overlap with each other. This error will trigger a warning message in the email reply, but the file will continue processing.
'MODIFY' Action failed. OMS was unable to find a match on GO Outage ID or the OMS Outage ID	The .CSV file contains a General record with an Outage Action = 'MODIFY' and a record cannot be found that matches GO Outage ID or the OMS Outage ID

Business Rules Validation Errors	
'CANCEL' Action failed. OMS was unable to find a match on GO Outage ID or the OMS Outage ID	The .CSV file contains a General record with an Outage Action = 'CANCEL' and a record cannot be found that matches GO Outage ID or the OMS Outage ID
'COMPLETE' Action failed. TOA was unable to find a match on GO Outage ID or the OMS Outage ID	If the .CSV file contains a General record with an Outage Action = 'COMPLETE' and a record is not found that matches GO Outage ID or the OMS Outage ID
A Reason is required for a 'MODIFY' or a 'CANCEL' Outage Action	If the Outage Action is either a 'MODIFY' or a 'CANCEL,' then the Reason field must be filled in and enclosed in quotes "."
A Schedule End Date is required for a 'COMPLETE' Outage Action	If the Outage Action is 'COMPLETE,' then the Schedule End Date field must be filled in with a valid date.
Invalid Date Range. For 'COMPLETE' the Schedule End Date/Time must be less than or equal to current Date/Time.	If Schedule End Date is greater than current date/time – field is in error.
A duplicate of the Outage Request (OMS Outage ID) was found, but re-submission disregarded.	If a duplicate Outage Request is found, the original is retained, and the re-submission is disregarded.
A duplicate of the Outage Request (OMS Outage ID) was found, but the record was not available for 'MODIFY' action.	A 'MODIFY' action is encountered, but the target Outage Request of the modification is not in either the 'APPROVE' or "DENY" state, so the 'MODIFY' is disregarded.
The 'COMPLETE' Outage Action has been rejected. The Outage Request is not in an Approved state.	If a 'COMPLETE' action is encountered, but the target Outage Request is not in the 'APPROVE' state, the 'COMPLETE' is disregarded.
Outage Request (OMS Outage ID) was previously cancelled or completed.	A 'CANCEL' action is encountered, but the target Outage Request is already in a cancelled state, so the 'CANCEL' is disregarded.

The following example would fail due to the Business Rules Validation pass as the entered PTIDs are not available to the GO. In this case, the upload message would indicate a successful upload for outage processing. At this point the system would attempt to process the upload but fail due to violation of a business rule. Both the CSV and error email are shown in the following figures. The email associated with the error is sent upon detecting the error in the Business Rules Validation process specifying that the data contains unavailable PTIDs.

Figure 38: Generation Upload CSV – Business Rule Error

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	SUBMISSION_TYPE=GENERATION&												
2	DATA_ROWS=4												
3	GENERAL	SUBMIT	TEST-GO-ID		621	90	1	455	Description of Work	Comments	Contact Name	Generic_email@GOuser.com	800-888-8888
4	EQUIPMENT	12340	843	0	0						01/01/2023 07:00	06/30/2023 19:00	
5	EQUIPMENT	12341	843	0	0						01/01/2023 07:00	06/30/2023 19:00	
6	EQUIPMENT	12342	843	0	0						01/01/2023 07:00	06/30/2023 19:00	

Figure 39: Generation Upload Email – Business Rule Error

[EXT] GENERATION - Uploaded Outage Request Failed

donotreply@oati.net
To ○ bogus@oati.net; ○ Generic_email@GOuser.com

↩ Reply ↩ Reply All → Forward ⋯

Please direct replies to genplan@nyiso.com

- Validation started.
- Format Validation Passed.
- Syntax Validation Passed.
- Business Validation Warning due to:
- Business Validation Failed due to:
  - Generator Maintenance data is not defined for PTIDs: '12340, 12341, 12342'
  - Generator Maintenance data is not defined for PTIDs: '12340, 12341, 12342'
- GO Outage Request has failed.

