Stakeholder Engagement Conference
Granular Pricing + DER Sourcing
Q & A Sessions

September 23, 2016

Time	Topic
1:30 – 1:40 EDT	Introductions & Stakeholder Engagement Process Overview
1:40 – 2:15 EDT	DER Sourcing & Q/A
2:15 – 2:50 EDT	Granular Pricing & Q/A
2:50 – 3:00 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.

Granular Pricing

What was the genesis and the purpose of NYISO's Location-Based Marginal Prices (LMP) projects?

- The purpose was to see if there is a difference between bus prices
- The idea is to use the LBMP prices ultimately as compensation for DER products and services

How were the initial 15 locations selected?

- NYISO asked each of the Joint Utilities for a sample set of points. The utilities generally selected areas on the high and low levels of the transmission interface, and areas where growth or other changing system conditions give the greatest potential for price divergence.
- NYISO looked for substation locations where there weren't any generators. Then NYISO worked with utilities where it made the most sense based on their understanding of the system.
- The focus started in the NYC area because there had been a lot of questions in that area and expanded from there

What goes into modeling at each location?

- The model that is used in the energy market is based on PSSE type model. Requires changes to the underlying market.
- The first step is to add onto that model a generator. This allows the program to calculate things like shift factors and delivery loss factors
- On the market side, we need to add that same generator with the same ID so that when the price comes out of the model, it's mapped to the other systems correctly.

- We wanted to get out the information quickly, but there are concerns with using this approach in the long run:
    - Currently NYISO is mixing load bus prices in the generator file which might cause confusion in long run
    - The ISO is under tariff obligations to validate every price within a time frame. Adding these prices is contributing to some of the computational burden on the system. If we go too far too fast we don't meet the tariff obligation.

Is the project still in the pilot phase?

- NYISO is evaluating next steps, as the project will require analysis of cost estimates and proposed delivery methods to reach scale

Given you started posting the new prices in late June, are you noticing any substantial differences between the zonal and sub-zonal prices?

- In general, there is little overall price separation between the sub-zonal and zonal bus prices. However more data is required for a full comparison.

What is the difference between what you have described here as Location-based Marginal Price (LBMP) and the "LMP" that is being discussed in other proceedings?

- LBMP is establishing a value for energy at a specific location on the transmission system. That value of energy is based on marginal cost of energy. The marginal cost of energy is one of three components of LBMP, the other two being the marginal cost of congestion and marginal cost of losses

From the Joint Utilities' point of view, how does this effort fit into NY REV's objectives?

- The Joint Utilities view this effort of NYISO attempting to reveal locational pricing as seen at the transmission level as a first step and part of the coordination of wholesale markets with distribution markets. It is anticipated that we will also have some locational pricing down at the distribution system. As we begin to see where generation is being located, and as generation is becoming more dispersed, we might learn more about how resources are valued and where they are valued.
    - The utilities want to make sure the resources are valued correctly, by location, and assure that utilities are sending the appropriate market signals by location, which will become more important as resources are spread throughout system.

Is it the NYISO intent to use these locational based prices for establishing energy prices for consumers at these sub-zonal level?

- No, it is not the intent.

Is there any intent for the NYISO for providing analysis of the data and report the outcomes in the future.

- NYISO doesn't think it will be doing any analysis. NYSIO spent a lot of time making this data publically available and transparent so that whoever requires the data can do their own analysis they would like to run so that it fits their business case the best

What in the NYISO's estimation could cause bus prices to diverge?

- Bus prices may diverge due to congestion between the busses either at the distribution or transmission level.

Are there benefits from avoided wholesale generation/transmission system costs (i.e. capacity costs, ancillary services, transmission losses, etc.)? If so, how are they accounted for in the JU presentation?

- As referenced in the JU presentation, the BCA Framework Order and the utilities' respective BCA Handbooks describe the quantification of the benefits and costs of NWA solutions, including avoided costs at the bulk power level. For more information, see PSC Case 14-M-0101 - Proceeding on Motion of the Commission in Regard to Reforming the Energy Vision — Benefit Cost Analysis Handbook.

