New York ISO
Independent System Operator

UG 25

Aggregation System User's Guide

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Revision History

Version	Effective Date	Revisions
1.0	04/16/2024	Initial Release

1. Introduction

The Aggregation System is a New York Independent System Operator, Inc. (NYISO) software application designed to support the participation of Distributed Energy Resources (DER) and Aggregations in the NYISO-administered markets. This document describes how to use the Aggregation System to perform certain tasks required to participate in the DER and Aggregation participation model. This document is intended for use by Aggregators who interface with the NYISO to represent Aggregations of DER.

1.1. Document Purpose and System Capabilities

Via a secure web-based interface, the Aggregation System is the means by which an Aggregator may enroll DER and Aggregations in the NYISO markets and manage ongoing participation of Aggregations.

This document includes the following sections in support of these functions to help the Market Participant (MP) navigate the Aggregation System:

- **Section 1** provides a general introduction to Aggregation System capabilities and describes the purpose of this document.
- **Section 2** describes the requirements to access and use the Aggregation System, including hardware and software, digital certificates, system use pre-requisites, NYISO Aggregator registration, and accessing/exiting the system.
- **Section 3** describes how to use the Aggregation System to perform tasks including, but not limited to: View Transmission Node, Obtain Aggregation ID, Create/Update Aggregations, View Aggregations, Create/Update Facilities, View Facilities, View Asset Source Configuration, Submit Aggregation Enrollment, Export Aggregation Details, Separate Aggregation Enrollment, Review/Past Due Aggregation Enrollment and ICAP related actions such as DMNC, ICAP and UCAP calculations among others.
- **Appendix A** lists applicable Aggregation data attributes.
- **Appendix B** lists applicable Facility data attributes.
- **Appendix C** identifies the required documents that are necessary to enroll Aggregations and DER.
- **Appendix D** lists applicable DMNC and DMNC Time Stacking attributes.
- **Appendix E** lists combinations of fuel and technology types for assets within DER facilities.

The NYISO will update the contents of this User's Guide as needed to reflect software functionality changes or modifications to market rules that would require new or different tasks to be performed by an Aggregator.

2. Access and Usage Requirements

System requirements to enable Aggregator access and use are described within this section. Please contact NYISO Stakeholder Services (stakeholder_services@nyiso.com) for assistance with functions not described in this User's Guide.

2.1. System Requirements

This section identifies the requirements to access the Aggregation System. Figure 1 lists hardware specifications, Figure 2 lists software specifications, and Figure 3 lists network specifications:

Figure 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

Figure 2: Software Specifications

Product	Required
Operating System	64-bit
Browser	a. Up to date version of a common internet browser b. Internet Explorer is not supported.
CSV/Excel	Spreadsheet application

Figure 3: Network Specifications

	Recommended	Optimal
Network Connectivity	T1 internet connection	OATInet or other high speed internet connection

Additionally, the NYISO requires:

1. A NAESB compliant digital certificate
2. Valid Aggregation System user credentials including User ID and associated password.

2.2. Using Digital Certificates

Each user must have a valid digital certificate installed on their computer and specific to their browser to access the Aggregation 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

2.3. Pre-Requisite for System Use

The following are pre-requisites for using this application:

1. Complete NYISO Customer Registration and Aggregator Registration processes. This can be done through the NYISO Member Community site:
   https://nyiso.force.com/MemberCommunity/s/login/
   Entities that wish to register as a NYISO Customer, Guest, Shared Governance Member or to amend their existing application may do so online using the NYISO Member Community. To request access to the NYISO Member Community, please submit your name, company name, email and phone number to the NYISO Registration Department.

2. Configure user computer(s) for system use.

3. Assign system user privileges at the organization level and configure individual users with applicable privileges. More detailed information can be found in the Market Participant Users Guide (MPUG) in Section 6.2.7.

2.4. Registering as a NYISO Aggregator

As part of the registration process, the prospective Aggregator must specify one or more individual representatives of their organization who will administer Aggregation System privileges for all other individual users within the organization. Upon completion of the registration process, the NYISO will assign the Aggregator's organization the privilege required to access Aggregation System, which will allow the designated administrator(s) to assign Aggregation System user privileges to members of the Aggregator's organization. If the MP Administrator (individual designated through NYISO registration as responsible for assigning privileges to users within organization) is not already registered, the NYISO will assign the MP Administrator a user ID and temporary password for accessing the NYISO

Market Information System (MIS), via which Aggregation System user privileges are administered. Once the user has logged in the first time, it is recommended that the user changes the password, but the system will not force a password reset (see Section 6.2.2 of the MPUG for further information). Otherwise, the MP Administrator's username and password are the same as those already used to access MIS.

Further information on registering as a NYISO MP can be found in the NYISO MPUG and Aggregation Manual, available from the NYISO Web site at the following URL:

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

The MP must next ensure that the computers of all prospective Aggregation System users are properly configured for system use.

2.5. Privileges & User Roles (Agg System MP User/ Agg System MP Read Only)

The tasks a user will be able to perform within the Aggregation System depend on the user's assigned privileges. Figure 4 lists the two levels of access privileges along with the usage rights conferred by those privilege levels.

Figure 4: AGG System Privilege Levels and Corresponding Usage Rights

Privilege Level	Usage Rights
Aggregation System MP User	Access to all displays and functionalities, including but not limited to those necessary to import, enroll, submit, remove, separate, search, export, refine data, and manage DER and Aggregations.
Aggregation System MP User Read Only	Access to all displays in a 'view only' capacity, export, search, and data refinement capabilities.

As reflected in Figure 4, system use is restricted at the AGG Web UI MP Read-Only ("Aggregation System MP Read Only") User level, whereas the AGG Web UI MP User ("Aggregation System MP User") confers full usage rights.

NYISO assigns user privileges via MIS as the final pre-requisite step before using the Aggregation System.

2.6. Accessing the System

Access to the Aggregation System is initiated through a secure page on the NYISO website.

Pre-requisite

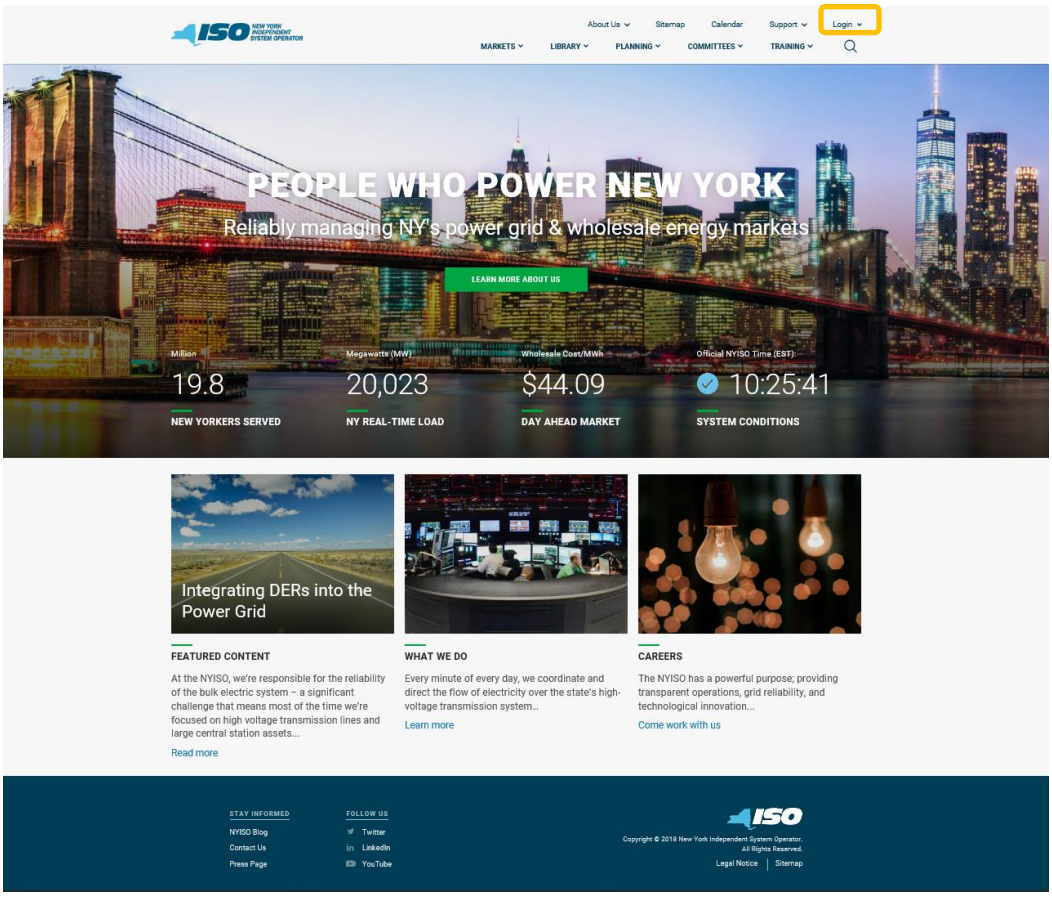
- The MP has completed all pre-requisite tasks for system use, as outlined in Section 2.2.

To access the Aggregation System

This procedure outlines the access path to the Aggregation System login page from the NYISO web site home page. If you would instead prefer to directly access the login page, the location is https://aggregation.nyiso.com/. In this case, skip directly to step 5 of this procedure.

1. Point your browser to the NYISO Home page at www.nyiso.com (see
2. Figure 5).

Figure 5: NYISO Home Page



3. On the NYISO Home page, position your mouse pointer over the **Login** header. The header expands to list of related categories of information.

4. Within the **Login** dropdown menu, choose **Market Access**.

5. Navigate to the **Aggregation System** heading, choose **User Login**.

   The Aggregation System login page is displayed (as shown in Figures 6 & 7).

Figure 6: NYISO AGG System Login Page

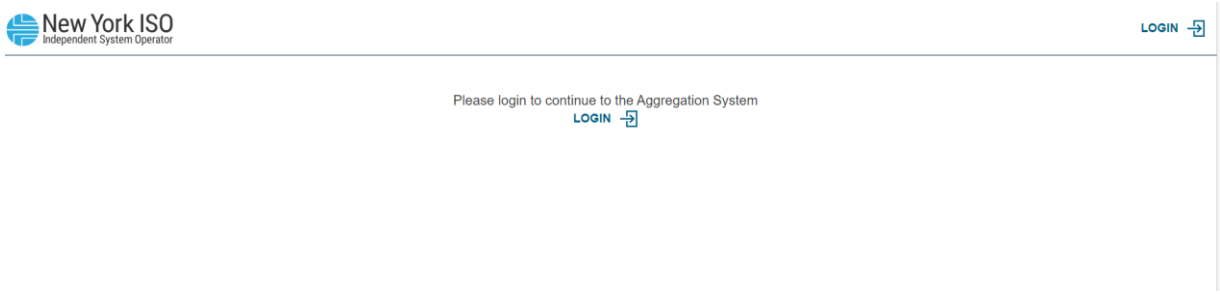
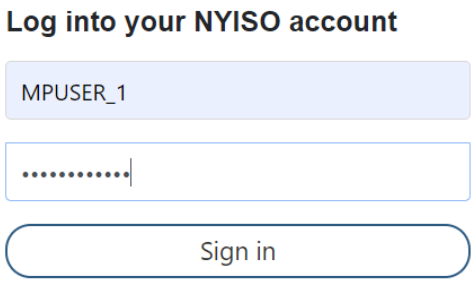


Figure 7: Sign In Page



6. In the corresponding fields, type your **User ID** and **Password** (see Figure 7 above).

   The password is case sensitive.

7. Activate the **Sign in** button.

   The Aggregation System opens to the Dashboard page, and system use may begin based on assigned privileges.

2.7. Exiting the System

Exiting the Aggregation System is accomplished by logging out of the system.

Pre-requisite

- The MP has accessed the system as described under section 2.5.

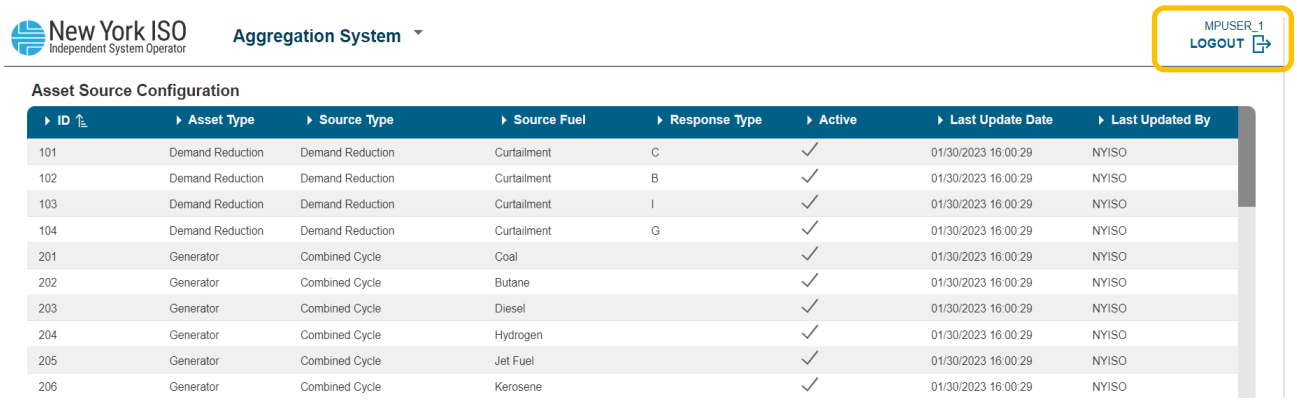
To exit the system

In the upper-right corner of the active page, click the **Logout** link (see Figure 8).

The system logs out the user, as indicated by the message displayed on screen.

The system also logs out the user automatically and does not save incomplete or unsaved data after 60 minutes of use (with prompts that notify the user of the pending logout starting with 5 minutes remaining).

Figure 8: Logout Link



3. Using the Aggregation System

Aggregators can access the Aggregation System to manage Aggregations for participation in the NYISO-administered Energy, Ancillary Services, and Installed Capacity markets. The Aggregation must satisfy all applicable eligibility and performance requirements necessary to participate in the NYISO-administered markets. For additional details regarding the timing and requirements associated with the enrollment process, please refer to the Aggregation Manual (https://www.nyiso.com/manuals-tech-bulletins-user-guides).

In order to access the Aggregation System, individual users from an Aggregator's organization must have one of the following privileges assigned by the applicable administrator:

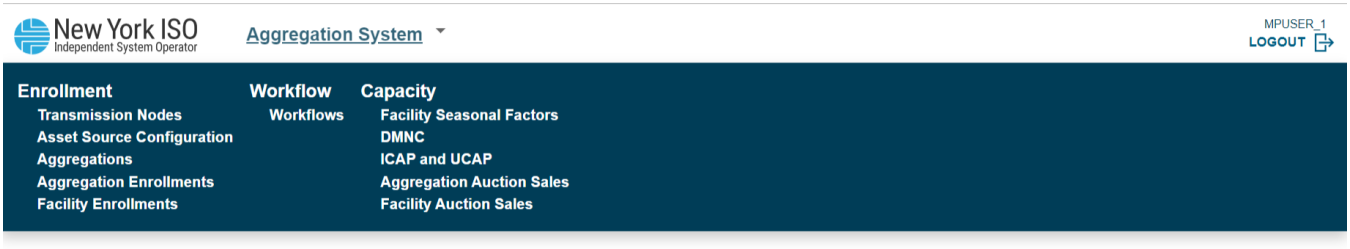
- "**Aggregation System - MP USER**"
- "**Aggregation System - MP READ ONLY**"

Upon receiving system access via one of the above privileges, users may perform the applicable functions associated with the assigned privilege in the Aggregation System.

3.1. View Transmission Node

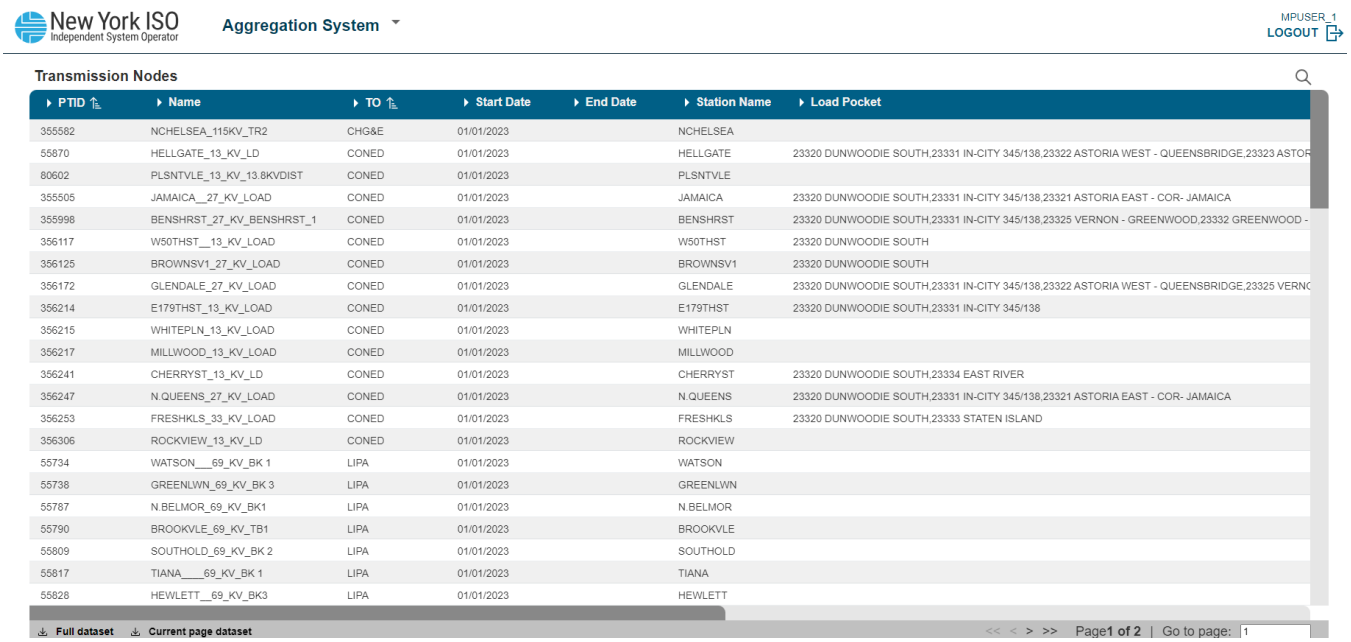
After login (described in Section 2.6), Aggregators will access the Aggregation System Dashboard shown in Figure 9 below.

Figure 9: Aggregation System Dashboard



The Transmission Nodes selection on this display will present the Transmission Nodes page, which allows an Aggregator to search for and view information about Transmission Nodes (Figure 10).

Figure 10: Transmission Nodes Page



Each active Transmission Node is listed on this display – prior to beginning enrollment of an Aggregation or DER, the Aggregator should review the list of active Transmission Nodes and identify the appropriate node based on the electrical location of its Aggregation(s). The Aggregator is required to obtain confirmation from the applicable Transmission Owner that the selected node is accurate based on the location of the Aggregation(s) and must submit evidence of such to the NYISO – please refer to the Aggregation Manual for process details and requirements.

Should a Transmission Node be retired, the NYISO shall notify any impacted Aggregators via email. The Transmission Node record shall receive an End Date, signifying that the Transmission Node is no longer active for LBMP calculation or modeling purposes. Impacted Aggregations will be required to re-import all impacted Aggregations and DER facilities mapping to the new applicable Transmission Node, upon receiving advanced notice of 90 days from the NYISO.

Each active Transmission Node is characterized in the Aggregation System by a series of attributes, all viewable by the Aggregator user(s):

Attribute	Format	Description
PTID	Integer	Unique ID assigned to the Transmission Node
Name	Text	Name of the Transmission Node
TO	Text	Transmission Owner in whose jurisdiction the Transmission Node is located
Start Date	Date	Market participation commencement date

End Date	Date	Market participation conclusion date (if applicable)
Station Name	Text	Name of substation associated with the Transmission Node
Load Pocket	Multi-Selection	One or more Load Pockets selected when Transmission Node is located in Zone J
Zone	Text	Zone where the Transmission Node is located
Subzone	Text	Subzone where the Transmission Node is located
Substation Zip Code	Integer	Zip code where station is located
EDC Area	Integer	Economic Dispatch Control area value
Description	Text	Additional description or details as needed
Last Update Date	Date	Date that the record was last updated
Last Updated By	Text	Last User that updated the record

The list of active Transmission Nodes can also be found on the NYISO website under Markets → Energy Market & Operational Data → Reports and Info (Figure 11). This list is available in .csv, .htm, and PDF formats through the NYISO website (Figure 12).

Figure 11: Active Transmission Nodes

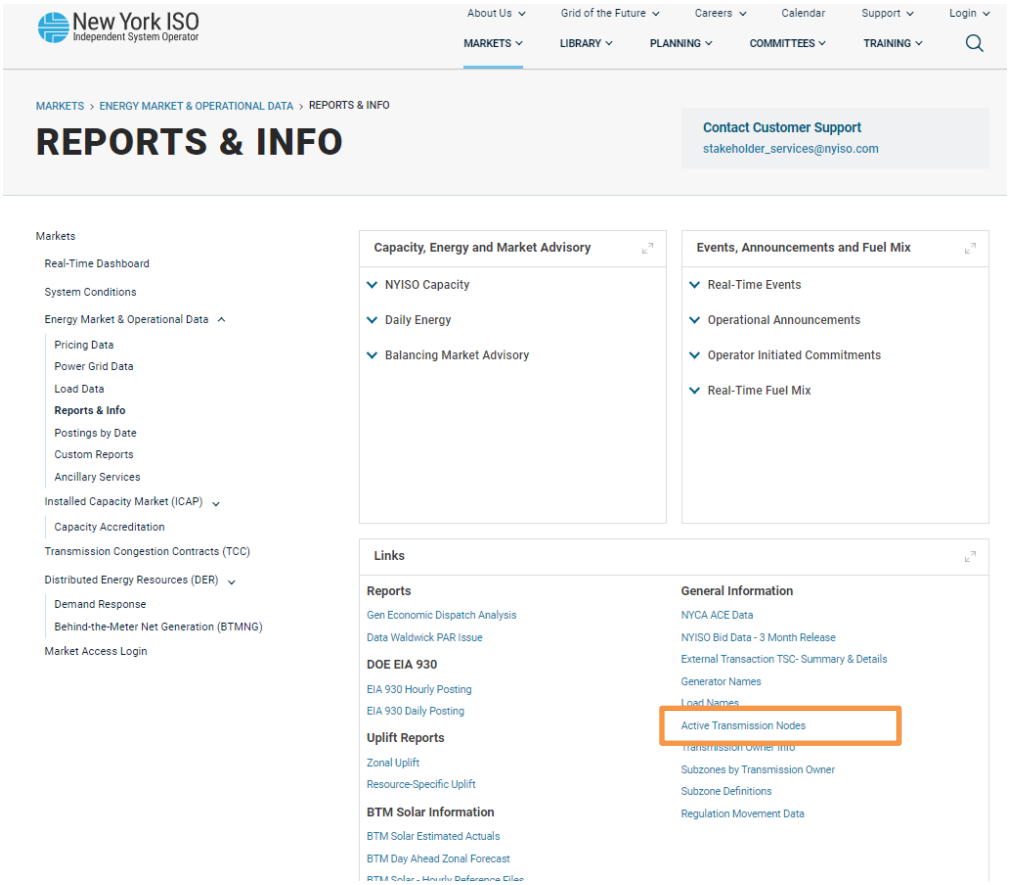
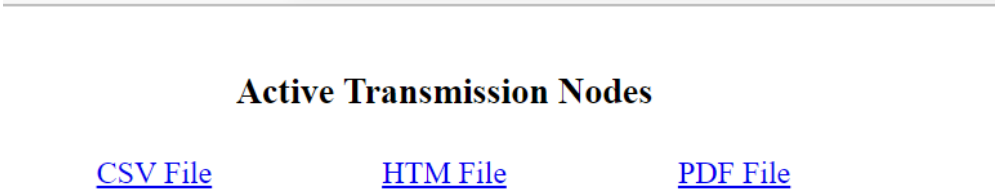


Figure 12: Active Transmission Nodes File Types

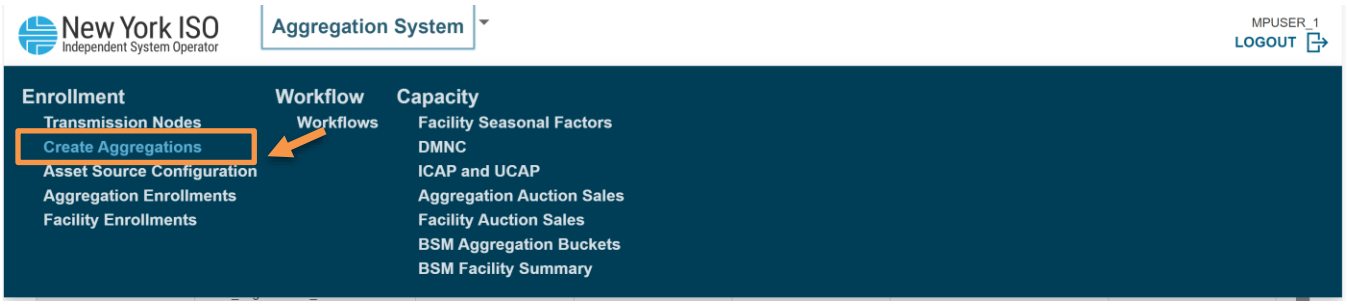


3.2. Obtain Aggregation ID

After viewing the list of active Transmission Node PTIDs to identify the appropriate Transmission Node to which all Aggregations and DER will electrically map, an Aggregator may then initiate the enrollment process. An Aggregator may import and save individual DER facility information or Aggregation information in the Aggregation System in any order - the NYISO does not require an Aggregation to be established before DER information can be imported and saved. Obtaining an Aggregation ID is a prerequisite to importing Aggregation information. Obtaining an Aggregation ID allows an Aggregator to subsequently 'Create' an Aggregation using that ID.

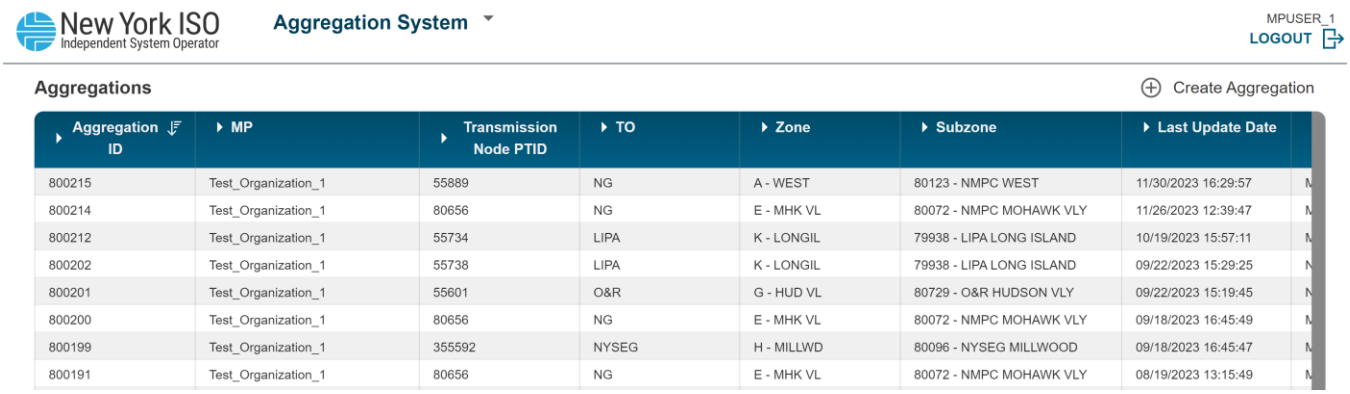
An Aggregator should first navigate to the 'Create Aggregations' display, which can be accessed through the main Aggregation System drop down menu (Figure 13).

Figure 13: Create Aggregations



Upon opening the 'Aggregations' display, the list of existing Aggregations managed by the Aggregator will populate (Figure 14). If the Aggregator is creating an Aggregation for the first time, the table will be empty. Each Aggregation is characterized by several attributes, which are described later in this section.