10.2. XML Upload Introduction

This section describes the TO and GO Upload process, which is a mechanism for a Transmission or Generation Owner to transmit an Outage Request to and from the NYISO OMS Outage Scheduler via a web service. The web service is based on a RESTful API. Interfacing with NYISO's web service is made available using an XML file following the provided XML Schema Documents (XSDs).

Currently, Transmission or Generation Owners can create Outage Requests using the web-based OMS Outage Request Entry screens. TOs and GOs may use their own outage scheduling application to generate and transmit Outage Requests to the web service installed on the NYISO's server.

The following flowchart describes the upload and validation processes that are performed on the uploaded file.

Figure 40: Upload Flowchart

The User creates a web service client software based on the provided WSDL schema.

The User uses their own application to upload Outage Requests to NYISO OMS via internet.

OMS will process the file and apply all syntax and validation tests.

END OF FILE

YES → The User's web service client will receive a response from NYISO's web service server for acceptance of outages.

NO

VALIDATION ERROR

YES → The User's web service client will receive a return response indicating errors.

NO

Outage Requests will have a record inserted into the appropriate OMS tables. → OMS

10.2.1. Overview of the Upload Templates

The upload request has a header and a payload data structure. The header includes common data of the request. The payload includes the data specific to one Outage Request.

Below is an example of the data structure of an upload request:

Figure 41: Upload Request Data Structure

Parameter Name	Parameter Type	Description
Header	RequestHeader	Common request data
Outage	OutageRecord	The outage equipment which should be acted upon.
Action	RequestActionType	Describes the action for the upload request. Available actions include: 'Submit' 'Modify' 'Cancel' 'Complete' (GO User Only) 'Approve' (TO User Only) 'Deny' (TO User Only) 'Query'

10.2.1.1. Authentication Requirement

TO web service client is required to add the user's login/password in the web service request's HTTP header per HTTP's standard for basic authentication. The UserID and Password is the TO user's assigned MIS user ID and password. This information will be submitted to the LDAP server for authentication before the TO Upload file is processed.

10.2.1.2. Template Header

The TO Upload .XML file contains a single header. The header contains information about common data of the request.

The data contained within the Header component is as follows:

Figure 42: Template Header - Header Component

Header Component	Format	Description
Version	String (50)	Current web service version. ***Note: Reserved for future use.***
Expiration Time	Date	***Note: Reserved for future use.***
Request_Type	String (50)	Identifies the file as an outage request and consists of the text string "Outage Upload."

> ***Note:*** There are no required fields.

10.2.1.3. Template Payload

The Upload .XML file can contain up to 3 components for an Outage Request. To identify the components of an Outage Request, the Upload .XML file will contain a record type indicator to identify the component. The three components for the Outage Request will include:

- **Outage Record Component**
- **Outage Schedule Component**
- **Local Generation Impacted Component (This only applies to Transmission Uploads)**

The Outage Record component defines the outage and must occur once for each outage request.

The data contained within the Outage Record component is as follows:

Figure 43: Template Payload – Outage Record Component

Outage Record Component	Format	Description
OutageType	String	Values include: 'Transmission' 'Generation'
TOOutageId	String (50)	TO generated Outage ID. This is the TOs identifier in their outage scheduling application, for Transmission outage only.
GOOutageId	String (50)	GO generated Outage ID. This is the GOs identifier in their outage scheduling application, for Generation outage only.
NYISOOutageId	String (50)	OMS generated Outage Ref ID. Required for 'Modify,' 'Cancel,' 'Approve' or "Deny" Outage Actions. Blank for 'Submit' Outage Action.
PostedReason **(Transmission only)**	String (200)	Posted Reason. Values Include: 'Breaker / Disconnect Work' 'CCVT or Lightning Arrestor Work' 'Diagnosic Tests – Other' 'Emergency Outage' 'Equipment Painting' 'Facility Maintenance – Annual' 'Facility Maintenance – Other' 'Facility Oil Leak' 'Forced Outage' 'Hot Spot Repair' 'Insulator Work' 'Other' 'Outage Extension' 'Relay Protection Work' 'Relay Trip Tests' 'Safety Clearance' 'Static or Guy-wire or Phase Conductor Work' 'Structure Work' 'Switch to Release / Restore' 'System Improvement'

