New York ISO
Independent System Operator

DER Participation Model – Draft Load Forecasting Manual Language

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Agenda

- Background & Key Discussion Points
- Summary of Load Forecasting (LF) Manual Updates
- Discussion of LF Manual Updates
- Next Steps
- Questions

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Background

- To support the deployment of the DER Participation Model, NYISO seeks stakeholder feedback of key concepts that will be included in NYISO Manuals, Guides, & Technical Bulletins.
- Before NYISO seeks approval of draft manual language, stakeholder input on the concepts must be solicited and captured in the documents by staff.
- Today's discussion will review the concepts pertaining to Load Forecasting data requirements and peak load forecasting procedures.
- Concepts are presented first, followed by draft manual language for stakeholder consideration.
    - Please note: The ISO Procedures in existing Manuals are generally applicable to Resources including Aggregations; – this discussion focuses on concepts that specifically apply to Aggregators and Transmission Owners

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Key Points for Discussion

- **Revisions are being proposed primarily to include updates for DER Aggregations and procedures for including these forecasts in the ICAP Market Peak Load forecast.**
- **Three main areas of revisions are:**
  1. Data submission requirements for DER Aggregators in support of the annual ICAP Market Peak Load Forecast.
  2. Data submission requirements for the Transmission Owners (TOs) in order to improve project tracking of DER facilities (i.e., new resources and changes to existing resources) in the New York Control Area and to assist in the registration of DER facilities in an Aggregation.
  3. Incorporate ICAP Market Peak Load Forecasting methodology updates to account for DER Aggregator participation (i.e., accounting for the impacts of resources transitioning to and from DER aggregations).

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Summary of LF Manual Updates

- **Section 2.1**
  - Load data posting by the NYISO
- **Section 2.2**
  - Annual election requirements for Aggregators
  - Aggregator data submission requirements
- **Section 2.3**
  - Reconciliation of Transmission District Load at the time of the NYCA peak
  - Accounting for Distributed Energy Resource (DER) Facilities in Aggregations in the ICAP Market Peak Load Forecast

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Summary of LF Manual Updates

- **Section 3**
  - New section outlining the data requests for utility interconnection project data and Aggregator data submissions
- **Section 3.1**
  - Data request due date and the information provided by the NYISO to the TOs for resource location tracking
- **Section 3.2**
  - Data requested for each Non-NYISO Interconnection Project from the TOs and the DER Aggregators
- **Section 3.3**
  - Data review and reconciliation timeline

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LF Manual Section 2.1

Section 2.1 (Updated): Notification Procedures for the NYISO

- Data to be posted by the NYISO: Top 40 NYCA Coincident Peak Load Hours
- Posting deadline: October 31
- Purpose of Posting: This data will be used to calculate the top generating hours coincident with the top NYCA peak loads for transitioning retail load modifying generators seeking to participate in an Aggregation in the ICAP Market

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LF Manual Section 2.2

Section 2.2 (Updated): Aggregator Annual Elections

- Aggregator must notify NYISO of DER facilities the Aggregator would like to include in an Aggregation within the ICAP Market
- Aggregator must notify NYISO of DER facilities the Aggregator would like to remove from an Aggregation within the ICAP Market
- Deadline for Annual Elections: August 1st
- Purpose of Request: This data will be used to identify the facilities for which generation data will need to be compiled in order to ascertain the peak load impacts for the following Capability Year

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LF Manual Section 2.2

Section 2.2.7 (New Section): Aggregator Data Submission

- **For each DER facility that is transitioning from a load modifying resource and into an Aggregation in the ICAP Market, the following data is to be provided:**
  - Actual hourly generation values, aggregated by Transmission District, during its top 20 generating hours that occur during the highest 40 one-hour NYCA peak loads for the current Capability year;
  - The actual generation values of each facility, aggregated by Transmission District, at the date and hour of the NYCA peak; and
  - If located within a NYISO ICAP Market Locality, the actual generation values of each facility, aggregated by Transmission District, at the date and hour of each Locality peak.
- **Deadline for data submission: Determined annually in the Annual ICAP Peak Load forecasting schedule**
- **Purpose of Request: This data will be used to compute the peak load impacts of the transitioning facilities for the following Capability Year**

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LF Manual Section 2.3

Section 2.3.1 (Updated): Reconciliation of Transmission District Load at Time of NYCA Peak

