

ICS Report to Executive Committee

March 2nd ICS Meetings #258

Prepared for: March 11th, 2021 EC Meeting

Prepared by: Rick Brophy, ICS Vice Chair

4.1.1 Updated PRR 149 Review

Al Adamson provided an overview of PRR 149 and the edits made since presented at the January 5th ICS.

The PRR proposes to clarify the LOLE criterion in terms of loss of load Event-Days per year instead of Days per year to avoid the possible interpretation that the criterion allows LOL for 2.4 hrs per year or 24 hrs over a ten-year period. It does not change the present procedure or methodology of software currently used for IRM studies. The second proposed change is to include the calculation of LOLH and EUE reliability risk metrics in IRM and Resource Adequacy Assessments. The third proposed change is to include new glossary terms for LOLE, LOLH, EUE, Event-Day, and Event-Hour.

The comment received at ICS questioned whether NERC has accepted our current interpretation even though other areas have interpreted it differently and if there was any difficulty with our interpretation in New York or with the Reliability Council. Mr. Adams was not aware of any issue with NERC concerning the current interpretation and the proposed change. He explained the proposed LOLE criterion change is consistent with recommendations in the IEEE Resource Adequacy WG 's paper presented at a NERC conference and that there were no issues from NERC during that discussion.

A error was identified in the Appendix, 6th bullet: "2.4 days/year loss of load" should be "2.4 **hours**/year loss of load".

4.1.2 High Renewables Phase 3 Draft White Paper Study Scope

During the review several issues came up including the amount, duration limits, and the locations to be used for the ESRs in the study. There was also a question as to the location of the OSW. After considerable discussion an agreement was reached between ICS members and the NYISO.

- The State has increased its CLCPA goal for ESRs to 6GWs, it was decided to increase it in the study from 3GWs to 6GWs.
- A majority of ESRs in the NYISO queue are indicating a 4-hour duration, it was decided to model ESR capacity with a 4-hour duration in the study.
- Rather the spreading the ESRs equally in each zone as proposed, it was decided that ESR Capacity will be distributed proportionally with respect to renewable ICAP by zone.
- The placement of offshore wind capacity will be split between Zones J and K, with two-thirds of capacity in Zone J and one-third in Zone K.

The NYISO will take the scope back and revise it according to the agreed changes, they will come back next month and review the final scope for ICS approval.

The NYISO also explained that making the changes requested by ICS would push the timeline for results out about one month.

4.1.3 Whitepaper/Study Update of 2022 Sensitivity #11 & #12 (GT retirements and AC Transmission Upgrades)

NYISO reported that the Tan45 values are complete and have looked pretty intuitive so far. They are still running the LCR cases and reviewing them. The goal is to come to the March 29th ICS with the results.

If the NYISO gets all the results completed and reviewed prior to the ICS meeting, they will present them at an ICAPWG meeting, possibly the meeting scheduled for March 16th.

4.1.4 Maintaining Operating Reserves during Load Shedding Events White Paper

4.1.4.1 Reliability Rules & Operations implications

During the Feb. 2nd ICS meeting, the proposed modeling enhancement of maintaining operating reserves (OR) at load shedding events was discussed. At that meeting the ICS raised a few questions:

- How does the experience in other jurisdictions apply to the NYCA system?

- How is the operating reserve level managed during real time operations?
- What are the applicable reliability rules that impact the operating reserve assumptions in the IRM study?

The NYISO reviewed how the Reliability Rules apply to Eastern Interconnection, the Operating Reserve standard in WECC, and the Emergency Procedure involving Operating Reserves in ERCOT.

For Operating Reserves in Real Time Operations, the NYISO explained that from the IRM perspective, operating reserves are considered as the last emergency procedure before initiating load shedding. However, during real time operations, grid operators need to manage the electricity grid and follow multiple reliability rules and operating standards and that the combined impact of multiple reliability rules and that operating standards in practice require the operator to maintain a certain level of Operating Reserves to manage volatility on the system, even during the time of emergency.

The NYISO also explained that the Operating Reserve modeling in the IRM assumes all the operating actions are exhausted prior to loss of load event. This assumption does not capture the operating reality when load shedding is needed or the action of maintaining Operating Reserves during real time operation. They said that it is prudent to review the IRM assumption and consider maintaining some level of Operating Reserves in the model, in addition, reflecting the operating reality that some level of Operating Reserve will need to be maintained at load shedding in the IRM study will set the appropriate requirement to provide sufficient capacity to meet the 0.1 LOLE Criterion.

4.1.4.2 Preliminary Results on Maintaining Operating Reserve at Load Shedding

Currently 10-minute OR is modeled as Emergency Operating Procedure (“EOP”) step 8 in the IRM, which MARS will count on to address system shortages. The NYISO deducted the three MW levels of 10-minute OR in the EOP step 8, reflecting the reduced amount of OR being available during load shedding. Three allocation methods were also studied.

Current 10-Minute OR EOP 8		Maintain 327.5 MW OR at Load Shedding			Maintain 500 MW OR at Load Shedding			Maintain 655 MW OR at Load Shedding			
Zone	MW (%)	Current Allocation	All Upstate	All Downstate	Current Allocation	All Upstate	All Downstate*	Current Allocation	All Upstate	All Downstate*	
Upstate	NY_F	518 (40%)	129.5	203.9	0	197.7	311.3	13.7	259.0	407.8	110.2
	NY_G	314 (24%)	78.5	123.6	0	119.8	188.7	8.3	157.0	247.2	66.8
Downstate	NY_J	358 (37%)	89.5	0.0	245.3	136.6	0.0	358.0	179.0	0.0	358.0
	NY_K	120 (9%)	30.0	0.0	82.2	45.8	0.0	120.0	60.0	0.0	120.0
TOTAL		1310	327.5			500			655		

* Existing 10-minute OR is not sufficient in downstate and additional OR will need to be maintained from upstate

The analysis indicated that maintaining additional OR at load shedding will proportionally increase the IRM, zonal allocations between upstate and downstate have ~0.5% impact on the IRM, and having the OR maintained upstate and increasing upstate ICAP will alleviate issues in Zone A/B, hence reducing the EOP activations.

After some discussion about the MW level for maintaining OR, one recommendation was to go with 500MWs not the 375MW level the NYISO was recommending. However, the members seemed agreeable that the MW level should ultimately be determined by NYISO Operations.