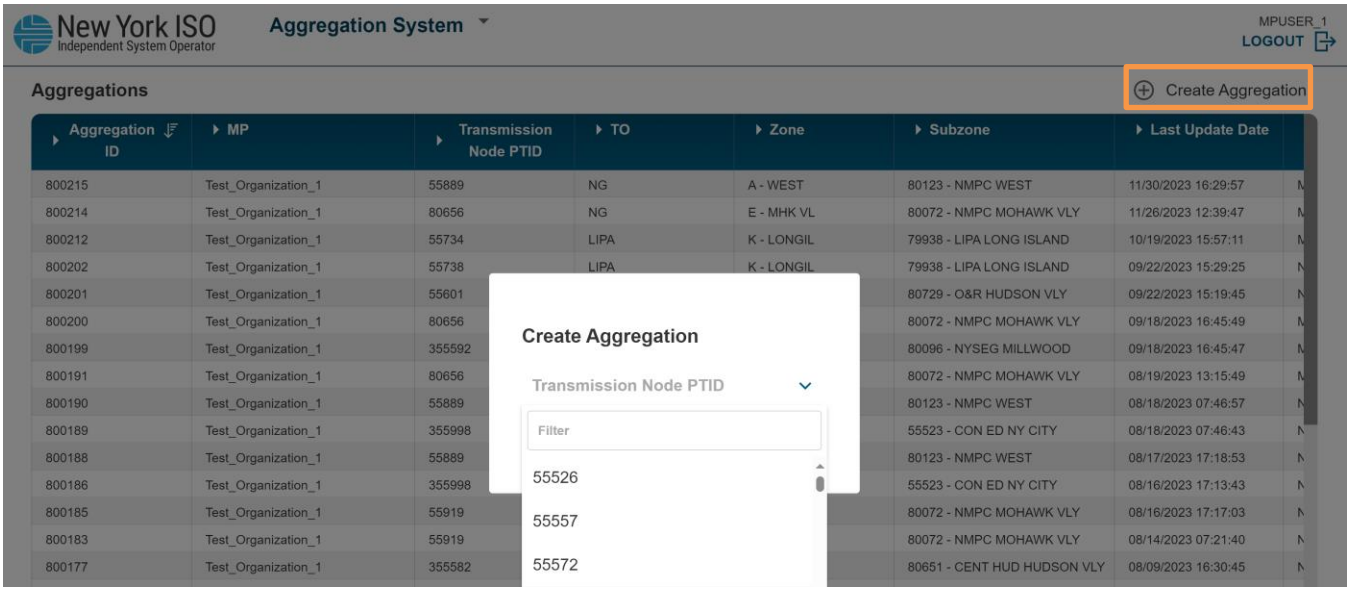
Figure 14: Aggregations Display



Aggregation ID	MP	Transmission Node PTID	TO	Zone	Subzone	Last Update Date
800215	Test_Organization_1	55889	NG	A - WEST	80123 - NMPC WEST	11/30/2023 16:29:57
800214	Test_Organization_1	80656	NG	E - MHK VL	80072 - NMPC MOHAWK VLY	11/26/2023 12:39:47
800212	Test_Organization_1	55734	LIPA	K - LONGIL	79938 - LIPA LONG ISLAND	10/19/2023 15:57:11
800202	Test_Organization_1	55738	LIPA	K - LONGIL	79938 - LIPA LONG ISLAND	09/22/2023 15:29:25
800201	Test_Organization_1	55601	O&R	G - HUD VL	80729 - O&R HUDSON VLY	09/22/2023 15:19:45
800200	Test_Organization_1	80656	NG	E - MHK VL	80072 - NMPC MOHAWK VLY	09/18/2023 16:45:49
800199	Test_Organization_1	355592	NYSEG	H - MILLWD	80096 - NYSEG MILLWOOD	09/18/2023 16:45:47
800191	Test_Organization_1	80656	NG	E - MHK VL	80072 - NMPC MOHAWK VLY	08/19/2023 13:15:49

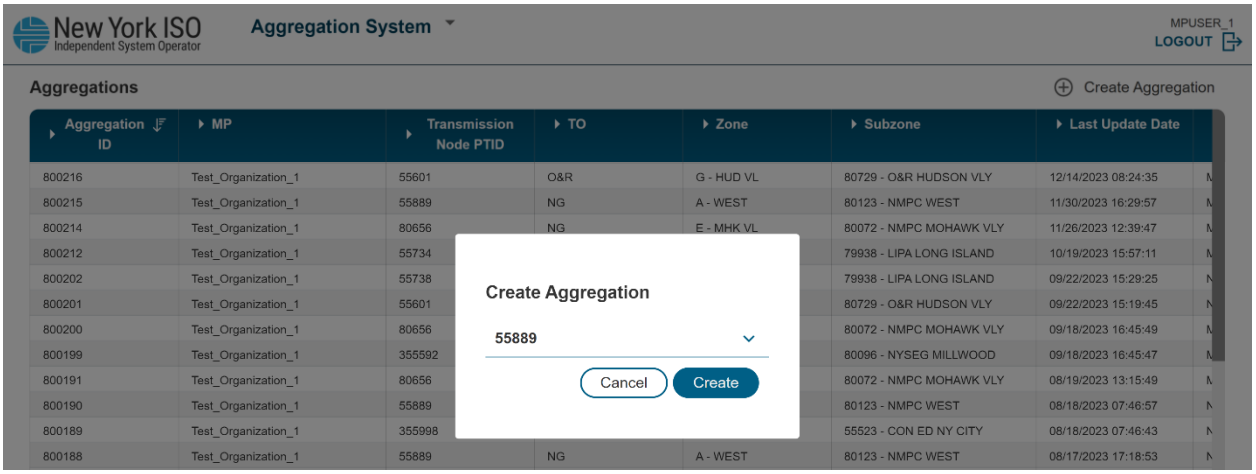
In order to create an Aggregation, the Aggregator will need to obtain an Aggregation ID from the Aggregation System by selecting the 'Create Aggregation' control at the top right of the display (Figure 15). This function will require selection of a Transmission Node PTID, based on the list of active Transmission Nodes, which the Aggregator should already have consulted and obtained confirmation from the applicable TO of the node selected.

Figure 15: Create Aggregation – Transmission Node PTID Dropdown Selection



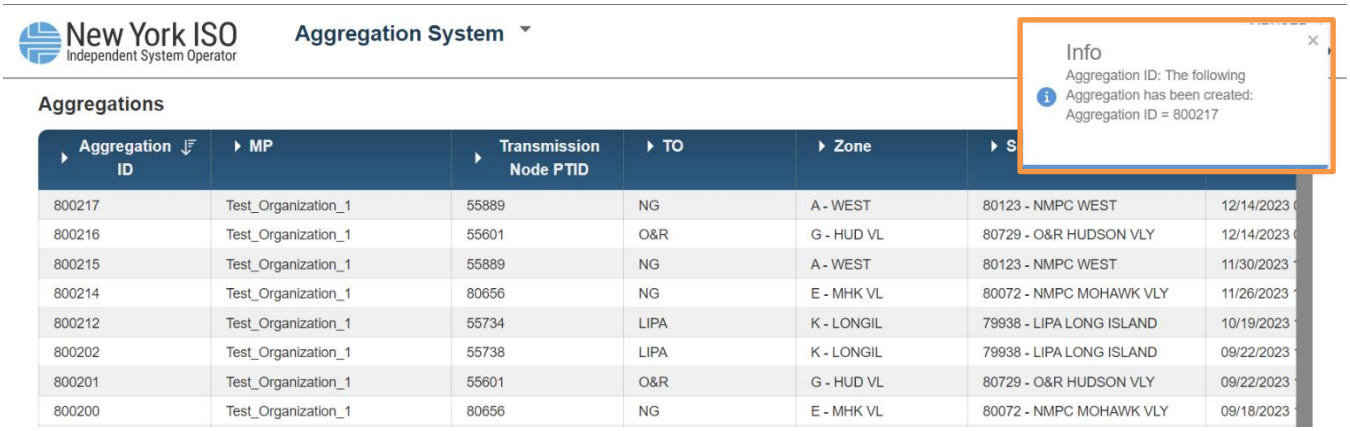
Once the Transmission Node PTID is selected, the Aggregator must select 'Create' to finalize the selection and creation of the new Aggregation (Figure 16).

Figure 16: Create Aggregation – Transmission Node PTID Selected



Upon initiating 'Create' from the 'Create Aggregation' window, a new, system-generated Aggregation ID is assigned to the Transmission Node PTID, corresponding to the newly created Aggregation. The Aggregation System will return an 'Info' message to the Aggregator summarizing the completion of the process (see image below, Figure 17): "Aggregation has been created: Aggregation ID = XXXXXX".

Figure 17: Aggregation Info Message

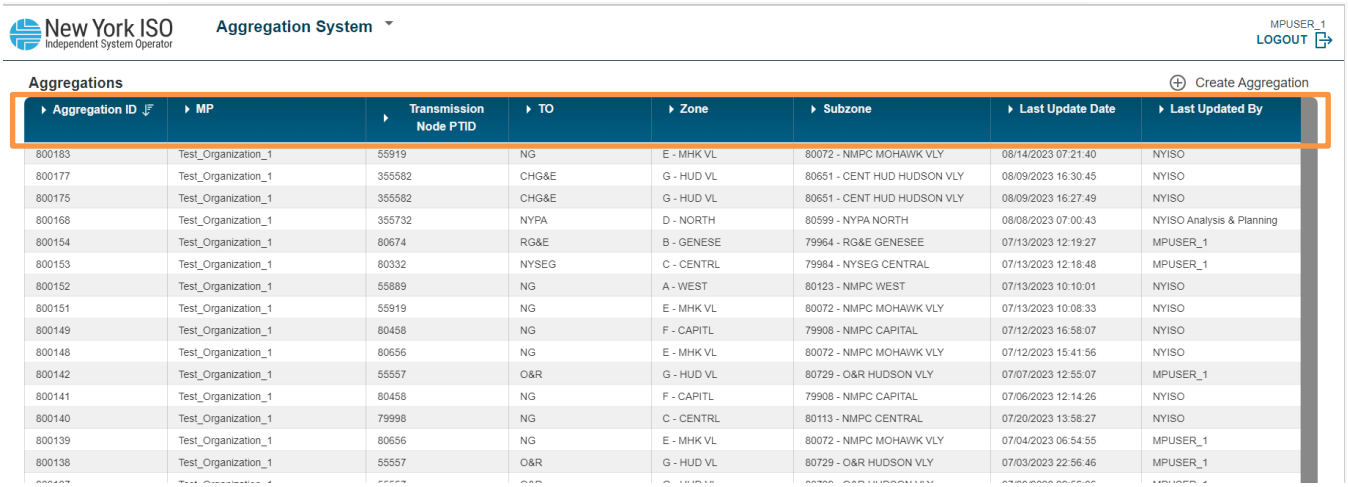


Upon successful creation of an Aggregation, the Aggregator may view all attributes describing the Aggregation in the 'Aggregations' table display. These attributes do not encompass all data attributes applicable to the Aggregation and may not be immediately populated upon successful creation (Figures 18 and 19).

Figure 18: Create Aggregation Data Attributes

Attribute	Format	Description
Aggregation ID	Integer	Unique ID assigned to the Aggregation
MP	Text	Name of the Market Participant
Transmission Node PTID	Selection	Transmission Node PTID, corresponding to the PTID selected
TO	Text	Transmission Owner in whose jurisdiction the Aggregation is located
Zone	Text	Zone where the Aggregation is located
Subzone	Text	Subzone where the Aggregation is located
Last Update Date	Date	Date that the record was last updated
Last Updated By	Text	Last User that updated the record

Figure 19: New Aggregation Display Information



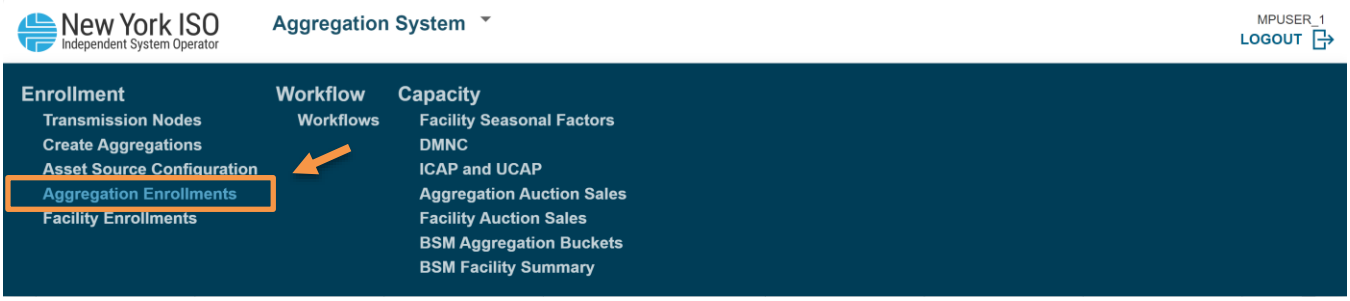
Most displays will also have “Last Update Date” and “Last Updated By” columns in their list.

3.3. Aggregation(s)

3.3.1. Create/Update Aggregation(s)

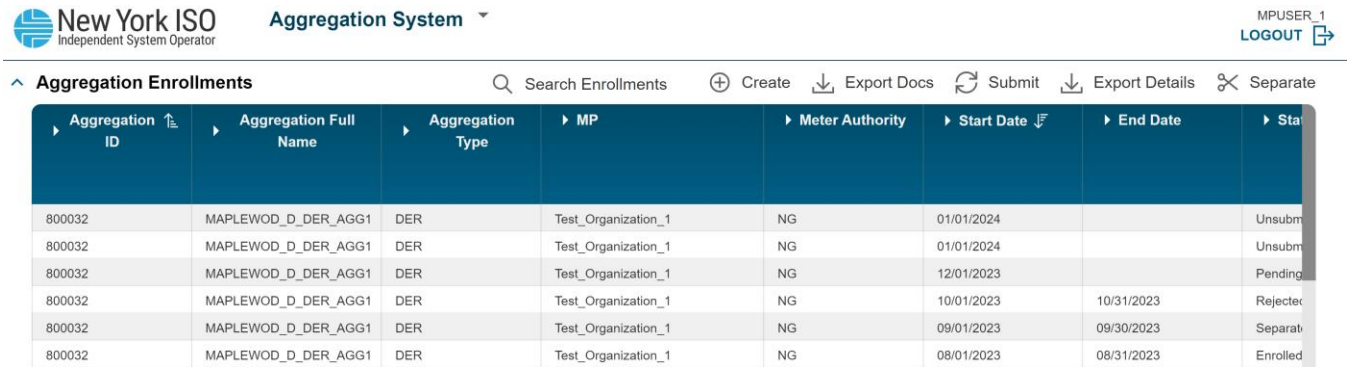
After creating an Aggregation, the Aggregator may view and manage Aggregations by accessing the ‘Aggregation Enrollments’ display from the main Aggregation System dropdown menu (Figure 20).

Figure 20: Aggregation Enrollments



This display features several additional informational attributes beyond those included in the 'Aggregations' display (Figure 21).

Figure 21: Aggregation Enrollments Display



To create an Aggregation enrollment record, the Aggregator must select the 'Create' screen control from the 'Aggregation Enrollments' display, which initiates the process of populating all required data attributes for a given Aggregation (Figures 22 & 23).

Figure 22: Create or Update Aggregation Enrollment

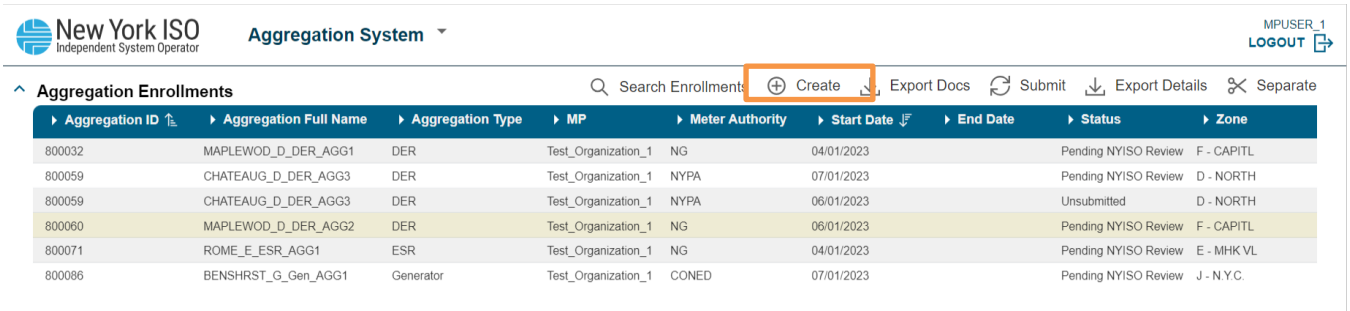


Figure 23: Create/Update Aggregation Enrollment Display

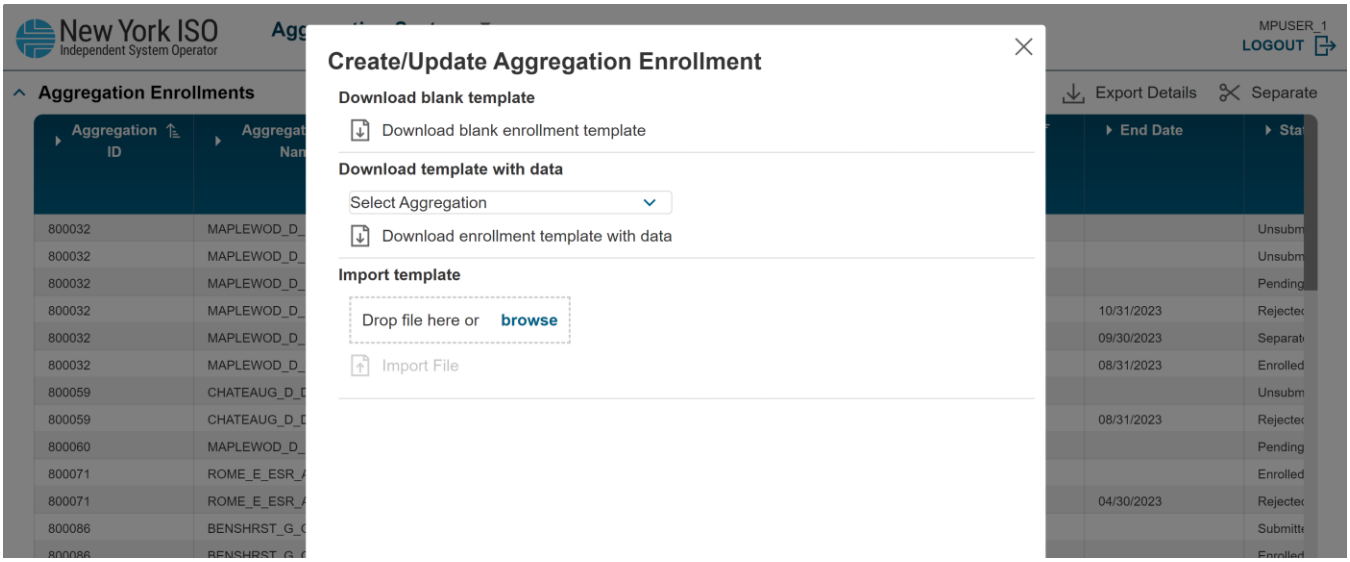


Figure 23 illustrates the 'Create/Update Aggregation Enrollment' window, which allows the Aggregator to perform the following actions:

- Download blank template – Allows the Aggregator to download a blank template of the upload file for one or more Aggregations. This file can then be used to prepare and input data for one or more Aggregations for import into the Aggregation System using the same window.
- Download template with data – Allows the Aggregator to download a version of the upload template with the most recent data for one more Aggregator-specified Aggregation(s). This file can then be used to update any of the data and import the new version of the Aggregation into the Aggregation System. When importing a file reflecting one or more updates to an existing Aggregation(s), the Aggregation System action depends on the status of the existing Aggregation enrollment record:
    - If the original Aggregation enrollment record is 'Unsubmitted,' the System will override the existing data with the updated data.
    - If the original Aggregation enrollment record is 'Submitted,' the System will return an error – once Submitted, an Aggregation may not be modified unless the requesting Aggregator contacts DER@nyiso.com to have the current submission returned to a status of 'Unsubmitted.'
- Import template – Allows the Aggregator to upload data from the template containing data for a new Aggregation(s) or updates for an existing Aggregation(s), depending on whether a

download with or without data was selected.

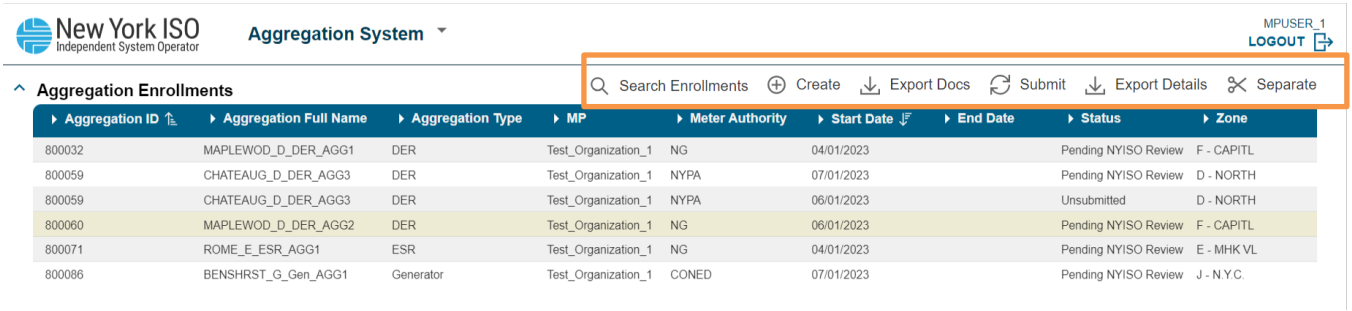
The data contained within the import template for each Aggregation is described in Appendix A of this User's Guide. The file format is comma delimited.

From the 'Aggregation Enrollments' display, Aggregators may also execute several additional administrative actions (Figures 24 & 25).

Figure 24: Description of Additional Aggregation Enrollments Actions

Name	Function
Search Enrollments	Searches for a specific Aggregation enrollment record. For more information about this action, please refer to section 3.3.2 of this User's Guide 'View Aggregations'.
Export Docs	Exports required supporting enrollment documentation for all selected Aggregation(s) enrollment records.
Submit	Submits the selected Aggregation(s). For more information about this action, please refer to section 3.6 of this User's Guide 'Submit Aggregation Enrollments'.
Export Details	Initiates the export of Aggregation details for the selected Aggregation(s). For more information about this action, please refer to section 3.7 of this User's Guide 'Export Aggregation Details'.
Separate	Separates the selected Aggregation(s) from market participation. For more on this action, please refer to section 3.8 of this User's Guide 'Separate Aggregation Enrollments'.

Figure 25: Aggregation Enrollments Actions



3.3.2. View Aggregations

From the Aggregation Enrollments display, Aggregators may view a summarized list of all Aggregations within their portfolio. Each Aggregation on this display is categorized by several data summary attributes (Figure 26).

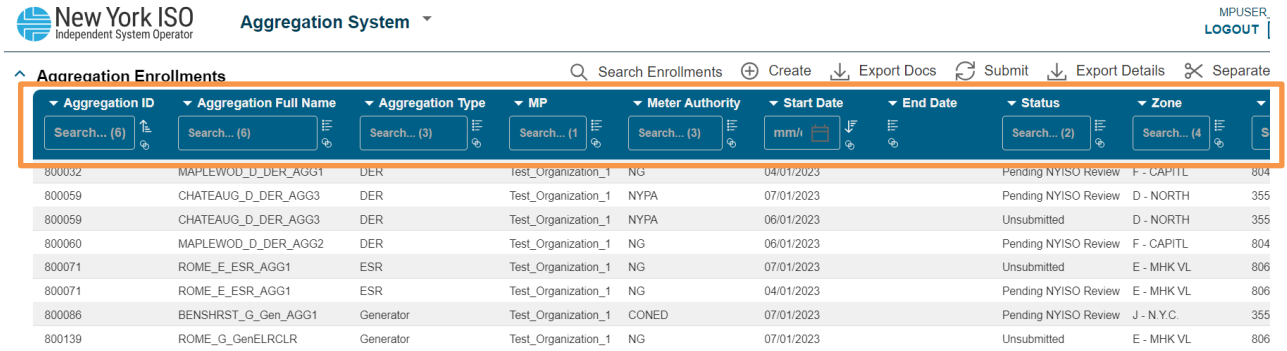
Figure 26: Aggregation Enrollments Attributes

Data	Format	Description
Aggregation ID	Integer	Unique ID assigned to the Aggregation
Aggregation Full Name	Text	Full Name of the Aggregation as it appears in NYISO operating systems
Aggregation Type	Text	One of the following: DER, ESR, LESR, Generator, Wind, Solar, or Landfill Gas
MP	Text	Name of the Market Participant
Meter Authority	Text	Entity responsible for metering and meter data services for the Aggregation
Start Date	Date	Market participation commencement date
End Date	Date	Market participation conclusion date (if applicable)
Status	Text	Status of the enrollment record in the NYISO System workflow (Unsubmitted, Submitted, Pending NYISO Review, Enrolled, Rejected, Separated)
Zone	Text	NYCA Zone where the Aggregation is located
Transmission Node PTID	Integer	Transmission Node PTID based on original selection by Aggregator
Summer Total Supply Declared MW (UOL)	MW	Total Upper Operating Limit MW declared during Summer (reflects Injection, Demand Reduction, Withdrawal capabilities)
Summer Declared Injection MW	MW	Total amount of injection MW declared for Summer
Summer Declared Demand Reduction MW	MW	Total amount of demand reduction MW declared for Summer
Summer Declared Withdrawal MW (LOL)	MW	Total amount of withdrawal MW declared for Summer
Winter Total Supply Declared MW (UOL)	MW	Total Upper Operating Limit MW declared during Winter (reflects Injection, Demand Reduction, Withdrawal capabilities)
Winter Declared Injection MW	MW	Total amount of injection MW declared for Winter
Winter Declared Demand Reduction MW	MW	Total amount of demand reduction MW declared for Winter
Winter Declared Withdrawal MW (LOL)	MW	Total amount of withdrawal MW declared for Winter
EDL	Integer	Energy Duration Limitation value, equal to 2, 4, 6, or 8 hours.
# of Facilities	Integer	Number of DER facilities in the Aggregation
Last update Date	Date	Date that the record was last updated
Last updated by	Text	Last User that updated the record

An Aggregator may filter and search for specific values within each of the attributes included in the Aggregation Enrollments display, to enable an Aggregator to access specific information on one or several

Aggregation enrollment records (Figure 27).

Figure 27: Search by Aggregation Enrollment Data Attributes



Aggregators can also search for a specific Aggregation enrollment record by executing the 'Search Enrollment' action, which allows the user to search for specific parameters related to several attributes (Figures 28 and 29).

Figure 28: Search Aggregation Enrollments

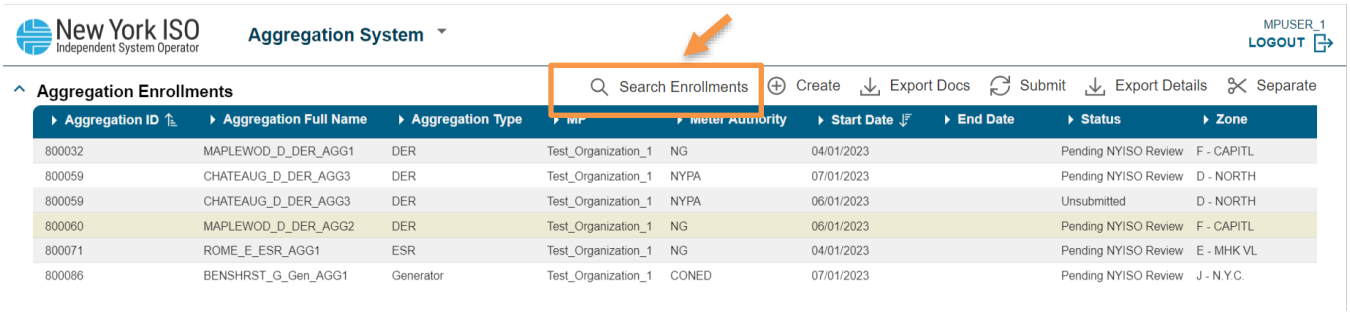
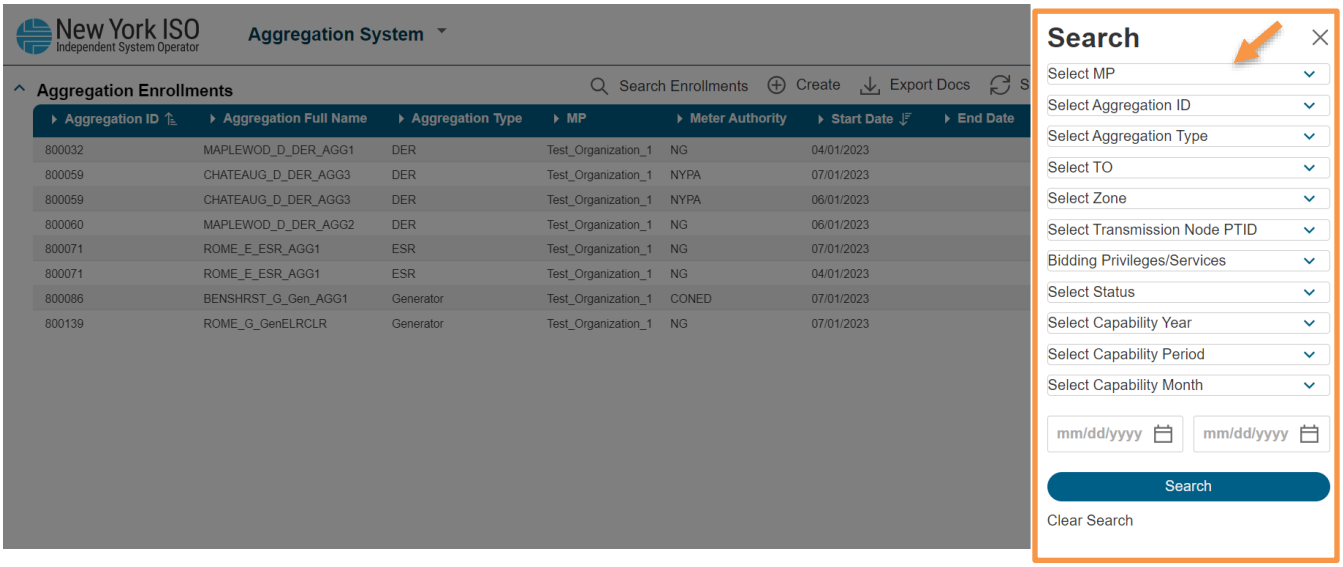


Figure 29: Search Aggregation Enrollment Criteria



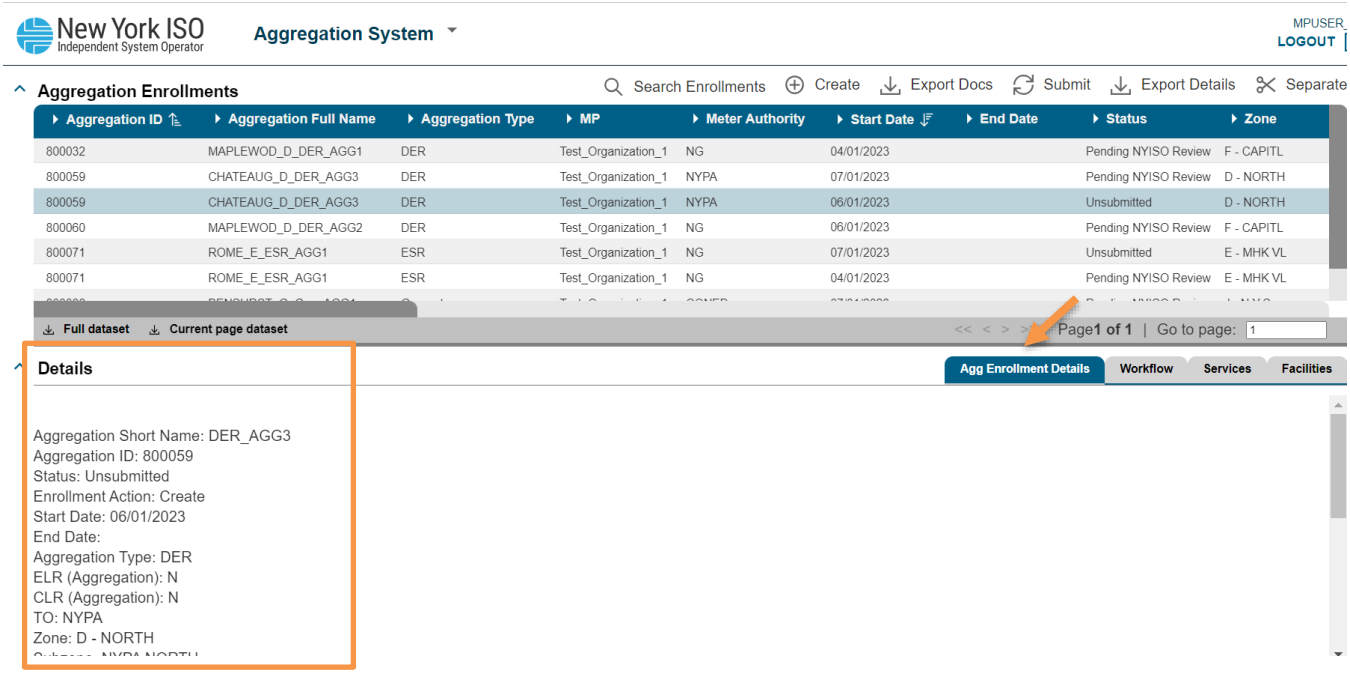
Aggregators can view details of an individual Aggregation by clicking the row containing that Aggregation. Several additional attributes are displayed as part of the 'Agg Enrollment Details' tab below the main summary table (Figures 30 and 31).

