

Informational Capacity Accreditation Factors (CAFs) for the 2024/2025 Capability Year

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ICAP/MIWG/PRLWG Meeting

November 17, 2023

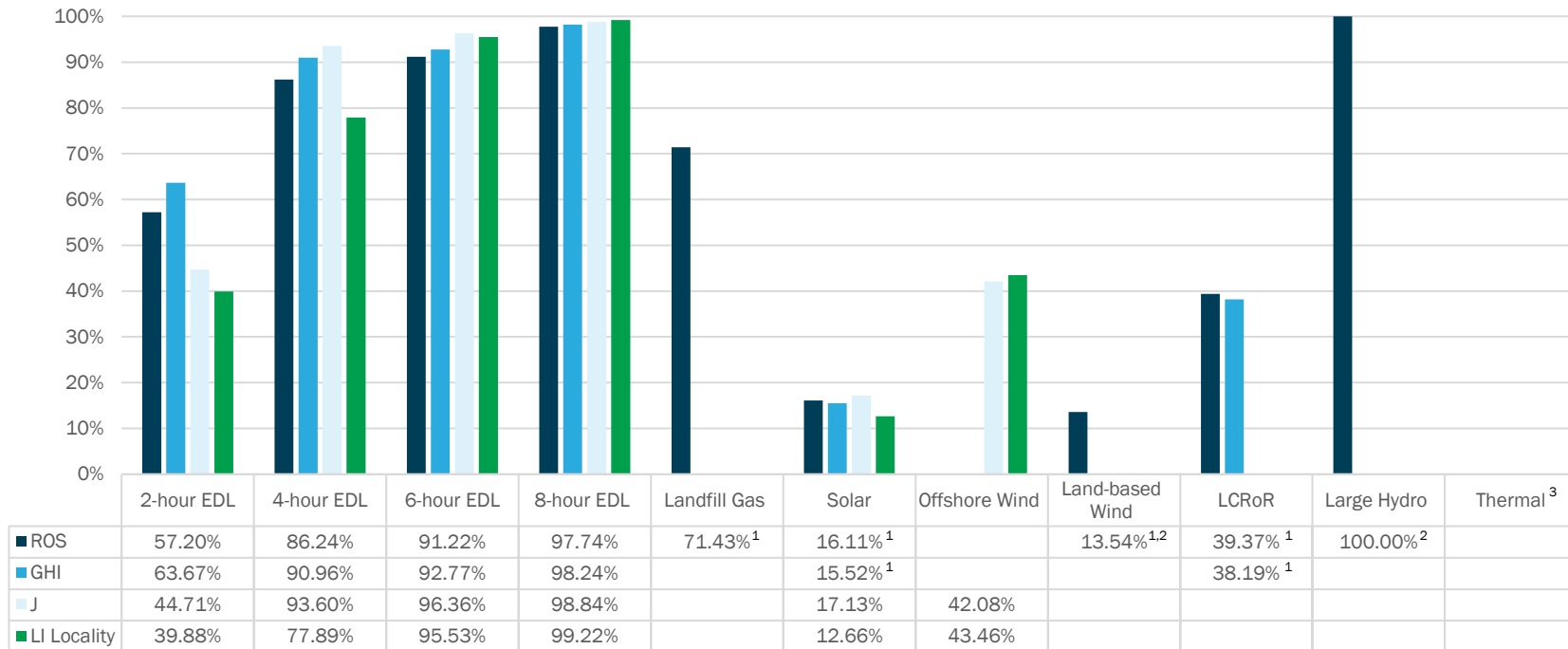
November 20, 2023 edits: Further clarification added, based on November 17, 2023 discussion, shown in **red** font

Agenda

- **Previous CAF Results (from November 2022)**
- **Informational CAFs**
- **Comparison**
 - Large Delta comparison (EDLs)
- **Refined Assumptions**
- **Capacity Accreditation Timeline**

Previous CAF Results

CAF Results from the New Load Shape Sensitivity of the 2023 IRM PBC (“2023 PBC Sensitivity”)



