

ICS Report to Executive Committee

May 3rd, ICS Meeting #276

Prepared For: May 12th EC Meeting
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4.1.1 ICS Review of Initial IRM Assumptions Matrix

ICS reviewed the initial 2023 IRM Assumptions Matrix that included proposed topology changes and generation additions and removals. There was also an updated discussion regarding the NYISO inclusion rules for new generation, which consider a generator's registration status as well as additional considerations in determining whether to include or exclude a new generation project from the PBC. A review of the past two years showed that approximately half of the new projects that were included in the IRM FBC's ended up not being in-service by June 1st of the following year, although some were only minimally delayed. Majority of the delays were with small solar project that are ≥ 20 MW.

4.1.2 Withholding Operating Reserve Assumption Review

Using the same approach that produced the 350MW recommendation in the 2023-2024 IRM Study, the 10-minute net load variability was calculated to 3σ (99.7% confidence level) for both scenarios with $\text{Net Load} = (\text{Total Load}) - (\text{Solar Production}) - (\text{Wind Production})$.

This year, two Summer Windows were analyzed for the calculation to review the withholding OR assumption:

- 8 Hour Peak Load Window (PLW)
HB 12 -19 from June -August
This is the PLW that was used to calculate the 350MW used in IRM23
- LOLE Window
HB 11 -21 from June -August.
Informational 2023 Hourly LOLE Distribution posted on NYISO's Capacity Accreditation page

Results

| 10-Minute Net Load Variability – IRM23 Study | | | |
|--|------|------|--------|
| 8 Hour PLW | June | July | August |
| | 307 | 346 | 315 |

| 10-Minute Net Load Variability – 8 Hour PLW | | | |
|---|------|------|--------|
| Dataset | June | July | August |
| Scenario 1 | 254 | 328 | 298 |
| Scenario 2 | 272 | 345 | 312 |

| 10-Minute Net Load Variability – LOLE Window | | | |
|--|------|------|--------|
| Dataset | June | July | August |
| Scenario 1 | 316 | 396 | 382 |
| Scenario 2 | 328 | 411 | 390 |

In reviewing the results, using the new LOLE window for 10-minute Net Load Variability, increasing the Operating Reserve withheld from 350 MW to 400 MW appears to be appropriate for the 2024-25 IRM determination.

4.1.3 LFU Phase 3 Whitepaper Results/Recommendations

Results from Phase 3 of the Load Forecast Uncertainty White Paper effort were presented. There were four separate presentations, summarizing the work from the four discrete tasks:

- Variable Scaling Methodology
- Weather Duration at the Upper LFU Bins
- BTM Solar Impact on LFU
- Winter Variable

These presentations concluded the technical study work under the LFU Phase 3 White Paper. There were no recommendations to change the 2024-2025 IRM study model. These White Paper studies did identify several areas for further research and investigation, specifically related to load modeling in Resource Adequacy model. The plan of future research and study will be presented and discussed at the next ICS meeting.

The ICS had focused discussion on the following two LFU topics.

Variable Scaling, Monthly vs Hourly LFU Multipliers:

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As a part of LFU Phase 3 whitepaper, two potential options for different LFU multipliers were tested,

Monthly LFU: A new set of LFU multipliers are assigned for each month, for each zone.

Hourly LFU (8760 variable scaling): Each bin is assigned with a unique adjusted net load shape. Used in conjunction with the existing seasonal LFU multipliers.

IRM Testing Results

| | Parametric Results | | | | | Tan45 Results | | | |
|-----------------|--------------------|---------|---------------|---------|---------------|---------------|---------------|---------|---------------|
| | Base | 01 | Δ Base | 02 | Δ Base | 01 | Δ Base | 02 | Δ Base |
| Seasonal LFUs | x | | | x | | | | x | |
| Monthly LFUs | | x | | | | x | | | |
| DFA Pre-Scaling | | | | x | | | | x | |
| IRM | 19.90% | 19.68% | -0.22% | 19.03% | -0.87% | 19.82% | -0.08% | 18.65% | -1.25% |
| J LCR | 78.20% | 78.05% | -0.15% | 77.60% | -0.60% | 77.93% | -0.27% | 77.92% | -0.28% |
| K LCR | 107.40% | 107.18% | -0.22% | 106.53% | -0.87% | 106.96% | -0.44% | 106.72% | -0.68% |
| GRP G-J | 88.55% | 88.38% | -0.17% | 87.89% | -0.66% | 88.35% | -0.20% | 88.34% | -0.21% |

- The Monthly LFU effectively has no impact on the IRM
- The Hourly LFU lowers the IRM significantly (-1.25%)

The NYISO recommends, and ICS agrees, that further analysis of the LFU Phase 3 calculation methodologies and impact assessments on the IRM, LCR and CAFs should be performed before adoption can be considered.

This presentation is attached for reference.

LFU BTM Solar Impacts:

- Overall, a positive correlation between the LFUs and increased BTM Solar penetration was observed. Projected increases, however, are slight and may not necessarily be indicative of future LFU trends. Numerous factors contribute to the final model selection.
- NYISO plans to further investigate this matter, with an aim to develop methods for potential implementation of the findings in the future years.

4.1.4 Policy 5 Changes

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A revision to Policy 5 has been prepared and reviewed through the ICS, to add consistency and precision to data rounding in determining the IRM. Procedure is attached for approval. The main change appears on page 34:

3.0 The IRM Rounding Procedure

To facilitate the NYISO's Locational Capacity Requirement ("LCRs") study and the ICAP Market implementation, after the regression analysis, the IRM will be rounded to the nearest tenth. The selection of the final IRM will be based on three decimal point LOLE precision – i.e., to the nearest thousandth reliability measure. The following principles will be applied during the rounding procedure:

- 1) Maintain the MLCRs values as the outcome from the regression analysis.
- 2) Apply conventional rounding of the IRM to the nearest tenth from three decimal point precision.
- 3) If the rounded IRM, along with the MLCRs, result in violating the 0.100 event days/year LOLE criterion, increase the IRM by 0.1% to meet LOLE criterion.