RequestType	String (50)	Outage Request Type. Values include:
		'Annual Routine Maintenance'
		'Forced AVR/PSS Outage' (GO Only)
		'Forced Outage'
		'Inactive Reserves' (GO Only)
		'Miscellaneous' (GO Only)
		'Mothball' (GO Only)
		"Scheduled AVR/PSS Outage (GO Only)
		'Scheduled Routine Maintenance'
		'Scheduled Test' (GO Only)
		'Unscheduled Trouble Maintenance'
ScheduleType	String	Outage Schedule Type. Values include:
		'DAILY'
		'DAILY(NO WEEKENDS)'
		'CONTINUOUS'
WorkDescription	String (50)	Free form text. 50 Characters or less
Comments	String (2000)	Not a required data item. Free form text.
EmergencyRestorationTime	Number	Not a required data item. Default is a blank value.
EmergencyRestorationLabel	String	Not a required data item. Will contain a value if Emergency Restoration Time has a value.
		Values include:
		'Minutes'
		'Hours'
		'Days'
		'N/A'
		'Completion'
AlternateContact	String (50)	Not a required data item. Default should be blank value. 50 Characters or less
AlternateEmail	String (50)	Not a required data item. Default should be blank value. 50 Characters or less
AlternatePhone	String (18)	Not a required data item. Default should be blank value. 18 Characters or less

> **Note:** Items in Bold are required.

The Outage Schedule component defines the schedule for one piece of equipment in a given outage.

The data contained within the Outage Schedule component is as follows:

Figure 44: Template Payload – Outage Schedule Component

Outage Schedule Component	Format	Description
TOEquipmentId **(Transmission Only)**	String (10)	TO Equipment ID. This value can be the same as the NYISO PTID.
TOEquipmentName (**Transmission Only)**	String (360)	TO Equipment Name or Alias. This value can be the same as the NYISO PTID.
TOSubstation (**Transmission Only)**	String (32)	TO Substation name for equipment.
PTID	String (20)	NYISO PTID
Ref_ID	String (61)	Reference ID for the schedule of the equipment. This field gets automatically assigned during a Submit. ***Note: Required when doing a Modify/Delete on the schedule of the equipment.***
EquipmentOutageType	String (200)	Values Include: 'Out of Service' 'In Service Relay Work' (TO Only) 'In Service Work' 'Hot Line Work (Reclosers Off)' (TO Only) 'Derate' (GO Only) 'POI Derate' (GO Only) ***Note: Required when the outage action is Submit or Modify action is Add.***
UpperOperatingLimit **(Generation Only)**	String (100)	Numeric maximum unit output
LowerOperatingLimit **(Generation Only)**	String (100)	Numeric minimum unit output
POILimit **(Generation Only)**	String (100)	Numeric maximum injection limit

POWLimit **(Generation Only)**	String (100)	Numeric maximum withdrawal limit
NetStorageLimit **(Generation Only)**	String (100)	Numeric storage capacity
TestType **(Generation Only)**	String (100)	Values Include: 'Generator Test – Other' 'Black Start Test' 'DMNC Test' 'VAR Test' 'RATA Test' 'Mill Fitness Check' 'ReHeat Int/Stop Vlv Leak Test' 'N2 Leakage Test' 'Boiler Efficiency Test' 'GT Monthly OP Test' 'Particulate test' 'NOx test' 'Full Load Fuel Oil Test'
OutageStartDate	Date	Scheduled Start Date of equipment outage. Format mm/dd/yyyy hh:mm. ***Note: Required when outage action is Submit or Modify action is Add.***
OutageEndDate	Date	Scheduled End Date of equipment outage. Format mm/dd/yyyy hh:mm.

Note: Items in Bold are required.

