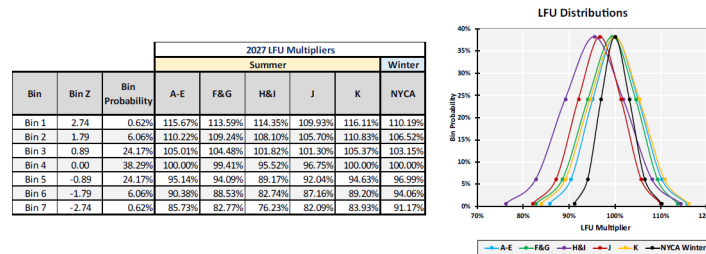


Agenda Item 4.1: ICS Report to NYSRC Executive Committee (EC)
July 8, 2026, ICS Meeting #318
Prepared for: July 17, 2026, EC Meeting #327
Prepared by: Thomas Primrose (PSEGLI)

4.1.1 Load Forecast Uncertainty Models for 2027-2028 IRM Study

NYISO presented an update to the Summer and Winter load forecast uncertainty (LFU) model and recommended its use in the 2027-28 IRM study (and 2026 RNA). These models were developed in conjunction with transmission owners and incorporate data gained from relatively extreme Summer 2025 and Winter 2025-26 conditions. The Summer load forecast uncertainty distribution for Zones A-J slightly widened whereas the uncertainty distribution for Zone K narrowed. Winter NYCA load forecast uncertainty also narrowed slightly.

M. Cadwalader asked for technical insight on the LFU regression model. W. Gunther inquired about how the NYCA wide winter LFU model is allocated to Zones, noting that ConEd uses a 1-in 3 forecast. NYISO replied that they will follow up and confirm the details.



4.1.2 Winter Fuel Availability Constraints Modeling- Final Recommendation – EC Approval Item

NYISO presented a final package of recommendations on Winter Fuel Availability constraints modeling suggesting several enhancements for the 2027-28 IRM study and incorporating feedback from ICS 317. This recommendation package includes an update to the triggering criteria from fixed load levels to percentage of baseline peak load forecast, as well as a process for the “Available Gas” regression analysis to use a rolling 10-year dataset based on normalized load. “Available Oil” assumptions will incorporate weekly generator fuel survey data from Winter 2019/20 to the most recent winter period. NYISO also proposed to leverage the firm fuel characteristic elections to refine the Zonal allocation of available fuel in Zones F-K (but not direct adoption of the elections themselves). At this time NYISO does not recommend including any specific adjustments to account for potential pipeline expansion projects for the 2027–28 IRM study but will monitor and reassess for future years. The final recommendations package leads to the following recommended winter fuel availability constraints matrix for the 2027-28 PBC:

Tier	Percentage of NYCA Baseline Forecasted Winter Peak Load	Fuel Availability Data ¹			MARS Model Parameters				
		Available Gas (MW) ²	Available Oil (MW)	Total Available Fuel (MW) (Gas + Oil)	Modeled ICAP (MW)	Unavailable ICAP (MW) ³			
						F	G	J	K
1	>106.25%	675	11,550	12,225	20,726	2,602	1,351	2,388	729
2	105% +/- 1.25%	1,350		12,900		1,908	1,351	2,388	729
3	102.5% +/- 1.25%	2,775		14,325		736	1,278	2,214	655
4	100% +/- 1.25%	4,000		15,550		718	886	1,504	404
5	97.5% +/- 1.25%	5,050		16,600		711	442	919	265
6	<96.25%	No Constraint				No Constraint			

The Winter fuel availability constraints model for the 2027-28 IRM FBC will be updated with respect to the final IRM winter load forecast, FBC generator inclusion and deactivations, and Zonal allocation of total assumed available fuel using the most recent Firm Fuel Characteristic Election for the 2027-28 Capability Year (due by August 1, 2026). More information on the above, and proposed approach for future IRM study years is available in the attached.

Stakeholders discussed the nature of the direct-use fuel election sensitivity case, and NYISO clarified that it will use firm fuel elections from the prior election period for PBC. Stakeholders also expressed a need to re-evaluate these assumptions once there is operational experience with firm fuel elections, NYISO reiterated that the proposed process will incorporate rolling historical data and will incorporate information gained from experience. G. Jordan noted that there may be “double counting” of outages if unit outages interact with firm fuel derating, NYISO replied that derates are applied as a UCAP derate so they are not “double counting” on an average basis but may differ from replication level outage draws. NYISO also expressed that future GE MARS model improvements may facilitate a shift from current unavailability modeling to availability modeling. ICS approved the Winter Fuel Availability Constraints Modeling process as presented and is requesting EC approval at this time.