Notes from GE CAF Results

- **Note 1:** The CAF was calculated using representative unit shapes that reflect historic weighted-average resource performance across NYCA. NYISO's Capacity Accreditation team, the representative units for all CARCs will be modeled in accordance with Section 7.2.1 of the ICAP Manual.
- **Note 2:** The Rest of State CAF for this CARC was modeled in Zone C. Going forward, all CAFs for the Rest of State capacity zone will be modeled in Zone F, consistent with Section 7.2.1 of the ICAP Manual.
- **Note 3:** GE Energy Consulting did not calculate CAFs for thermal units during the Phase 2 project work in a manner consistent with the final implementation procedure for resources in the Thermal CARC. Going forward, a representative unit will be modeled with no forced outages in accordance with Section 7.2.1 of the ICAP Manual.
- Posting: [CAF Results from the New Load Shape Sensitivity of the 2023 IRM PBC](#)

Informational CAFs

Informational CAFs

- **The following informational CAFs were calculated using the Marginal Reliability Improvement technique**
 - A 100 MW representative unit for each Capacity Accreditation Resource Class (CARC), consistent with the methodology for calculating CAFs as outlined in Section 7.2.1 of the ICAP Manual
- **These informational CAFs are for informational purposes only, utilizing information available at the time of calculation**
- **These CAFs are not the final CAFs that will be used to determine the market revenue of ICAP Suppliers starting with the Capability Year that begins on May 1, 2024**
- **Final CAFs will be calculated in accordance with Section 7.2 of the ICAP Manual and posted by March 1, 2024**

Informational CAFs Disclaimer

- **The informational CAFs and the input assumptions used in the GE MARS model to calculate these CAFs posted are being provided to inform NYISO stakeholders and market participants of the drivers that may impact the final CAF calculation process. These informational CAFs are not the final CAFs that will be used to determine the market revenue of ICAP Suppliers for the upcoming Capability Year. The final CAF results and the inputs to the GE MARS model may differ from this informational posting.**
- **All CAF value calculations will utilize the current up-to-date model assumptions at the time the calculations are performed**

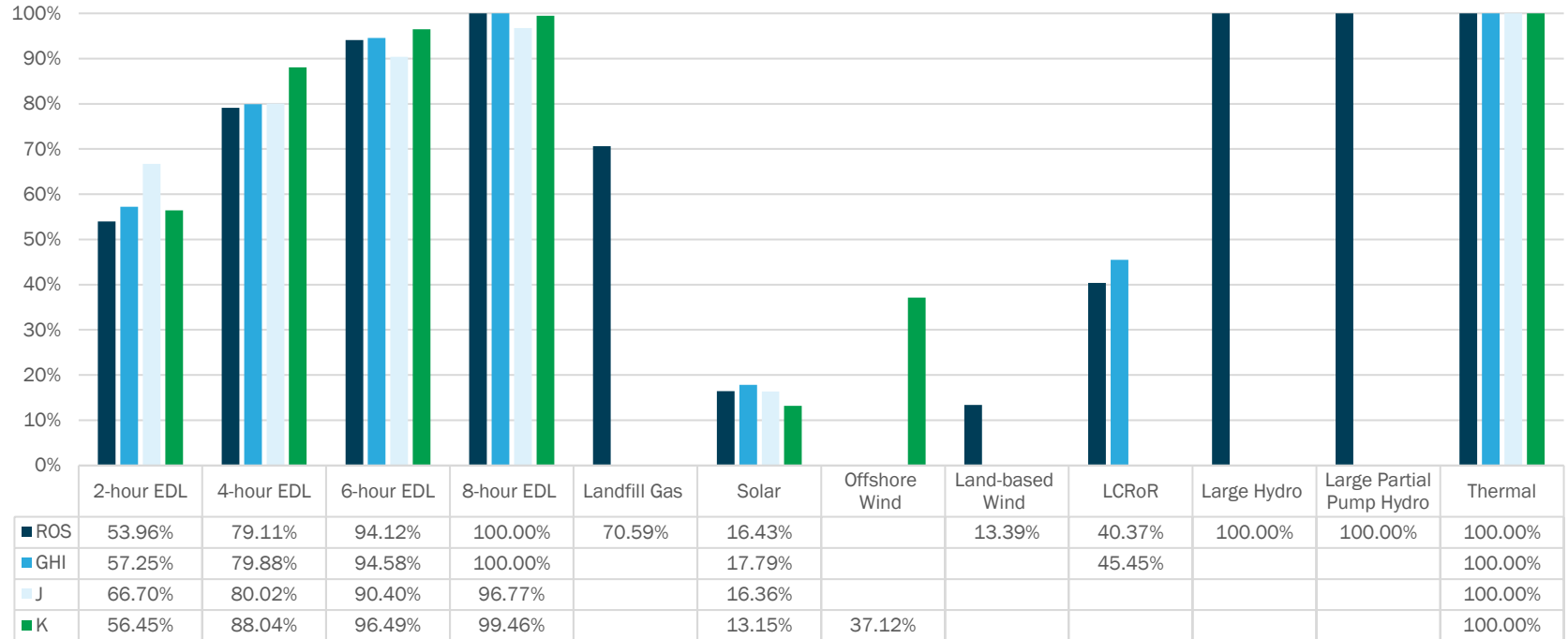
Informational CAFs (Set #1)