Figure 30: Data Attributes Displayed

Data	Description
Aggregation Short Name	As included in the Aggregation Full Name; Value entered by Aggregator during enrollment data import to describe and uniquely identify Aggregation
Aggregation ID	Unique ID assigned to the Aggregation
Status	NYISO System workflow status of the enrollment record
Enrollment Action	System Populated; Determines purpose of current user action, whether a new 'Create' or an 'Update,' or 'Separate' of a record from market participation. If the System assigns a status of 'Unknown,' please contact DER@nyiso.com
Start Date	Market participation commencement date
End Date	Market participation conclusion date (if applicable)
Aggregation Type	DER, ESR, LESR, Generator, Wind, Solar, or Landfill Gas
ELR (Aggregation)	Y/N Energy Limited Resource type of Aggregation
CLR (Aggregation)	Y/N Capacity Limited Resource type of Aggregation
TO	Transmission Owner
Zone	NYCA Zone where the Aggregation is located
Subzone	Subzone where the Aggregation is located

Charging At Retail - Aggregation	Y/N whether the withdrawal-eligible generators in the Aggregation are billed at a retail rate for energy when charging from the grid
LSE PTID - Aggregation	The PTID of the Aggregation's Load Serving Entity administering the charges for energy withdrawals at a retail rate, if applicable
Transmission Node PTID	Transmission Node PTID as selected by the Aggregator
2 Year Outage Schedule Provided	Y/N indication of compliance with the NYISO's requirement that each Resource submit a 2-year forecast outage schedule for market participation. This information is required for Aggregations that intend to participate in the Capacity market.
Aggregation Meter Authority	Organization name abbreviation/short name as reflected in the MIS of either the MSE or the Member System responsible for metering services for the Aggregation
Direct Communication to NYISO	Y/N whether the Aggregator has opted to communicate in parallel directly with the NYISO in addition to the required communication via the applicable TO
Aggregation Communication Type	Applicable if the Aggregator has opted to communicate directly with the NYISO (SD-WAN or MPLS)
Aggregation Communication Protocol	Applicable if the Aggregator has opted to communicate directly with the NYISO (ICCP or DNP3)
Summer Total Supply Declared MW (UOL)	Total Upper Operating Limit MW declared during Summer (reflects Injection, Demand Reduction, Withdrawal capabilities)
Summer Declared Injection MW	Total amount of injection MW declared for Summer
Summer Declared Demand Reduction MW	Total amount of demand reduction MW declared for Summer
Summer Declared Withdrawal MW (LOL)	Total amount of withdrawal MW declared for Summer
Winter Total Supply Declared MW (UOL)	Total Upper Operating Limit MW declared during Winter (reflects Injection, Demand Reduction, Withdrawal capabilities)
Winter Declared Injection MW	Total amount of injection MW declared for Winter
Winter Declared Demand Reduction MW	Total amount of demand reduction MW declared for Winter
Winter Declared Withdrawal MW (LOL)	Total amount of withdrawal MW declared for Winter

Figure 31: Aggregation Enrollments Details Tab

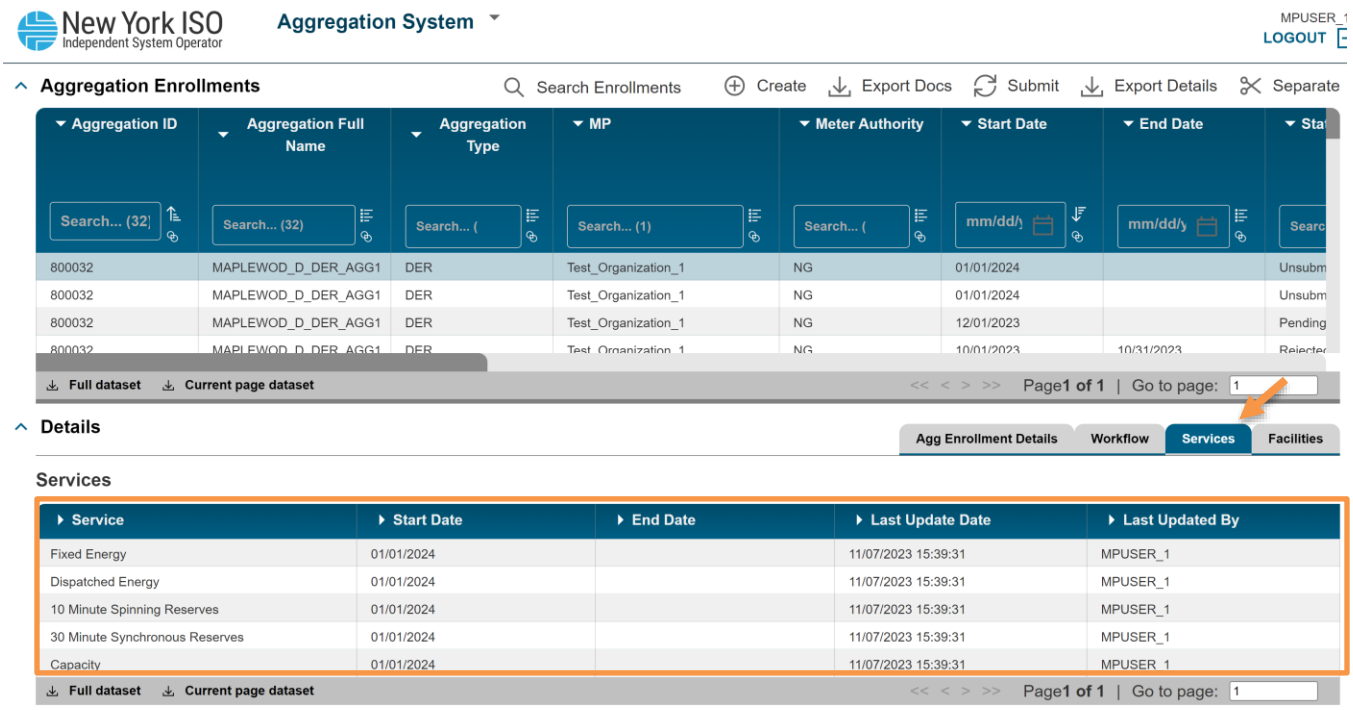


Co-located with the 'Agg Enrollment Details' tab are three additional tabs: 'Workflow,'[1] 'Services,' and 'Facilities.' Each tab can be used to obtain further information about the characteristics of the Aggregation, its review status, or its comprising DER facilities.

"Services" tab allows an Aggregator to view a list of all services that an Aggregation has elected to provide to the NYISO markets. Specifically, an Aggregator may view the elections for Energy, Ancillary Services, and Capacity market participation, as defined by Start Date and End Dates for each applicable service (Figure 32). The End Date column will only ever be populated if an Aggregation has ceased providing a given service to the market.

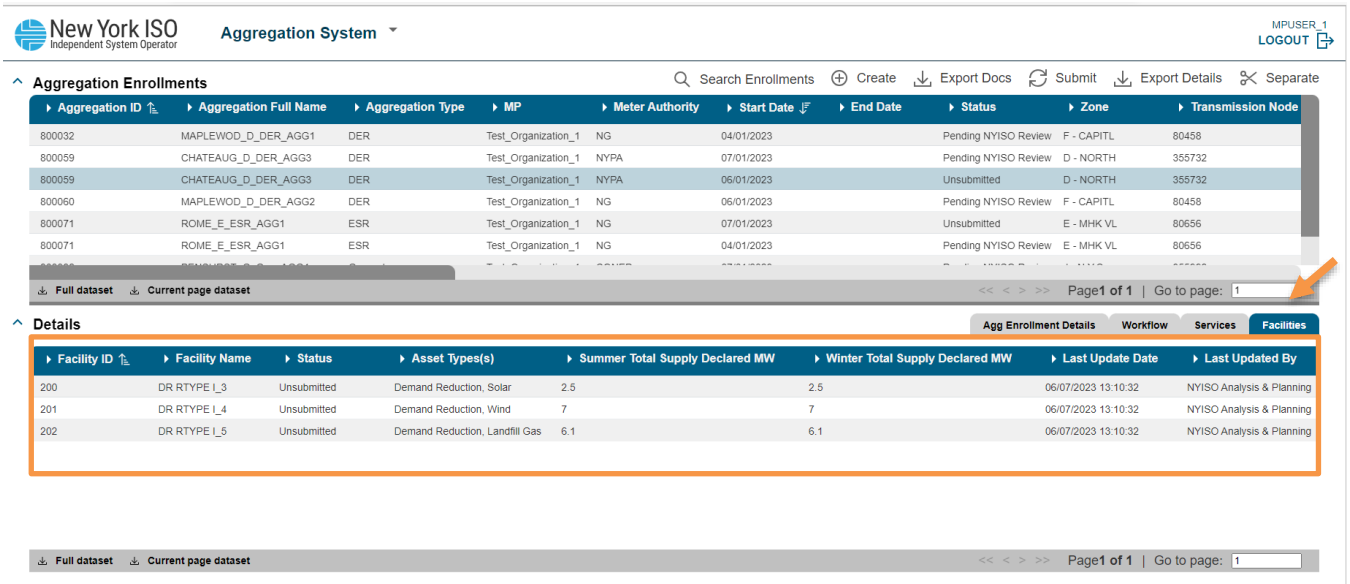
[1] The NYISO's review of each individual DER and Aggregation is driven by a series of automated and manual tasks, known collectively as the 'workflow.' The NYISO's workflow performs software-based validation of enrollment characteristics, and provides NYISO staff with the opportunity to review documentation, proposed market services, and operational and physical characteristics of all Aggregations and individual DER. This workflow initiates on the first day of the month immediately following successful completion of the DU review process as defined in the Aggregation Manual.

Figure 32: Services Tab



The "Facilities" tab contains information about each of the individual DER facilities comprising the Aggregation. Each facility is characterized using summary-level data attributes, including but not limited to the Facility ID, Facility Name, Status, and the Asset Type(s) contained within the facility (Figure 33).

Figure 33: Facilities Tab

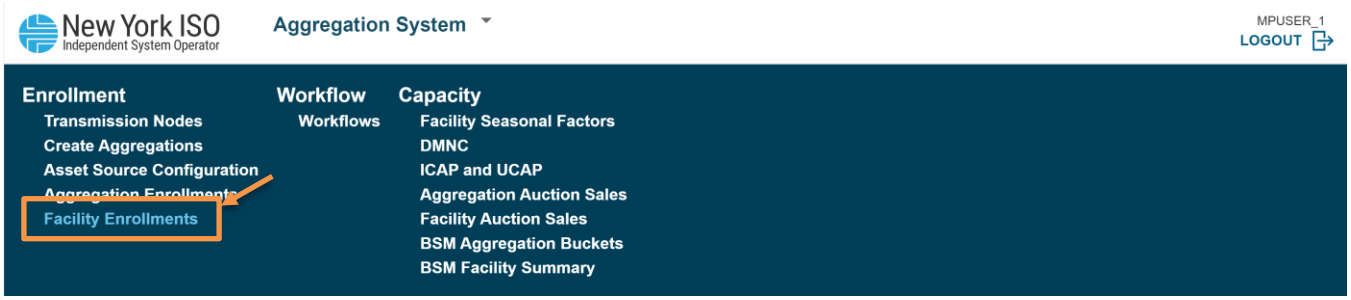


3.4. Facilities

3.4.1. Create/Update Facilities

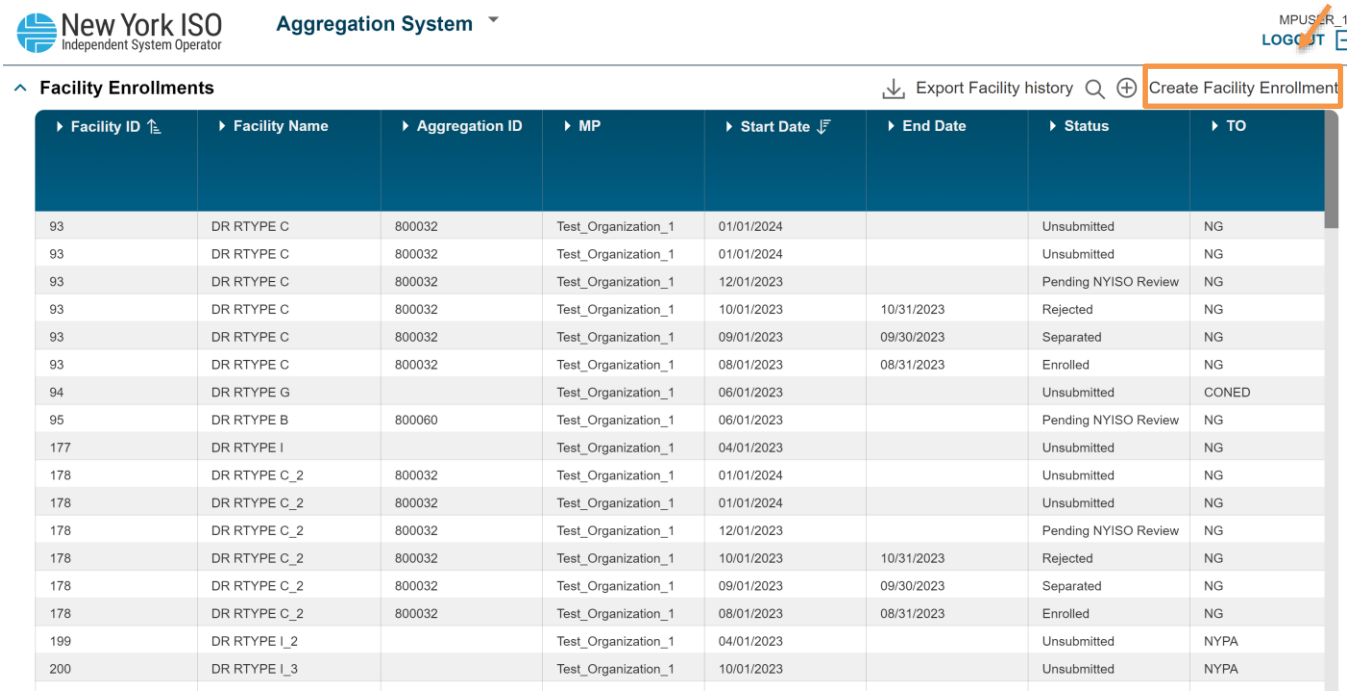
For the purposes of the remainder of this User's Guide, it is assumed that the Aggregator has successfully imported an Aggregation to the Aggregation System via the aforementioned processes. The next step in the enrollment process is to import the information describing one or more individual DER facilities, which will comprise the Aggregation. To begin the facility enrollment process, the Aggregator must select the Facility Enrollments function from the main Aggregation System dropdown menu (Figure 34).

Figure 34: Facility Enrollments



Similar to the process to initiate an Aggregation enrollment, the Aggregator must select the 'Create Facility Enrollment' function to initiate the data import process for one or more facilities (Figure 35).

Figure 35: Create Facility Enrollment



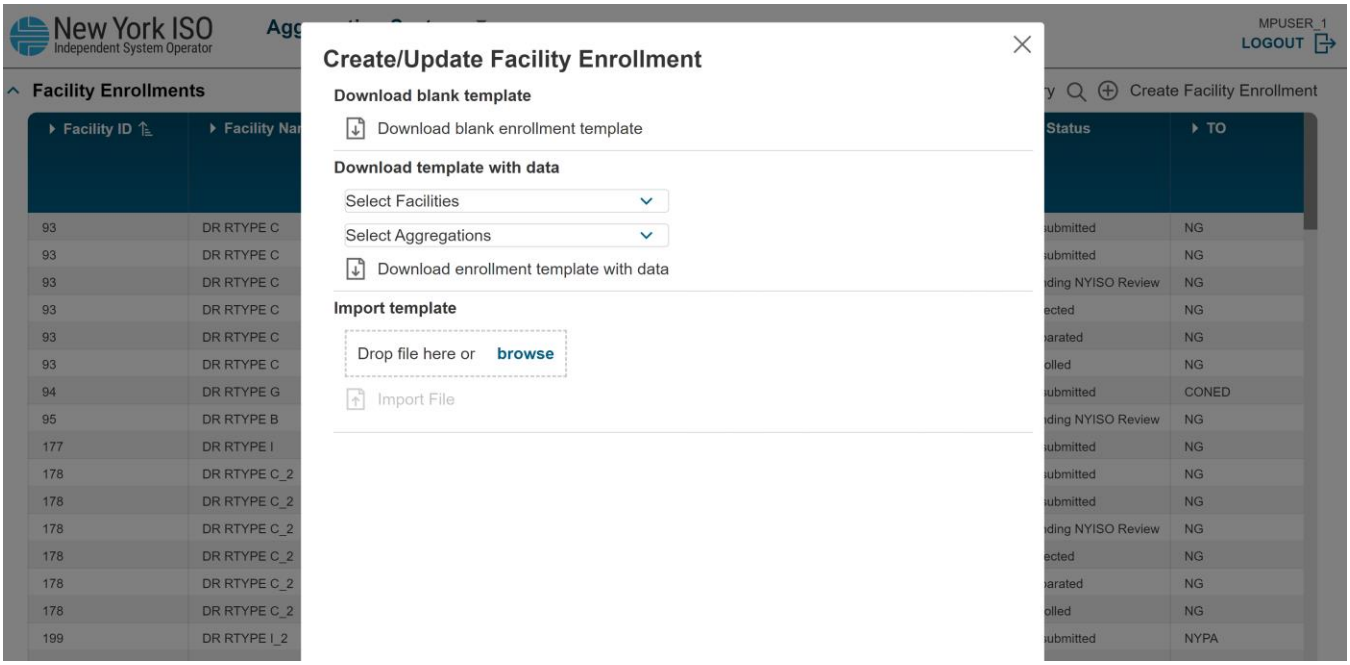
Facility ID	Facility Name	Aggregation ID	MP	Start Date	End Date	Status	TO
93	DR RTYPE C	800032	Test_Organization_1	01/01/2024		Unsubmitted	NG
93	DR RTYPE C	800032	Test_Organization_1	01/01/2024		Unsubmitted	NG
93	DR RTYPE C	800032	Test_Organization_1	12/01/2023		Pending NYISO Review	NG
93	DR RTYPE C	800032	Test_Organization_1	10/01/2023	10/31/2023	Rejected	NG
93	DR RTYPE C	800032	Test_Organization_1	09/01/2023	09/30/2023	Separated	NG
93	DR RTYPE C	800032	Test_Organization_1	08/01/2023	08/31/2023	Enrolled	NG
94	DR RTYPE G		Test_Organization_1	06/01/2023		Unsubmitted	CONED
95	DR RTYPE B	800060	Test_Organization_1	06/01/2023		Pending NYISO Review	NG
177	DR RTYPE I		Test_Organization_1	04/01/2023		Unsubmitted	NG
178	DR RTYPE C_2	800032	Test_Organization_1	01/01/2024		Unsubmitted	NG
178	DR RTYPE C_2	800032	Test_Organization_1	01/01/2024		Unsubmitted	NG
178	DR RTYPE C_2	800032	Test_Organization_1	12/01/2023		Pending NYISO Review	NG
178	DR RTYPE C_2	800032	Test_Organization_1	10/01/2023	10/31/2023	Rejected	NG
178	DR RTYPE C_2	800032	Test_Organization_1	09/01/2023	09/30/2023	Separated	NG
178	DR RTYPE C_2	800032	Test_Organization_1	08/01/2023	08/31/2023	Enrolled	NG
199	DR RTYPE I_2		Test_Organization_1	04/01/2023		Unsubmitted	NYPA
200	DR RTYPE I_3		Test_Organization_1	10/01/2023		Unsubmitted	NYPA

Figure 36 illustrates the 'Create/Update Facility Enrollment' window, which allows the Aggregator to perform the following actions:

- Download blank template – Allows the Aggregator to download a blank template of the upload file for one or more facilities. This file can then be used to prepare and input data for one or more facilities for import into the Aggregation System using the same window.
- Download template with data – Allows the Aggregator to download a version of the upload template with the most recent data for one more Aggregator-specified facility(s), or for all facilities within an Aggregation at once. This file can then be used to update any of the data and import the new version of the facility into the Aggregation System. When importing a file reflecting one or more updates to an existing facility(s), the Aggregation System action depends on the status of the existing facility enrollment record:
    - If the original facility enrollment record is 'Unsubmitted,' the System will override the existing data with the updated data.
    - If the original facility enrollment record is 'Submitted,' the System will return an error – once Submitted, a facility may not be modified unless the requesting Aggregator contacts DER@nyiso.com to have the current Aggregation submission to which the facility is assigned returned to a status of 'Unsubmitted.'
- Import template – Allows the Aggregator to upload data from the template containing data for a new facility(s) or updates for an existing facility(s), depending on whether a download with or without data was selected.

The data contained within the import template for each facility is described in Appendix B of this User's Guide. It is important to note that the facility attributes also reflect the asset attributes for a given DER. When an Aggregator completes the enrollment of a facility, all comprising assets are also documented during this process. The file format is Microsoft Excel Worksheet.

Figure 36: Create/Update Facility Enrollment



From the 'Facility Enrollments' display, Aggregators may generate a file containing the history of one facility's (or multiple facilities') dataset(s) by selecting the 'Export Facility history' function (Figure 37). After the Aggregator selects one or more facilities and clicks 'Export Facility history,' an additional window will prompt selection of the date range from which the export should draw data (Figure 38). The Aggregator may choose to leave this field blank, resulting in the export of all data associated with the selected Facility(ies) records.

Figure 37: Export Facility History

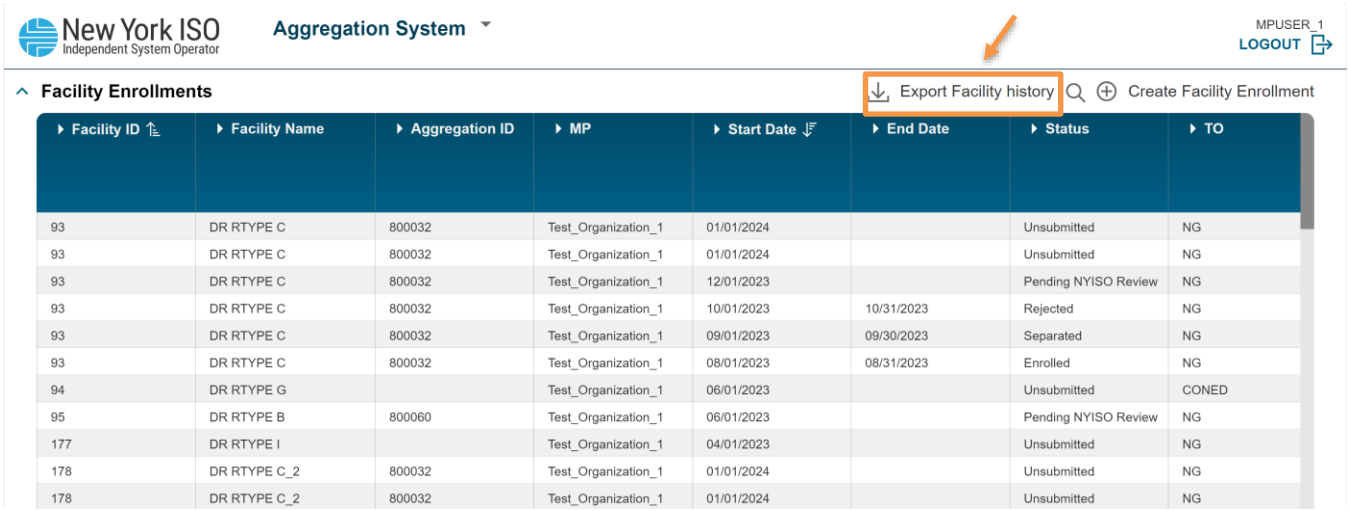
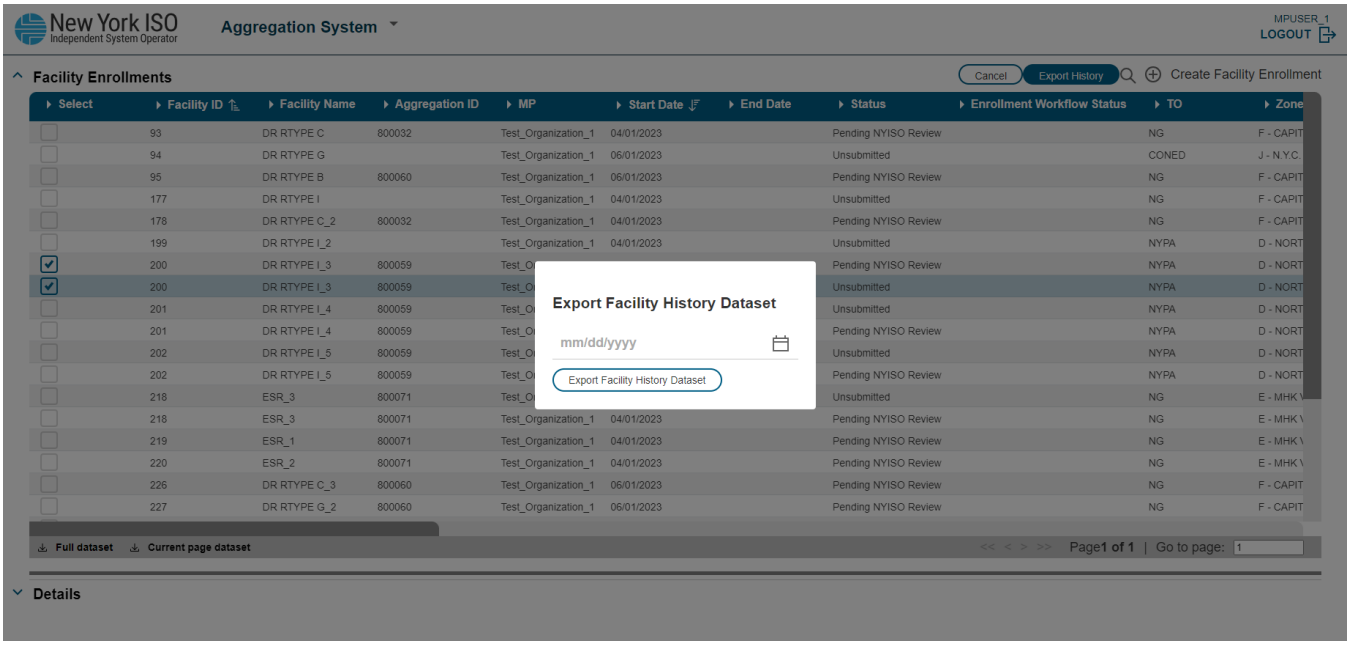
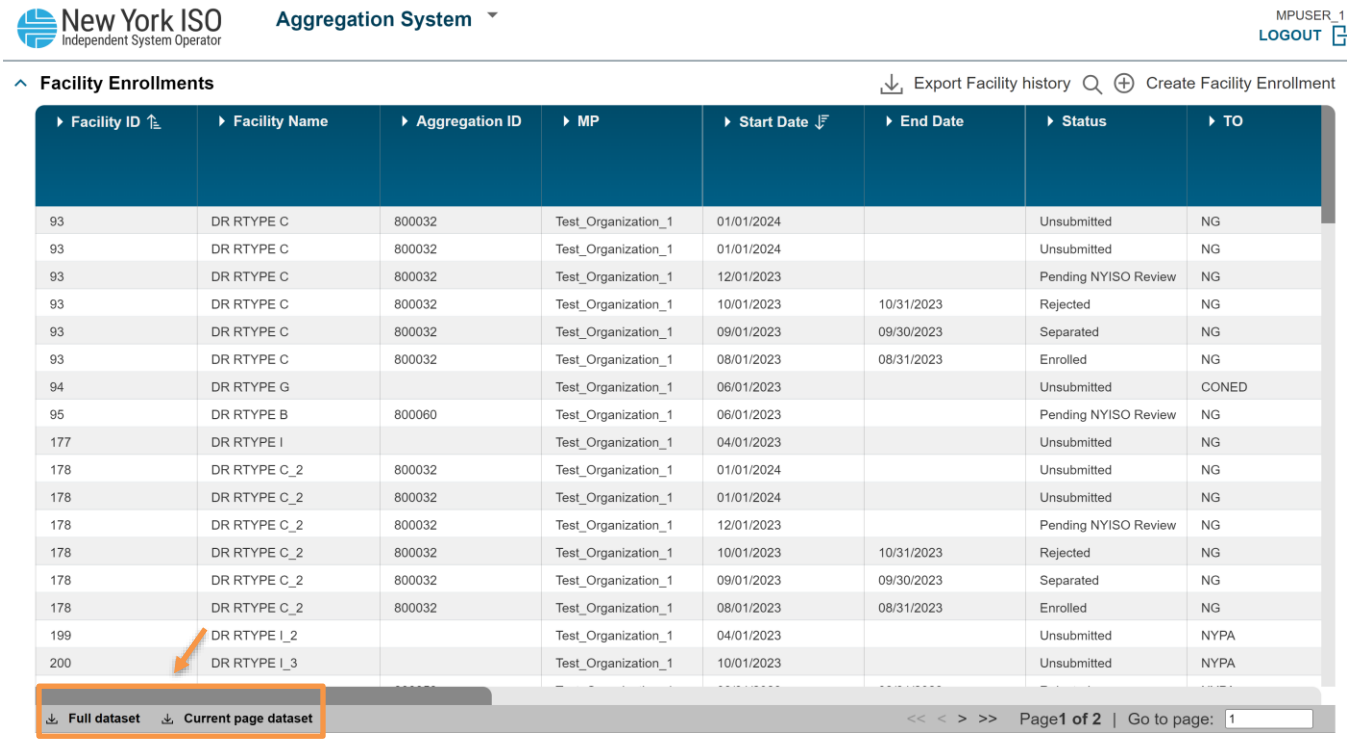


Figure 38: Export Facility History Dataset Window



An additional function on the 'Facility Enrollments' display is the ability to export all facility data as one bulk export. This function supports export of either the current page dataset or the full dataset, depending on an Aggregator's specific use case (Figure 39).

