

ICS Report to Executive Committee

May 4th ICS Meetings #260

Prepared for: May 13th, 2022 EC Meeting  
Prepared by: Brian Shanahan, ICS Chairperson

#### **4.1.1 ELR Modeling Approach in the 2023-2024 IRM.**

In the past two IRM studies the elected ELRs were modeled using a simplified approach, with pre-determined output profiles. GE has subsequently developed the MARS functionalities for the modeling configurations for the ELRs and recommended the TC4C configuration containing the input parameters consistent with the existing pre-determined output profiles.

##### Previous Results Summary:

In the 2022-2023 IRM study, sensitivity cases using the GE ELR functionalities with the TC4C configurations were conducted, which reduced the IRM by ~1% and significantly lowered EOP activations in MARS.

##### ICS Action Taken:

Base on prior demonstrated performance, the ICS accepted the plan to adopt the enhanced GE ELR functionalities for modeling ELR units in the Preliminary Base Case for the 2023-2024 IRM.

#### **4.1.2 Maintaining Operating Reserves during Load Shedding Events White Paper Discussion (NYISO Recommendation)**

After reviewing the results of studying 3 different levels of OR at load shedding point, in the April meeting, NYISO was requested to provide a recommended OR level to be retained.

- In the 2023 IRM study, the NYISO proposes to maintain a level of operating reserves (“OR”) during load shedding events, reflecting the need to protect the bulk power system against volatility during emergency operations.
- The current IRM modeling assumes all operating actions are exhausted prior to load shedding.
- In reality, operators are required to maintain a certain level of Operating Reserve to manage volatility on the system, even during the time of an emergency.
- It is prudent for the IRM study to reflect the operating reality that some level of OR needs to be maintained at load shedding, to set the appropriate requirement in meeting the 0.1 event days per year LOLE Criterion.

At the May ICS meeting, the NYISO recommended that the methodology for allocating the maintained OR by location be based on the current IRM model to maintain consistent impact on the zonal level.

## ICS Report to Executive Committee

- The current allocation of 10-min OR in the IRM model and the recommended allocation of the 350 MW maintained OR are shown in the table below:

Current 10-Minute OR EOP 8		Distribution of the Recommended <b>350 MW</b> OR at Load Shedding	
Zone	MW (%)		
Upstate	NY_F	518 (40%)	138.4
	NY_G	314 (24%)	83.9
Downstate	NY_J	358 (37%)	95.6
	NY_K	120 (9%)	32.1
<b>TOTAL</b>		<b>1310</b>	<b>350</b>

The 350 MW recommendation is based on the current system load variability on 10-minute interval during the summer Peak Load Window (PLW).

10-Min Load Variability (MW) during the Summer PLW (With 99.7% Confidence Level)	June	July	August
	307	346	315

- Based on the previous study results, the recommended 350 MW of maintained OR for load shedding would increase the IRM by about 1.2%
- Maintaining OR for load shedding should be considered as a standard study assumption for the IRM model and should be reviewed and updated during each study cycle.

### ICS Action Taken:

The ICS accepted the NYISO recommendation to maintain 350 MW of Operating Reserve for load shedding for the 2023-24 IRM, distributed as shown above.

### 4.1.3 LFU Whitepaper Updated Load Shape Phase 2 Whitepaper Results/Recommendations

LFU Phase 2 performed an up-to-date analysis of historical load duration curves and assessed the impact of behind-the-meter solar on both LFU modeling and on load shape evolution over time. This was recently presented to both the ICS and LFTF.

#### Recommended LFU Bin Structure

- LFU Bins 1 and 2: 2013 (2013 had hot summer peak day / steep load shape)
- LFU Bins 3 and 4: 2018 (2018 had average peak-producing weather)
- LFU Bins 5 to 7: 2017 (2017 had cool summer peak day / flat load shape)

## ICS Report to Executive Committee

- Where possible in conjunction with current or proposed modeling methods, NYISO recommends using load shapes adjusted for changing BTM solar penetrations, i.e. either gross load shapes with BTM solar modeled as a resource or adjusted load shapes with BTM solar penetration scaled to match a target year.
- A follow-on Phase 3 Study Scope will be presented to ICS at the July meeting to further investigate other LFU issues such as: Load Scaling (how much is appropriate and for which hours); treatment of BTM solar (as separate generation or as load offset).
- Regarding the use of updated Load Shapes, there was a discussion regarding whether to use the updated load shapes directly in the PBC, or to include as a PBC Sensitivity and pending acceptable Sensitivity results, the updated load shapes would be adopted into the Final Base Case.
- Several members expressed the opinion that the new load shapes should be incorporated directly into the PBC as the existing load shapes are known to be outdated and a more accurate update now exists. The NYISO, and other ICS members, favor using the updated load shapes as a Sensitivity for their initial use so as to not potentially mask Parametric results. In other words, It could potentially be less clear, more difficult to extract the cause of individual Parametric change effects if the PBC includes this change.

### Executive Committee Requested Action

It is desired to get a sense of which of the above directions is favored by the Executive Committee (Include updated load shapes in PBC or as a PBC Sensitivity).