The Local Generation Impacted component defines the impact to a generator for a given transmission outage, if applicable.

The data contained within the Local Generation Impacted component is as follows:

Figure 45: Template Payload – Local Generation Impacted Component

Local Generation Impacted Component	Format	Description
PTID (**Transmission Only**)	String (20)	NYISO PTID for generator impacted.
ImpactType (**Transmission Only**)	String	Impact on Generator. Values include: 'Out of Service' 'Derate' 'Must Run'
MaxUnitOutput (**Transmission Only**)	String (100)	MW value that unit can operate to. ***Note: This is required when the ImpactType is Derate.***

Note: Not all Outage Requests have a local generator impact, but if there is an impact all items are required.

10.2.2. Additional Upload Rules and Requirements

The Upload .XML file can contain multiple Outage Requests. Each new request will contain an Outage Record. OMS will identify a new Outage Request when an Outage Record component is encountered in the file. Transmission and Generation outages must be submitted as separate uploads.

10.2.2.1. Submitting a new Outage Request

The submission of a new Outage Request will require the following record types:

- one Outage Record component with a Request Action Type = 'Submit,' and a blank NYISO Outage Id,
- a minimum of one or more Outage Schedule record(s)

10.2.2.2. Modifying an Outage Request

The modification to an Outage Request must contain one Outage Record component with a Request Action Type = 'MODIFY' and either the TO/GO Outage Id or NYISO Outage Id, Schedule Type and Reason fields populated.

The TO/GO Outage Id field must be populated on the previously submitted Outage Request either by

submitting it on the initial Upload .XML file or entering it later via the OMS web-based screen. Newly entered Outage Ids should be compared against other Ids previously entered in order to ensure there are no duplicates.

If the NYISO Outage Id is supplied, it will be used to locate the correct Outage Request. Otherwise, the correct Outage Request record will be selected using the TO/GO Outage Id. The list of all Outage Requests will first be filtered so that only Outage Requests that the submitting user has access to will be searched for the matching TO/GO Outage ID. This pre-filtering will help mitigate the possibility of an Organization accessing another Organization's identical Outage ID.

Modifying an outage via the web service can have the following sub-commands:

- Add new schedules/equipment
- Modify an existing schedule
- Delete an existing schedule/equipment

Modifying a schedule has three data components:

- Sub-action: add, modify, or delete.

- A New schedule including Equipment, Outage Type and Start/End dates.

- Existing schedule to be modified or deleted: Equipment, Outage Type and Start/End dates.

To specify a particular schedule to be modified, it requires that several components to be matched – a combination of equipment attributes, schedule type, and the start/end dates. Finding the schedule to be modified can be done the following ways:

- Using the RefId. The RefId not only specifies the equipment, but it also includes the start/end dates, therefore a single RefId value is enough to specify a specific schedule to be modified in an outage request.

- The PTID, together with the Start/End dates can specify the specific schedule to be modified in an outage request.

- The combination of TO/GO ID, TO/GO Equipment Name and TO/GO Substation, along with the Start/End dates can specify the schedule to be modified in an outage request.

To specify the equipment to be modified, it requires that a minimum of a PTID or a TO/GO ID to be specified. In the case of an alias equipment being modified, it may require additional information to be entered, in order to specify the equipment to be modified, such as the TO/GO ID and the TO/GO substation or the PTID and the TO/GO Equipment Name. If this additional information is not provided, then the modification being made would be applied to all pieces of equipment matching the given equipment attribute.

When a User Scheduler transmits a Modify via an upload web service, it implies a Submit is being done.

When the upload software processes the Modify request, it will place the request into the Submitted state. From here the ISO Scheduler has the ability to Evaluate the modification.

Any Outage Requests which were previously part of an upload XML that contained multiple pieces which do not have any changes, do not need to be included in the modification upload. Only pieces of an Outage Request that are being modified need to be included.