Figure 39: Export Data – Full Dataset or Current Page Dataset



3.4.2. View Facilities

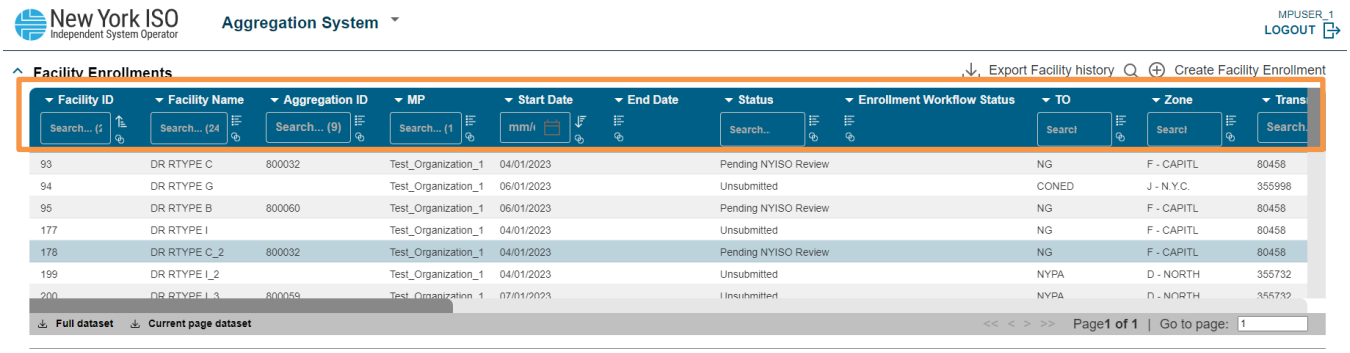
From the 'Facility Enrollments' display, Aggregators may view one or more facilities' enrollment data attributes (Figure 40). The view is available at a summary level, with detailed Facility and Asset level attributes available within the Facility History Export.

Figure 40: Facility Summary Data Attributes

Attribute	Format	Description
Facility ID	Integer	Unique ID assigned to the Facility
Facility Name	Text	Name of the Facility
Aggregation ID	Integer	Unique ID assigned to the Aggregation
MP	Text	Name of the Market Participant
Start Date	Date	Market participation commencement date
End Date	Date	Market participation conclusion date (if applicable)
Status	Text	NYISO system enrollment status of the facility (Unsubmitted, Submitted, Pending NYISO Review, Enrolled, Rejected, Separated)
TO	Text	Transmission Owner
Zone	Text	NYCA zone where the facility is located
Transmission Node PTID	Integer	Aggregator-selected Transmission Node PTID
Asset Types	Text	Types of Assets in the facility
Assets	Integer	Number of Assets in the facility
Summer Total Supply Declared MW	MW	Total Upper Operating Limit MW declared during Summer (reflects Injection, Demand Reduction, Withdrawal capabilities)
Summer Declared Injection MW	MW	Total amount of injection MW declared for Summer
Summer Declared Demand Reduction MW	MW	Total amount of demand reduction MW declared for Summer
Summer Declared Withdrawal Value MW	MW	Total amount of withdrawal MW declared for Summer
Winter Total Supply Declared MW	MW	Total Upper Operating Limit MW declared during Winter (reflects Injection, Demand Reduction, Withdrawal capabilities)
Winter Declared Injection MW	MW	Total amount of injection MW declared for Winter
Winter Declared Demand Reduction MW	MW	Total amount of demand reduction MW declared for Winter
Winter Declared Withdrawal MW	MW	Total amount of withdrawal MW declared for Winter
Last update Date	Date	Date that the record was last updated
Last Updated By	Text	Last User that updated the record

An Aggregator may filter and search for specific values within each of the attributes included in the 'Facility Enrollments' display, to enable an Aggregator to access specific information on one or several facility enrollment records (Figure 41).

Figure 41: Search Facility



3.5. View Asset Source Configuration

To view information about the assets contained within each individual DER, an Aggregator may access the 'Asset Source Configuration' display (Figures 42 & 43). Assets represent different technologies located behind the same meter and account number of an individual DER facility – a single DER may be comprised of *n* assets, depending on the site configuration. An individual DER facility may reflect any combination of Demand Reduction, Generator, Energy Storage, Wind, Solar, or Landfill Gas assets, as further described in the Aggregation Manual Section 2.1.1.

Figure 42: Asset Source Configuration Display

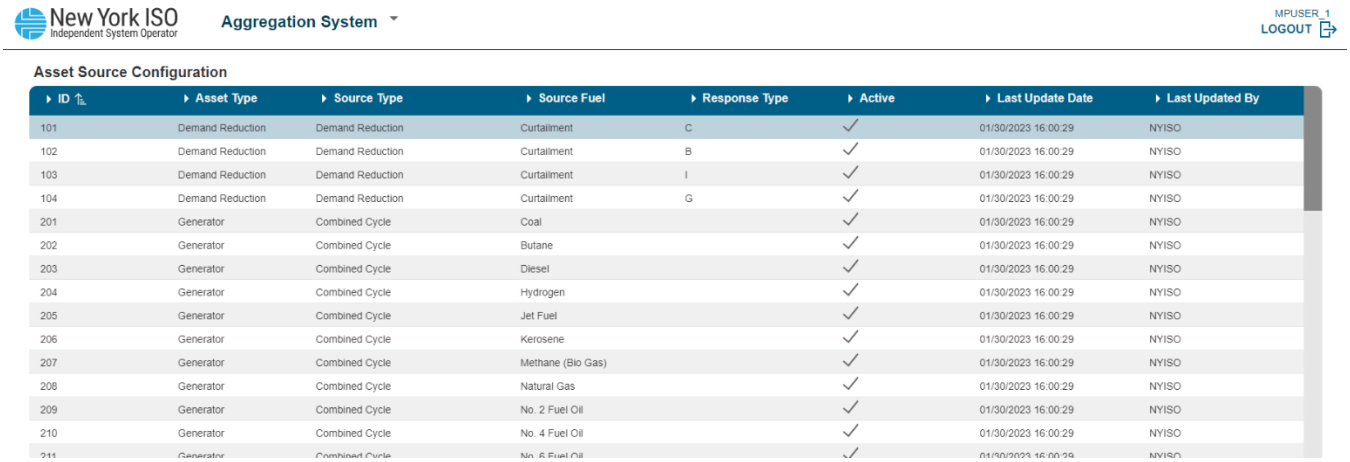
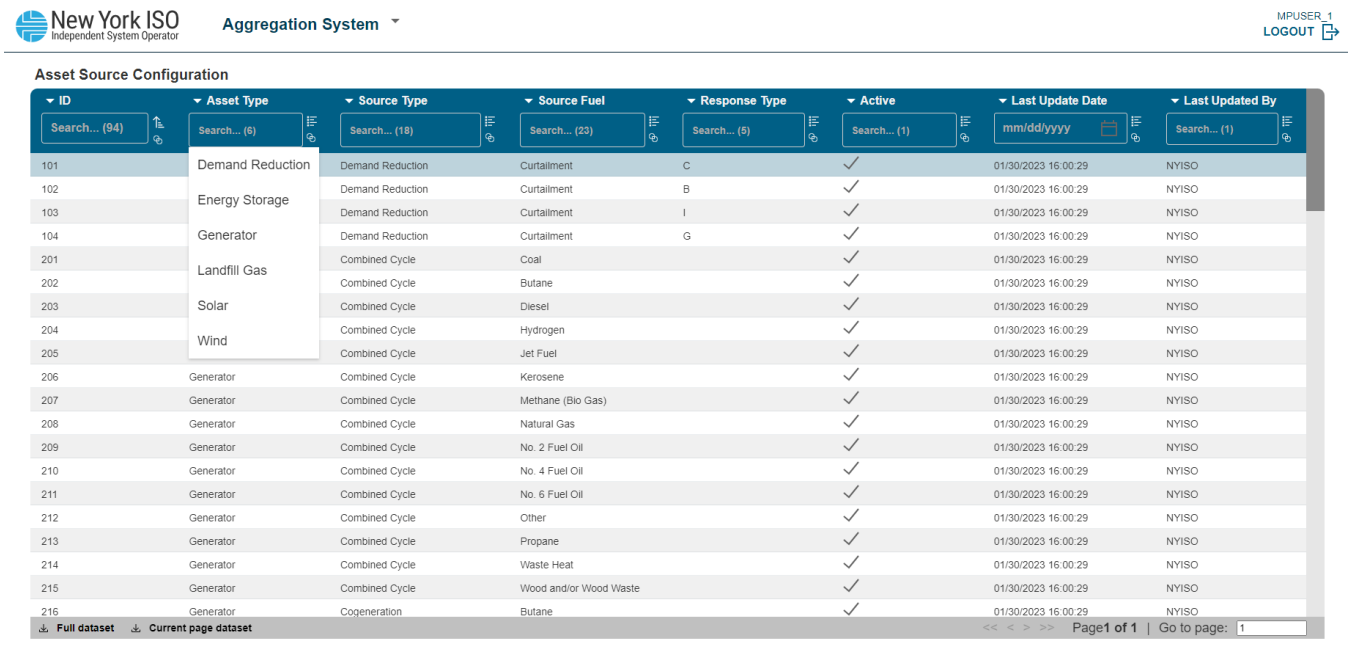


Figure 43: View Asset Source Configuration Display Attributes

Attribute	Format	Description
ID	Integer	Unique ID assigned to the Asset, generated by the NYISO
Asset Type	Text	Indication of one of the following per Asset: Demand Reduction, Energy Storage, Generator, Wind, Solar, Landfill Gas
Source Type	Text	Specific generation or load reduction technology
Source Fuel	Text	Specific to the generation or load reduction type
Response Type	Text	If applicable, load reduction mechanism as defined in Aggregation Manual Section 2.1.1
Active	Boolean	Indicates whether the Asset type is active
Last update Date	Date	Date that the record was last updated
Last Updated By	Text	Last User that updated the record

An Aggregator may filter and search for specific values within each of the attributes included in the 'Asset Source Configuration' display to access specific information on one or several Asset enrollment records (Figure 44).

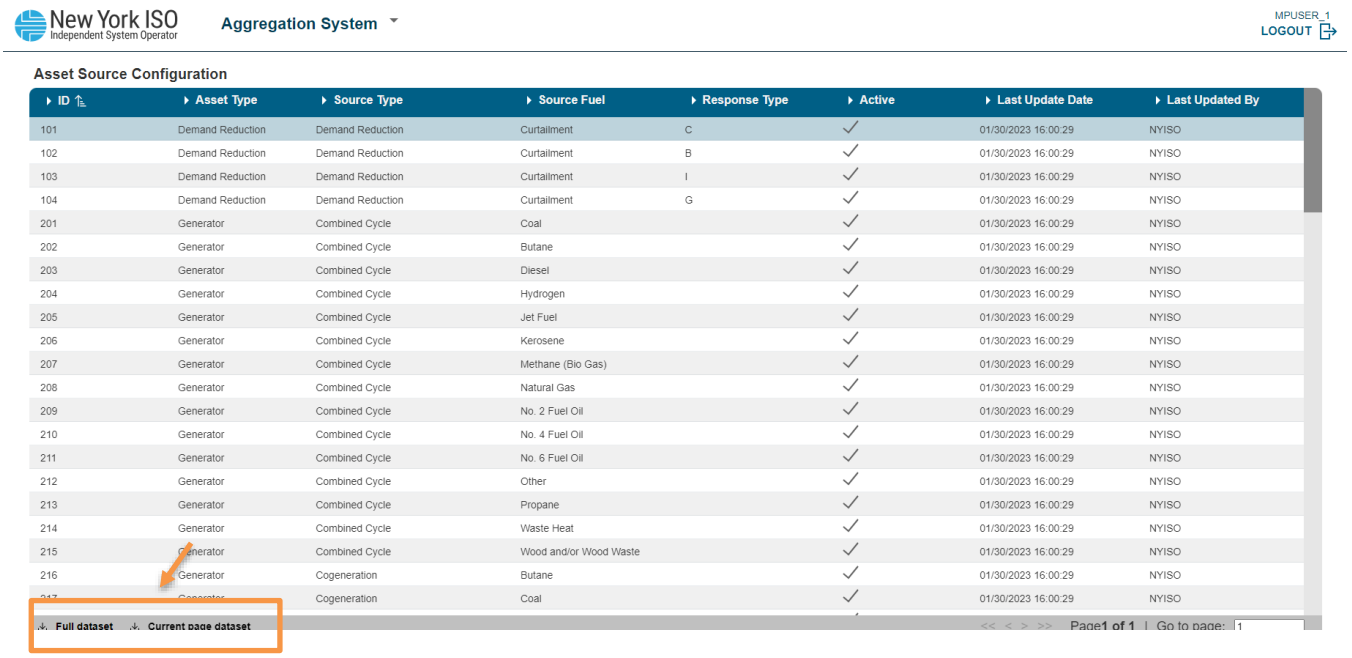
Figure 44: Asset Source Configuration Filter & Search



An additional function on the 'Asset Source Configuration' display is the ability to export all Asset

data as one bulk export. This function supports export of either the current page dataset or the full dataset, depending on an Aggregator's specific use case (Figure 45).

Figure 45: Asset Source Configuration Export Function

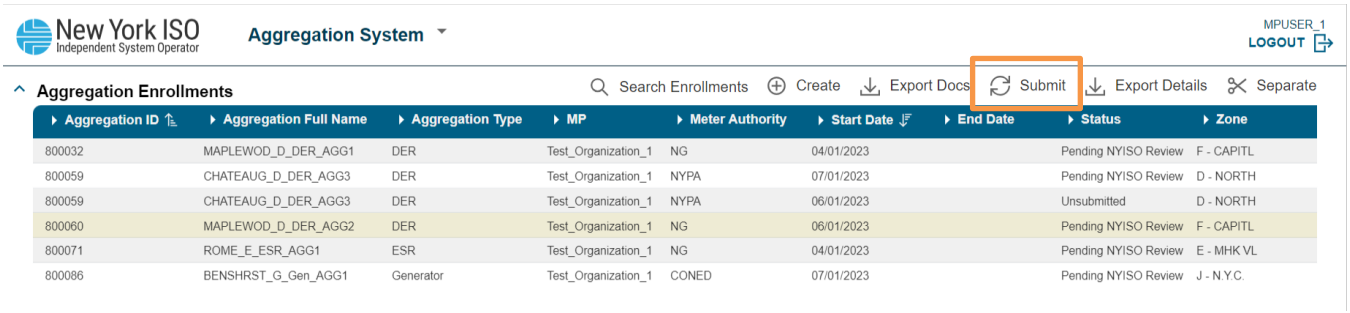


ID	Asset Type	Source Type	Source Fuel	Response Type	Active	Last Update Date	Last Updated By
101	Demand Reduction	Demand Reduction	Curtailment	C	✓	01/30/2023 16:00:29	NYISO
102	Demand Reduction	Demand Reduction	Curtailment	B	✓	01/30/2023 16:00:29	NYISO
103	Demand Reduction	Demand Reduction	Curtailment	I	✓	01/30/2023 16:00:29	NYISO
104	Demand Reduction	Demand Reduction	Curtailment	G	✓	01/30/2023 16:00:29	NYISO
201	Generator	Combined Cycle	Coal		✓	01/30/2023 16:00:29	NYISO
202	Generator	Combined Cycle	Butane		✓	01/30/2023 16:00:29	NYISO
203	Generator	Combined Cycle	Diesel		✓	01/30/2023 16:00:29	NYISO
204	Generator	Combined Cycle	Hydrogen		✓	01/30/2023 16:00:29	NYISO
205	Generator	Combined Cycle	Jet Fuel		✓	01/30/2023 16:00:29	NYISO
206	Generator	Combined Cycle	Kerosene		✓	01/30/2023 16:00:29	NYISO
207	Generator	Combined Cycle	Methane (Bio Gas)		✓	01/30/2023 16:00:29	NYISO
208	Generator	Combined Cycle	Natural Gas		✓	01/30/2023 16:00:29	NYISO
209	Generator	Combined Cycle	No. 2 Fuel Oil		✓	01/30/2023 16:00:29	NYISO
210	Generator	Combined Cycle	No. 4 Fuel Oil		✓	01/30/2023 16:00:29	NYISO
211	Generator	Combined Cycle	No. 6 Fuel Oil		✓	01/30/2023 16:00:29	NYISO
212	Generator	Combined Cycle	Other		✓	01/30/2023 16:00:29	NYISO
213	Generator	Combined Cycle	Propane		✓	01/30/2023 16:00:29	NYISO
214	Generator	Combined Cycle	Waste Heat		✓	01/30/2023 16:00:29	NYISO
215	Generator	Combined Cycle	Wood and/or Wood Waste		✓	01/30/2023 16:00:29	NYISO
216	Generator	Cogeneration	Butane		✓	01/30/2023 16:00:29	NYISO
	Generator	Cogeneration	Coal		✓	01/30/2023 16:00:29	NYISO

3.6. Submit Aggregation Enrollments

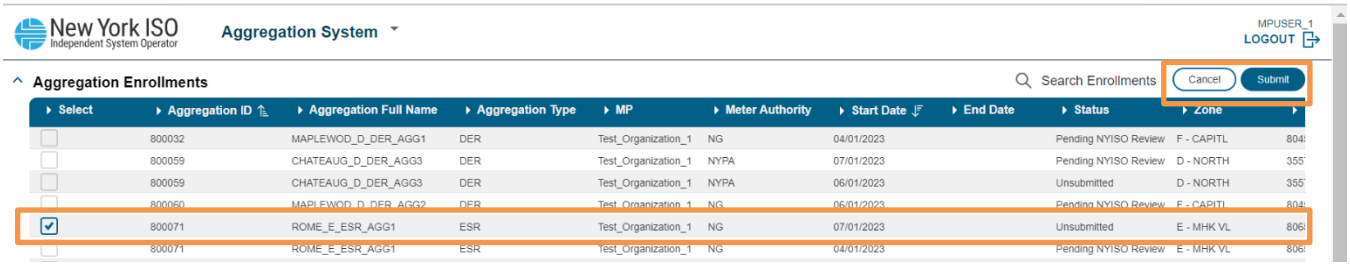
From the 'Aggregation Enrollment' display, an Aggregator may initiate the submission of one or more Aggregations, if the Aggregation(s) have a status of 'Unsubmitted' (Figures 46 & 47).

Figure 46: Submit Aggregation(s) Enrollments



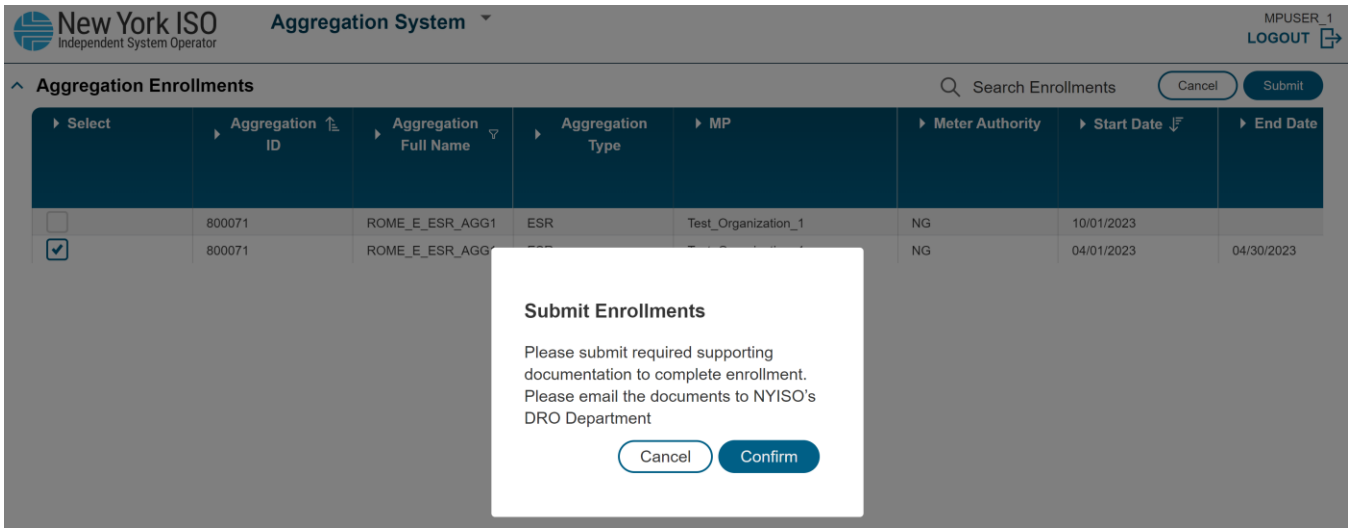
Aggregation ID	Aggregation Full Name	Aggregation Type	MP	Meter Authority	Start Date	End Date	Status	Zone
800032	MAPLEWOD_D_DER_AGG1	DER	Test_Organization_1	NG	04/01/2023		Pending NYISO Review	F - CAPITL
800059	CHATEAUG_D_DER_AGG3	DER	Test_Organization_1	NYPA	07/01/2023		Pending NYISO Review	D - NORTH
800059	CHATEAUG_D_DER_AGG3	DER	Test_Organization_1	NYPA	06/01/2023		Unsubmitted	D - NORTH
800060	MAPLEWOD_D_DER_AGG2	DER	Test_Organization_1	NG	06/01/2023		Pending NYISO Review	F - CAPITL
800071	ROME_E_ESR_AGG1	ESR	Test_Organization_1	NG	04/01/2023		Pending NYISO Review	E - MHK VL
800086	BENSHRST_G_Gen_AGG1	Generator	Test_Organization_1	CONED	07/01/2023		Pending NYISO Review	J - N.Y.C.

Figure 47: Selecting Aggregation(s) to Submit



An Aggregator is required to submit required documentation to the NYISO (DER@nyiso.com) in order to complete the submission of one or more Aggregations (Figure 48). Each Aggregation enrollment record must be accompanied by unique required documentation – without submission of required documentation, the NYISO's workflow review period cannot initiate on the first day of the enrollment workflow month. Please refer to Appendix C for required up front document requirements.

Figure 48: Submit Enrollments Pop-up



The submission of one or more Aggregations enables NYISO to perform a series of validations to ensure completeness of data attributes, which will support the manual workflow review throughout the applicable month.

Should an Aggregator initiate the submission of one or more Aggregations in error, the NYISO recommends contacting DER@nyiso.com to request that the Aggregation(s) be returned to the status of 'Unsubmitted'. The Aggregator should include an explanation of the reason for this action, as it is expected that an Aggregator will only initiate the submission of one or more Aggregations after it has ensured that all applicable data attributes are complete and accurate.

3.7. Export Aggregation Details

An Aggregator has the ability to export data for one or more Aggregations, including all detailed attributes describing said Aggregation(s) in the System, using the 'Export Details' function (Figure 49). This function provides one .xlsx file export containing data describing all Aggregations selected, whether one or several, including all associated Facilities and Assets (Figures 50 & 51).

Figure 49: Export Aggregation(s) Details

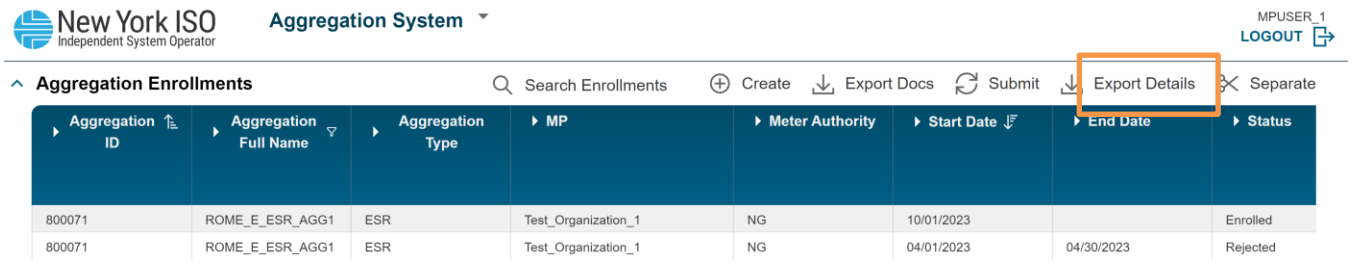


Figure 50: Select Aggregation(s) to Export

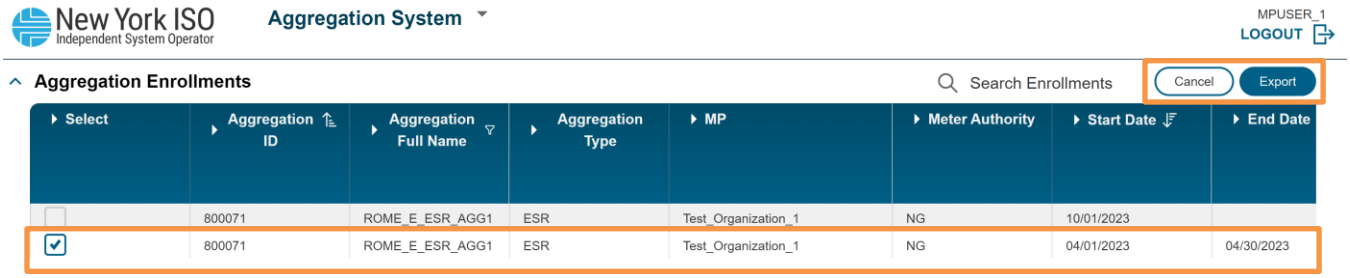
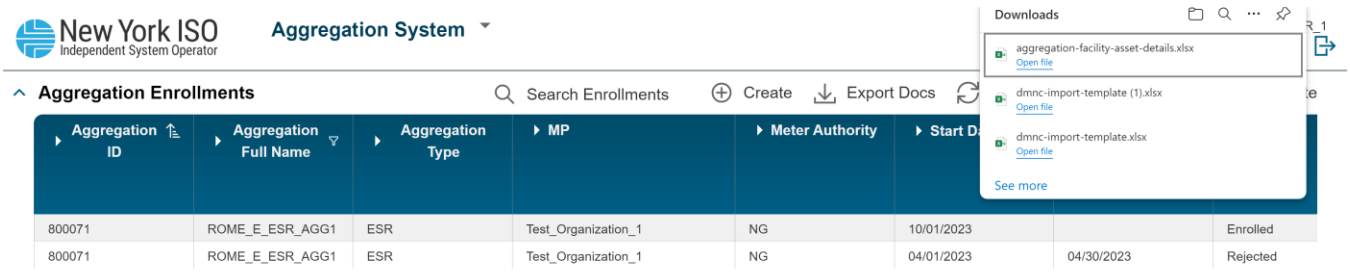


Figure 51: File Downloaded in Excel



3.8. Separate Aggregation Enrollments

The 'Aggregation Enrollments' display features the 'Separate' function, which allows an Aggregator to cease market participation of one or more Aggregations (Figure 52). Initiating 'Separate' requires selection of the Aggregation(s) for which the action is intended (Figure 53).

Figure 52: Separate Aggregation(s)

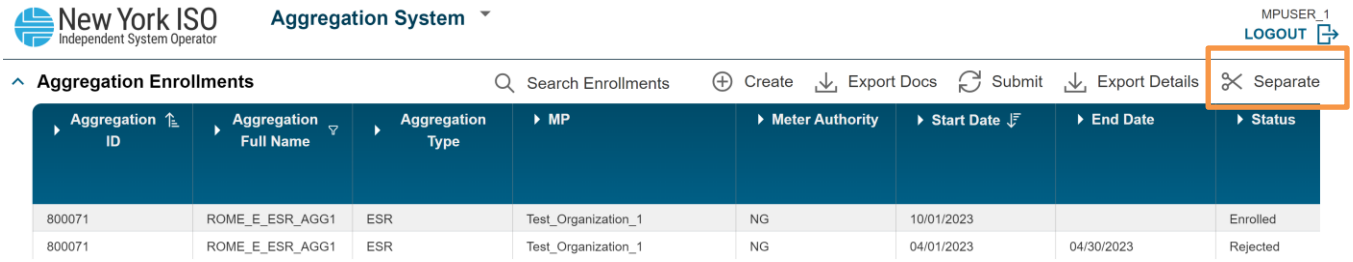
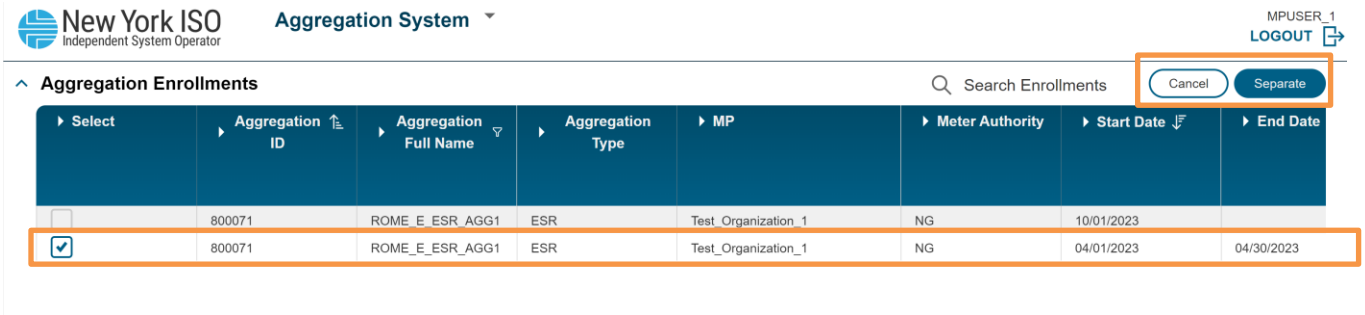
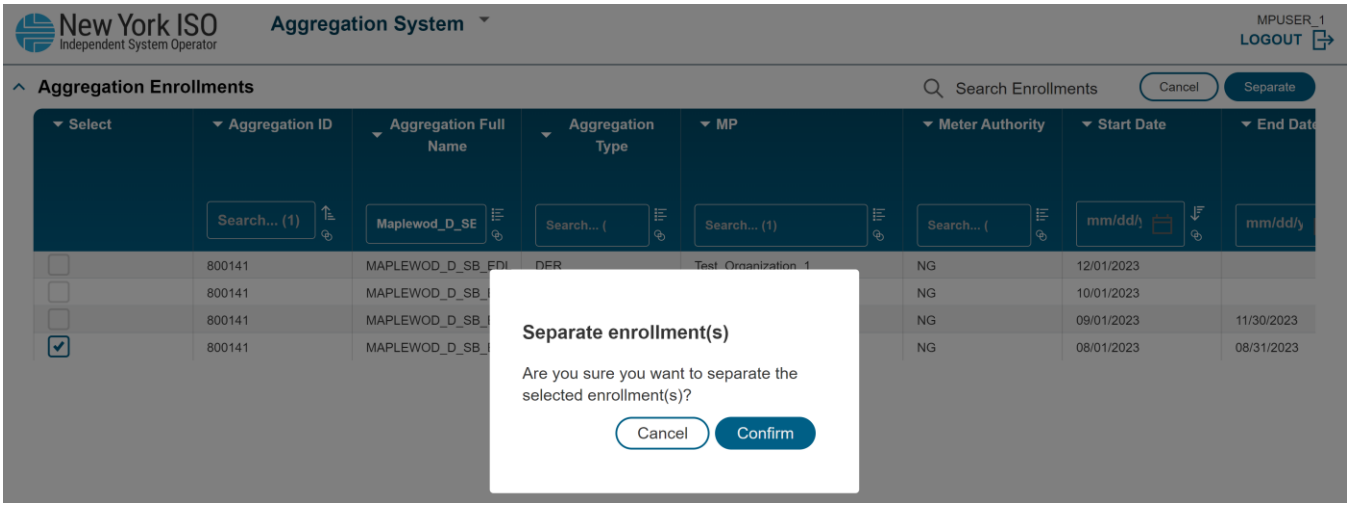


Figure 53: Select Aggregation(s) Enrollments to Separate



Upon initiating 'Separate' of one or more Aggregations, the Aggregator will be required to confirm the action (Figure 56). As part of this validation step, the Aggregation System will simultaneously perform an automatic confirmation that the applicable Aggregation(s) and facilities have a status of 'Enrolled,' and that no other enrollment record exists for said Aggregation(s) and facilities with a status of either 'Submitted' or 'Pending NYISO Review'. In other words, for an Aggregation to be 'Separated,' it must not also have been recently submitted and not yet reviewed by the NYISO.

