IRM 2022 Preliminary Base Case Parametric Results						
Material Changes						
Number	**Adjustment Type**	**Description**	**Impact on Margins**			
			NYCA	NYC	LI	LHV
		IRM 2021 Final Base Case	**20.7**	**82.6**	**95.1**	**91.9**
1	**A-K**	**MARS Versions & GE Code Updates**	-0.16	0.00	0.00	0.00

Was this result primarily driven by changes to the IESO modeling, i.e. adjustments to the energy limited units? Are there more adjustments to the IESO modeling beyond the energy limited units? How do these adjustments in Ontario lower the NYCA IRM? Has there been any external (NYSRC Policy 5) adjustments?

The new MARS version has two significant impacts on the IESO model: 1. Some thermal and hydro units in Ontario were modeled as EL3 resources, which are impacted by the new ELR functionality in MARS (i.e. the dispatch of these units will be different in the new MARS version from the old MARS version). The NYISO removed all the EL3 units in Ontario to ensure that the changes in the ELR functionality do not impact the IESO LOLE. 2. Errors with the output shapes in Ontario are now flagged and will stop the case run. The NYISO removed all the output shapes in Ontario to eliminate the impacts of these errors. As the result of these two changes, the LOLE of IESO increased significantly. The NYSRC Policy 5 adjustment was conducted, by reducing the IESO demand, to make the IESO LOLE Policy 5 compliant with the 0.1 days per year LOLE criterion.

2	**A-K**	**New Summer LFU**	-1.23	-0.91	-1.16	-0.98

How much of this change is due to the mid-point bin adjustments versus the new lower LFU values?

Results are due to updated mid-points.

3	**A-K**	**Thermal Outage Rates (2016 - 2020)**	-0.32	-0.24	-0.31	-0.26
Accroding to the updated 5-yr derating factors, Zone A-F has an increased EFORd while the EFORds for Zone J, K and G-J all decreased this year. Is it true that the improvements in EFORs of J, K, and G-J zones outweighs the higher EFORs for A-F, and therefore updating the thermal outage rates results in an overall decrease in the margin?						
The final sentence here is a reasonable conclusion. The Zonal EFORds are updated simultaenously however, so analysis would be necessary to confirm.						
4	**A-F**	**Wind Shapes (2016-2020)**	0.09	0.00	0.00	0.00
Looks good						
5	**A-F**	**ROR Shapes (2016-2020)**	-0.06	0.00	0.00	0.00
Looks good						
6	**A-K**	**Goldbook 2021 DMNC Values**	-0.34	0.18	0.14	0.13
What is the ratio of the total capacity between upstate and downstate? Did it change compared to previous year?						
2022 Upstate/Downstate: .934 2021: .924						

7	**A-F**	**Update ELR Units**	-0.05	-0.03	-0.05	-0.03

Is this due to a lowering of off peak limitations on the simplified shapes; i.e., better representation of off peak hours?

No. The ELR units are modeled using the simplified output shapes as developed in last year's IRM study. These output shapes have the maximum UCAP MW that is based on the Gold Book DMNC value and EFORd. The update in the PBC is with the maximum outputs that reflect the 2021 Gold Book DMNC values and the updated EFORds for all of the ELR units.

8	**A-K**	**New Reserve Allocation**	0.09	0.07	0.09	0.07

Please provide a description of the change, i.e., distribution from a handful of zones to one where many zones contain reserves (aka the EC model)?

Distribution from five zones into four. One capacity-rich zone's reserves MW were distributed evenly to the remaining two capacity-rich zones. Case 4: https://nysrc.org/PDF/MeetingMaterial/ICSMeetingMaterial/ICS%20Agenda%20247/AI%208.1%20-

9	**A-K**	**Capacity Additions**	0.47	-0.07	0.28	-0.09

Is this mainly due to new wind units or are there downstate changes worth mentioning?

Due to new wind, new solar and a facility uprate.

10	**A-K**	**Topology**	0.03	0.00	0.00	0.00

Western NY tie improvements are expected to lower the NYCA margin. Are there other changes in the topology counteracting these

The western ties did not affect the NYCA capacity margin. Western NY Tx increased the export limits in those areas, which are not binding constraints.

11	**A-K**	**2021 Gold Book Load Forecast for 2022**	-0.68	-0.88	1.01	-0.92
It's not clear that the lowering of peak load forecast for Long Island would result in an increase in the Zone K LCR. Is this an artifact of the parametric adjustment methodology, as Zone K peak load forecast decreases while Zone J and overall NYCA increases? If so, could the IRM change indicated here be understated?						
It's possible that the facilities modeled using shapes in conjunction with shapes derived from the NCP/CP ratios in the load forecast can affect the results in the parametric analysis (https://nysrc.org/PDF/MeetingMaterial/ICSMeetingMaterial/ICS%20Agenda%20243/AI%209%20-%20Load%20shape%20adjustment%20procedure%20v2.pdf). This impact is removed in the Tan45 process. The only way to gauge the impact on the parametric results is to perform additional Tan45 runs on cases where this impact may affect the results.						
12	**A-K**	**Maintenance**	0.14	0.10	0.14	0.11
Was this increase in margin due to changing the representative units to ones that were more available to have outages?						
The increase was due to both the updated maintenance shedule and the changing of represnetative units						
13	**A-K**	**Non-SCR EOPs**	-0.28	-0.21	-0.37	-0.22
Is this margin change due to an increase in Non-SCR EOP MWs?						
Yes						
14	**A-K**	**SCR Update**	0.09	-0.05	0.06	-0.10
It's unclear that a decrease in SCR enrollments and a 1% increase in performance could result in an increase in IRM. Is this because upstate enrollments actually went up from last year?						
Upstate enrollments went up this year, while the downstate and statewide enrollements decreased. The small (non-material) changes resulted in some zones increasing requirements, and some decreasing requirements. The net effect was very small.						

15	**G-K**	**Cable Transition Rates**	0.28	0.39	0.49	0.42
Could the parametric sensitivity method have resulted in exaggerated Zone J and Lower Hudons Valley increases? If so, would this imply that the IRM's impact is understated?						
Based on the general agreement between the final parametric result and the PBC Tan45, the parametric sensitivity method ostensibly did a reasonable job of providing a direction indication of impacts and was not exaggerated.						
16	**A-K**	**Externals + Policy 5**	0.22	0.05	0.17	0.06
Can you identify which externals are providing less assistance this year after adjustments? Does the change in our modeling of Ontario (as shown in group 1 results) drive this?						
Ontario does not drive this result. PJM and ISO-NE are providing less external area emergency assistance in this year's study.						