

**Agenda Item 4.1: ICS Report to NYSRC Executive Committee (EC)**  
**March 4, 2026, ICS Meeting #314**  
**Prepared for: March 13, 2026, EC Meeting #323**  
**Prepared by: Thomas Primrose (PSEGLI)**

**4.1.1 ICF Fuel Constraints Study**

NYISO presented a briefing on the 2025 Study of Winter Fuel Constraints in New York State prepared by ICF Resources. The ICF study aimed to quantify the availability of natural gas and fuel oil deliveries to New York's power sector from total supply perspective, identify potential supply constraints or shortfalls, and quantify the power generation that may be unserved due to insufficient fuel supply under a range of demand conditions over a 2025-2035 study horizon. NYISO provided a detailed overview of data sourcing, study setup, and key assumptions. NYISO also provided a summary of unserved generation capacity due to fuel availability for various scenarios, load bins, and pipeline expansion setups. The aforementioned topics of interest in addition to summary conclusions are available in detail as part of the attached report and presentation. NYISO noted that ICF and the NYISO management team view the report as a starting point for NYISO's fuel availability assumptions in a winter reliability assessment, due to a number of factors not considered in the study and may further impact fuel availability to the power generators. NYISO plans to return to the 3/31/2026 ICS meeting to discuss how the ICF study can be considered for winter fuel constraint assumptions in the IRM model.

The ICS had a robust discussion on the details of the ICF study. C. Wentlent inquired about heat rates used for the analysis, NYISO replied that the study relied on EPA data for full load heat rates. He followed up on firm fuel requirements and NYISO clarified that the study looked at pipeline supply arrangements and generator surveys rather than elections. M. Mager asked how the study conclusions might change with infrastructure changes and C. Wentlent followed up to ask if potential LDC upgrades were considered. NYISO noted that several interstate pipeline projects were considered and clarified that analysis was confined to interstate pipelines and that ICF did not look at LDC upgrades or constraints. M. Cadwalader noted that the gas design day scenario is significantly more extreme than bin 1 IRM conditions, which could complicate comparisons. NYISO responded that gas system design conditions are more conservative because the impacts of losing gas pressure are more consequential in duration and magnitude than loss of electric service. W. Gunther noted that most LOLE risk in the current model occurs in bin 2 and expressed interest in seeing more information based on that bin. NYISO replied that the study selected bins 1, 4 and 7 to simulate a range of different weather conditions. R. Gonzales asked for additional info on how gas deliveries outside of New York were considered. NYISO indicated that no hydraulic modeling was performed and data was based on pipeline receipts. T. Primrose requested more detail on LNG/CNG peak shaving assumptions and NYISO clarified that gas from these satellite facilities was assumed to be released for firm customers and not made available to gas generators. The ICF results indicated an increase in unserved capacity in Zone K when moving from the Design Day scenario to bin 1. Discussion occurred regarding the reasons for this outcome. NYISO responded that Zone K is subject to fewer pipeline constraints, resulting in lower overall unserved capacity relative to Zone J, and noted that it would follow up to provide additional clarification on the increase observed between the Design Day and bin 1 scenarios.

As the presentation concluded that the ICF study outcome represented theoretic maximum available fuel for power generators, M. Lenoff asked how it can be used to inform practical study assumptions. The NYISO concurred the challenge to combine theoretical results with actual historical data, and confirmed the plan to return to the next meeting for further discussion.

#### **4.1.2 Maintenance Modeling & Output Factor Curves**

NYISO presented an update on the Maintenance Modeling & Output Factor Curves detailing the annual and short-term outage scheduling processes used to maintain capacity margins.

Stakeholder discussion occurred throughout the presentation. M. Cadwalader asked about the process for forced maintenance rescheduling, to which NYISO responded that it is uncommon, but operates on a first-come, first-served basis if voluntary requests for rescheduling are not sufficient to restore adequate margin. M. Mager inquired if maintenance is pushed out of peak periods, NYISO clarified that scheduling occurs year-round but generators typically schedule during lower load periods when NYISO is more likely to approve requests. W. Gunther sought clarification on whether 9300 code outages are included in the MARS model EFORD; NYISO confirmed that they are included in MARS but not the ICAP market. W. Gunther further suggested that if planned generator maintenance is excluded from EFORD, it might be consistent to exclude 9300 outages caused by planned transmission maintenance. T. Primrose concurred, acknowledging it is outside of the scope of this effort, but adding that many generator 9300 outages are likely caused by re-schedulable or re-callable transmission outages. He suggested that these generators could, in practice, remain available to the system if necessary. NYISO reiterated that the focus of this whitepaper effort is on generator maintenance, and the outage data were submitted by generators. R. Gonzales asked for confirmation that 9300 outages are submitted with a single code that does not break out planned vs. forced outages on transmission system and must be interpreted on a case-by-case basis. NYISO noted that this is correct because they are reported at the generator level, however as part of the NYSRC compliance process, they are validated by the NYISO on an annual basis to avoid incorrect submission but not grouped by planned or forced transmission outage cause. Additional information was requested regarding maintenance activity during the recent winter operating period from the NYISO.