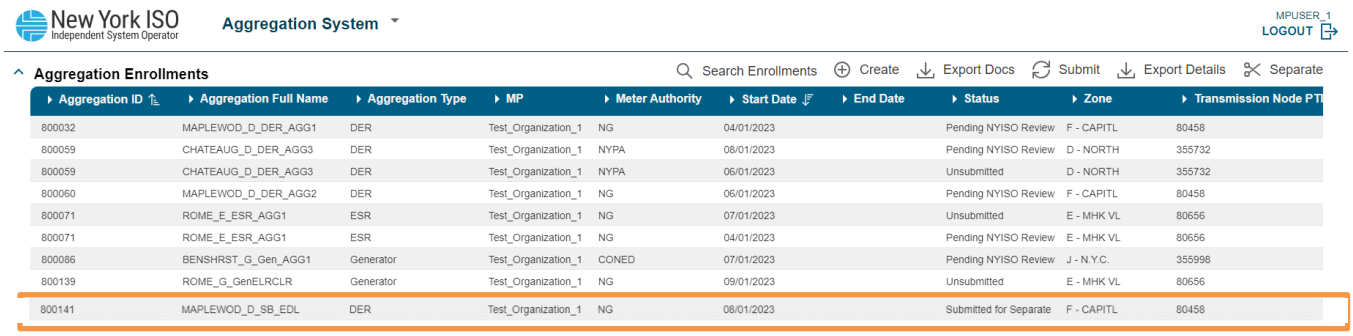
Figure 54: Pop-up Message to Confirm Separate Enrollment(s)



After confirming the action to 'Separate' the identified Aggregation(s) enrollment record(s), the status of the Aggregation(s) changes from 'Enrolled' to 'Submitted for Separate' (Figure 55). This status effectively 'Submits' the Aggregation once again, except with the intention of removing the Aggregation from market participation – the review period allows the Aggregation to satisfy its capacity auction awards, if applicable, with the 'Separate' taking effect at the beginning of the month following the review month. Specifically, the Aggregation System will not separate an Aggregation effective immediately and will always take effect at the beginning of the applicable next month, unless the separation is initiated by the Aggregator, in which case the separation takes effect the first day of two months in the future. Should the NYISO initiate a separation in the middle of a month, but prior to the Certification Close date (typically the 20th day of the month), the Aggregation can be separated effective starting at the beginning of the next month. If the NYISO initiates a separation after the Certification Close date for the coming month, the Aggregation will not be separated until the first day of two months in the future.

Any time an Aggregator initiates a separation, it will be processed through the Aggregation System workflow and thus will always be scheduled to take effect the first day of two months in the future.

Figure 55: Aggregation Status of 'Submitted for Separate'



Aggregation ID	Aggregation Full Name	Aggregation Type	MP	Meter Authority	Start Date	End Date	Status	Zone	Transmission Node PT
800032	MAPLEWOD_D_DER_AGG1	DER	Test_Organization_1	NG	04/01/2023		Pending NYISO Review	F - CAPITL	80458
800059	CHATEAUG_D_DER_AGG3	DER	Test_Organization_1	NYPA	08/01/2023		Pending NYISO Review	D - NORTH	355732
800059	CHATEAUG_D_DER_AGG3	DER	Test_Organization_1	NYPA	06/01/2023		Unsubmitted	D - NORTH	355732
800060	MAPLEWOD_D_DER_AGG2	DER	Test_Organization_1	NG	06/01/2023		Pending NYISO Review	F - CAPITL	80458
800071	ROME_E_ESR_AGG1	ESR	Test_Organization_1	NG	07/01/2023		Unsubmitted	E - MHK VL	80656
800071	ROME_E_ESR_AGG1	ESR	Test_Organization_1	NG	04/01/2023		Pending NYISO Review	E - MHK VL	80656
800086	BENSHRST_G_Gen_AGG1	Generator	Test_Organization_1	CONED	07/01/2023		Pending NYISO Review	J - N.Y.C.	355998
800139	ROME_G_GenELRCLR	Generator	Test_Organization_1	NG	09/01/2023		Unsubmitted	E - MHK VL	80656
800141	MAPLEWOD_D_SB_EDL	DER	Test_Organization_1	NG	08/01/2023		Submitted for Separate	F - CAPITL	80458

3.9. Facility Assignment, Swapping, & Removal

3.9.1. Facility Assignment

Aggregators must assign each individual DER facility to the applicable Aggregation upon enrollment. Assignment of a facility assumes that an Aggregation ID has already been requested and an Aggregation has been created using the applicable ID. When importing each facility to the System, each facility has a data attribute titled 'Aggregation ID' on its enrollment record. In order to assign a facility to an Aggregation, the Aggregation ID must be entered on each facility's enrollment record. By adding the applicable Aggregation ID to the facility enrollment record, the Aggregator indicates to the Aggregation System that the

Aggregation is mapped to its comprising facilities.

For each Aggregation, except DER type Aggregations composed exclusively of Demand Side Resources which require only one facility to be assigned, a minimum of two facilities must be assigned prior to the Aggregator being able to 'Submit' said Aggregation for NYISO review – please refer to the Aggregation Manual for additional details.

3.9.2. Facility Removal

Removal of a facility from an Aggregation is achieved by removing the applicable Aggregation ID from the facility enrollment record. An Aggregator may complete this removal by first downloading a facility import template, populated with all the facilities associated with the respective Aggregation ID, from the facility enrollments screen. Next, the Aggregator should delete the Aggregation ID from the facility enrollment record pending removal. Then, the facility import template should be reimported, thus creating new "Unsubmitted" records for each of the included facilities, which now harbor effective dates beginning the first of the open enrollment month. The "Unsubmitted" record for the removed facility will be lacking an Aggregation ID, therefore precluding its inclusion in the subsequent submission of the Aggregation ID.

Once completed, the Aggregator must then download an Aggregation import template for the applicable Aggregation ID, which now excludes the removed facility, from the Aggregation enrollment screen. This import template must be reimported in order for the new Aggregation composition to be submitted for enrollment. Upon successful import, an "Unsubmitted" record for the Aggregation will be created with an effective date beginning the first of the open enrollment month and require the Aggregator to submit that record for enrollment. Once submitted, the Aggregation will follow the normal enrollment review process and ultimately result in the enrollment of the Aggregation without the removed facility.

3.9.3. Facility Swapping

Pursuant to the NYISO Services Tariff, an Aggregator may elect to move DER, or 'swap' DER from one Aggregation to a different Aggregation. In order to do so, the facility must be removed from its current Aggregation enrollment, and subsequently added to its new desired Aggregation enrollment. The process is as follows: The Aggregator must first download a facility import template, populated with the all the respective facilities associated with both the donor and recipient Aggregations, from the facility enrollments screen. Next, the Aggregator should update the Aggregation ID of the facility they intend to swap to reflect that of the recipient Aggregation. Once completed, the facility import should be reimported causing the creation of new "Unsubmitted" records for each of the included facilities, which now harbor effective dates beginning the first of the open enrollment month. The "Unsubmitted" record for the swapped facility will now include the recipient Aggregation's ID, therefore precluding its inclusion in the

subsequent submission of the donor Aggregation ID.

Following the successful import of the facilities, the Aggregator must then download an Aggregation import template, populated with both the donor and recipient Aggregation's data, from the Aggregation Enrollments screen. This template should be reimported, resulting in "unsubmitted" records for the donor and recipient Aggregations being created with effective dates beginning the first of the open enrollment month. The Aggregator will be required to submit these records for enrollment, ultimately resulting in the enrollment of each Aggregation, upon successful review, with the swapped facility now only included in the recipient Aggregation's composition.

3.10. Capacity Market Participation Functions

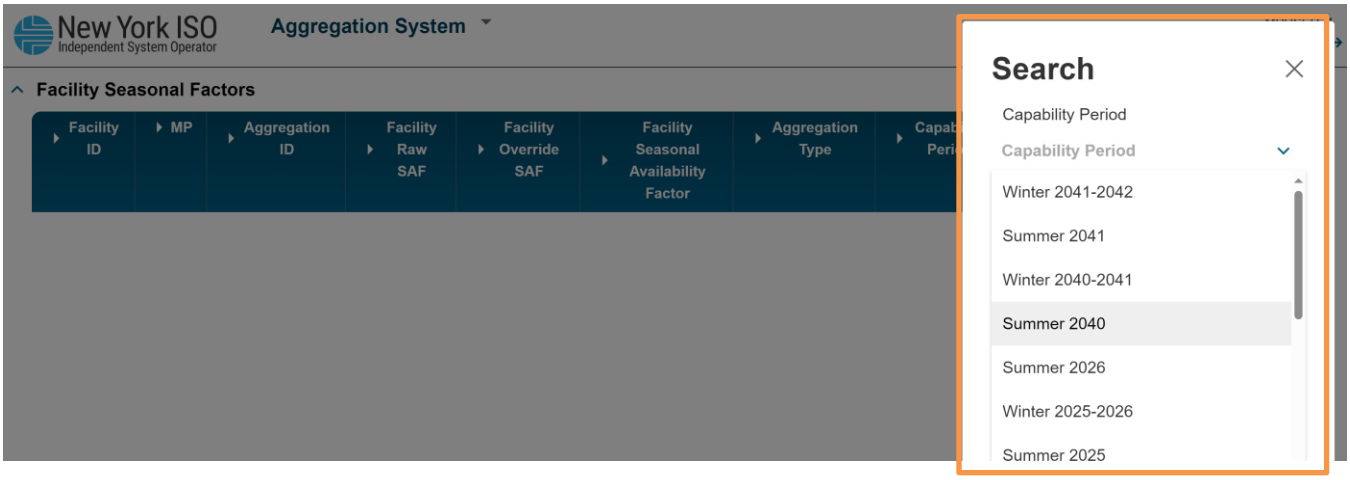
This section describes seasonal enrollment-based calculations to facilitate Capacity market participation of an Aggregation. System records for ICAP/UCAP calculation occur on a monthly basis. Please note, the result of any calculation using records with a status of "Pending" is subject to change. As a result, take note of possible changes to the ICAP/UCAP for a given Aggregation record based on any pending monthly updates to the Aggregation or comprising facilities.

3.10.1. View Facility Seasonal Factors

From the 'Facility Seasonal Factors' display, an Aggregator may view several attributes describing each Facility with its corresponding availability factor per capability period. The capability period is selected clicking on the magnifier glass located on the right-hand side corner (see Figures 56 and 57).

Figure 56: Facility Seasonal Factors Display

Figure 57: Selecting Capability Period to display Facility Seasonal Factors



Facility Seasonal Factor attributes are described in the table below (Figure 58).

Figure 58: Facility Seasonal Factors Summary Attributes

Attribute	Format	Description
Facility ID	Text	Unique ID assigned to the Facility
MP	Text	Aggregator organization name
Aggregation ID	Integer	Unique ID assigned to the Aggregation
Facility Raw SAF	Percentage	The calculated availability of a facility for a Capability Period (Season), based on the historical data of that facility for the previous two like Capability Periods, when available, or by using the NERC/NYISO Class Average. Calculated as a percentage value. Used in derating factor calculations.
Facility Override SAF	Percentage	An Override value entered by the NYISO Administrator when the 'Facility Raw Seasonal Availability Factor' requires updating. The override is used in place of the Facility Raw Seasonal Availability Factor in derating factor calculations.
Facility Seasonal Availability Factor	Percentage	Facility Availability Factor Refer to ICAP Manual Attachment J for calculation details

Aggregation Type	Text	One of the following: DER, ESR, Generator, Wind, Solar, or Landfill Gas
Capability Period	Text	A six-month period established as follows: (i) from May 1 through October 31 of each year ("Summer Capability Period"); and (ii) from November 1 of each year through April 30 of the following year ("Winter Capability Period").
Month	Text	Applicable month
Last Updated Date	Date/Time	Date of record last updated
Last Updated By	Text	User responsible for last update

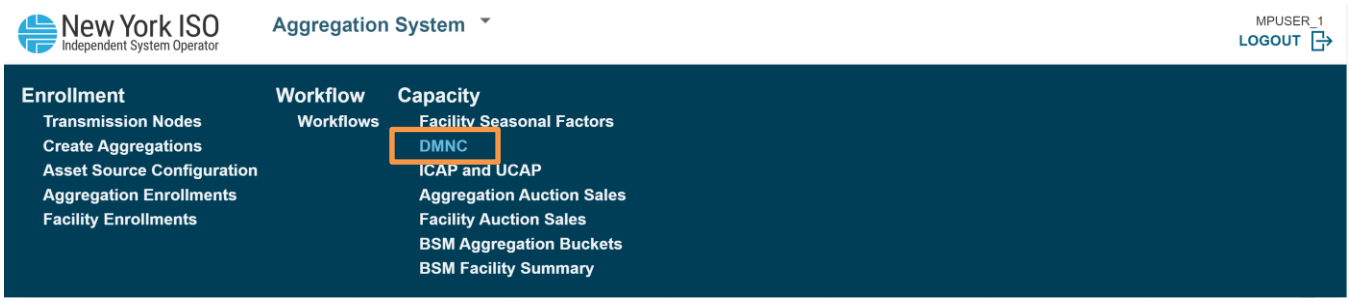
3.10.2. DMNC

Submission of DMNC test data is a prerequisite to Capacity market participation for an Aggregation. An Aggregator is responsible for accessing the appropriate NYISO processes as detailed in the Aggregation Manual and ICAP Manual to perform a seasonal DMNC test. Should the Aggregation contain time-stacked DER facilities as defined in the Aggregation Manual, the Aggregator is also responsible for submitting time-stacking information to the Aggregation System prior to market participation.

3.10.2.1. Create DMNC and DMNC Time Stacking

Once an Aggregation is operational in the Energy and Ancillary Services market, it becomes eligible to conduct a DMNC test for the applicable season. The Aggregator may access the 'DMNC' display once an Aggregation has a status of 'Enrolled,' and may submit DMNC test data once it has conducted a DMNC test in accordance with the business rules defined in the Aggregation Manual and ICAP Manual. Aggregations with an EDL and accompanying time-stacking information about the individual DER facilities comprising the Aggregation must submit all appropriate data as part of the DMNC submission (Figure 59). Market Participants should contact DER@nyiso.com for support when submitting DMNC test data for a Provisional DMNC, SRT Transfer, or other scenarios that deviate from the standard DMNC submission process.

Figure 59: DMNC Display



Upon initiating the 'Create DMNC' function, the System will display a window which initiates the file submission process for an Aggregation (Figures 60 & 61). The Aggregator will be required to select the Aggregation ID and Test Type for the applicable Aggregation based on the business rules and requirements defined in the Aggregation Manual and ICAP Manual. Upon selecting the Aggregation ID and Test Type, the Aggregator may select the 'Download Blank Template' function, which produces an .xls file available for download. This file should be used to fill in applicable required test data, which then may be imported into the System using the same window (Figure 62).

Figure 60: Create DMNC

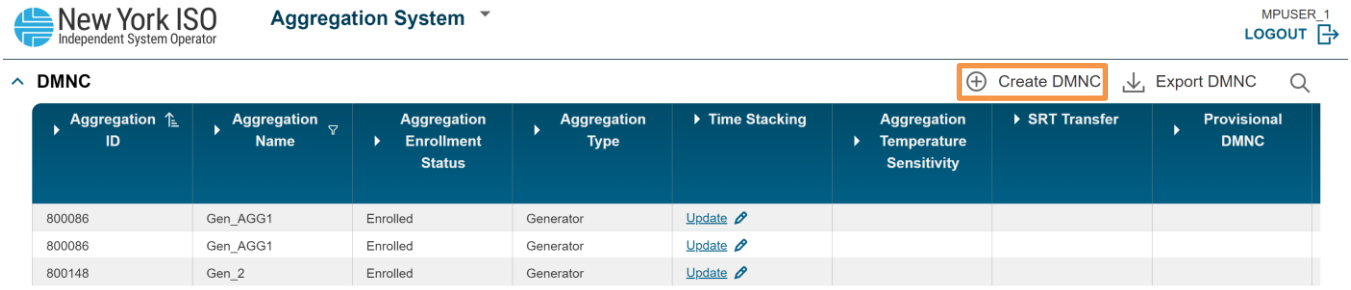
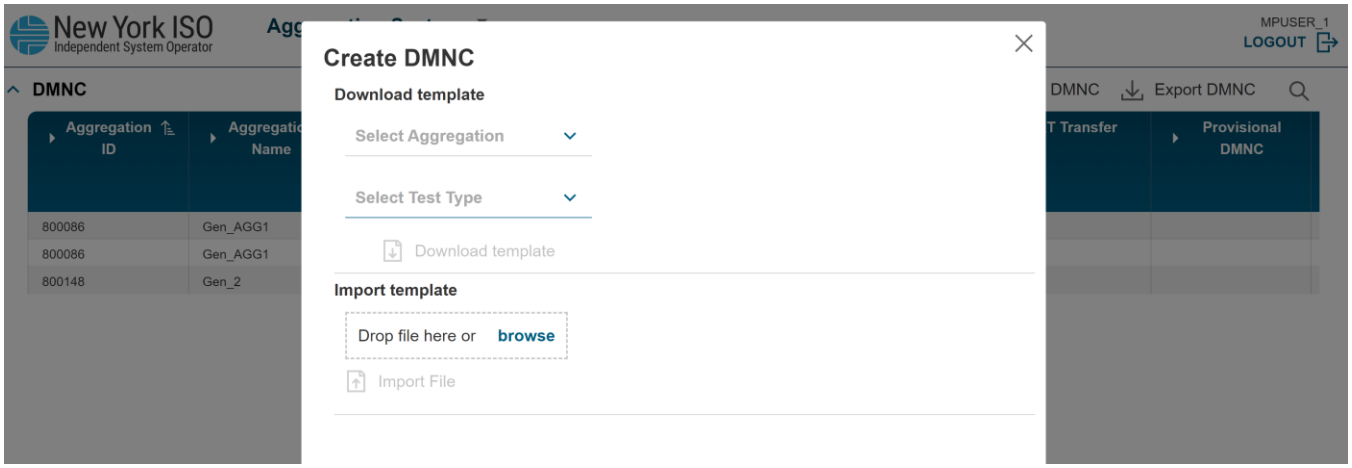


Figure 61: Create DMNC Display



From the 'Create DMNC' display, the Aggregator can perform the following actions:

- Download blank Template – Aggregator selects the Aggregation ID from the 'Select Aggregation' dropdown and Test Type from the 'Select Test Type' dropdown where the Aggregator can choose EDL or DMNC depending on the Aggregation type (with EDL or without EDL) as dictated by the Aggregation Manual and ICAP Manual (Figure 62).
- Import template – Aggregator uploads data into the Aggregation System from the upload template containing test data for all facilities comprising the Aggregation (Figure 63).

Figure 62: Download Blank Template – DMNC Type

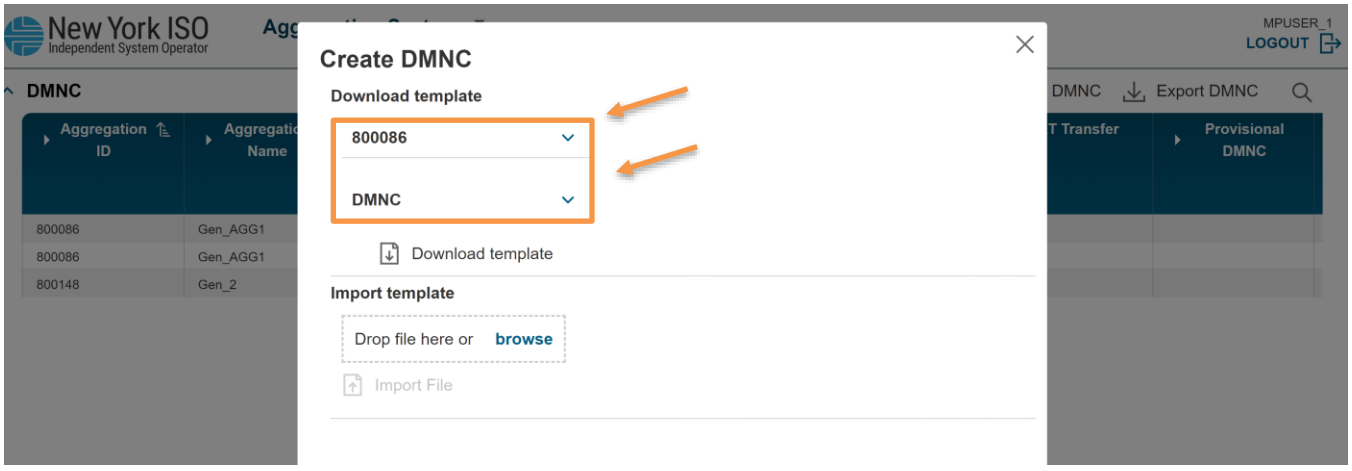
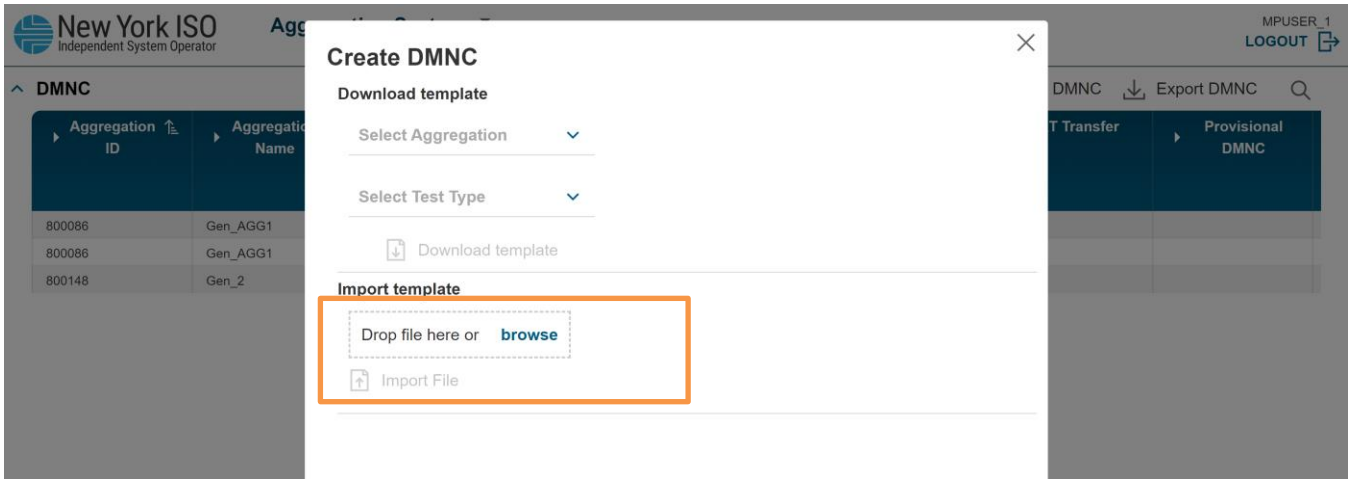


Figure 63: Import Template



Upon submitting test data for the applicable Aggregation, the DMNC record will be assigned a status of 'Submitted'. During the time that the Submitted record is being verified by the NYISO, the status of the DMNC record will be marked as 'Pending Review' and after the verification of the data submitted, the Status of the DMNC record will change to 'Approved' or 'Denied' based on the results of the verification.

3.10.2.2. Update Time Stacking

Aggregators may update Time Stacking data from approved DMNC records of an Aggregation with an EDL at any time before Certification Close Date for a given auction month, which typically falls on or near the 20th calendar day of the preceding month. Please refer to the ICAP Calendar, accessible in the NYISO website (http://icap.nyiso.com/ucap/public/evt_calendar_display.do) for specific dates of relevance each month. From the 'DMNC' display, an Aggregator may use the 'Time Stacking' column to update time stacking data by initiating the 'Update' screen control for the applicable Aggregation (Figure 64). A pop-up window will allow to download the template of the selected Aggregation to be updated (Figure 65).

Figure 64: Time Stacking Aggregation with EDL

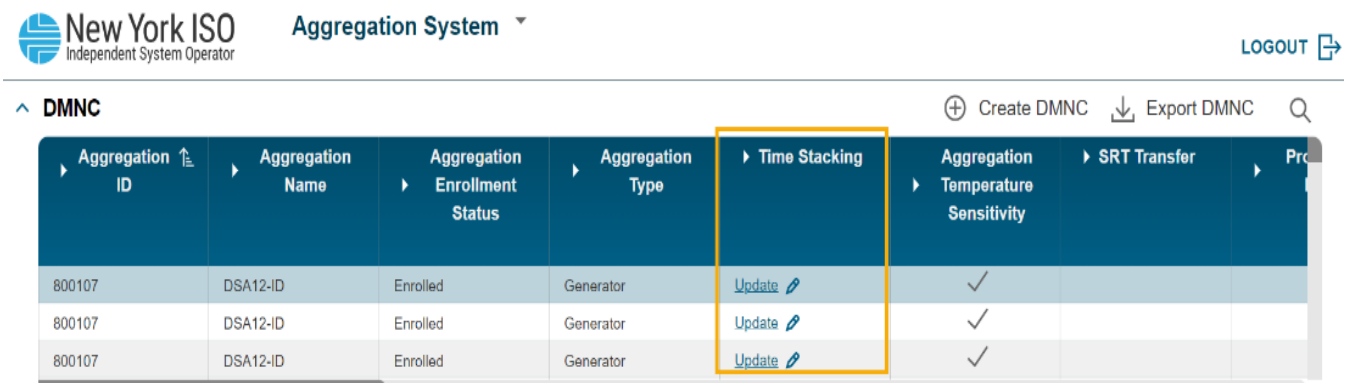
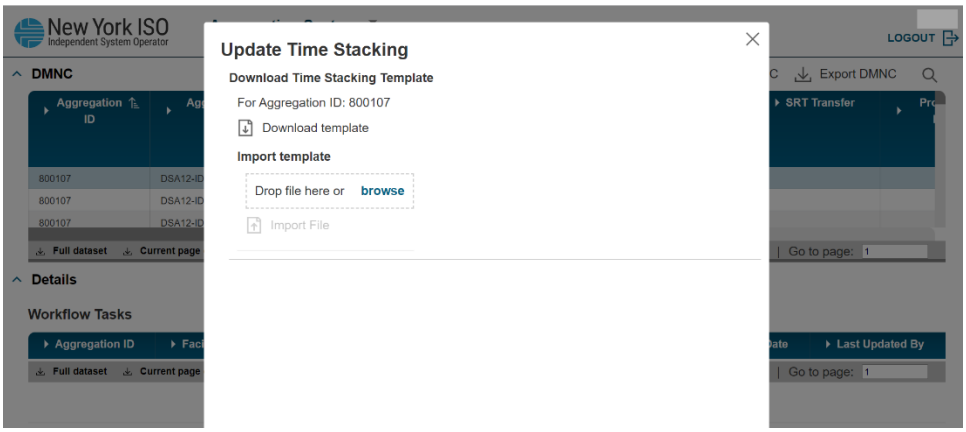


Figure 65: Update Time Stacking



From the Update Time Stacking display, the Aggregator can perform the following actions:

- Download Time Stacking Template – Using the 'Download Template' function, an Aggregator may retrieve an excel template containing select prepopulated fields based on the Aggregation selected, as well as blank attributes for use when populating with the corresponding data (Figure 66).
- Import template – Aggregator uploads data into the Aggregation System from the upload template containing time stacking data for all facilities comprising the selected Aggregation (Figure 67).