4.1.3 Seasonal Derating Factor Considerations-Final Recommendation

NYISO presented an updated recommendation to develop seasonal zonal derating factors including winter performance data for intermittent resources and recognizing seasonal capability differences in the zonal derating factor calculation. This process maintains annual capacity removal or addition in the IRM study process for capacity requirement determination. This proposal differs from the recommendation presented at ICS317 due to concerns identified in the previously proposed calculation process for 5-year annual EFORD and average 5-year seasonal EFORD. More information is available in the attached presentation and as part of the PBC assumptions matrix. The updated proposal aligns with the definition of EFORD and is consistent with the existing generator transition rate matrices that are already correct.

Stakeholder discussion occurred along two tracks. On the track of the seasonal derating factors for the IRM model, ICS approved the approach as presented. On the broader topic of Summer/Winter EFORDs and 9300 outages significant discussion occurred regarding the appropriate granularity and periodicity of data used in the IRM model and TSL calculations. Several stakeholders (W. Gunther, M. Cadwalader) expressed concern with annual and seasonal treatment of those outages since they are planned, while M. DeSocio noted that many planned transmission outages may not be truly recallable. T. Primrose noted that he is also interested in this topic but expressed that a resolution was not possible in this IRM cycle given the substantive data and analysis requirements. NYISO added that they are developing a 5-year seasonal EFORD calculation tool and return to the ICS for further discussion on derating factor consideration. NYISO also expressed that the reporting requirements for transmission outages are not as well defined as generator outages.

4.1.4 Generator Deactivations and Removals: 2027-2028 IRM PBC

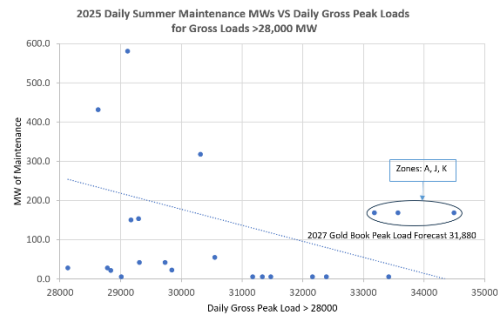
NYISO presented their process and recommendations for Generator Deactivations and Removals in the 2027-2028 IRM PBC. NYISO recommends the exclusion of Danskammer Units 1-4 (493.5 MW ICAP, Zone G) and Dahowa Hydroelectric (10.5 MW ICAP, Zone F). The 2026 Q1 STAR required Danskammer Units 1-4 to remain in service until at least August 1, 2026, and potentially through January 15, 2027, if reliability needs persist, thus, the period of potential need expires prior to the start of the 2027-2028 Capability Year. Dahowa Hydroelectric has been on IIFO since September 2025.

M. Mager asked if this recommendation could potentially change. NYISO replied that if a need is identified in a future STAR this assumption could be re-evaluated in FBC. T. Primrose asked if Tan45

results may vary significantly from parametric impact for this item given older study results for Danskammer, NYISO will take this back.

4.1.5 Modeling Generator Maintenance (J. Adams and NYISO)

J. Adams reviewed 2025 summer generator maintenance as part of his annual maintenance analysis process. His analysis points to ~156 MW of resources on maintenance when the gross load is above 28 GW. He noted that the level of summer maintenance observed continues to support the modeling of summer maintenance in the IRM study. He also recommended adopting the NYISO methodology for determining the MW of summer maintenance to be modeled in the IRM study.



NYISO presented an update to their previously proposed alternative maintenance outage assessment process that reviews 5 years of GADS outage data focused on peak (June–August, December–February) periods. Their updated recommendation for this cycle is to model 65 MW of maintenance outages (allocated among Load Zones A, G, J and K) during peak summer (June–August) and peak winter (December–February) months. More information is available in the attached presentation. Parametric impact of this change is an IRM impact of +0.066% and an increase in Winter Risk by +0.90%. The current John Adams process will proceed in parallel to monitor year-to-year trends.

Stakeholder discussion occurred regarding winter maintenance, the need to avoid “double counting” with fuel availability, and interest in re-incorporating planned maintenance to the MARS model due to tightening maintenance windows. ICS approved the NYISO Maintenance Modeling recommendations as presented.

