

October 2022 Update of Load Forecasting Manual: Large Load Interconnection Reporting and Forecasting

Chuck Alonge

Demand Forecasting & Analysis

Installed Capacity Working Group (ICAPWG)

October 27, 2022

Agenda

- **Background**
- **Summary of Load Forecasting (LF) Manual Updates**
- **Discussion of LF Manual Updates - Section 2**
- **Appendix A – Large Load Facility Forecast Reporting Requirements**
- **Questions / Discussion**

Background

- **Changes in the timing of the construction and ramp-up period of Large Load Facilities that are Interconnecting on the system have the potential to significantly alter the load forecast within a Transmission District**
- **Significant planned expansion or contraction of existing Large Load Facilities can also impact the load forecast within a Transmission District**
- **The NYISO's current Load interconnection procedures¹ apply to load interconnections that are either:**
 - a) Greater than 10 MW connecting at a voltage level of 115 kV or above, or
 - b) 80 MW or more connecting at a voltage level below 115 kV
- **In August 2021, NYISO issued Technical Bulletin 253² (TB-253) which documents the process and reporting requirements to be used by Transmission Owners (TO) for communicating the status and expected impacts of Large Load Facilities on the forecast**

1 – Source: [Transmission Expansion and Interconnection Manual](#)

2 – Source: [TB-253: Load Forecast Reporting for Large Load Interconnections](#)

Summary

- **Manual was last updated in November of 2020**
- **Primary data sources and methods have remained the same**
 - Schedule for developing the ICAP forecast is provided each year by September 1
 - Transmission owners and other stakeholders submit actual load data, weather-adjusted peaks, and regional load growth factors to the NYISO
 - The NYISO prepares its own estimates for weather-adjusted peaks, and regional load growth factors and compares with the Transmission Owner values.
 - TO results are accepted by NYISO and other stakeholders if they are within acceptance criteria specified in the manual
- **Revisions are being proposed primarily to include updates for the inclusion of Large Load Facility load forecasting reporting requirements and procedures for including these forecasts in the ICAP Market Peak Load forecast**

Overview of LF Manual Updates

- **Section 1 (Updated):** Added definition of Large Load Facility and reference to the Large Load Facility reporting requirements outlined in Appendix A
- **Section 2.1 (Updated):** Added notification procedures for the NYISO
- **Section 2.2 (Updated):** New data submission requirement for Transmission Owners
 - Section 2.2.3 (New Section): Data request for the Large Load Facility status and load forecast values

Overview of LF Manual Updates

- **Section 2.3 (Updated): Accounting for the impact of Large Load Facilities on the ICAP Peak Load Forecast**
 - Section 2.3.4 (New Section) Inclusion of the forecasts of new and existing Large Load Facilities by Transmission District
 - Section 2.3.7 (Updated) Clarification of terms and simplification of text
 - Section 2.3.9 (Updated) Procedure update for the inclusion of Large Load Facilities forecasts on the Final ICAP Market Peak Load forecast.
 - Section 2.3.10 (Updated) Procedure update for the inclusion of Large Load Facilities on the Forecast of Locality Peaks
- **Section 2.4 (Updated): Minor update to state that the Installed Reserve Margin (IRM) Peak Load Forecast is now also used in the Minimum Locational Installed Capacity Requirements (LCR) Study**
- **Appendix A (New Section): Load Forecast Reporting for Large Load Facilities**
 - Assimilates the contents of Technical Bulletin #253 (TB-253) into the LF Manual

LF Manual Section 2.1 Updates

Section 2.1 (Updated): Notification Procedures for the NYISO

- **Data to be posted by the NYISO:**
 - Most recent Large Load Facility Peak Load Forecasts for the upcoming capability year
 - Economic data used in the evaluation of the Transmission District Regional Load Growth Factors (RLGFs)

- **Posting deadlines:**
 - September 1 – Large Load Facility Peak Load Forecasts
 - October 31 – Economic data

LF Manual Section 2.2 Updates

Section 2.2.3 (New): Large Load Facility Status and Load Forecast Impacts

- **Transmissions Owners shall provide updated Large Load Facility peak load forecasts by the dates put forth in the ICAP Market Load Forecast Schedule**
- **Large Load Facility forecast reports shall include the project status and forecasted load impacts for Large Load Facility pursuant to the reporting procedures outlined in Appendix A of the LF Manual¹**

Purpose of Request: This data will be used in ascertain the peak load impacts of Large Load Facilities for the upcoming Capability Year

1 – For new or expanding facilities that are subject to the NYISO interconnection process quarterly Large Load Forecast reports are required until the submission of As-built data is complete. Forecast reports for existing sites will be requested as outlined in the ICAP peak load forecasting schedule or as requested by NYISO.

