

Stakeholder Engagement Conference
Demand & DER Forecasting and Cybersecurity & Privacy
Q & A Sessions
September 15, 2016

Time	Topic
2:30 – 2:25 EDT	Introductions & Stakeholder Engagement Process Overview
2:35 – 3:55 EDT	Demand & DER Forecasting and Q/A
3:55 – 4:45 EDT	Cybersecurity & Privacy and Q/A
4:55 – 5:00 EDT	Summary & Wrap-up

The presentation material used during the webinar is provided on the [joint utilities website](#). The Q&A portion of the webinar incorporated questions submitted in advance and during the webinar. For additional information please contact info@jointutilitiesofny.org.

Demand and DER Forecasting

How will these bottom-up forecasts and DER growth forecasts be incorporated into planning?

- Bottom-up forecasting and the DER growth components of it rely on probabilistic forecasting methods. These forecasting methods enable the assessment of the likelihood of conditions to occur and inform planners as to what the likelihood of occurrence is, thus enabling planners to plan based on a risk tolerance of a condition occurring.
- The approach relies on a significant amount of data, and will improve over time as data quality and availability improve. More cases/scenarios will be required to be run with the risk tolerance a key part of whether a condition will require the use of DER or infrastructure development to alleviate the condition.

How will the coordination occur going forward between NYISO and JU?

- Coordination between the NYISO and the JU Transmission Planning departments will build upon existing coordinating activities such as the NYISO’s Load Forecasting Task Force and periodic, bilateral discussions between NYISO and Transmission Planning (TP) staff.
- It will be increasingly important for the NYISO and Transmission Planners to exchange data and review analyses on an on-going basis to align historic data inputs and forecasted model parameters in order to maintain consistency between the NYISO’s and TP’s forecasts of DER impacts. Data exchanges will be critical to tracking the expansion of DER and understanding the short-term (for example, day-ahead load forecasts) and long-term impacts (for example, in the NYISO’s Gold Book forecasts and as represented in the load models used in power-flow analyses).

Please list the NERC reliability standards and NYS safety standards you comply with that relate to DER providers? Are some DER standards being proposed?

- There is a NERC requirement (MOD 31) relating to load forecasts that may be relevant to the discussion. A presentation was given by the ISO in June.
http://www.nyiso.com/public/webdocs/markets_operations/committees/bic_icapwg_lftf/meeting_materials/2016-06-06/NERC%20MOD%20031-2%20Presentation.pdf
- Requirement 1.3 – Actual Data
 - Integrated hourly demands in megawatts for the prior calendar year.
 - Weather normalized annual peak hour actual demand for the prior calendar year.
 - Controllable Demand Side Management
- Requirement 1.4 – Forecast Data
 - Monthly forecasts two years ahead
 - Peak forecast
 - Energy forecast
 - Annual energy & Seasonal peak forecast ten years ahead
 - Summer & winter seasonal peaks
- Requirement 1.5 – Documentation of Forecasts
 - Assumptions and methods used to develop the forecasts
 - Impacts of controllable DSM
 - How Demand Side Management is addressed in the forecasts of peak demand and annual energy.
 - Comparison of forecast to actual controllable DSM
 - How the peak demand forecast compares to actual demand for the prior calendar year with due regard to any relevant weather related variations and, if applicable, how the assumptions and methods for future forecasts were adjusted.

How will developer data be incorporated into planning?

- Utility forecasts already include information external to the company regarding Policy, Econometrics, and other Market Dynamics.
- As DER Provider forecasts become available, utilities will naturally want to have visibility into them, so that utilities can determine to what extent their inclusion is necessary. This inclusion will be based on how accurate and complete the utility believes the forecasts are.
- Vetting forecasts, so to speak, will make collaboration with DER Providers necessary, and it is expected that processes for this will need to be developed over time in collaboration with DER Providers.

How could probabilistic methods be applied in demand & DER forecasts?

- Probabilistic methods determine the likelihood of occurrence for specific conditions. This likelihood enables planners to understand the probability of system impacts, thereby allowing planners to assess the risk in not taking an action more accurately.