Would like to learn more about NYISO's modeling of the pseudo generators. (a) will these be included with zero schedules for the market-clearing engine? (b) If not, what are their Pmin/Pmax and offer prices?

- Please defer to NYISO for details of their modeling methodology

How will NYISO expand its efforts or what process will NYISO follow in REV?

- NYISO has a project prioritized for 2017 that will look at what software changes will we need to make to release all 500 or so bus prices and do so in a user friendly way. There are a couple ways to look at it: enabling bus prices and making it easier for folks to understand where the prices are being located (ex. looking at geospatial data)

DER Sourcing

Are you referring to Utility DER sourcing, or market-based customer DER sourcing?

- In this discussion, we are focusing on the ways that the Joint Utilities are procuring products and services from DERs on their distribution system. The Joint Utilities are focusing many of the current procurement initiatives on NWA which is often a utility procurement of DER products that are located on utility customer sites. In most cases, the utilities do not own the actual asset (i.e. a solar PV, battery storage, etc.).

What role should the Utility take here, the direct purchaser of DERs, or the facilitator of a DER marketplace?

- As the DSP, the utility is facilitating the DER marketplace.

What are the benefits of the JU developing standardized commercial and operational performance standards?

- As the volume of DER procurement increases, the Joint Utilities anticipate an opportunity to develop some standard commercial terms and conditions that may help DER providers in preparing proposals and having better knowledge and familiarity with the contracting terms that will be in effect if they are a successful bidder. This will help streamline the procurement process and shorten the time required to finalize an agreement.
- Just as with commercial terms and conditions, as DER procurement evolves, the Joint Utilities may refine operational and performance standards so that DER providers have clarity of the expected use of the resource as well as clear expectations on the services to be delivered and how performance is compensated. Again, this approach should help to streamline the procurement process.

What are some examples of the standardized commercial and operational performance parameters you mentioned?

- Commercial terms may include development bonding or performance bonding
    - Performance attributes may include requirements/measures for DER availability, dispatch response, capacity performance, etc.

Please provide some examples of what DER provider prequalification is and how it would work? Would you please elaborate a bit on what "triggers" are, as they pertain to DER performance characteristics?

- Standardization allows for a better knowledge base. Utilities are working within short time horizons and need to respond quickly and standardization will be useful across utilities.
- Con Edison recently used a bidder pre-qualification for its BQDM Demand Response clock auction to identify a pool of acceptable bidders. Elements of the pre-qualification included:
    - Submittal of bidder's development/implementation plan, including targeted customer types, technologies to be used, and timeline
    - Requirement for successful bidders to post initial security once the auction clears, with the balance due prior to the contract start date
    - Other requirements include disclosing:

- existing, pending or past adverse rulings, judgments, litigation
- contingent liabilities
- revocations of authority
- administrative, regulatory (State, FERC, SEC, or DOJ, etc.) investigations
- matters relating to financial or operational status arising from sale of load relief products over the past three years

What is the value of DER provider pre-qualification?

- First, pre-qualification may NOT be applicable for every NWA opportunity. More complex or non-routine NWA opportunities or longer lead time projects may have different requirements for the suppliers.
- Pre-qualification may be useful in streamlining the procurement process for certain NWA opportunities such as:
  - Procurements involving a structured auction process like a clock auction (BQMD) or more routine or short lead time projects
- Pre-qualification may help develop and sustain a pool of qualified DER suppliers that provides:
  - Assurance that there will be enough bidders for a specific NWA opportunity to support a competitive solicitation
  - A process and a forum for developing and refining standard pre-qualification elements that reflect the needs of the market place as DER procurements evolve over time

Would you please elaborate a bit on what "triggers" are, as they pertain to DER performance characteristics?

- Event triggers define the conditions for when contracted, dispatchable DER will be called upon by the utility to deliver services.

How much does AMI availability feed into NWA suitability evaluation?

- AMI would be extremely helpful and would open up the choices for DER solutions.
- As the market evolves, utilities will be able to keep up with it