LF Manual Section 2.3 Updates

Section 2.3.4 (New Section): Inclusion of Large Load Facility Forecasts in the Transmission District Peak Load Forecasts

- The impact of the Large Load Facilities on the time of the forecasted NYCA peak will be reviewed with the TOs and the LTF
- The Large Load Facility forecast shall reflect projected load growth (or contraction) as provided in the Transmission Owner forecast(s)

LF Manual Section 2.3 Updates

Section 2.3.9 (Updated): Inclusion of Large Load Facility forecasts on the Final ICAP Market Peak Load Forecast

- The sum of projected load changes reported for Large Load Facilities will be added to each TOs forecasted peak value as applicable
- The addition of these load values will occur after the RGLF has been applied to the Actual Adjusted Load for each Transmission District.
- Changes to existing Large Load Facility (i.e., submission of the As-built facility data is complete) will be accounted for in the Transmission district's RLGf.

ICAP/IRM Peak Load Forecast: Large Load Facilities

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 Large Load 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	0.0	3,216.0	0.0		405.0
Example Transmission District #2	5,100.0	0.99000	5,049.0	50.0	5,099.0		5,132.0	
Total Loads	8,300.0	0.99578	8,265.0	50.0	8,315.0	0.0	5,132.0	405.0

Notes:

- Reported Large Load Facility load growth (or contraction) impacts will also be included in the ICAP Peak Load Forecast for the Localities (if applicable)
- While the Load associated with Behind-the-Meter Net Generator (BTM:NG) resources are not included in the forecast example above, it is required to be explicitly included in the IRM Peak Load Forecast and is necessary for administering the resources participation in the ICAP Market

LF Manual Section 2.4 Updates

Section 2.4 (Updated): Load Forecast for the Installed Reserve Margin and Locational Capacity Requirements Study

- The IRM Peak Load Forecast (i.e., the September Peak Load Forecast) will be used in both the IRM Study conducted by the New York State Reliability Council and in the LCR Study conducted by the NYISO
- This update aligns the LF Manual with current practice
- This peak load forecast will continue to include the Actual Coincident Host Load (ACHL) of each BTM:NG Resource for the most recent Capability Year available

LF Manual – Appendix A (New)

Appendix A (New Section): Documents the process and format to be used by Transmission Owners to report load forecast updates of new Large Load Facilities (TB-253)

- Upon completion of the System Impact Study (SIS) for a new Large Load Facility, expansion of an existing Large Load Facility, or as otherwise determined by the NYISO, the Connecting and Affected TOs shall submit a Large Load Facility forecast report¹ Information requested includes seasonal peak load forecasts, facility load factor, annual energy, and project status information
- Reports are requested quarterly (due ten days prior to the first day of each calendar quarter) or coincident with any load forecast changes that have occurred to the Large Load Facility since the completion of the SIS.

Note: The Connecting TO and Affected TO shall only provide information regarding the portions of the project that are under their control and responsibility as described in the final study reports for the technical studies performed for the Large Load Facility under Section 3.9 of the NYISO OATT or the interconnection agreement for the new Large Load Facility, as applicable. The NYISO is not a party to interconnection agreements for Load Interconnections. *See* OATT §§ 3.9.4 and 4.5.8.3; NYISO TIE Manual § 3.5.

LF Manual – Appendix A (New)

Appendix A (New Section): Documents the process and format to be used by Transmission Owners to report load forecast updates of new Large Load Facilities (TB-253)

- If there are no changes in status or the load forecast for the Large Load Facility since the prior quarterly report, a new status report is not required
- Reports are requested until the submission of the as-built data from the Large Load Facility is complete
- Reports are to be submitted to the NYISO electronically to:
Demand_Forecasting@nyiso.com

Discussion and Next Steps

- The LF Manual changes proposed clarify the Large Load Facility forecast reporting requirements and impacts on the ICAP Market Peak Load Forecasts
- Revised manual will be presented for approval at the 11/16/2022 BIC meeting
- Upon approval of the revised manual, Technical Bulletin 253 will be retired

Questions?

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