C. Wentlent reiterated that the eventual ask of this analysis is to understand magnitude of generation tied up in maintenance outages during the year. NYISO clarified that this is on the agenda, but that the purpose of this presentation is to demonstrate that NYISO only accepts and approves planned outages when margins are permissive.

#### **4.1.3 Parametric Process Improvements Update**

NYISO presented an update on the Parametric Process Improvements effort detailing two potential improvements to better capture the locational effects of assumption updates, and to narrow the gap between parametric estimates and Tan45 outcomes.

- Upstate/Downstate Parametric Split: intended to allow for separate capacity shifts between upstate and downstate similar to Tan45 behavior
- Excess UCAP Shifting: intended to reduce divergence from Tan45 results when excess UCAP ratios change; this is also intended to better align with the Tan45 shifting methodology

Initial testing of improvements on a historical update with large parametric/Tan45 divergence (2024-2025 IRM FBC load forecast update) indicate that, compared against the current parametric method both potential enhancements may reduce the magnitude of divergence from the Tan45 results. NYISO noted that neither enhancement is designed to explicitly address the divergence that can result from transmission updates since the Tan45 process remains the only method which explicitly shifts capacity between upstate and downstate subject to transmission constraints.

NYISO added that additional test cases will be run and presented at ICS to support recommendations to be considered for 2027-2028 IRM PBC process.

#### **4.1.4 Seasonal Topology Update**

NYISO presented an update on the Seasonal Topology effort presenting an impact assessment of incremental winter transfer capability over select interfaces on the 2026-27 IRM PBC. Results of this analysis indicate that a small change to an interface limit can reduce the monthly hours that the interface is transmission-constrained, but this change may not materially impact LOLE. NYISO added that they will be performing additional analysis to confirm impacted interfaces and examining data sources to improve the annual update process to capture seasonal topology inputs in the IRM study model.

Stakeholders noted that synergies in interface transfer limits may cause different results than testing increases to interface winter limits in isolation.

#### **4.1.5 2027-2028 PBC Assumptions Matrix and Parametric Results**

NYISO presented a non-material change, an update to MARS version 5.10.4171. This update resulted in no IRM or LCR change.

#### **4.1.6 Work Scope For the TSL/LCR Working Group**

R. Gonzales reviewed a high-level scope of work for the TSL/LCR working group covering the technical assumption alignment issue and timeframe issue. He noted that the small working group is looking into emergency assistance levels, assumptions surrounding controllable ties, and the possibility of updating the emergency assistance regression analysis as was performed in the recent EOP whitepaper. He further noted that distribution of modeled operating reserve levels held at load shedding, as well as overall EOP steps and limitations are topics of interest. He added that possible changes to the EFORD computation within the NYISO Reliability Planning Process are in discussion.

M. Mager asked about timing of changes from the working group. T. Primrose answered that an ideal timeline would bring a change package to the June ICS meeting to facilitate stakeholder feedback prior to the approval of the PBC assumptions matrix in July. W. Gunther suggested that, in the interim, the ICS could discuss the NYISO's 2024 report on "Valuing Transmission Security" or have a review of how the LCR optimizer works. G. Jordan noted that locking down a timeframe for the TSL calculation is not a viable solution and indicated that lack of convergence in 2026-2027 cases prior to adding back generation is a leading indicator of lack of capacity downstate.

#### **4.1.7 Additional Items**

During the review of action items, W. Gunther noted an expansion of the "Evaluation of EOP activations" under the additional topics to monitor would be prudent specifically raising the ordering of emergency purchases in relation to voluntary curtailment and public appeals. He added that during many activations in January/February 2026, operations appeared to be in "Normal" operating state based on public postings. He noted that his interest is focused on the ordering of the EOP steps. M. Mager noted that he supports further exploration of this topic.

NYISO cautioned that when running a probabilistic study each bin can lead to a different result that represents a different type of weather year that may not align with a specific historical operational reality, and that the focus should be on capturing a probabilistic future instead of a specific scenario.

#### **4.1.8 RA 2026 Strategic Plan Proposed Update and Initial Whitepaper Scopes (Approval Item)**

ICS is requesting EC approval of the RA 2026 Strategic Plan Proposed Update and Initial Whitepaper Scopes. The attachment is unchanged from the version circulated after EC meeting 322.

ICS approved the updated strategic plan and whitepaper scopes at ICS 313 with no objections.