

March 29th ICS Meetings #259

Prepared for: March 29th, 2022 EC Meeting  
Prepared by: Brian Shanahan, ICS Chairperson

4.1.1 Whitepaper/Study Update of 2022 Sensitivity #11 & #12 (GT retirements and AC Transmission Upgrades). ICS requested Tan 45 cases to be run with AC Transmission in service and DEC NOx Rule Peakers retired. These assumptions are a projection of future conditions which may and likely will change between now and the time when actual IRM and LCR values are calculated for future market years.

- 2023: Topology changes for ConEd series reactors, Generator (Peaker) retirements based on DEC compliance plans
- 2024: AC Transmission topology updates
- 2025: Generator (Peaker) retirements

Results Summary:

		Final LCR Case	Y2023	Y2024	Y2025		2022 Final TSL
Tan 45 Analysis	IRM	19.6%	19.0%	19.3%	19.3%		-
	Zone J	80.7%	79.7%	78.6%	76.7%		-
	Zone K	99.8%	102.2%	100.3%	100.8%		-
	Zones G-J	90.7%	89.8%	89.0%	87.6%		-
Optimized LCRs	Zone J	81.2%	80.2%	78.9%	77.6%		77.2%
	Zone K	99.5%	96.2%	94.8%	94.4%*		94.4%
	Zones G-J	89.2%	87.4%	80.7%*	80.7%*		80.7%
* Value at TSL Floor							

Next Steps:

Begin the Parametric Study for 2023 IRM

- The 2023 case assumptions to be wrapped into this study
- Run Tan 45 analysis and develop Preliminary Base Case

4.1.2 Maintaining Operating Reserves during Load Shedding Events White Paper Discussion (White Paper Interim Results)

Specifically, the NYISO is evaluating whether to maintain some level of 10-minute OR which is capable of accommodating system volatility during load shedding

# ICS Report to Executive Committee

Results:

## 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.

### Next Steps

- 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

#### 4.1.3 High Renewables Phase 3 Draft White Paper Study Scope Approved

Assumptions Highlights:

- 70% Renewable Energy by 2030
- 6 GW of Energy Storage Resources<sup>2</sup>
- Approaching 9 GW of offshore wind (2035 target)
- 10 GW of photovoltaic solar ("PV")

#### 4.1.4 LFU Whitepaper Updated Load Shape Phase 2 Whitepaper 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.

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### 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)
  
- 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.

### 4.1.5 2023-24 IRM Model Changes Aggregate

- AC Transmission changes: Neptune outage + Con Ed series reactors + 2023 Peaker Units retired: study assumption which is expected to be updated during this year's regular study assumption update.  
(If Neptune is in service it will lower the IRM by roughly half a percent as has been shown)
- Operating Reserve: study-assumption-typed change; no fundamental modeling change; impacts are relatively predictable.  
(Holding back Operating Reserve will increase the IRM by slightly more than the amount of OR being held back).
- GE ELR model: major modeling change; has been providing consistent results during two-year's testing; includes some interim solutions that fit with current database (i.e. output window).  
(Using the new ELR modeling will increase the IRM because resources that were modeled at full capacity all day are now only available for part of the day or at a reduced value. These impacts have also been shown in studies).
- New Load Shapes: major assumption change that may impact multiple modules in the MARS model; impact unknown; RNA evaluation only looks at LOLE movement (does not cover EOP and does not return system back to criteria).  
(This will have some impact on IRM but it is not clear if that is up or down)

Possible approach to incorporate/evaluate changes:

- 1) IRM determined using last year's baseline model & assumptions (No changes)

## ICS Report to Executive Committee

- 2) Sensitivities for each of the four major changes evaluated individually (possibly 4 distinct sensitivities).
- 3) IRM determined including all model & assumption changes.

### 4.1.3 High Renewables Phase 3 Draft Study Scope

The ICS discussed the Draft Scope of the proposed High Renewables Phase 3 White Paper. The main ICS concern with the original Scope, expressed by several members, was that the Scope did not remove any existing non-renewable capacity. In response, NYISO proposed removing the “Peaker Units” from the generation mix in the Study to address the concern.

The units retired will be based on DEC Peaker Rules Assumptions as represented in the NYISO 2021 Q4 Short-Term Assessment of Reliability (~1,600 MW).

The ICS consensus is to move forward with the Phase 3 Study with the Scope adjusted to reflect this change, pending any additional direction from the EC. The revised Study Scope is provided with the ICS Report.

The ICS also discussed the need for a future review to address removal of additional non-renewable capacity, along with other anticipated system changes, as part of a future High Renewables study (Phase 4 High Renewables Study Scope). Action Item 257-1 was generated for tracking of resolution.

### 4.1.4 Public Appeal for Load Reduction Questions for TO's (ICS AI 220-1)

A follow-on question from the January report on 2021 Public Appeal for Load Reduction events concerned the processes TO's have to implement a Public Appeal. Responses from several TO's were similar and indicated that their Transmission Control Centers have Public Appeals as part of their available proceduralized actions to mitigate low voltage or high load conditions. Basically, the Control Centers would contact their respective Corporate Communications departments to implement a public appeal once the need is identified.