Figure 66: Download Template with Time Stacking Data

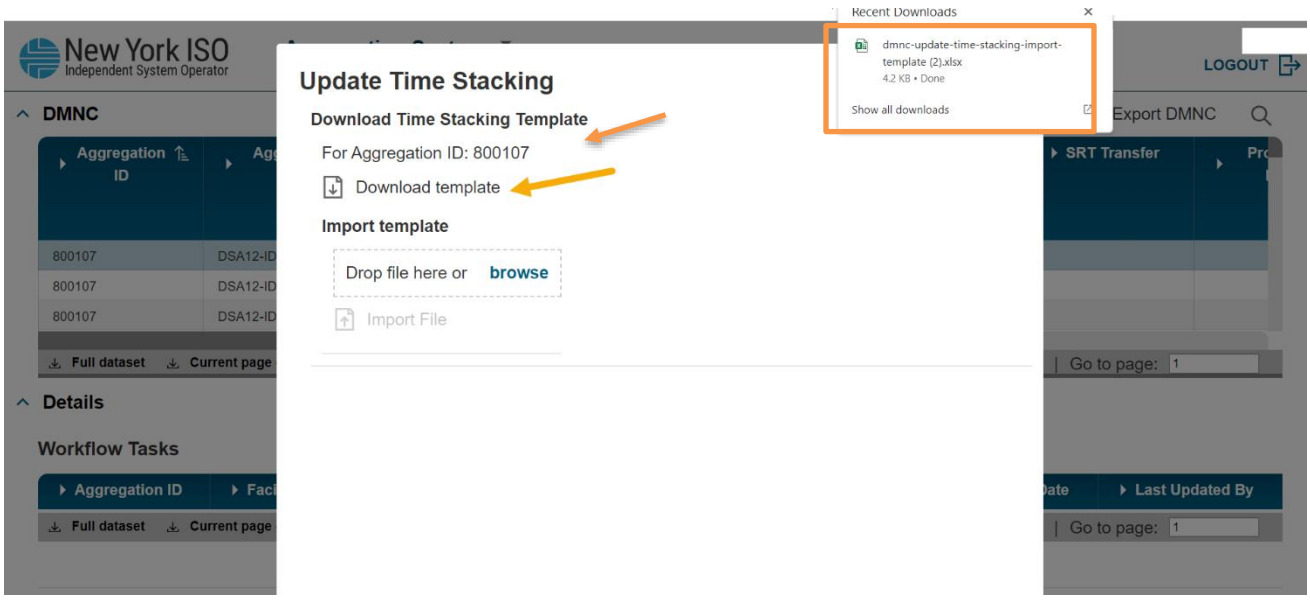
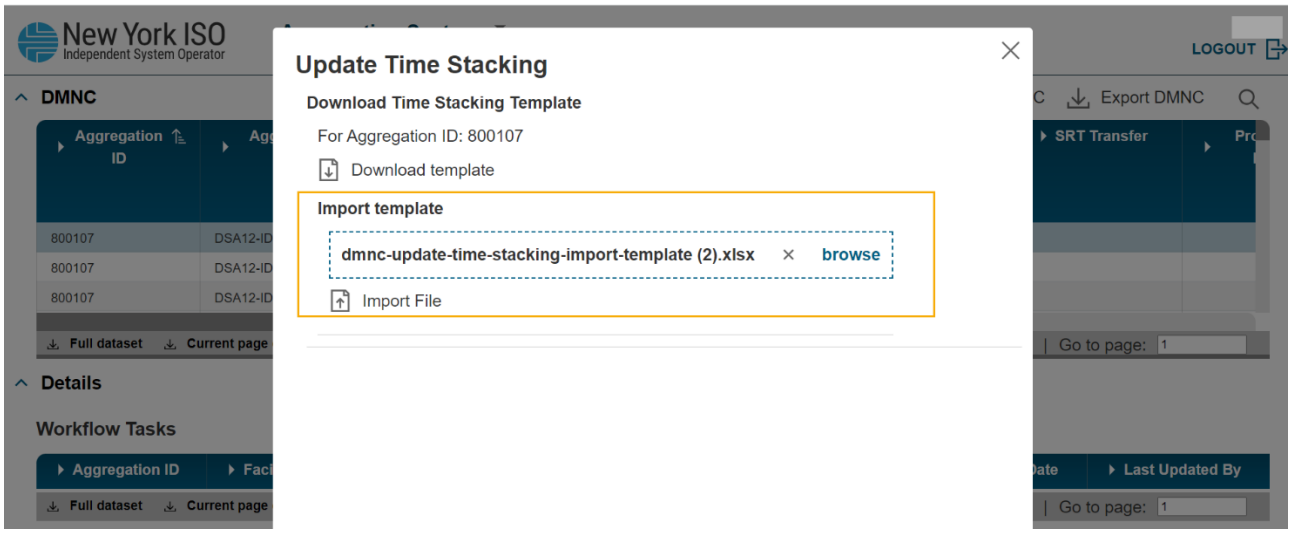


Figure 67: Import Template



3.10.2.3. View Aggregation DMNC Summary

From the 'DMNC' display, an Aggregator may view several attributes describing each Aggregation with a corresponding DMNC test data record and/or time stacking information (Figure 68). This information is used by NYISO staff to conduct DMNC and time stacking validations, as well as connect the results of an Aggregation's performance test with its enrollment record in the Aggregation System.

Figure 68: Aggregation DMNC Summary Attributes

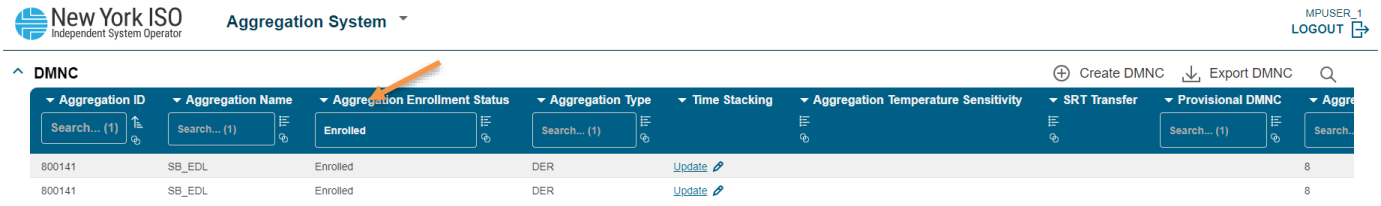
Attribute	Format	Description
Aggregation ID	Integer	Unique ID assigned to the Aggregation
Aggregation Name	Text	Aggregator's chosen name for an Aggregation (See 'Aggregation Short Name')
Aggregation Enrollment Status	Text	NYISO system enrollment status of the Aggregation (Unsubmitted, Submitted, Pending NYISO Review, Enrolled, Rejected, Separated)
Aggregation Type	Text	One of the following: DER, ESR, Generator, Wind, Solar, or Landfill Gas
Time Stacking	Upload	Time stacking data file import and storage

Attribute	Format	Description
Aggregation Temperature Sensitivity	Boolean	True/False - System prepopulated based on the operational characteristic describing individual facilities within an Aggregation based on fuel and generation type and whether it is temperature sensitive.
SRT Transfer	Boolean	Indicates whether the DMNC test data is applied from the previous like-Capability Period to transfer from participation as a standalone resource to an Aggregation of the same type. For eligibility details, please refer to Section 2.2.5 of the Aggregation Manual.
Provisional DMNC	Boolean	Indicates whether the DMNC test data is applied from the previous like-Capability Period to transfer from participation as a Special Case Resource (SCR) or standalone Resource to a DER Aggregation type. For eligibility details, please refer to Section 2.2.5 of the Aggregation Manual.
Aggregation EDL	Integer	Indication of energy duration limitation elected during Enrollment.
Test Date	Date	Date of test execution Must align with applicable test windows as outlined in the ICAP Manual and ICAP Event Calendar.
Test Type	Selection	Indication of DMNC or EDL test Please refer to the Aggregation Manual and ICAP Manual for more information about Test Type requirements.
Start Date	Date	Intended commencement date of DMNC. Start Date must be greater than the current month and must always be the first day of the month.
Test Start HB	Integer	Hour Beginning of test
Test Duration	Integer	Total hours in test Please refer to the Aggregation Manual and ICAP Manual for more information about Test Duration requirements.

Attribute	Format	Description
Electing to Time Stack	Boolean	Y/N – Please refer to the Aggregation Manual and ICAP Manual for more information about time stacking
End Date	Date	DMNC end effective date
Capability Period Type	Text	Summer or Winter
In/Out of Period	Text	Indication if test was performed in or out of the DMNC Test Period Please refer to the ICAP Event Calendar and ICAP Manual for more information about In and Out of Period Test Windows.
MP Aggregation Demonstrated Capability MW	MW	Demonstrated Capability provided upon submission of a DMNC test at the Aggregation level. Represents the average of the Aggregation Hourly Demonstrated Capability MW for all facilities within the Aggregation.
Aggregation Pre-Test Rating MW	MW	Aggregation Post-Test Rating MW from a previously Approved DMNC Aggregation record for the prior like-season. If there is no previous like-season Aggregation Post Test Rating MW, this value is null.
Aggregation Post-Test Rating MW	MW	Aggregation MW rating. Reflects temperature adjustment if applicable. If not temperature sensitive, this is equal to the Aggregation Demonstrated Capability MW. If temperature sensitive, this is equal to the average of the Aggregation Hourly Post Test Rating MW for all facilities in the Aggregation.
DMNC Status	Text	Indicates current state of test data record (Submitted, Pending Review, Approved, Denied, Withdrawn)
Reason	Text	Populated by NYISO when the DMNC test is being validated. Possible value: Waiting MMA Review
Created Date	Date/Time	Date of record creation
Created By	Text	User responsible for record creation
Last Updated Date	Date/Time	Date of record last updated
Last Updated By	Text	User responsible for last update

An Aggregator may filter and search for specific values within each of the attributes included in the 'DMNC' display, to enable an Aggregator to access specific information on one or several DMNC records (Figure 69).

Figure 69: Results Displayed by Search Criteria



The data contained in the 'DMNC' display, and all applicable time stacking-related attributes, are described in full in Appendix D of this User's Guide.

3.10.3. ICAP and UCAP

An Aggregator may access ICAP MW and UCAP MW values and other pertinent capacity market participation information, for a selected timeframe, through the 'ICAP and UCAP' display (Figures 70 & 71).

Figure 70: ICAP and UCAP Display

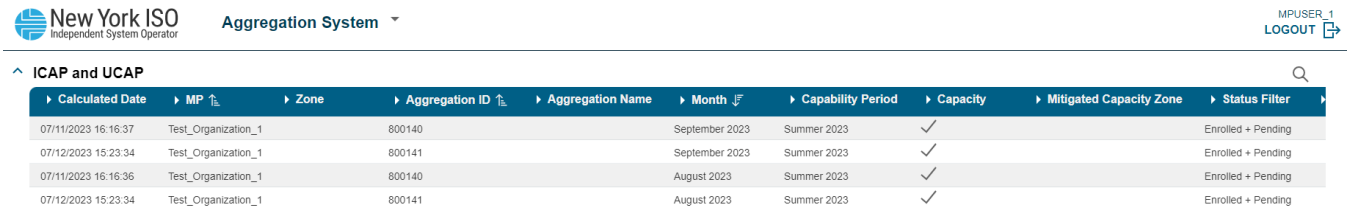


Figure 71: ICAP and UCAP Display Attributes

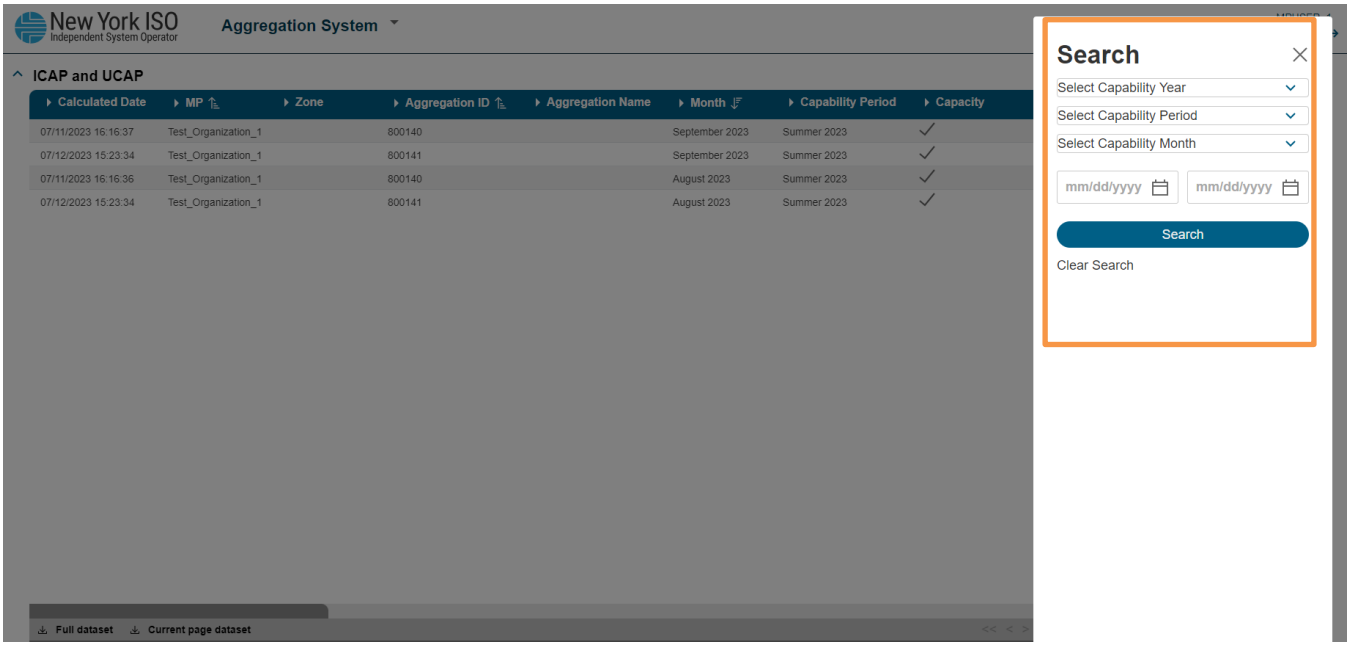
Attribute	Format	Description
Calculated Date	Date/Time	Date of ICAP & UCAP calculation
MP	Text	Aggregator organization name
Zone	Text	Zone where the Aggregation is located
Aggregation ID	Integer	Unique ID assigned to the Aggregation
Aggregation Name	Text	Aggregator's chosen name for an Aggregation (See 'Aggregation Short Name')
Month	Text	Auction month for which all values are applicable
Capability Period	Text	Summer or Winter

Attribute	Format	Description
Capacity	Boolean	Indicates whether the Aggregation has elected to participate in the Capacity market for the applicable month
Mitigated Capacity Zone	Boolean	Indicates whether the Aggregation is located within a mitigated locality, or if it is in a nested locality/exempt.
Status Filter	Text	Displays NYISO enrollment review status information, for NYISO system processing purposes (Enrolled, Enrolled + Pending)
Aggregation Enrollment Status	Text	NYISO system enrollment status of the Aggregation (Unsubmitted, Pending NYISO Review, Enrolled, Rejected, Separated)
Aggregation Type	Text	DER, Generator, ESR, Solar, Wind, Landfill Gas
Aggregation EDL	Integer	Indication of number of hours for energy duration limitation
DAF/CAF	Percentage	Applicable Duration Adjustment Factor or Capacity Accreditation Factor for the Aggregation, as detailed in the ICAP Manual
CARC	Text	Capacity Accreditation Resource Class applicable to the Aggregation, as detailed in the ICAP Manual
DMNC Status	Text	Indicates current progress of test data record (Submitted, Pending Review, Approved, Denied, Withdrawn, Replaced)
Aggregation Total Supply Declared Value MW	MW	Total Upper Operating Limit MW declared during applicable season (reflects Injection, Demand Reduction, Withdrawal capabilities) based on enrollment values
Aggregation Post-Test Rating MW	MW	Aggregation MW rating. Reflects temperature adjustment if applicable.
Minimum Aggregation Hourly DMNC MW	MW	Minimum of all hourly test values during test window for Aggregation, as calculated by System
Aggregation DMNC MW to Publish	MW	Final DMNC MW for the applicable Aggregation for the applicable season
Aggregation CRIS MW	MW	Capacity Resource Interconnection Service for the applicable Aggregation, sum of all comprising facilities' CRIS values

Attribute	Format	Description
Aggregation ICAP MW	MW	System populated value calculated at the Aggregation-level. If the Aggregation is not-Time Stacked, the Aggregation ICAP MW is the summation of the ICAP values of all facilities comprising the applicable Aggregation. If the Aggregation is Time Stacked, the Aggregation ICAP MW is the lesser of the following two values (1) Minimum Aggregation Hourly DMNC MW or (2) the summation of ICAP values for all facilities comprising the applicable Aggregation.
Aggregation Adjusted ICAP MW	MW	System populated value calculated by multiplying the Aggregation ICAP MW by the Aggregation's DAF/CAF.
Aggregation Derating Factor	Percentage	Value calculated by the system per equations found in Attachment J of the ICAP Manual. Calculation differs if Aggregation is Time Stacked or not Time Stacked
Raw Aggregation UCAP MW	MW	As calculated based on Adjusted ICAP and Derating Factor
Aggregation UCAP MW	MW	Rounded value of Raw UCAP MW
Aggregation Published Date	Date/Time	System populated with the timestamp indicating when the values for the Aggregation were most recently successfully Published to ICAP AMS
Last Update Date	Date/Time	Reflects last update when calculations completed successfully
Last Updated By	Text	Reflects user responsible for last update if applicable

An Aggregator may filter and search for specific values within each of the attributes included in the 'ICAP & UCAP' display, to enable an Aggregator to access specific information on one or several ICAP or UCAP records (Figure 72).

Figure 72: ICAP and UCAP Data Search



In addition to the Capacity attributes available at the Aggregation level, facility-level Capacity information is available to an Aggregator accessing the details of the applicable Aggregation (Figure 73). An Aggregator may only access the Capacity data attributes for the Aggregations and comprising DER within its portfolio Figure 74).

Figure 73: Accessing Facility Capacity Data

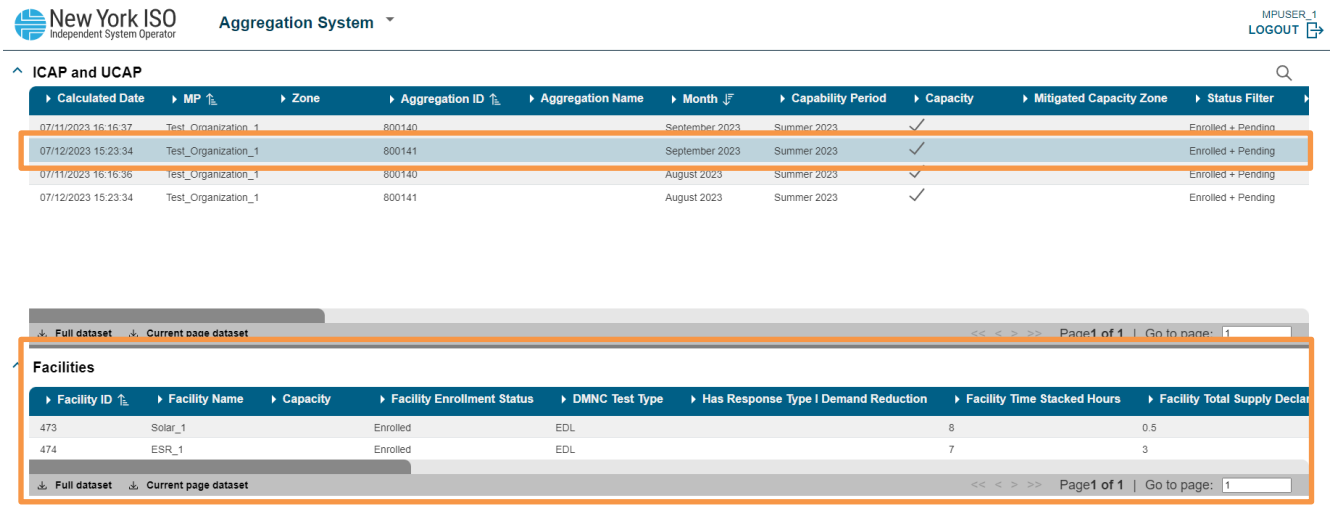


Figure 74: Facility Capacity Data Attributes

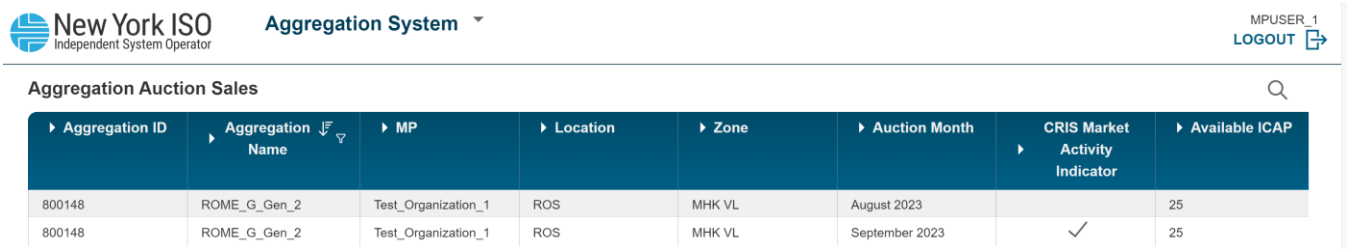
Attribute	Format	Description
Facility ID	Text	Unique ID assigned to the Facility
Facility Name	Text	Name of the Facility
Capacity	Boolean	Yes/No Indicates whether the Facility has elected to participate in the Capacity market for the applicable month
Facility Enrollment Status	Text	NYISO system enrollment status of the facility (Unsubmitted, Submitted, Pending NYISO Review, Enrolled, Rejected, Separated)
DMNC Test Type	Text	Indication of DMNC or EDL test
Has Response Type I Demand Reduction	Boolean	System populated based on whether the facility has any demand reduction type assets with Response Type = "I"
Facility Time Stacked Hours	Integer	Count of hours from the applicable DMNC that have been designated as "Included in Time Stacking" for the facility
Facility Total Supply Declared MW	MW	Value automatically populated by system based on Facility's Total Supply Declared MW attribute
Facility Declared Injection MW	MW	Required for a facility that contains Demand Reduction (Type I); Generator; Energy Storage; Wind; Solar; Landfill Gas. Must not exceed the sum of all nameplates of assets within the facility. May not be greater than zero if the facility only contains Demand Reduction with Response Type C, B, or G
Facility Declared Reduction MW	MW	Required for a facility that contains Demand Response
Facility Average New EDL DMNC MW	MW	Considers the facility rating from a prior approved EDL test divided by the currently effective EDL. Only applicable if the facility is part of an ESR Aggregation types with an EDL that have a current DMNC record of Test Type = DMNC and a prior approved DMNC record of Test Type = EDL
Facility Non TS Average DMNC MW	MW	"TS" = Time Stacked Sum of the Facility Hourly Post Test Rating MW across all hours of the DMNC divided by the Aggregation Test Duration. Only applicable if the facility is part of an Aggregation that has 'Electing to Time Stack = N'
Facility TS Minimum DMNC MW	MW	Minimum of the Facility Hourly Final DMNC MW across all hours of the DMNC in which the facility has indicated "Included in Time Stacking = Y" Only applicable if the facility is part of an Aggregation

		that has 'Electing to Time Stack = Y'
Facility CRIS MW	MW	Required for facilities that have obtained CRIS through the NYISO Interconnection Process
Facility ICAP MW	MW	Facility ICAP MW Refer to ICAP Manual Attachment J Section 6.9 for applicable calculation based on participation type
Facility Seasonal Availability Factor	Percentage	Refer to ICAP Manual Attachment J Section 6.9 for applicable calculation based on participation type
Facility Percent of Aggregation UCAP	Percentage	Refer to ICAP Manual Attachment J Section 6.9 for applicable calculation based on participation type
Last Update Date	Date/Time	Reflects last update when calculations completed successfully
Last Updated By	Text	Reflects user responsible for last update if applicable

3.10.4. View Aggregation Auction Sales

From the 'Aggregation Auction Sales' display, an Aggregator may view a summary of an Aggregation's Auction Sales information. Viewing this information may take place at any time after the Spot Market Auction post for the applicable month. The Aggregator can only have access to its own information (Figure 75).

Figure 75: Aggregation Auction Sales Display



The table below describes the attributes displayed for the Aggregation auction sales (Figure 76).

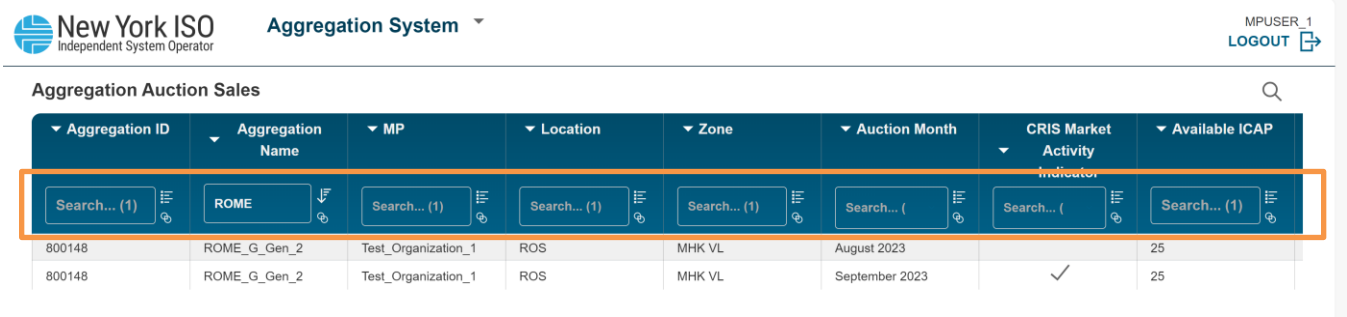
Figure 76: Aggregation Auction Sales Attributes

Attribute	Format	Description
Aggregation ID	Integer	Unique ID assigned to the Aggregation
Aggregation Name	Text	Aggregator's chosen name for an Aggregation
MP	Text	Aggregator organization name
Location	Text	Location of the Aggregation by locality (e.g., "GHI")
Zone	Text	Zone where the Aggregation is located

Auction Month	Month Year	Auction month and year the Aggregation is participating in.
CRIS Market Activity Indicator	Boolean	Retrieved from ICAP AMS
Available ICAP	MW	System populated with Aggregation ICAP MW
Available UCAP for Sale	MW	System populated with Aggregation UCAP MW
Auction and Bilateral Sales MW	MW	Retrieved from ICAP AMS
Spot Market Auction Sales MW	MW	Retrieved from ICAP AMS
Unsold MW	MW	Retrieved from ICAP AMS
ICAP Sold for DAM MW	MW	Retrieved from ICAP AMS
Last Updated Date	Date/Time	Date of record last updated
Last Updated By	Text	User responsible for last update

An Aggregator may filter and search for specific values within each of the attributes included in the Aggregation Auction Sales display, to enable an Aggregator to access specific information on one or several records (Figure 77).

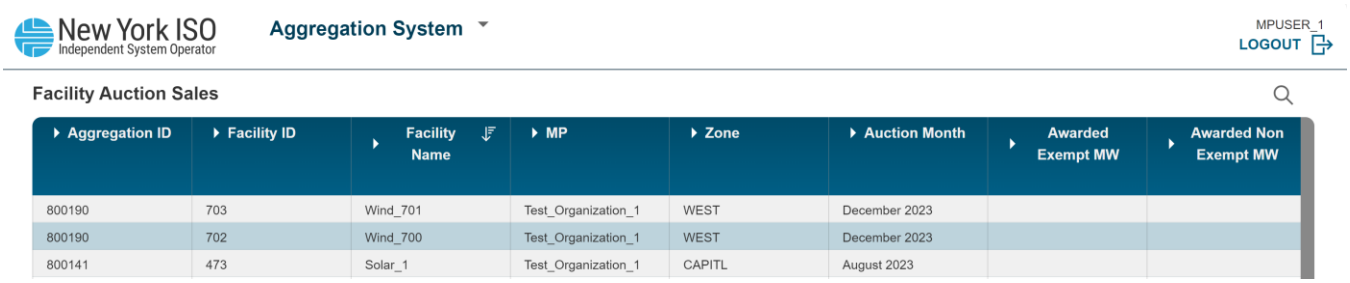
Figure 77: Aggregation Auction Sales Filter & Search



3.10.5. View Facility Auction Sales

From the 'Facility Auction Sales' display, an Aggregator can view a facility's detailed Auction Sales information. Viewing this information may take place at any time after the Spot Market Auction post for the applicable month. The Aggregator can only have access to its own information (Figure 78).

Figure 78: Facility Auction Sales Display



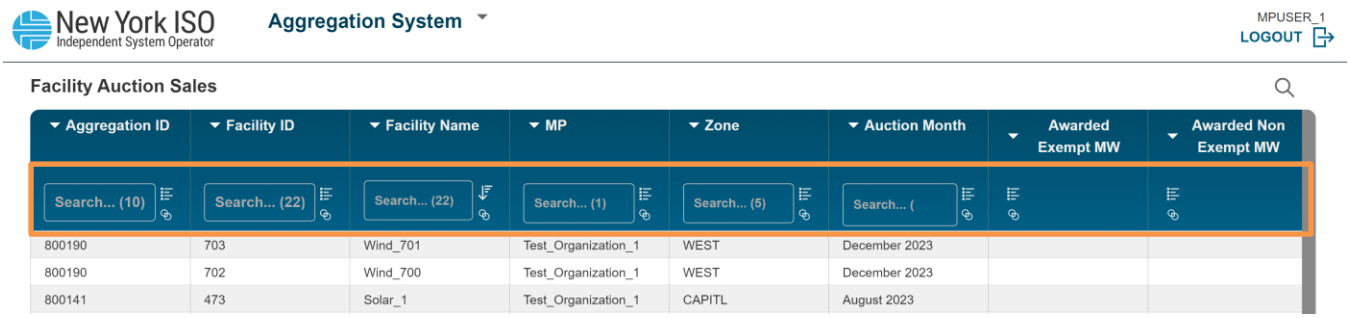
The table below describes the attributes displayed for the Facility auction sales (Figure 79).

Figure 79: Facility Auction Sales Attributes

Attribute	Format	Description
Aggregation ID	Integer	Unique ID assigned to the Aggregation
Facility ID	Text	Unique ID assigned to the Facility
Facility Name	Text	Name of the Facility
MP	Text	Aggregator organization name
Zone	Text	Zone where the Facility is located
Auction Month	Month Year	Auction month and year the Facility is participating in
Awarded Exempt MW	MW	Facility-level exempt MW awarded for the auction month and year
Awarded Non-Exempt MW	MW	Facility-level non-exempt MW awarded in the auction month and year
Non Spot Auction Awarded MW	MW	Facility-level awarded MW outside of the Spot Auction
Spot Auction Awarded MW	MW	Facility-level awarded MW in the Spot Auction
Awarded MW	MW	Facility-level total Awarded MW
Last Updated Date	Date/Time	Date of record last updated
Last Updated By	Text	User responsible for last update

An Aggregator may filter and search for specific values within each of the attributes included in the Facility Auction Sales display, to enable an Aggregator to access specific information on one or several records (Figure 80).