4.1.6 2027-2028 IRM PBC – Proposed Sensitivity Cases

NYISO presented a list of proposed sensitivity cases for the 2027-2028 IRM PBC. Standard annual sensitivities include NYCA isolated, no internal NYCA transmission constraints, no LFU, and no wind capacity (all wind). NYISO recommended adding a Tan45 sensitivity based on direct modeling of firm fuel character elections for the 2026-2027 Capability Year and removing the No Special Case Resource (SCR) Capacity sensitivity. NYISO also recommended a Tan45 base case assumption sensitivity for Empire and Sunrise Wind (Showing impact of including the Empire and Sunrise Wind units).

W. Gunther suggested a Hydro Quebec wheel case (Chateaugay to CHPE) as an interesting sensitivity. NYISO noted that in the FBC, more recent data from the UDR elections will be incorporated. M. DeSocio asked if Empire and Sunrise wind are large enough to be triggering resources, NYISO replied that there are several requirements to be triggering resources beyond size. He also asked why Empire specifically is recommended for exclusion from PBC, NYISO replied that they try to use the best available information and will re-evaluate for FBC. He added that with new-winter risk, it would be good to reconsider the June 1st inclusion deadline.

4.1.7 IRM 2027-2028 IRM PBC Parametric Results

NYISO presented a parametric results package. Material updates include preliminary DER MWs, transition to PowerGADs, Thermal EFORD updates, cable transition rates, LFU model, new generator screening, solar adjusted load+DSM shapes, BTM:NG updates, generator deactivations, and PJM EA update. Parametric results currently stand at 31.3% IRM, 84.85% NYC, 90.24% LHV, 108.49% LI as compared to the 2026-27 FBC of 25.6% IRM, 79.8% NYC, 89.2% LHV, and 107.5% LI. See attached parametric analysis for IRM impacts and non-material changes.

Significant discussion occurred primarily regarding the high impact of new generator inclusion (+3.4% IRM). NYISO replied that this is driven by Wind and Solar additions with low UCAP translation factors. M. DeSocio noted that this impact is consistent with many NYISO publications. T. Primrose suggested presenting URM (perfect capacity requirement) data in addition to IRM data to help explain the magnitude of IRM change for new generator inclusion. He noted that perfect capacity requirement should remain relatively stable, but IRM would increase due to the worsening translation factor. NYISO confirmed this is in the IRM report appendices and will investigate additional datapoints. W. Gunther suggested a comparison of IRM requirement to existing resources would be helpful.

4.1.8 IRM 2027-2028 IRM PBC Assumptions Matrix – EC Approval Item

NYISO presented updates to the IRM 2027-28 PBC assumptions matrix covering the LFU model, new resources, deactivations and removals, derating factors, EOPs/EOP structure, internal & external topology, SCRs, lists of intermittent/LFG/ESR units, fuel availability constraints, and various other assumptions.

NYISO noted that the existing fleet saw a decrease in CRIS adjusted DMNC with the sunset of the CLR provision being one of the drivers. NYISO also clarified that UDR assumptions are held constant from 2026-2027 FBC and updated following for FBC with the latest elections.

ICS approved the PBC assumptions matrix as presented and is requesting EC approval at this meeting.

4.1.9 Standard Error

G. Jordan presented further analysis of standard error in the MARS model, identifying outages on the cable systems as one driver of the need for increased replications. He presented a potential process to solve Tan45 with the system data per the current process, but then set cable outage rates to zero and adjust system wide LOLE back to 0.10 events/yr. He suggested that this approach would recognize transmission limits, but not transmission outages. The additional capacity required to compensate for transmission outages will be the responsibility of the zone that they are delivering to.

R. Gonzales noted that cable outages may contribute to standard error but expressed skepticism that they were the only driving factor. He highlighted that Long Island experienced significant cable outages in recent history. T. Primrose expressed concern that removing cable outages from Tan45 removes a fundamental consideration, may skew the IRM away from the stable point, and raises questions on outage responsibility for ties between localities (J-K interface). W. Gunther added that this could be an interesting sensitivity, but noted the added steps may not save time, and that Tan45 in its current form results in a relatively optimal IRM/LCR minimum cost point.

4.1.10 Policy 5 Updates – EC Approval Item

ICS discussed the attached draft of Policy 5 edits inclusive of editorial comments from EC. The package of edits has been updated to include the EC comments and dates but is otherwise unchanged from what was previously presented. ICS is requesting approval of the Policy 5 updates at this meeting.

4.1.11 Draft NYSRC 2027 Meeting Schedule

ICS reviewed the draft NYSRC 2027 meeting schedule with two changes to the ICS portion to avoid conflicts with NYISO committee meetings. For each conflict, the ICS meeting (and corresponding meeting material due date) moved forward one day. No other comments were received during the meeting or from pre-meeting circulation.

- March 31 → March 30 (Tuesday)
- August 25 → August 24 (Tuesday)