- NYISO conducted informational calculations of CAFs using the NYSRC's approved Preliminary Base Case model developed at its Installed Capacity Subcommittee (ICS) for the upcoming Capability Year
 - The ICS approved the Tan45 PBC on 8/2/2023
- The posting of the Informational CAFs for 2024/2025 Capability Year may be accessed on the [Capacity Accreditation](#) web page in the “Preliminary CARCs & Informational CAFs” folder

Material Changes from 2023 PBC Sensitivity → 2024 PBC

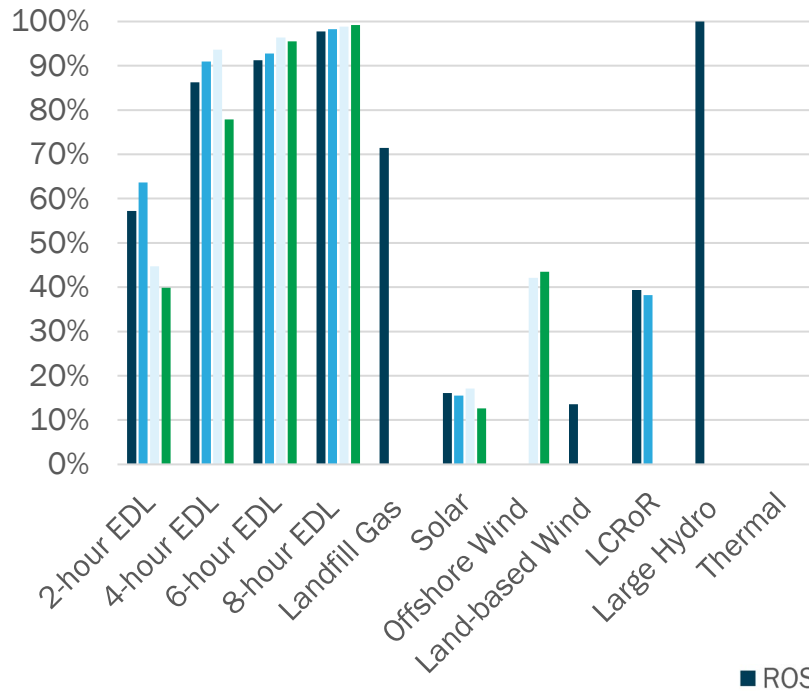
- Updated Topology to account for AC Transmission upgrade
- Available information updates:
 - Updated increased Load Forecast (2023 Gold Book)
 - New Units and Unit Removals
 - 2023 Peaker Rule Non-Deactivations
 - Supply DMNC updates (2023 Gold Book)
 - Updated IPR and RoR Shape(s), Outage Rate(s), Transition Rate(s)
 - Updated external data and UDR election(s)
- Decreased Load Forecast Uncertainty
- Updated Operating Reserve Requirement
- Policy 5 Adjustment