- NYISO will add back to the Transmission District loads the following data for Demand Side Resources participating in the NYISO's Aggregation participation program:
  - Load reductions during the date and time of the Transmission District and NYCA peaks
- Load reductions achieved by Demand Side Resources participating only in the Transmission Owner-administered demand response programs will not be added back

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LF Manual Section 2.3

Section 2.3.4 (New Section): Accounting for the impact of DER facilities transitioning to and from Aggregations in the ICAP Market

- **The generation values associated with retail load modifying generating facilities seeking to participate in an Aggregation will be added to the forecasted load of the Transmission District in which it is located as follows:**
  - NYISO will compute the average of the retail load modifying generating facilities generation during its top 20 generating hours that occur during the highest 40 one-hour NYCA peak loads hours for the current Capability Year. This is the Peak Proxy Generation.
  - If no historical generation data is available, the Peak Proxy Generation for such a unit will be set to the 75% of its rated output;
  - The Peak Proxy Generation will be added to the final ICAP Market Forecast for each Transmission District
- **The Regional Load Growth Factor (RLGF) of the Transmission District will not be applied to the Peak Proxy Generation**

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LF Manual Section 2.3

Section 2.3.4 (New Section), continued: Accounting for the impact of DER facilities transitioning to and from Aggregations in the ICAP Market

- **The generation values associated with retail load modifying generating facilities seeking to exit an Aggregation will be subtracted from the forecasted load of the Transmission District in which it is located as follows:**
  - NYISO will compute the average of the facilities generation during its top 20 generating hours that occur during the highest 40 one-hour NYCA peak load hours for the current Capability Year (Peak Proxy Generation);
  - The Peak Proxy Generation will be subtracted from the final ICAP Market Forecast for each Transmission District

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ICAP Peak Load Forecast: Including Aggregations

Example Transmission District ICAP Forecasts for 2023:

Example ICAP Market Peak Load Forecast (MW)

Transmission District	2022 Weather Normalized MW Load + Losses MW (1)	(1 + Regional Load Growth Factor) (2)	2023 Load At Time of NYCA Peak (3) = (1) * (2)	2023 Peak Proxy Generation Adjustments (4)	2023 ICAP Market Forecast (5) = (3) + (4)	2023 Locality Forecasts		
						J Locality	K Locality	G-J Locality
Example Transmission District #1	3,200.0	1.00500	3,216.0	75.0	3,291.0	0.0		405.0
Example Transmission District #2	5,100.0	0.99000	5,049.0	-25.0	5,024.0		5,099.4	
Total Loads	8,300.0	0.99578	8,265.0	50.0	8,315.0	0.0	5,099.4	405.0

Notes:

- The value listed in column (4) represents the sum of Peak Proxy Generation values in each transmission district
- Demand response impacts from Aggregations are reflected in the Actual Adjusted Load in column (1)
- Forecasting methodology captures the net impact of DER Facilities (column 4) newly electing to participate in or exit Aggregations in the ICAP market by Transmission District

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Section 3.1

- For Energy Rights Interconnection Service (ERIS) only projects, NYISO will be requesting information from the TOs and the DER Aggregators for DER facilities that are both market participating and non-market (i.e., retail load-modifying resources)
- This is information being requested by the 1st business day of each month
- On an annual basis, the NYISO will provide the following information to the Transmission Owners:
  - A listing of valid counties and zip-codes that intersect each transmission district's service areas.
  - The NYISO may update and re-post this data quarterly if significant changes to NY regional zip-codes warrant an update

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Section 3.2

- TOs shall provide to the NYISO updates to new and existing TO interconnected DER facilities on a monthly basis. DER Aggregators must claim, and update select project information for each facility they wish to enroll in an aggregation.
- The following classes of information are requested for each TO interconnected DER facility:
  - Project Identification Number
  - Locational Information
  - Electrical Connectivity Information
  - Project Timeline and Facility Status
  - DER Generator Type and Capacity Information
- The New York State Department of Public Service (DPS) Standard Interconnection Request[1] Dataset provides most of the information required for submission to the NYISO

1 - https://www3.dps.ny.gov/W/PSCWeb.nsf/All/286D2C179E9A5A8385257FBF003F1F7E

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Section 3.2 – Project Information Requested

The following information will be requested from the TOs:

Project Field Name	Description	SIR Field (Y/N)	Required/Recommended
Synchronization Date	Project completion date (commercial operation date)	Y	Required
Latitude	Project Latitude in Decimal Degrees (e.g., 41.123)	N	Recommended
Longitude	Project Longitude in Decimal Degrees (e.g., -78.123)	N	Recommended
Substation Name	Name of Substation	Y	Recommended
Description of Facility	Description	N	Recommended
Max Summer Net (ERIS)	Maximum net Summer output (kW AC)	N	Required
Max Winter Net (ERIS)	Maximum net Winter output (kW AC)	N	Required
Project Status	Project Status	N[1]	Required
SIR Job Number	Project ID Number	Y	Required
Circuit ID	Project Circuit ID	Y	Required
Nameplate KW AC	Project Nameplate Output (kW AC)	Y	Required
Nameplate KW DC	Project Nameplate Output (kW DC)	N	Recommended

1 – Only completed projects will be requested

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Section 3.2 – Project Information Requested

The following information will be requested from the TOs:

Project Field Name	Description	SIR Field (Y/N)	Required/Recommended
Hybrid Facility	Hybrid Project Indicator (Y/N)	Y	Required
Asset Type Information	Project resource types (PV, ESS, WIND, other)	Y	Required
Asset Type kW AC	Nameplate of output for each type (e.g., PV kW AC, ESS kW AC, other)	Y	Required
Metering	Metering Type (e.g., Net Metering, Remote Net Metering, CGD, FIT)	Y	Required
Value Stack	Value Stack Participation (Yes, No, Opt-Out)	Y	Recommended
NYISO Zone	Project NYISO Load Zone	Y[1]	Required
County	Project County	Y[1]	Required
Zip Code	Project Zip Code	Y	Required
Application Date	Project application date (initial application received date)	Y	Required
PSSE Bus Number	PSSE Transmission Load Bus Number (from FERC 715 model cases)	N	Recommended

1 – This information is now part of the SIR data set beginning with the June 2022 SIR submissions (May 2022 project data)

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Section 3.2 – Project Information Requested

The following information will be requested from the Aggregators for confirmation during the project enrollment process:

Project Field Name	Description	SIR Field (Y/N)	Required/Recommended
Max Summer Net (ERIS)	Maximum net Summer output (kW AC)	N	Required
Max Winter Net (ERIS)	Maximum net Winter output (kW AC)	N	Required
Project Status	Project Status	N	Required
SIR Job Number	Project ID Number	Y	Required
Aggregator ID	Aggregator ID (assigned by the NYISO)[1]	Y	Required
Nameplate KW AC	Project Nameplate Output (kW AC)	Y	Required
Nameplate KW DC	Project Nameplate Output (kW DC)	N	Recommended

1 – An aggregator will be required to add their ID to each project they wish to enroll in an Aggregation

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Section 3.3

- After a successful submission/upload of the data, the NYISO will review and perform basic information integrity and consistency checks on the data within 5 business days
- The TOs and DER Aggregators will then have 5 business days to clarify the information and/or provide updates to the DER facility information in question

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Section 3.3 – DER Project Monthly Data Review Process

1. TOs upload new and updated/corrected project information (completed projects only, no pending/pipeline projects) to the NYISO Salesforce DER Information Community (DERIC) portal. Email submissions of the data in a NYISO template will also be accepted. Information is due on the 1st business day of the month.
2. NYISO performs review (5 business days) of new and updated project information
3. NYISO/TOs reconcile updates to records (5 business days)
4. NYISO publishes the reviewed projects to DERIC portal community users
5. DER Aggregator accesses DERIC and "claims" projects for formation in an aggregation
6. NYISO performs review of aggregator submissions and publishes updates
7. Projects become available for enrollment in the NYISO DER Aggregation system
8. Projects are ingested into the Aggregation System by the Aggregator for aggregation formation and updates

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Load Forecasting Manual Updates - Next Steps

- NYISO will return to discuss concepts and supporting language in further ICAPWG/MIWG meetings in November and December
- NYISO will post any subsequent revisions to redlined documents on the website.
- Please send any questions, comments, or feedback that were not addressed during this presentation to both: DER_Feedback@nyiso.com and Demand_Forecasting@nyiso.com
  - Comments/feedback submitted to the NYISO will be posted publicly unless the NYISO is specifically asked not to do so.

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Questions?

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Our Mission & Vision

Mission

Ensure power system reliability and competitive markets for New York in a clean energy future

Vision

Working together with stakeholders to build the cleanest, most reliable electric system in the nation

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