Figure 80: Facility Auction Sales Filter & Search



3.10.6. Buyer Side Mitigation

It is important to note that certain facilities are subject to the NYISO's Buyer Side Mitigation (BSM) rules. The Aggregation System includes Facility Offer Floor records for those facilities that are subject to an Offer Floor in addition to Aggregation Offer Floor Bucket records. Further detail regarding the application of BSM rules to DER facilities is included in the NYISO Aggregation Manual. Facility Offer Floor records are viewable on the BSM Facility Summary screen and Aggregation Buckets are viewable on the BSM Aggregation Buckets screen. Aggregators with questions regarding BSM and the DER participation model should reach out to DER@nyiso.com.

Appendix A – Aggregation Data Attribute Requirements[2]

Aggregation Attribute	Format	Description	DU Review Required When Modified (*i.e.*, considered a material change)?
Aggregation Short Name	Text	Required. Aggregator's chosen name for an Aggregation to be reflected in the NYISO Aggregation System – must be 5-9 characters in length and must be unique compared to all other existing Aggregations in the System.	No
Aggregation ID	Integer	Required. Unique Aggregation ID assigned to the Aggregation. System will provide Aggregation ID once User completes the 'Create Aggregation ID' functionality.	No
MP	Text	System Populated. Market Participant - Organization name of the Aggregator, populated by the NYISO based on user privileges stored in MIS	No
MP Contact	Text	System Populated. Market Participant Operational Contact Name – Designated responsible party & recipient of 24/7/365 NYISO operational communications.	No
MP Phone	Phone	System Populated. Aggregator operational information populated based on NYISO system user privileges	No
MP Email	Email	System Populated. Aggregator operational information populated based on NYISO system user privileges	No
Status	Text	System Populated. Aggregation enrollment progress: Unsubmitted Submitted Pending NYISO Review Enrolled Rejected Separated	No
Enrollment Action	Selection	System Populated. Determines purpose of current user action, whether: Create Update Separate Unknown	No

[2] All Text values must adhere to the following acceptable characters list: a-zA-Z0-9 -'\"#&()*,./@_

Aggregation Attribute	Format	Description	DU Review Required When Modified (*i.e.*, considered a material change)?
Start Date	Date	System Populated. Applies to all enrollment data fields; Used for effective dating – Value not confirmed until DU Approval and NYISO workflows are complete.	No
End Date	Date	System Populated. Applies to all fields; Used for effective dating either when the Aggregation is manually Separated from market participation or the applicable Transmission Node PTID is end-dated.	No
Aggregation Type	Selection/ Integer	Required. Selection from following list: DER Generator ESR LESR Wind Solar Landfill Gas As described in the Aggregation Manual, an Aggregation's type may not be modified once the Aggregation has begun market participation with a status of 'Enrolled.' Should an Aggregator wish to change the type of an Aggregation, the Aggregation and corresponding facilities must be Separated from market participation, and a new Aggregation ID and Aggregation must be imported for enrollment, moving all corresponding facilities to the new Aggregation type as needed.	No
ELR (Aggregation)	Boolean	Required. Flag to indicate whether the Aggregation has an Energy Limited Resource classification per NYISO's market mitigation and analysis designations.	No
CLR (Aggregation)	Boolean	Required. Flag to indicate whether the Aggregation has a Capacity Limited Resource classification per NYISO's market mitigation and analysis designations.	No
TO	Text	System Populated. Organization name of the Transmission Owner in whose jurisdiction the Aggregation is located, based on Transmission Node PTID.	No
Zone	Text	System Populated. NYCA Load Zone in which the Aggregation is located, based on Transmission Node PTID.	No

Aggregation Attribute	Format	Description	DU Review Required When Modified (*i.e.*, considered a material change)?
Subzone	Text	System Populated. NYISO Subzone in which the Aggregation is located, based on Transmission Node PTID.	No
Charging At Retail - Aggregation	Boolean	Required. Indicates whether the Aggregation contains DER that are withdrawing energy at the retail rate. Documented in accordance with the ability to charge at a retail rate, per Order 841	No
LSE PTID - Aggregation	Selection	Required only if Charging At Retail – Aggregation is true. Load Serving Entity PTID of the relevant retail authority for the Aggregation - used for NYISO settlement purposes.	No
Transmission Node PTID	Selection	Required. Point identifier of the Transmission Node at which the Aggregation is priced and modeled. Should be obtained in consultation with the applicable Transmission Owner in whose jurisdiction the proposed Aggregation is located.	No
2 Year Outage Schedule Provided	Boolean	Required only if the Aggregation will participate in the Capacity market. The NYISO requires a 2-year outage plan from capacity suppliers - this document is submitted outside the Aggregation System, and the NYISO requires this attestation to ensure submission has occurred in accordance with Services Tariff Section 5.12.3	No
Aggregation Meter Authority	Selection	Required. Organization name abbreviation/short name as reflected in the MIS of either the MSE or the Member System responsible for metering services for the Aggregation.	No
Direct Communication to NYISO	Boolean	Required. Indicates whether the Aggregation telemetry data will be communicated directly to NYISO in addition to the required communication through the applicable TO.	No
Aggregation Communication Type	Selection	Required if the Aggregation Direct Communication to NYISO is true. Which technology is the Aggregator going to use to communicate directly with the NYISO? MPLS SD-WAN	No
Aggregation Communication Protocol	Selection	Required if the Aggregation Direct Communication to NYISO is true. Which telemetry communications protocol is the Aggregator going to use if communication directly with the NYISO? ICCP DNP-3	No

Aggregation Attribute	Format	Description	DU Review Required When Modified (*i.e.*, considered a material change)?
Summer Total Supply Declared MW (UOL)	MW	System Populated. Value automatically populated by system based on summation of facilities' Summer Total Supply Declared MW attribute.	No
Summer Declared Injection MW	MW	System Populated. Value automatically populated by system based on summation of facilities' Summer Declared Injection MW attribute.	No
Summer Declared Demand Reduction MW	MW	System Populated. Value automatically populated by system based on summation of facilities' Summer Declared Demand Reduction MW attribute.	No
Summer Declared Withdrawal MW (LOL)	MW	System Populated. Value automatically populated by system based on summation of facilities' Summer Declared Withdrawal MW attribute.	No
Winter Total Supply Declared MW (UOL)	MW	System Populated. Value automatically populated by system based on summation of facilities' Winter Total Supply Declared MW attribute.	No
Winter Declared Injection MW	MW	System Populated. Value automatically populated by system based on summation of facilities' Winter Declared Injection MW attribute.	No
Winter Declared Demand Reduction MW	MW	System Populated. Value automatically populated by system based on summation of facilities' Winter Declared Demand Reduction MW attribute	No
Winter Declared Withdrawal MW (LOL)	MW	System Populated. Value automatically populated by system based on summation of facilities' Winter Declared Withdrawal MW (LOL) attribute.	No
Fixed Energy	Boolean	Required. If the Aggregation Type is LESR, this attribute must not be True. All facilities within the Aggregation must also have Fixed Energy be True.	No
Fixed Energy Start Date	Date	System Populated.	No
Fixed Energy End Date	Date	System Populated. Only applicable if the Aggregation is Separated from market participation.	No
Dispatched Energy	Boolean	Required. If the Aggregation Type is LESR, this attribute must not be True. All facilities within the Aggregation must also have Dispatched Energy be True.	No

Aggregation Attribute	Format	Description	DU Review Required When Modified (*i.e.*, considered a material change)?
Dispatched Energy Start Date	Date	System Populated.	No
Dispatched Energy End Date	Date	System Populated. Only applicable if the Aggregation is Separated from market participation.	No
Winter Regulation	Boolean	Required. All facilities within the Aggregation must also have Winter Regulation be True. Winter Regulation must be False if Aggregation Type is generator, Wind, Solar, or Landfill Gas. If the Aggregation Type is not LESR, Fixed and Dispatched Energy must be True in order for Winter Regulation to also be True. If the Aggregation Type is DER, the Winter Total Supply Declared MW (UOL) must be greater than or equal to 0.2 MW for Winter Regulation to be True. If the Aggregation Type is ESR or LESR, Winter Declared Injection MW must be greater than or equal to 0.1 MW and the Winter Declared Withdrawal MW must be less than or equal to -0.1 MW.	No
Winter Regulation Start Date	Date	System Populated.	No
Winter Regulation End Date	Date	System Populated. Only applicable if the Aggregation is Separated from market participation.	No
Summer Regulation	Boolean	Required. All facilities within the Aggregation must also have Summer Regulation be True. Summer Regulation must be False if Aggregation Type is generator, Wind, Solar, or Landfill Gas. If the Aggregation Type is not LESR, Fixed and Dispatched Energy must be True in order for Summer Regulation to also be True. If the Aggregation Type is DER, the Summer Total Supply Declared MW (UOL) must be greater than or equal to 0.2 MW for Summer Regulation to be True. If the Aggregation Type is ESR or LESR, Summer Declared Injection MW must be greater than or equal to 0.1 MW and the Summer Declared Withdrawal MW must be less than or equal to -0.1 MW.	No

Aggregation Attribute	Format	Description	DU Review Required When Modified (*i.e.*, considered a material change)?
Summer Regulation Start Date	Date	System Populated.	No
Summer Regulation End Date	Date	System Populated. Only applicable if the Aggregation is Separated from market participation.	No
10 Minute Spinning Reserves	Boolean	Required. All facilities within the Aggregation must also have 10MSR be True. 10MSR must be False if Aggregation Type is Generator, LESR, Wind, Solar, or Landfill Gas. If 10MSR is True, then 10MNSR must be False. If 30MNSR is True, then 10MSR must be False. Fixed and Dispatched Energy must be True in order for 10MSR to be True.	No
10 Minute Spinning Reserves Start Date	Date	System Populated.	No
10 Minute Spinning Reserves End Date	Date	System Populated. Only applicable if the Aggregation is Separated from market participation.	No
10 Minute Non – Spin Reserves	Boolean	Required. All facilities within the Aggregation must also have 10MNSR or 10MSR be True. 10MNSR must be False if Aggregation Type is ESR, LESR, Wind, Solar, or Landfill Gas. If 10MNSR is True, then 10MSR must be False. If 30MSR is True, then 10MNSR must be False. Fixed and Dispatched Energy must be True in order for 10MNSR to be True.	No
10 Minute Non-Spin Reserves Start Date	Date	System Populated.	No
10 Minute Non-Spin Reserves End Date	Date	System Populated. Only applicable if the Aggregation is Separated from market participation.	No
30 Minute Synchronous Reserves	Boolean	Required. All facilities within the Aggregation must also have 10MSR, 10MNSR, or 30MSR be True. 30MSR must be False if Aggregation Type is Generator, LESR, Wind, Solar, or Landfill Gas. If 30MSR is True, then 30MNSR must be False. If 30MNSR is True, then 10MNSR must be False. Fixed and Dispatched Energy	No

Aggregation Attribute	Format	Description	DU Review Required When Modified (*i.e.*, considered a material change)?
		must be True in order for 30MSR to be True. If 10MSR is True, then 30MSR must be True.	
30 Minute Synchronous Reserves Start Date	Date	System Populated.	No
30 Minute Synchronous Reserves End Date	Date	System Populated. Only applicable if the Aggregation is Separated from market participation.	No
30 Minute Non – Synchronous Reserves	Boolean	Required. All facilities within the Aggregation must also have 10MSR, 10MNSR, 30MSR, **or** 30MNSR be True. 10MNSR must be False if Aggregation Type is ESR, LESR, Wind, Solar, or Landfill Gas. If 10MSR is True, then 30MNSR must be False. If 30MSR is True, then 30MNSR must be False. Fixed and Dispatched Energy must be True in order for 30MNSR to be True.	No
30 Minute Non-Synchronous Reserves Start Date	Date	System Populated.	No
30 Minute Non-Synchronous Reserves End Date	Date	System Populated. Only applicable if the Aggregation is Separated from market participation.	No
Capacity	Boolean	Required. Aggregation Type must not be LESR if Capacity is True. Fixed and Dispatched Energy must be True in order for Capacity to be True.	No
Capacity Start Date	Date	System Populated.	No
Capacity End Date	Date	System Populated. Only applicable if the Aggregation is Separated from market participation.	No
Aggregation Not in Outage State	Boolean	Required to be Y. Certification that the Aggregation is not on outage when attempting to enroll – please refer to Services Tariff Section 5.18 for more information on outage states.	No
Dual Participation	Boolean	System Populated. Indicates whether a facility in the Aggregation is dual participating.	No
Alternate Telemetry	Boolean	System Populated. Indicates whether any facility in the Aggregation proposes to employ an alternative telemetry mechanism. If this is True, the Aggregation must not provide Summer or Winter Regulation.	No

Aggregation Attribute	Format	Description	DU Review Required When Modified (*i.e.*, considered a material change)?
Emergency Response Rate (MW/min)	MW	Required. Must not exceed 9999.99. This value must be equal to or greater than the highest Normal Response Rate (1, 2, or 3). This value must not be greater than Summer or Winter Total Supply Declared MW (UOL).	No
Max Reg Response Rate	MW	Required if Summer or Winter Regulation is True. Must be null if Max Reg 6-Second Response Rate is null. Must be equal to or greater than zero, but equal to or less than 9999.99. Must be equal to or greater than the highest Normal Response Rate (1, 2, or 3).	No
Max Reg 6-Second Response Rate	MW	Required if Summer or Winter Regulation is True. Must be null if Max Reg Response Rate is null. Must be equal to or greater than zero, but equal to or less than 9999.99. When multiplied by 10, must be equal to or greater than the Max Reg Response Rate.	No
Normal Response Rate 1 (MW/Min)	MW	Required. Must not exceed 9999.99.	No
Normal Response Rate 2 (MW/Min)	MW	Required if Normal Response Rate 3 is not null. Must be equal to or greater than zero, but equal to or less than 9999.99. Must equal a whole number when multiplied by 5.	No
Normal Response Rate 3 (MW/Min)	MW	Required if Normal Response Rate 2 is not null. Must be equal to or greater than zero, but equal to or less than 9999.99. Must equal a whole number when multiplied by 5.	No
Normal MW Rate 1	MW	Required if Normal Response Rate 2 is not null. Must be equal to or greater than -9999.99, but equal to or less than 9999.99. Must be less than Normal MW Rate 2.	No
Normal MW Rate 2	MW	Required if Normal Response Rate 3 is not null. Must be equal to or greater than -9999.99, but equal to or less than 9999.99. Must be greater than Normal MW Rate 1.	No
Physical Upper Storage Limit MWh	MWh	Required if Aggregation Type is ESR or LESR, and must be null if the Aggregation Type is any other Type. Must not exceed 9999.99. This value must be equal to or less than the sum of all Energy Storage facilities' individual Physical Upper Storage Limit MWh within the Aggregation	No
Physical Lower Storage Limit MWh	MWh	Required if Aggregation Type is ESR or LESR and must be null if the Aggregation Type is any other Type. Must not exceed 9999.99. This value must be equal to or less	No

Aggregation Attribute	Format	Description	DU Review Required When Modified (*i.e.*, considered a material change)?
		than the sum of all Energy Storage facilities' Physical Lower Storage Limit MWh within the Aggregation.	
EDL	Integer	Required only if the Aggregation Type is Generator, ELR is True, and the Aggregation seeks Capacity market participation. DER or ESR Aggregation Types are also permitted to provide this value. Value must equal 2, 4, 6, or 8. Must match previously enrolled value, if applicable – changes to EDL may only be made on a Capability Year boundary.	No
Round Trip Efficiency %	Percentage	System Populated. Value calculated based on individual round trip efficiencies of Energy Storage facilities within the Aggregation.	No
Fuel Reporting	Boolean	Required to be True if the Aggregation Type is Generator – must be False if the Aggregation Type is not Generator.	No
Aggregation Full Name	Text	System Populated – based on Aggregation Short name, Voltage Class, and Station Name concatenated as one value.	No
Temperature Sensitivity	Boolean	System Populated based on whether any facilities within the Aggregation have Temperature Sensitivity.	No

Appendix B – Facility Data Attribute Requirements[3]

Attribute	Format	Description	DU Review Required When Modified (*i.e.*, considered a material change)?
Facility ID	Text	Required – Unique ID assigned by the NYISO to each facility. If the facility is new to the Aggregation System, enter 'New' followed by sequential numeric value (e.g., New1). The assigned value must not exceed 32 characters when provided during future updates to the facility as needed.	Yes
Facility Name	Text	Required. Must not exceed 200 characters.	No
TO Account Number	Text	Required. Must not exceed 30 characters. If the applicable TO is NYSEG, insert 'N' followed by applicable integers. If the applicable TO is RGE, insert 'R' followed by applicable integers. If not NYSEG or RGE, insert 'T' followed by applicable integers. This value may not be modified once saved to the System. Must be uniquely paired with the applicable Meter ID Number and Facility ID	Yes
Meter ID Number	Text	Required. Must not exceed 30 characters. Must begin with '#' followed by applicable values. This value may not be modified once saved to the System. Must be uniquely paired with the applicable TO Account Number and Facility ID	Yes
Aggregation ID	Integer	Required. Unique Aggregation ID assigned to the Aggregation. System will provide Aggregation ID once the Aggregator completes the 'Create Aggregation ID' functionality. Providing the Aggregation ID on a facility enrollment record effectively 'assigns' the facility to the Aggregation.	Yes
Status	Selection	System Populated. Facility enrollment progress: Unsubmitted Submitted Pending NYISO Review Enrolled Rejected	No

[3] All Text values must adhere to the following acceptable characters list: a-zA-Z0-9 -'\"#&()*,./@_

		Separated	
Start Date	Date	System Populated. Applies to all enrollment data fields; Used for effective dating – Value not confirmed until DU Approval and NYISO workflows are complete.	No
End Date	Date	System Populated. Applies to all fields; Used for effective dating either when the Facility is manually Separated from market participation or the applicable Transmission Node PTID is end-dated.	No
Responsible Party Attestation	Selection	Required. Selection of either Aggregator or Facility Owner to indicate who the entity responsible for administration of a deactivation of the facility would be if necessary.	No
Facility Owner Name	Text	Required if Responsible Party will be the Facility Owner. Name of the Facility Owner.	No
Facility Owner Phone	Phone	Required if Responsible Party will be the Facility Owner Phone number of the Facility Owner.	No
Facility Owner Phone Extension	Text	Required if Responsible Party will be the Facility Owner Phone number extension of the Facility Owner.	No
Facility Owner Email	Email	Required if Responsible Party will be the Facility Owner. Email address of the Facility Owner	No
Enrollment Action	Boolean	System Populated. Determines purpose of current user action, whether: Create Update Separate Unknown Remove No Change	No
Transmission Node PTID	Selection	Required. Point identifier of the Transmission Node at which the Aggregation is priced and modeled. Should be obtained in consultation with the applicable Transmission Owner in whose jurisdiction the proposed Aggregation is located.	Yes
TO	Text	System Populated. Organization name of the Transmission Owner in whose jurisdiction the Facility is located, based on Transmission Node PTID.	Yes
Zone	Text	System Populated. NYCA Load Zone in which the Facility is located, based on Transmission Node PTID.	Yes
Subzone	Text	System Populated. NYISO Subzone in which the Facility is located, based on Transmission Node PTID.	Yes
DER within Municipality?	Boolean	Required. Indicates whether the facility is within the jurisdiction of a Municipal electric authority.	Yes

Municipality Name	Text	Required if the facility is located within the jurisdiction of a municipal electric authority. Must not exceed 200 characters.	Yes
Charging At Retail – Facility	Boolean	Required. Indicates whether the facility is charging at a retail rate while participating in the wholesale market, pursuant to NYISO Services Tariff Section 7.2.8. If true, at least one asset within the facility must be Energy Storage.	Yes
LSE PTID - Facility	Selection	Required only if Charging At Retail – Facility is true. Load Serving Entity PTID of the relevant retail authority for the facility - used for NYISO settlement purposes.	No
Former PTID Exists	Ternary Selection	Required. Indicates whether the facility used to participate under its own unique PTID in the NYISO markets as a standalone Generator. May be True, False, or Unknown.	No
Former PTID #	Integer	Required if there was a Former PTID for the applicable facility. PTID number.	No
Former DRIS Resource Exists	Ternary Selection	Required. Indicates whether the facility used to participate under its own unique DRIS Resource ID in the NYISO markets as a standalone Demand Side Resource. May be True, False, or Unknown.	No
Former DRIS Resource ID #	Integer	Required if there was a Former DRIS Resource ID for the applicable facility. DRIS Resource ID number.	No
Street Address	Text	Required. Must not exceed 200 characters.	Yes
City	Text	Required. Must not exceed 200 characters.	Yes
State	Text	Required. Must be NY.	Yes
Zip Code	Zip Code	Required. Must be a valid zip code.	Yes
Facility Meter Authority	Selection	Required. Organization name abbreviation/short name as reflected in the MIS of either the MSE or the Member System responsible for metering services for the facility.	No
Alternate Telemetry	Boolean	Required. Indicates whether the facility proposes to employ an alternative telemetry mechanism. If this is True, the facility must not provide Summer or Winter Regulation. Must not be True if Summer or Winter Total Supply Declared MW is greater than 0.1 MW.	Yes
Alternate Telemetry Plan Name	Text	Required if the facility proposes to employ an alternative telemetry mechanism. Describe the intended mechanism to support telemetry requirements pursuant to NYISO Services Tariff Section 4.1.10.4 and the Aggregation Manual. Must not exceed 4000 characters.	Yes
Temperature Sensitivity	Boolean	Required if the facility intends to provide Capacity, contains Generator assets, belongs to a Generator Aggregation, and has any of the following Source Types among its assets:	No

		Combined Cycle; Cogeneration; Combustion Turbine Portion (CC); Jet Engine.	
Summer Total Supply Declared MW	MW	System Populated. Sum of Summer Declared Injection MW and Summer Demand Reduction MW.	Yes
Summer Declared Injection MW	MW	Required for a facility that contains Demand Reduction (Type I); Generator; Energy Storage; Wind; Solar; Landfill Gas. If provided, the facility must also have an Interconnection Agreement. Must not exceed Summer ERIS/Summer Max Net MW. Must not exceed the sum of all nameplates of assets within the facility. May not be greater than zero if the facility only contains Demand Reduction with Response Type C, B, or G. Maximum of 20 MW.	Yes
Summer Declared Demand Reduction MW	MW	Required for a facility that contains Demand Reduction, otherwise should be null. Must belong to a DER Aggregation if greater than zero.	Yes
Summer Declared Withdrawal MW	MW	Required for a facility that contains Energy Storage. Aggregation Type must be DER, ESR, or LESR.	Yes
Winter Total Supply Declared MW	MW	System Populated. Sum of Winter Declared Injection MW and Winter Demand Reduction MW.	Yes
Winter Declared Injection MW	MW	Required for a facility that contains Demand Reduction (Type I); Generator; Energy Storage; Wind; Solar; Landfill Gas. If provided, the facility must also have an Interconnection Agreement. Must not exceed Winter ERIS/Winter Max Net MW. Must not exceed the sum of all nameplates of assets within the facility. May not be greater than zero if the facility only contains Demand Reduction with Response Type C, B, or G. Maximum of 20 MW.	Yes
Winter Declared Demand Reduction MW	MW	Required for a facility that contains Demand Reduction, otherwise should be null. Must belong to a DER Aggregation if greater than zero.	Yes
Winter Declared Withdrawal MW	MW	Required for a facility that contains Energy Storage. Aggregation Type must be DER, ESR, or LESR.	Yes
Bidding Privileges/Services			
Fixed Energy	Boolean	Required. If Aggregation Type is LESR, Fixed Energy must be False.	Yes
Dispatched Energy	Boolean	Required. If Aggregation Type is LESR, Dispatched Energy must be False.	Yes
Summer Regulation	Boolean	Required. May be True for facility containing Energy Storage asset where Conversion Type is Inverter, otherwise prohibited; Demand	Yes

		Reduction with Type C; Type G or B with Local Supply Type of Energy Storage and Local Supply Inverter being True; Demand Reduction with Type I with an additional Energy Storage asset with Conversion type of Inverter. If any asset in the facility has a Source Type of Pumped Hydro, must be False. If True, must belong to an LESR Aggregation with Fixed and Dispatched Energy set to False, or must belong to a non-LESR Aggregation with Fixed and Dispatched Energy set to True.	
Winter Regulation	Boolean	Required. May be True for facility containing Energy Storage asset where Conversion Type is Inverter, otherwise prohibited; Demand Reduction with Type C; Type G or B with Local Supply Type of Energy Storage and Local Supply Inverter being True; Demand Reduction with Type I with an additional Energy Storage asset with Conversion type of Inverter. If any asset in the facility has a Source Type of Pumped Hydro, must be False. If True, must belong to an LESR Aggregation with Fixed and Dispatched Energy set to False, or must belong to a non-LESR Aggregation with Fixed and Dispatched Energy set to True.	Yes
10 Minute Spinning Reserves	Boolean	Required. May be True for facility containing Energy Storage asset where Conversion Type is Inverter, otherwise prohibited; Demand Reduction with Type C; Type G or B with Local Supply Type of Energy Storage and Local Supply Inverter being True; Demand Reduction with Type I with an additional Energy Storage asset with Conversion type of Inverter. If any asset in the facility has a Source Type of Pumped Hydro, must be False. If 10MSR is True, then 10MNSR must be False. If 30MNSR is True, then 10MSR must be False. If 10 MSR is True, then 30 MSR must be True. Fixed and Dispatched Energy must be True in order for 10MSR to be True.	Yes
10 Minute Non-Spin Reserves	Boolean	Required. May be True for a facility where all assets are Demand Reduction or Generators, otherwise must be False. If 10MNSR is True, then 10MSR must be False. If 30MSR is True, then 10MNSR must be False. If 10 MNSR is True, then 30 MNSR must be True. Fixed and Dispatched Energy must be True in order for 10MNSR to be True.	Yes
30 Minute Synchronous Reserves	Boolean	Required. May be True for facility containing Energy Storage asset where Conversion Type is Inverter, otherwise prohibited; Demand	Yes

		Reduction with Type C; Type G or B with Local Supply Type of Energy Storage and Local Supply Inverter being True; Demand Reduction with Type I with an additional Energy Storage asset with Conversion type of Inverter. If any asset in the facility has a Source Type of Pumped Hydro, must be False. Required. If 10MSR is True, then 30MSR must be True. If 30MNSR is True, then 30MSR must be False. Fixed and Dispatched Energy must be True in order for 30MSR to be True.	
30 Minute Non-Synchronous Reserves	Boolean	Required. May be True for a facility where all assets are Demand Reduction or Generators, otherwise must be False. If 10MSR or 30MSR is True, then 30MNSR must be False. Fixed and Dispatched Energy must be True in order for 30MNSR to be True.	Yes
Capacity	Boolean	Required. If True, Fixed and Dispatched Energy must also be True. If the facility contains any asset that is not Demand Reduction, Summer or Winter CRIS must not be null.	Yes
End of Bidding Privileges/Services			
Outage State Confirmation	Boolean	Required to be True. Confirmation that the facility is not in an outage state pursuant to NYISO Services Tariff Section 5.18 upon desired time of entry to market participation.	No
Dual Participation	Boolean	Required. Indication of whether the facility is dual participating in a non-wholesale commitment in addition to its proposed or existing NYISO market participation.	Yes
Interconnection Agreement	Boolean	Required. Must be True if the facility contains Generator, Energy Storage, Wind, Solar, Landfill Gas, or Demand Reduction with Response Type I. Must be False if the facility only contains Demand Reduction assets with Response Type C, B, or G.	Yes
Interconnection Type	Selection	Required if Interconnection Agreement is True. Indicates whether the facility has a NYISO-administered or non-NYISO-administered Interconnection Agreement.	Yes
NYISO Interconnection Queue Number	Text	Required if Interconnection Type is NYISO. Value issued by NYISO to the facility interconnection record in the NYISO systems.	Yes
Summer ERIS MW	MW	Required if Interconnection Type is NYISO. Memorialized in the NYISO Interconnection Agreement.	Yes

Winter ERIS MW	MW	Required if Interconnection Type is NYISO. Memorialized in the NYISO Interconnection Agreement.	Yes
Total Max Summer Net MW	MW	Required if Interconnection Type is non-NYISO. Memorialized in the NYS SIR documentation.	Yes
Total Max Winter Net MW	MW	Required if Interconnection Type is non-NYISO. Memorialized in the NYS SIR documentation.	Yes
CRIS Unique ID	Text	Required if Capacity is True. Memorialized in the NYISO Interconnection Agreement.	No
Summer CRIS MW	MW	Required if Capacity is True. Reflects total Summer CRIS MW capability as studied by NYISO.	Yes
Winter CRIS MW	MW	Required if Capacity is True. Reflects total Winter CRIS MW capability as studied by NYISO.	Yes
ELR (Facility)	Boolean	Required. Indicates whether the facility is classified as an Energy Limited Resource.	No
CLR (Facility)	Boolean	Required. Indicates whether the facility is classified as a Capacity Limited Resource.	No

The following attributes are separated by Asset type. Each asset is subject to a common set of requirements, in addition to any specific attribute validations that are unique to that Asset type.

All components of an asset must have:
Identical asset type:

- All must be batteries, or
- All must be Generators, or
- All must be wind, or
- All must be solar,
- Etc.

All components of an asset must have the same asset source ID.
All components of an asset must have the same Source Type.
E.g., All must be combustion, or all must be electrochemical,
Etc.
All components of an asset must have the same Source Fuel
E.g., All must be diesel, or all must be sunlight,
Etc.
All components of an asset must be electrically connected.
All components of an asset must be behind the same meter.