10.2.2.3. Cancelling an Outage Request

The cancellation of an Outage Request will require the following records:

- An Outage Record component with a Request Action Type = 'Cancel,' either the TO/GO Outage Id or NYISO Outage Id and Reason field populated.
- If the NYISO Outage Id is supplied, it will be used to locate the correct Outage Request. If the NYISO Outage Id is not supplied, the correct record will be selected using the TO/GO Outage ID. The list of all Outage Requests will first be filtered so that only Outage Requests that the submitting User has access to will be searched for the matching TO/GO Outage ID. This pre-filtering will help mitigate the possibility of an Organization accessing another Organization's identical Outage ID.

10.2.2.4. Approving an Outage Request

The approval of an Outage Request will require the following records:

- An Outage Record component with a Request Action Type = 'Approve,' and either the TO/GO Outage Id or NYISO Outage Id field populated.

10.2.2.5. Denying an Outage Request

The denial of an Outage Request (TO Only) will require the following records:

- An Outage Record component with a Request Action Type = 'Deny,' either the TO/GO Outage Id or NYISO Outage Id, Alternate Start Date, Alternate End Date, and Reason fields populated.

10.2.3. XML Validation

When an Upload .XML file is sent to the NYISO web service, the Outage Request is validated and a response message is sent back to the client software, which gives the result of the submitted request. If an error occurs, the response message will include the result code and the error code and error message. Below is a list of the error codes and corresponding error messages.

Figure 46: List of Error Information

infoID	InfoType	Detail
10	WS_FATAL	Service Internal error
11	WS_FATAL	Could not connect to DB

infoID	InfoType	Detail
15	WS_FATAL	Unknown user
20	WS_FATAL	Save request fail
25	WS_FATAL	Fail to perform action
30	WS_FATAL	Data load fail
50	WS_FATAL	Empty username
60	WS_FATAL	Empty password
70	WS_FATAL	Unknown lookup type
80	WS_FATAL	Empty upload information
90	WS_FATAL	Unknown upload action
1105	WS-ERROR	Invalid participant information
1106	WS-ERROR	Invalid Posted Reason
1107	WS-ERROR	Invalid Request Type
1108	WS-ERROR	Invalid Schedule Type
1109	WS-ERROR	Outage Type required
1110	WS-ERROR	Participant information required
1111	WS-ERROR	Posted Reason required
1112	WS-ERROR	Request Type required
1113	WS-ERROR	Schedule Type required
1114	WS-ERROR	Invalid sub action for schedule when web service action is SUBMIT
1115	WS-ERROR	Cannot locate schedule information
1116	WS-ERROR	Cannot uniquely identify equipment by specified NYISO PTID
1117	WS-ERROR	Outage Type cannot be modified
1118	WS-ERROR	Schedule Type cannot be modified
1119	WS-ERROR	Cannot find the schedule to modify. Schedule Type, Start Date and equipment info are required.
1120	WS-ERROR	Invalid equipment or not authorized to schedule outage for the equipment
1121	WS-ERROR	Invalid Outage Type for equipment
1122	WS-ERROR	Schedule already exists
1123	WS-ERROR	Invalid Impact for generation
1124	WS-ERROR	Invalid NYISO generator ID for adding Local Generation Impacted
1125	WS-ERROR	Cannot find specified NYISO generator ID to modify Local Generation Impacted
1126	WS-ERROR	Start date cannot be empty
1127	WS-ERROR	There is only one schedule left. Deletion is not allowed. Please use Cancel.
1128	WS-ERROR	Valid TO Outage ID or NYISO Outage ID is required for Query or Cancel or Approve or Deny action
1129	WS-ERROR	Not able to locate equipment schedule for modify. Schedule Type, Start Date and equipment info are required.

