

ICS Report to Executive Committee

May 30th, ICS Meeting #277

Prepared For: June 9th EC Meeting
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4.1.1 ICS Review of Initial IRM Assumptions Matrix & Initial Parametric Results

ICS reviewed the updated 2023 IRM Assumptions Matrix that included topology changes and generation additions and removals. ICS also began considering Sensitivities to be studied in this year's IRM.

4.1.2 Update on Load Forecast Uncertainty Future Work

NYISO provided a follow-up to their LFU Phase III Whitepaper presentation last month, focusing on future efforts in this area. The NYISO plans to discontinue further analysis on variable LFU scaling, and instead move toward model-based load shape development.

- Implementation of the steep 2013 load shape in the upper LFU bins as a result of the LFU Phase 2 analysis significantly reduced the load risk at upper hours relative to the prior shapes
- There is concern that further scaling the 2013 shape may result in understating the appropriate load levels at the extreme upper-bin temperatures. Significant additional analyses would be required to gain confidence in an appropriate variable scaling method.
- Model-based load shapes will be designed with appropriate load duration characteristics, and will result in a better representation of future load patterns

LFU Phase 3 results indicated that net load summer LFU multipliers are likely to increase as BTM solar penetration increases. The NYISO plans to develop and test solar-adjusted LFU multipliers, with the goal of implementation in future IRM studies with the analysis to conclude in 2023. The results will be presented and discussed at future ICS, LFTF and ESPWG meetings.

4.1.3 Preliminary Emergency Operating Procedures Whitepaper Discussion

Reviews indicate that the current EA assumptions in the IRM study are too optimistic:

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- Substantial amount of EA is required in the IRM study, mainly from IESO and ISONE
- During real time operations under tight conditions, PJM can provide primary support to NYCA; NYCA typically export to support ISONE
- Tight supply conditions are expected across all the Northeast region, especially for IESO in summer and ISONE / HQ during winter
- Other area's RA models generally have lower EA assumptions compared to the IRM

Supply mix changes are underway in neighboring systems, with traditional thermal fleet being replaced by intermittent and renewable resources, resulting in downward pressure on systems' resource adequacy conditions.

Concerns over winter start to emerge across the Northeast region as several systems are showing tight conditions during winter seasons.

NYISO to develop modeling recommendations on limitations of EA flows in the IRM study in August.

- The NYISO aims to develop seasonal and area-specific limitations of EA flows
- The NYISO also aims to develop varying limitations to be implemented for different LFU bins

4.1.4 Interim Gas Constraints Whitepaper Discussion

In the current RA model, winter conditions are not fully reflected. Therefore, the IRM study shows minimal LOLE risk during the winter season.

Improving winter modeling will better account for the winter LOLE risk in the RA model, which is expected to increase in the near future.

Implementing gas constraints is an important first step to reflect winter conditions in the IRM study. Other modeling changes, such as seasonal Emergency Assistance, are also being studied. Combining these modeling changes with gas constraints is expected to start reflecting the growing winter risks in the IRM study.

A few issues being researched:

Outage Double Counting

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Modeling Availability vs. Unavailability

Gas Constraint Modeling Characteristics

- Modeling Concept 1: Gas Constraint Triggered by Dummy Generator Condition (Likely area of focus)
- Modeling Concept 2: Gas Constraint Triggered by Date Range Condition
- Modeling Concept 3: Gas Constraint Modeled with Dummy Bubbles and Topology Limits
- Modeling Concept 4: Gas Constraint Modeled with Negative EOP Step

The NYISO has worked with GE to conduct screening of these modeling concepts to select an option for further modeling development. The screening considerations are:

- Feasibility to implement the modeling concept in GE MARS
- Ability to implement without affecting base case results
- Ability to differentiate gas constraints by bin level
- Ability to customize the constraint to the daily/hourly level
- Ability to dynamically account for generator outages

The NYISO will return at the August ICS meeting with preliminary results of modeling development work and collect feedback to develop modeling