Demand Reduction (DR) Attributes

Asset ID	Text	Required. Must not exceed 10 characters. New assets must receive 'New' followed by a sequential whole number (E.g., New1) if new to the Aggregation System. If existing in the Aggregation System, shall be preceded by 'D' followed by system-assigned ID number.	No

Facility ID	Text	Required. Must match the Facility ID of the applicable facility enrollment record.	No
Aggregation ID	Integer	Required. Must match the Aggregation ID of the applicable Aggregation enrollment record.	No
Asset Source ID	Integer	Required. Selection from valid Asset Source ID configurations identified in Appendix E. Demand Reduction with Response Type I must select an Asset Source Type that reflects both curtailment and injection capability, as well as populate an additional asset field below.	Yes
Source Type	Text	System Populated based on Asset Source ID.	No
Source Fuel	Text	System Populated based on Asset Source ID.	No
Response Type (DR)	Selection	System Populated based on Asset Source ID. If Response Type = I, Interconnection Agreement must = Y If Response Type = I, Summer/Winter ERIS/Max Net MW may not be null If Response Type = I, the Facility for the current Asset must include at least one additional Asset of the following type: Generator, Energy Storage, Wind, Solar, Landfill Gas If Asset Type = Demand Reduction, Aggregation Type may only = DER	Yes
Local Supply Type	Selection	Required if Response Type is B or G. Indicates what technology provides local curtailment capability: Generator or Energy Storage.	Yes
Local Supply Inverter	Boolean	Required if Response Type is B or G. Indicates conversion type of the local supply technology use of inverter.	Yes
Nameplate MW Rating	MW	Required if Response Type is B or G. Minimum value of 0.001 MW.	Yes
Nameplate Withdrawal MW Rating	MW	Required if Response Type is B or G. Minimum value of -0.001 MW.	Yes
Compliance Question	Boolean	Required to be True. Reflects compliance with all applicable state emissions controls standards. Applicable if Response Type is B or G.	No
Generator Attributes			
Asset ID	Text	Required. Must not exceed 10 characters. New assets must receive 'New' followed by a sequential whole number (E.g., New1) if new to the Aggregation System. If existing in the Aggregation System, shall be preceded by 'G' followed by system-assigned ID number.	No
Facility ID	Text	Required. Must match the Facility ID of the applicable facility enrollment record.	No
Aggregation ID	Integer	Required. Must match the Aggregation ID of the applicable Aggregation enrollment record.	No

GADS Unit Short name	Text	Required if Former PTID is True. Must not exceed 10 characters. If Former PTID is unknown or not applicable, value must be blank on new import, or if an existing asset, must equal the applicable Asset ID. **Note: Please contact DER@nyiso.com to retrieve the applicable GADS Unit Short name for the asset.**	No
GADS Analysis Group	Text	Optional. Must not exceed 50 characters.	No
Asset Source ID	Integer	Required. Selection from valid Asset Source ID configurations identified in Appendix E.	Yes
Non-NYISO Interconnection Unique ID	Text	Required if Interconnection Agreement obtained in coordination with State/applicable Transmission Owner	Yes
Source Type	Text	System Populated based on Asset Source ID.	No
Source Fuel	Text	System Populated based on Asset Source ID.	No
NERC Unit Code	Integer	Required if Capacity is True. Must be equal to or greater than 100, but equal to or less than 999. **Note: If necessary, please contact DER@nyiso.com to retrieve the applicable NERC information.**	No
NERC Utility Code	Text	Required if Capacity is True. Must be exactly 4 characters, beginning with '#' followed by 3 characters. **Note: If necessary, please contact DER@nyiso.com to retrieve the applicable NERC information.**	No
Nameplate MW Rating	MW	Required. Must be greater than or equal to 0.010 MW.	Yes
Compliance Question	Boolean	Required to be True. Reflects compliance with all applicable state emissions controls standards.	No
Energy Storage Attributes			
Asset ID	Text	Required. Must not exceed 10 characters. New assets must receive 'New' followed by a sequential whole number (E.g., New1) if new to the Aggregation System. If existing in the Aggregation System, shall be preceded by 'E' followed by system-assigned ID number.	No
Facility ID	Text	Required. Must match the Facility ID of the applicable facility enrollment record.	No
Aggregation ID	Integer	Required. Must match the Aggregation ID of the applicable Aggregation enrollment record.	No
GADS Unit Short name	Text	Required if Former PTID is True. Must not exceed 10 characters. If Former PTID is unknown or not applicable, value must be blank on new	No

		import, or if an existing asset, must equal the applicable Asset ID. **Note: Please contact DER@nyiso.com to retrieve the applicable GADS Unit Short name for the asset.**	
Asset Source ID	Integer	Required. Selection from valid Asset Source ID configurations identified in Appendix E.	Yes
Non-NYISO Interconnection Unique ID	Text	Required if Interconnection Agreement obtained in coordination with State/applicable Transmission Owner	Yes
Limited Energy Storage Resource (Facility)	Boolean	Required. Indicates whether the asset is a Limited Energy Storage Resource pursuant to NYISO Services Tariff Section 2.12.	No
Energy Storage Direct Meter Attestation	Boolean	Required to be True. Indicates confirmation that all Energy Storage assets are directly metered.	No
Source Type	Text	System Populated based on Asset Source ID.	No
Source Fuel	Text	System Populated based on Asset Source ID.	No
NERC Unit Code	Integer	Required if Capacity is True. Must be equal to or greater than 100, but equal to or less than 999. **Note: If necessary, please contact DER@nyiso.com to retrieve the applicable NERC information.**	No
NERC Utility Code	Text	Required if Capacity is True. Must be exactly 4 characters, beginning with '#' followed by 3 characters. **Note: If necessary, please contact DER@nyiso.com to retrieve the applicable NERC information.**	No
Compliance Question	Boolean	Required to be True. Reflects compliance with all applicable state emissions controls standards.	No
Asset Energy Duration (Energy Storage)	Numeric Decimal	Required. If LESR is True, must be between 0.01 and 0.99. If LESR is False, must be a whole number 1-24.	Yes
Physical Upper Storage Limit MWh	MWh	Required. Must not be lower than the Physical Lower Storage MWh. Must not exceed the Nameplate MWh Rating.	Yes
Physical Lower Storage Limit MWh	MWh	Required. Must not be greater than the Physical Upper Storage MWh.	Yes
Round trip Efficiency %	Percentage	Required. Must be between 1 and 100.	No
Conversion Type	Selection	Required. Selection of either Inverter or Motor.	No
Nameplate MW Rating	MW	Required. Must be greater than or equal to 0.010 MW.	Yes

Nameplate Withdrawal MW Rating	MW	Required. Minimum of -0.01MW.	Yes
Nameplate MWh Rating	MW	Required. Minimum of 0.01MW.	Yes
Wind Attributes			
Asset ID	Text	Required. Must not exceed 10 characters. New assets must receive 'New' followed by a sequential whole number (E.g., New1) if new to the Aggregation System. If existing in the Aggregation System, shall be preceded by 'W' followed by system-assigned ID number.	No
Facility ID	Text	Required. Must match the Facility ID of the applicable facility enrollment record.	No
Aggregation ID	Integer	Required. Must match the Aggregation ID of the applicable Aggregation enrollment record.	No
GADS Unit Short name	Text	Required if Former PTID is True. Must not exceed 10 characters. If Former PTID is unknown or not applicable, value must be blank on new import, or if an existing asset, must equal the applicable Asset ID. **Note: Please contact DER@nyiso.com to retrieve the applicable GADS Unit Short name for the asset.**	No
Asset Source ID	Integer	Required. Selection from valid Asset Source ID configurations identified in Appendix E.	Yes
Non-NYISO Interconnection Unique ID	Text	Required if Interconnection Agreement obtained in coordination with State/applicable Transmission Owner	Yes
Source Type	Text	System Populated based on Asset Source ID.	No
Source Fuel	Text	System Populated based on Asset Source ID.	No
NERC Unit Code	Integer	Required if Capacity is True. Must be equal to or greater than 100, but equal to or less than 999. **Note: If necessary, please contact DER@nyiso.com to retrieve the applicable NERC information.**	No
NERC Utility Code	Text	Required if Capacity is True. Must be exactly 4 characters, beginning with '#' followed by 3 characters. **Note: If necessary, please contact DER@nyiso.com to retrieve the applicable NERC information.**	No
Nameplate MW Rating	MW	Required. Must be greater than or equal to 0.010 MW.	Yes
Solar Attributes			

Asset ID	Text	Required. Must not exceed 10 characters. New assets must receive 'New' followed by a sequential whole number (E.g., New1) if new to the Aggregation System. If existing in the Aggregation System, shall be preceded by 'S' followed by system-assigned ID number.	No
Facility ID	Text	Required. Must match the Facility ID of the applicable facility enrollment record.	No
Aggregation ID	Integer	Required. Must match the Aggregation ID of the applicable Aggregation enrollment record.	No
GADS Unit Short name	Text	Required if Former PTID is True. Must not exceed 10 characters. If Former PTID is unknown or not applicable, value must be blank on new import, or if an existing asset, must equal the applicable Asset ID. **Note: Please contact DER@nyiso.com to retrieve the applicable GADS Unit Short name for the asset.**	No
Asset Source ID	Integer	Required. Selection from valid Asset Source ID configurations identified in Appendix E.	Yes
Non-NYISO Interconnection Unique ID	Text	Required if Interconnection Agreement obtained in coordination with State/applicable Transmission Owner	Yes
Source Type	Text	System Populated based on Asset Source ID.	No
Source Fuel	Text	System Populated based on Asset Source ID.	No
NERC Unit Code	Integer	Required if Capacity is True. Must be equal to or greater than 100, but equal to or less than 999. **Note: If necessary, please contact DER@nyiso.com to retrieve the applicable NERC information.**	No
NERC Utility Code	Text	Required if Capacity is True. Must be exactly 4 characters, beginning with '#' followed by 3 characters. **Note: If necessary, please contact DER@nyiso.com to retrieve the applicable NERC information.**	No
Nameplate MW Rating	MW	Required. Must be greater than or equal to 0.010 MW.	Yes
Landfill Gas Attributes			
Asset ID	Text	Required. Must not exceed 10 characters. New assets must receive 'New' followed by a sequential whole number (E.g., New1) if new to the Aggregation System. If existing in the Aggregation System, shall be preceded by 'L' followed by system-assigned ID number.	No

Facility ID	Text	Required. Must match the Facility ID of the applicable facility enrollment record.	No
Aggregation ID	Integer	Required. Must match the Aggregation ID of the applicable Aggregation enrollment record.	No
GADS Unit Short name	Text	Required if Former PTID is True. Must not exceed 10 characters. If Former PTID is unknown or not applicable, value must be blank on new import, or if an existing asset, must equal the applicable Asset ID. **Note: Please contact DER@nyiso.com to retrieve the applicable GADS Unit Short name for the asset.**	No
Asset Source ID	Integer	Required. Selection from valid Asset Source ID configurations identified in Appendix E.	Yes
Non-NYISO Interconnection Unique ID	Text	Required if Interconnection Agreement obtained in coordination with State/applicable Transmission Owner	Yes
Source Type	Text	System Populated based on Asset Source ID.	No
Source Fuel	Text	System Populated based on Asset Source ID.	No
NERC Unit Code	Integer	Required if Capacity is True. Must be equal to or greater than 100, but equal to or less than 999. **Note: If necessary, please contact DER@nyiso.com to retrieve the applicable NERC information.**	No
NERC Utility Code	Text	Required if Capacity is True. Must be exactly 4 characters, beginning with '#' followed by 3 characters. **Note: If necessary, please contact DER@nyiso.com to retrieve the applicable NERC information.**	No
Nameplate MW Rating	MW	Required. Must be greater than or equal to 0.010 MW.	Yes
Compliance Question	Boolean	Required to be True. Reflects compliance with all applicable state emissions controls standards.	No

Appendix C – Required Documents: Aggregation & DER Facility

Aggregation

Type	Description
Meter Authority Confirmation	Provide documentation to identify the Meter Authority, either Member System or Meter Services Entity, which is providing the meter data services for the applicable Aggregation. Aggregator must indicate which entity is providing meter data services for the Aggregation. The provided documentation must indicate confirmation that the Meter Authority is aware it will be providing meter data services for the Aggregation.
NYISO ELR Confirmation	Confirmation from NYISO Market Mitigation & Analysis (MMA) that the Aggregation ELR designation on enrollment is valid. This confirmation is only required if the Aggregation will participate in the NYISO markets as an Energy Limited Resource – confirmation may be obtained by communicating with the NYISO at participation@nyiso.com
NYISO CLR Confirmation	Confirmation from NYISO Market Mitigation & Analysis (MMA) that the Aggregation CLR designation on enrollment is valid. This confirmation is only required if the Aggregation will participate in the NYISO markets as a Capacity Limited Resource – confirmation may be obtained by communicating with the NYISO at participation@nyiso.com
ICAP Supplier Two Year Outage Schedule	Two Year Outage Schedule required the first time an Aggregation is imported into the Aggregation System, and any future instance where an Aggregation begins capacity market participation from previously not participating in the capacity market. Please refer to Services Tariff Sections 5.12.1.3 and 5.12.3, and ICAP Manual Section 4.3.
Wind or Solar Static Data Spreadsheet	Static data to support meteorological data and forecasting for the individual facilities comprising an Aggregation – only required for wind or solar facilities participating in a homogenous wind or homogenous solar Aggregation. Please refer to the data required as specified by the Wind and Solar Plant Data User's Guide available from: Manuals, Tech Bulletins & Guides - NYISO.
ICAP Intent to Offer Letter	Please submit ICAP Manual Attachment G.

Facility

Type	Description
Facility-Aggregator Contract (Letter of Authority)	Contract to prove affiliation between a given DER facility and an Aggregator. Each DER owner must consent to, and codify in the form of a written agreement, its affiliation with a particular Aggregator. An Aggregator must not enroll a DER without that DER owner's knowledge and approval. If there is a change to the written agreement, then the Aggregator should submit their most recent dated contract with the DER facility as soon as the contract is available. Additionally, each contract should include necessary identifying information for the DER facility (*e.g.*, TO account number, address). The Agreement shall be retained by each individual DER and Aggregator and provided to the NYISO upon request.
Utility Bill	A utility bill provides proof of address for any DER facility containing Demand Reduction asset(s).
TO Transmission Node Confirmation	Transmission Owner's written confirmation or other documentation as deemed appropriate by the NYISO (e.g., hosting capacity map information) that a given DER facility is electrically mapped to the Transmission Node PTID provided on enrollment.
One Line Diagram	Final electrical diagram of all system components at a DER facility site, including all meters, individual assets described during the enrollment process, and interconnections to the distribution or transmission systems.
Meter Authority Confirmation	Provide documentation to identify the Meter Authority, either Member System or Meter Services Entity, which is providing the meter data services for the applicable DER facility.
NYISO Alternate Telemetry Confirmation	Confirmation from NYISO that the Alternate Telemetry Plan Name provided on enrollment is valid – an Aggregator should communicate with the NYISO DRO group at DER@nyiso.com to obtain this confirmation.
Load Reduction Plan	Description of anticipated load reduction strategy to illustrate alignment between enrollment declared value (MW) in the Aggregation System and the sequence of steps that the Aggregator intends the DER facility to follow during dispatch of the Aggregation. This document is required only when Demand Side Resources are enrolled as DER facilities.
Interconnection Agreement	NYISO Interconnection Agreement, or valid non-NYISO Interconnection Agreement (*e.g.*, NYS SIR), of the DER facility or asset(s).
Generator Specifications	Description of generator specifications to verify, for any injection-capable DER facility, the facility's physical and operational details described in the enrollment attributes submitted into the Aggregation System. For more information or a sample of Generator Specification documentation, please contact DER@nyiso.com

Type	Description
Generator Specifications – Demand Side Resource	Description of local-supply generator specifications that are used to support load curtailment for any Demand Side Resource participating as a DER facility. This information is used to verify the facility's physical and operational details described in the enrollment attributes submitted into the Aggregation System.
NYISO ELR Confirmation	Confirmation from NYISO Market Mitigation & Analysis (MMA) that the facility ELR designation on enrollment is valid. This confirmation is only required if the facility will participate through an Aggregation in the NYISO markets as an Energy Limited Resource – confirmation may be obtained by communicating with the NYISO at participation@nyiso.com
NYISO CLR Confirmation	Confirmation from NYISO Market Mitigation & Analysis (MMA) that the Aggregation CLR designation on enrollment is valid. This confirmation is only required if the Aggregation will participate in the NYISO markets as a Capacity Limited Resource – confirmation may be obtained by communicating with the NYISO at participation@nyiso.com
Charging at Retail – Facility	Part I: Confirmation from the applicable Transmission Owner or retail billing authority, and Aggregator, of mutual understanding of charging at retail configuration for any withdrawal-eligible DER facilities. All DER facilities in an Aggregation must be served by the same Load Serving Entity (LSE) in order to facilitate retail charging while participating in the wholesale market. Part II: NYISO Form BB-1 Identification of Load Serving Entity Invoicing Energy Storage Resources for Actual Energy Withdrawals
Outage State Confirmation	Confirmation that the applicable DER facility is not in an outage state at the time of expected enrollment in an Aggregation to participate in the NYISO-administered markets. For information on outage states, please refer to the NYISO Services Tariff Section 5.18.
Ambient Condition Dependent (ACD)	Documentation supporting units that are ambient-condition dependent that may be unable to reach their capacity obligations due to changes in ambient air temperature. For information on Ambient Condition-dependent units, refer to ICAP Manual Attachment M.

Appendix D – DMNC and DMNC Time Stacking Attributes[4]

Attribute	Format	Description
Aggregation Level Attributes		
Aggregation ID	Integer	Unique ID assigned to the Aggregation
Aggregation Name	Text	Aggregator's chosen name for an Aggregation (See 'Aggregation Short Name')
Aggregation Enrollment Status	Text	NYISO system enrollment status of the Aggregation (Unsubmitted, Submitted, Pending NYISO Review, Enrolled, Rejected, Separated)
Aggregation Type	Text	DER, Generator, ESR, Solar, Wind, Landfill Gas
Aggregation Temperature Sensitivity	Boolean	Operational characteristic describing individual facilities within an Aggregation based on fuel and generation type and whether temperature sensitive
SRT Transfer	Boolean	Indicates whether the DMNC test data is applied from the previous like-Capability Period to transfer from participation as a standalone resource to an Aggregation of the same type. An Aggregator with an Aggregation that may be eligible to utilize a provisional DMNC or SRT Transfer DMNC based on the Aggregation's composition should contact DER@nyiso.com to discuss the process requirements before submitting DER and Aggregation information for enrollment into the Aggregation System. For eligibility details, please refer to the Aggregation Manual.
Provisional DMNC	Boolean	Indicates whether the DMNC test data is applied from the previous like-Capability Period to transfer from participation as a Special Case Resource (SCR) or standalone resource to a DER Aggregation type. An Aggregator with an Aggregation that may be eligible to utilize a provisional DMNC or SRT Transfer DMNC based on the Aggregation's composition should contact DER@nyiso.com to discuss the process requirements before submitting DER and Aggregation information for enrollment into the Aggregation System. For eligibility details, please refer to the Aggregation Manual.
Aggregation EDL	Integer	Indication of number of hours for energy duration limitation

[4] All Text values must adhere to the following acceptable characters list: a-zA-Z0-9 -'\"#&()*,./@_

Test Date	Date	Date of test execution Must align with applicable test windows as outlined in the ICAP Manual and ICAP Event Calendar.
Test Type	Selection	Indication of DMNC or EDL test Please refer to the Aggregation Manual and ICAP Manual for more information about Test Type requirements.
Start Date	Date	Intended commencement date of DMNC. Start Date must be greater than the current month and must always be the first day of the month.
Test Start HB	Integer	Hour Beginning of test
Test Duration	Integer	Total hours in test Please refer to the Aggregation Manual and ICAP Manual for more information about Test Duration requirements.
Electing to Time Stack	Boolean	Y/N – Please refer to the Aggregation Manual and ICAP Manual for more information about time stacking
End Date	Date	DMNC end effective date
Capability Period Type	Text	Summer or Winter
In/Out of Period	Text	Indication if test was performed in or out of the DMNC Test Period Please refer to the ICAP Event Calendar and ICAP Manual for more information about In and Out of Period Test Windows.
MP Aggregation Demonstrated Capability MW	MW	Demonstrated Capability provided upon submission of a DMNC test at the Aggregation level. Represents the average of the Aggregation Hourly Demonstrated Capability MW for all facilities within the Aggregation.
Aggregation Pre-Test Rating MW	MW	Aggregation Post-Test Rating MW from a previously Approved DMNC Aggregation record for the prior like-season. If there is no previous like-season Aggregation Post Test Rating MW, this value is null.
Aggregation Post-Test Rating MW	MW	Aggregation MW rating. Reflects temperature adjustment if applicable. If not temperature sensitive, this is equal to the Aggregation Demonstrated Capability MW. If temperature sensitive, this is equal to the average of the Aggregation Hourly Post Test Rating MW for all facilities in the Aggregation.
DMNC Status	Text	Indicates current state of test data record (Submitted, Pending Review, Approved, Denied, Withdrawn, Replaced)

Reason	Text	Populated by NYISO when the DMNC test is being validated. Possible value: Waiting MMA Review
Created Date	Date/Time	Date of record creation
Created By	Text	User responsible for creation
Last Updated Date	Date/Time	Date of record last updated
Last Updated By	Text	User responsible for last update
Aggregation Hourly Attributes (Repeated for Each Hour)		
Aggregation Test HB	Integer	Hour Beginning of applicable test hour
Aggregation Test Begin SOC MWh	MWh	State of Charge at test commencement for the applicable test hour Only applicable for ESR Aggregation types
Aggregation Test End SOC MWh	MWh	State of Charge at test termination for the applicable test hour Only applicable for ESR Aggregation types
Aggregation Total Storage Capability MWh	MWh	Capacity of storage for entire Aggregation Only applicable for ESR Aggregation types
Aggregation Hourly Demonstrated Capability MW	MW	Sum of the Facility Hourly Demonstrated Capability MW for all facilities within the Aggregation for the applicable test hour
Aggregation Hourly Post Test Rating MW	MW	Sum of the Facility Hourly Post Testing Rating MW for all facilities within the Aggregation for the applicable test hour
Facility Level Attributes		
Facility ID	Integer	Unique ID assigned to the individual DER facility
Facility Test Date	Date	Date of applicable test in which the facility participated
Facility DMNC Start Date	Date	Start date of record applicability
Facility DMNC End Date	Date	End date of record applicability
Facility In/Out of Period	Text	Whether the performance record occurred in or out of period
Facility Capability Period Type	Text	Summer or Winter
CRIS MW	MW	CRIS awarded as per NYISO Interconnection Agreement
Facility Hourly Level Attributes (Repeated for Each Hour)		
Facility ID	Integer	Unique ID assigned to the individual DER facility
Raw Test HB	Integer	Hour beginning of the applicable test hour. The Raw Test HB provided must be one of the Aggregation Test HB provided

Included in Time Stacking	Boolean	Whether the facility contributed to the Aggregation's time stacked capability. System populated based on MP Time Stacking Elections. Only applicable if Aggregation 'Electing to Time Stack = Y' Please refer to the Aggregation Manual and ICAP Manual for more information about time stacking
Time Stacking Test HB	Integer	System populated based on MP Time Stacking Elections. Raw Test HB that would like to be used when included in Time Stacking = Y. Used to identify which of the facility test hours are contributing to the Aggregation's time stacking capability.
Facility Test Begin SOC MWh	MWh	Facility State of Charge at test commencement for the applicable test hour Only applicable for facilities participating in ESR Aggregation types
Facility Test End SOC MWh	MWh	Facility State of Charge at test termination for the applicable test hour Only applicable for facilities participating in ESR Aggregation types
Facility Total Storage Capability MWh	MWh	Storage capacity applicable to the individual facility Only applicable for facilities participating in ESR Aggregation types
Facility Temperature Sensitivity	Boolean	System populated based on whether the facility is temperature sensitive
Facility Hourly Ambient Temperature °F	Numeric Decimal <1>	Individual hour measurements during test Only applicable when 'Facility Temperature Sensitivity = Y'
Average Ambient Temperature °F	Numeric Decimal <1>	Average measurement over duration of test Only applicable when 'Facility Temperature Sensitivity = Y'
Facility Injection MW	MW	Injection capability demonstrated by the facility during the applicable test hour
Facility Demand Reduction MW	MW	Demand Reduction capability demonstrated by the facility during the applicable test hour
Facility Hourly Demonstrated Capability MW	MW	Individual hour performance for individual facility during test window. Equal to the sum of the Facility Injection MW and Facility Demand Reduction MW for the applicable test hour.
Facility Hourly Post-Test Rating MW	MW	Individual hour performance for individual facility during test window adjusted for temperature.

		If 'Facility Temperature Sensitivity = N' the Facility Hourly Post-Test Rating is equal to the Facility Hourly Demonstrated Capability MW for the applicable test hour.
Facility Hourly Final DMNC MW	MW	System populated based on time stacking elections. When Aggregation is Electing to Time stack='N', system populated as Facility Hourly Post-Test Rating MW When Aggregation is Electing to Time stack = 'Y', and Included in Time Stacking = 'Y', system populated as Facility Hourly Post-Test Rating MW that aligns with the Time Stacking HB When Aggregation is Electing to Time stack = 'Y', and Included in Time Stacking = 'N', system populated as Null
Facility Time Stacking Elections		
Where <n> represents the Aggregation Test duration. For example, an Aggregation submitting a 6-hour EDL test in which Electing to Time Stack = Y, will have Included in Time Stacking Hr 1-6 and Time Stacking Test HB 1-6 for each facility contributing to the Aggregation's time stacked capability. Note: Facilities that have Capaciity = N are not allowed to submit Time Stacking Elections.		
Facility ID	Integer	Unique ID assigned to the facility
Included in Time Stacking Hr <*n*>	Boolean	Indicates whether the facility contributes to the time stacked capability of an Aggregation for that particular hour
Time Stacking Test HB <*n*>	Integer	The Raw Test HB for that facility that is contributing to time stacked capability of the Aggregation for hour <n>

Appendix E – Asset Source ID Combinations

Asset Source ID	Asset Type	Source Type(s)	Source Fuel(s)	Response Type
101	Demand Reduction	Demand Reduction	Curtailment	C
102	Demand Reduction	Demand Reduction	Curtailment	B
103	Demand Reduction	Demand Reduction	Curtailment	I
104	Demand Reduction	Demand Reduction	Curtailment	G
201	Generator	Combined Cycle	Coal	
202	Generator	Combined Cycle	Butane	
203	Generator	Combined Cycle	Diesel	
204	Generator	Combined Cycle	Hydrogen	
205	Generator	Combined Cycle	Jet Fuel	
206	Generator	Combined Cycle	Kerosene	
207	Generator	Combined Cycle	Methane (Bio Gas)	
208	Generator	Combined Cycle	Natural Gas	
209	Generator	Combined Cycle	No. 2 Fuel Oil	
210	Generator	Combined Cycle	No. 4 Fuel Oil	
211	Generator	Combined Cycle	No. 6 Fuel Oil	
212	Generator	Combined Cycle	Other	
213	Generator	Combined Cycle	Propane	
214	Generator	Combined Cycle	Waste Heat	
215	Generator	Combined Cycle	Wood and/or Wood Waste	
216	Generator	Cogeneration	Butane	
217	Generator	Cogeneration	Coal	
218	Generator	Cogeneration	Diesel	
219	Generator	Cogeneration	Hydrogen	
220	Generator	Cogeneration	Jet Fuel	
221	Generator	Cogeneration	Kerosene	
222	Generator	Cogeneration	Methane (Bio Gas)	
223	Generator	Cogeneration	Natural Gas	
224	Generator	Cogeneration	No. 2 Fuel Oil	
225	Generator	Cogeneration	No. 4 Fuel Oil	
226	Generator	Cogeneration	No. 6 Fuel Oil	
227	Generator	Cogeneration	Other	
228	Generator	Cogeneration	Propane	
229	Generator	Cogeneration	Refuse	
230	Generator	Cogeneration	Waste Heat	
231	Generator	Cogeneration	Wood and/or Wood Waste	
232	Generator	Combustion Turbine	Butane	
233	Generator	Combustion Turbine	Diesel	
234	Generator	Combustion Turbine	No. 6 Fuel Oil	
235	Generator	Combustion Turbine	Jet Fuel	

236	Generator	Combustion Turbine	Kerosene	
237	Generator	Combustion Turbine	Methane (Bio Gas)	
238	Generator	Combustion Turbine	Natural Gas	
239	Generator	Combustion Turbine	No. 2 Fuel Oil	
240	Generator	Combustion Turbine	No. 4 Fuel Oil	
242	Generator	Combustion Turbine	Propane	
243	Generator	Combustion Turbine Portion (CC)	Coal	
244	Generator	Waste Heat Only (CC)	Waste Heat	
245	Generator	Fuel Cell	Hydrogen	
246	Generator	Conventional Hydro	Water	
247	Generator	Internal Combustion	Butane	
248	Generator	Internal Combustion	Diesel	
250	Generator	Internal Combustion	Jet Fuel	
251	Generator	Internal Combustion	Kerosene	
252	Generator	Internal Combustion	Methane (Bio Gas)	
253	Generator	Internal Combustion	Natural Gas	
254	Generator	Internal Combustion	No. 2 Fuel Oil	
255	Generator	Internal Combustion	No. 4 Fuel Oil	
256	Generator	Internal Combustion	No. 6 Fuel Oil	
258	Generator	Internal Combustion	Propane	
259	Generator	Internal Combustion	Wood and/or Wood Waste	
260	Generator	Jet Engine	Butane	
261	Generator	Jet Engine	Diesel	
262	Generator	Jet Engine	Jet Fuel	
263	Generator	Jet Engine	Kerosene	
264	Generator	Jet Engine	Methane (Bio Gas)	
265	Generator	Jet Engine	Natural Gas	
266	Generator	Jet Engine	No. 2 Fuel Oil	
267	Generator	Jet Engine	No. 4 Fuel Oil	
268	Generator	Jet Engine	No. 6 Fuel Oil	
269	Generator	Jet Engine	Other	
270	Generator	Jet Engine	Propane	
271	Generator	Steam Turbine	Refuse	
272	Generator	Steam Turbine	Wood and/or Wood Waste	
273	Generator	Steam (BWR Nuclear)	Uranium	
274	Generator	Steam (PWR Nuclear)	Uranium	
275	Generator	Steam Turbine	Butane	
276	Generator	Steam Turbine	Coal	
277	Generator	Steam Turbine	Diesel	
278	Generator	Steam Turbine	Jet Fuel	
279	Generator	Steam Turbine	Kerosene	
280	Generator	Steam Turbine	Methane (Bio Gas)	
281	Generator	Steam Turbine	Natural Gas	

282	Generator	Steam Turbine	No. 2 Fuel Oil	
283	Generator	Steam Turbine	No. 4 Fuel Oil	
284	Generator	Steam Turbine	No. 6 Fuel Oil	
286	Generator	Steam Turbine	Propane	
301	Energy Storage	Energy Storage	Battery	
302	Energy Storage	Pumped Storage Hydro	Water	
303	Energy Storage	Fly Wheel	Fly Wheel	
401	Solar	Photovoltaic	Sunlight	
501	Wind	Wind Turbine	Wind	
601	Landfill Gas	Combustion Turbine	Methane (Bio Gas)	
602	Landfill Gas	Internal Combustion	Methane (Bio Gas)	
603	Landfill Gas	Steam Turbine	Methane (Bio Gas)	