infoID	InfoType	Detail
1130	WS-ERROR	Invalid action for modifying schedule
1132	WS-ERROR	Not authorized to approve
1135	WS-ERROR	Action not allowed because the request is in Cancelled status
1136	WS-ERROR	Invalid action for web service
1137	WS-ERROR	Cannot modify the request because it is not in Approved or Submitted or TO Modified status. Only Comments or TO Outage ID can be modified in other status.
1138	WS-ERROR	Not able to locate equipment schedule for delete
1139	WS-ERROR	Approve can only be done in Evaluating status
1140	WS-ERROR	Outage has already been approved.
1141	WS-ERROR	Invalid sub action for Impacted Generation when web service action is SUBMIT.
1142	WS-ERROR	Not authorized to deny the request because you are not the owner or the switching agent
1143	WS-ERROR	Not authorized to query the request
1144	WS-ERROR	Not authorized to cancel the request because you are not the requestor
1145	WS-ERROR	Not authorized to modify the request because you are not the requestor
1146	WS-ERROR	Schedule Type is required when both NYISO Outage ID and TO Outage ID are not specified
1147	WS-ERROR	Not able to locate schedule or generation impact to modify
1148	WS-ERROR	Start date time cannot be later than end date time
2201	WS-WARNING	Outage Type ignored because either NYISO or TO request ID is not specified
2202	WS-WARNING	Schedule Type ignored because either NYISO or TO request ID is not specified
2203	WS-WARNING	Fail to add audit trail for approve action
2204	WS-WARNING	Fail to add audit trail for deny action
2205	WS-WARNING	Fail to add audit trail for cancel action
3301	WS-INFO	Comments or TO outage ID is modified.

10.2.3.1. Outage Request Re-Submission Detection

In addition to the previously mentioned XML validation, there is also a validation process to manage the re-submission of Outage Requests via the Upload Web Service. This validation will be at an Outage Request level. The process described below will be used to determine if the Outage Request on the Upload .XML file was previously processed.

The OMS application will use the following data items on the Upload .XML file to find a match in the OMS tables.

- Schedule Type
- PTID
- Schedule Start Date
- Schedule End Date

All

OR

- TO/GO Outage Id

OR

- NYISO Outage Id

If a match is found, the following rules will be used to determine if it was a previously processed record, or a record that requires processing.

- If an Outage Action is 'Submit' and the OMS Outage Status = 'Created,' based on the above criteria, OMS will overwrite the existing record except for the NYISO Outage Id field, which has already been assigned.

- If the Outage Action is 'Submit' and the OMS Outage Status = 'Submitted,' the record is assumed to be previously processed and will be ignored. The RPC reply will state that a duplicate of the Outage Request was found. The message will state: *"A duplicate of the Outage Request (TO/GO Outage Id) (NYISO Outage Id (NYISO Outage Id)) found but disregarded."*

- If the Outage Action is 'Modify' and the OMS Outage Status does NOT = 'Approved' OR = 'Deny,' the record is not available for the Modify action and will be ignored. An Outage Request must be in the 'Approve' or 'Deny' state in order for a 'Modify' action to be valid. The RPC reply will state: *"A duplicate of the Outage Request (TO/GO Outage Id) (NYISO Outage Id (NYISO Outage Id)) was found, but the record was not available for the 'Modify' action."*

- If the Outage Action is 'Cancel' and the OMS Outage Status = 'Cancel,' the record is assumed to be previously processed and will be ignored. The RPC reply message will state: *"TO/GO Outage Request (TO/GO Outage Id) (NYISO Outage Id (NYISO Outage Id)) was previously cancelled."*

If none of the above scenarios apply to the Outage Request, the request will be processed.

10.2.4. Additional Upload Information

If additional information is required about the NYISO OMS Outage Upload Web Service, please contact the NYISO Scheduling department. A Software Design Specification document can be provided.

Appendix A   Acronyms

Acronym	Definition
API	Application Programming Interface
CSV	Comma Separated Variable
GO	Generator Owner
GOCP	Grid Operations Coordination Portal
MP	Market Participant
NYISO	New York Independent System Operator
OMS	Outage Management System
PDF	Portable Document Format
PTID	Point Identification
RPC	Remote Procedure Call
SOAP	Simple Object Access Protocol
TO	Transmission Owner
WSDL	Web Services Description Language
WS-JAX	Java API for XML Web Services
XML	eXtensible Markup Language