How would the Joint Utilities assess the accuracy of demand & DER forecasts?

- Accuracy of forecasts will be assessed via two mechanisms:
 - Backcasting – where the model will actually look backwards in time and we will compare the model output to actuals.
 - Distribution Forecast – A forecasted probability distribution is produced. As the actual values occur over time, those values are assessed to determine if they are aligned with the distribution. For example, if values occur outside of the 95% level more than 1 in 20 times, then the distribution is not aligned, and corrective action must be taken to tune the forecasted distribution.

What specific steps could the Joint Utilities plan to take to move toward more granular DER growth forecasts and what are the timelines for those steps?

- The utilities have already begun efforts to incorporate more granular data into existing top-down forecasts based on econometric regressions and other high-level inputs.
- Factors such as each utility’s distribution system design, system information and modeling capabilities, and the internal development roadmap for forecasting, including improved tools, methodologies, and data resource, will determine the spatial granularity and pace of development and implementation of these more granular forecasts.

The Power Point notes that the granularity of DER growth forecasts and need for detailed, bottom-up approaches will depend on a set of utility-specific factors. How do the Joint Utilities intend to unify their differentiated approaches in the Supplemental DSIP? And what method/approach will they use? Why?

- The Joint Utilities have established a task force with NYSIO to establish a process for information sharing and protocols. This will help maintain the consistency of load forecasting results between the utilities.
- Additionally, the Joint Utilities will maintain an internal working group to share information and lessons learned as they gain further experience with incorporating more granular data into forecasts.

How do the Joint Utilities plan to engage stakeholders to help improve their DER information?

- The Joint Utilities will host six engagement group meetings by the middle of 2018 and then annually from 2019 to 2021. These meetings will focus on the utilities’ roadmaps for continued development of long-term load and DER forecasts. Stakeholder input will also facilitate efforts by the utilities to align on common objectives and outcomes, and separately on potential use cases for 8760 forecast data.
- New data inputs such as DER forecasts from developers may be considered as an additional input for the development of utility DER forecasts if such sources are made available to utilities.
- Validation and benchmarking of developer forecasts will facilitate their incorporation into utility DER forecasts similar to the way all other data inputs are validated and benchmarked for inclusion into the forecast. This will further inform each utility’s views on market trends related to the rate and locations of DER adoption.

Will the DER providers on the webinar make use of 8760 forecasts at the substation and circuit levels or would forecasted load profiles at max and min loads be sufficient? Are there any DER providers on this webinar?

- This question is out of scope for the purpose of this webinar and the SDSIP filing.

Will forecast accuracy be assessed at the substation/circuit level?

- The utilities will continue to improve the quality and refine the accuracy of their load and DER forecasts and make them reflective of historic and prospective trends, including a set of evolving market, technology, and policy trends.
- As utilities increasingly apply the more granular approaches in load and DER forecasting, location-specific forecasts may be crosschecked against the system-wide forecasts so that all methodologies are consistent and to further enhance the accuracy of these more granular forecasts.

Cybersecurity and Privacy

In terms of communication protocols, there have been discussions between the cybersecurity and privacy team and the monitoring and control (M&C) team in Grid Operations for how the process is managed. What is the role of the cybersecurity and privacy team with respect to working with the M&C group and how would cybersecurity approach any requests from M&C?

- The cybersecurity team provides an advisory role. They are not making the decision for a particular protocol but advising on any cybersecurity concerns that may arise.
- Some protocols are more secure than others and some have more options than others. As long as security controls are met where the risk is mitigated for cybersecurity issues, cybersecurity would inform the solution.

In terms of accessing different information and making the request, has the cybersecurity team discussed the different avenues that the request might come to the utility?

- It's a four step process:
 - An entity would choose to say they need the data
 - Vetting process
 - An actual request will come through via a portal (or a similar tool)
 - The cybersecurity team would utilize the framework where you have the cybersecurity assessment and the enablement of the data transfer through channels