Informational CAFs on 2024/2025 IRM PBC

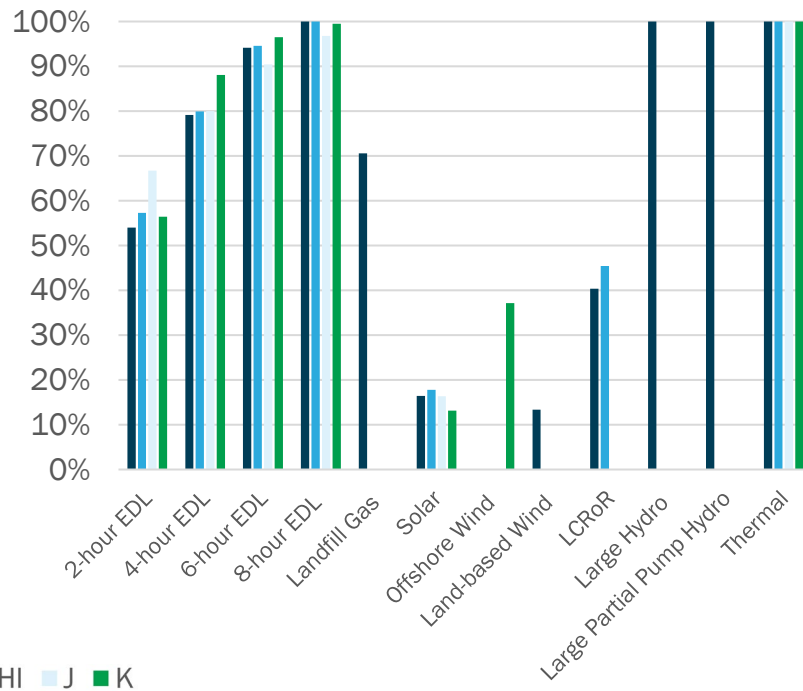


Comparison

GE: 2023 PBC Sensitivity CAFs



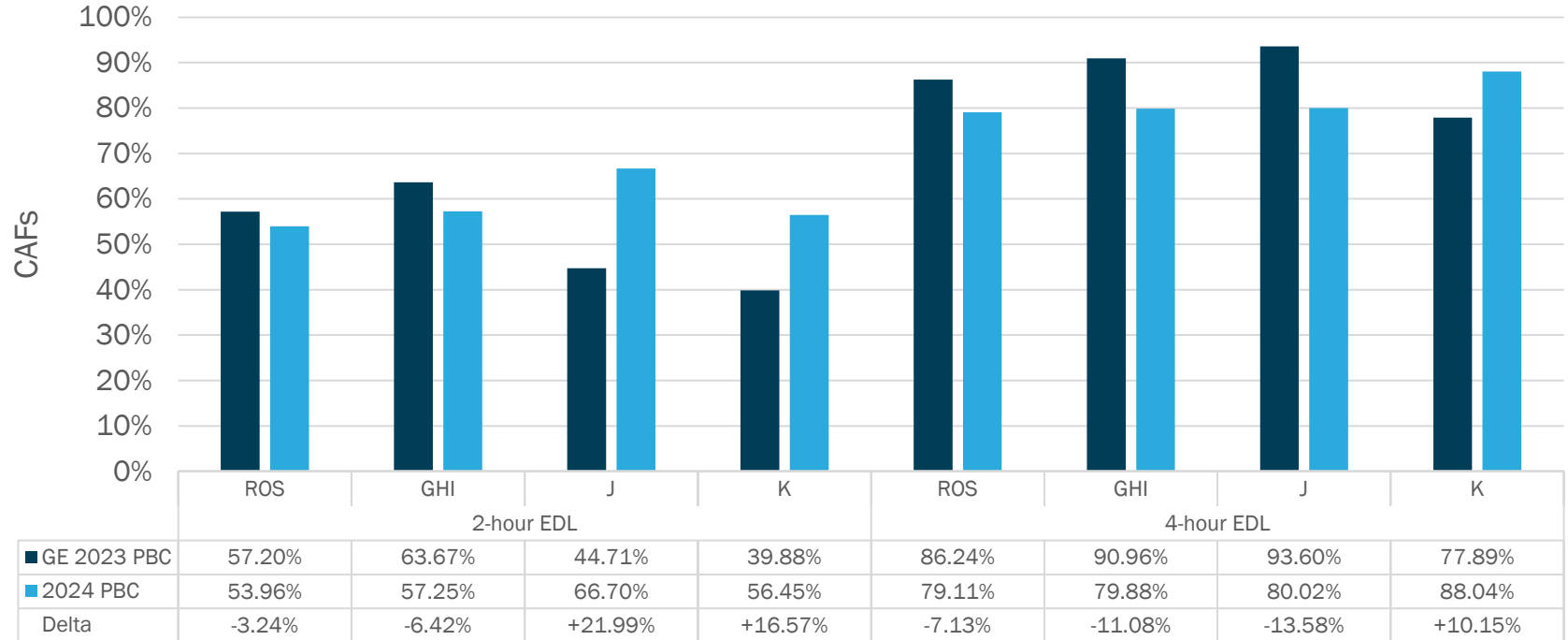
