New York ISO
Independent System Operator

Study Results of Maintaining Operating Reserve at Load Shedding

Yvonne Huang

ICAP Market Operations

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Background

- **For the 2023 IRM study, the NYISO is evaluating whether to maintain operating reserves ("OR") during load shedding events**
  - Specifically, the NYISO is evaluating whether to maintain some level of 10-minute OR which is capable of accommodating system volatility during load shedding
- **The topic was discussed at the past two ICS meetings, and NYISO provided preliminary parametric results with three levels of withheld OR and three allocation methods**
  - The current IRM model includes 1,310 MW of 10-minute OR in Zones F, G, J, and K
- **At the 3/2 meeting, the ICS agreed to conduct the Tan45 and optimized LCR process on withholding 500 MW OR with proportional distribution based on the current OR allocation**
  - The NYISO conducted the Tan45 process for all three levels of the maintained OR, with the distribution based on the current allocation of 10-minute OR

2/2 ICS Discussion: https://www.nysrc.org/PDF/MeetingMaterial/ICSMeetingMaterial/ICS%20Agenda%20257/A.I.4.1%20-%20LoadShedding-and-Reserves_final[2557].pdf
3/2 ICS Discussion:
https://www.nysrc.org/PDF/MeetingMaterial/ICSMeetingMaterial/ICS%20Agenda%20258/AI-9.1%20Operating_Reserve_at%20LoadShedding_ICS%2003022022[3113].pdf
https://www.nysrc.org/PDF/MeetingMaterial/ICSMeetingMaterial/ICS%20Agenda%20258/AI-9.2%20Preliminary_Results_Operating_Reserve_ICS03032022[3114].pdf

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Recap of Modeling Methodology

- 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 current 10-minute OR distribution and the allocation of the maintained OR at three different MW levels are shown as below:

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 (%)			
Upstate	NY_F	518 (40%)	129.5	197.7	259.0
	NY_G	314 (24%)	78.5	119.8	157.0
Downstate	NY_J	358 (37%)	89.5	136.6	179.0
	NY_K	120 (9%)	30.0	45.8	60.0
TOTAL		**1310**	**327.5**	**500**	**655**

Tan45 Results

Tan45 Results	2022 FBC with Neptune Outage	Maintain **327.5 MW** OR at Load Shedding	Maintain **500 MW** OR at Load Shedding	Maintain **655 MW** OR at Load Shedding
IRM	19.6%	20.7%	21.5%	22.2%
J_LCR	80.7%	81.9%	82.4%	82.8%
K_LCR	99.8%	101.0%	101.4%	101.8%
NYBA EOP	38.4	37.9	37.5	37.2

- **The Tan45 results are generally consistent with the parametric results.**
  - IRM and the preliminary LCRs would increase proportionally to the MW level of the maintained OR
  - Impacts on the EOP activations are minimal as the Tan45 process shifted the MW requirement towards downstate and the EOP are mainly driven by upstate.
- **The NYISO is working on the optimized LCR process with the above configurations. The Tan45 results demonstrate the IRM impact of maintaining OR at load shedding.**

Next Step

- NYISO to propose the MW level of maintaining OR for load shedding, and allocation method to be included in the IRM study
- If the recommendation is accepted, for the 2023-2024 IRM
  - Model no withholding of OR in the Preliminary Base Case (historic modeling)
  - Conduct a sensitivity case with maintaining OR based on the accepted recommendation
  - Consider modeling the withholding of OR in the Final Base Case
- Beyond the 2023-2024 IRM, evaluate the effect of maintaining OR for load shedding in the IRM study and determine whether the modeling configuration needs to be changed for future studies

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Questions?

Our Mission & Vision

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Ensure power system reliability and competitive markets for New York in a clean energy future

Vision

Working together with stakeholders to build the cleanest, most reliable electric system in the nation

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