NYISO: 2024 PBC CAFs



Let's take a closer look...

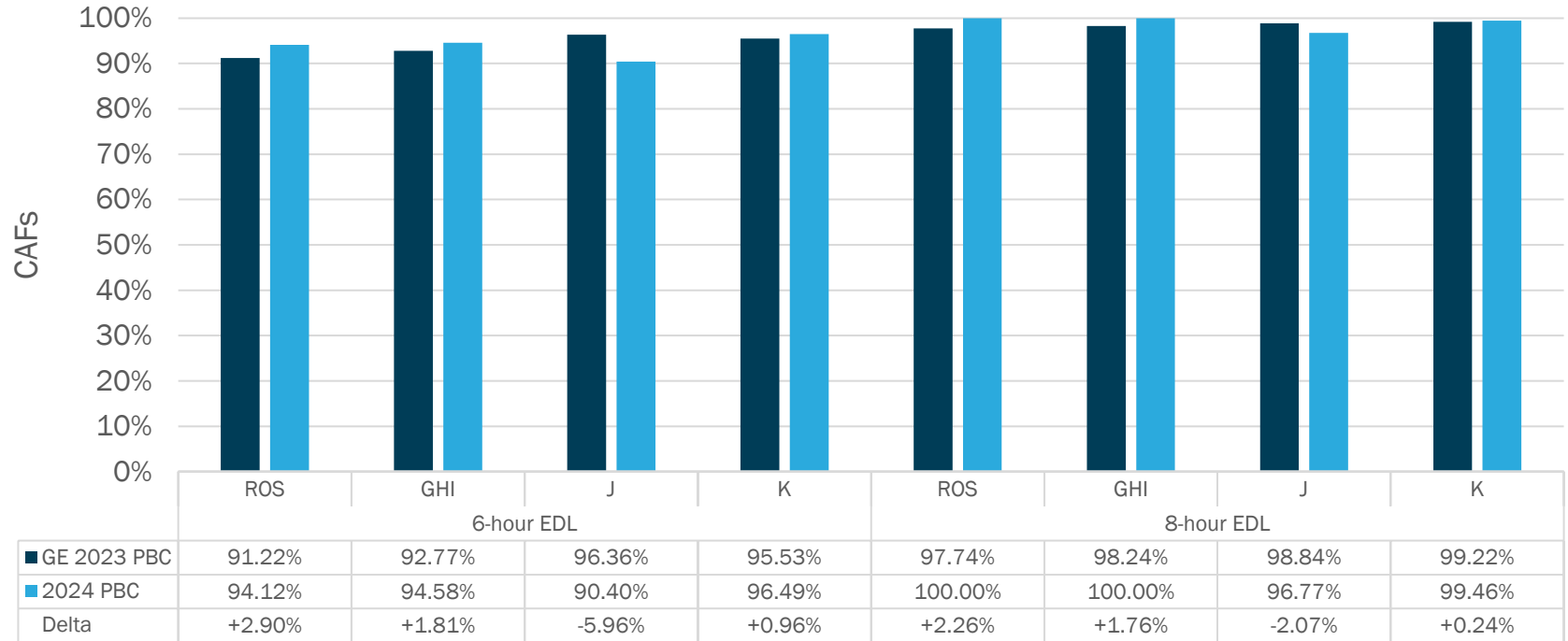
GE 2023 PBC Sensitivity

→ NYISO 2024 PBC (as approved)



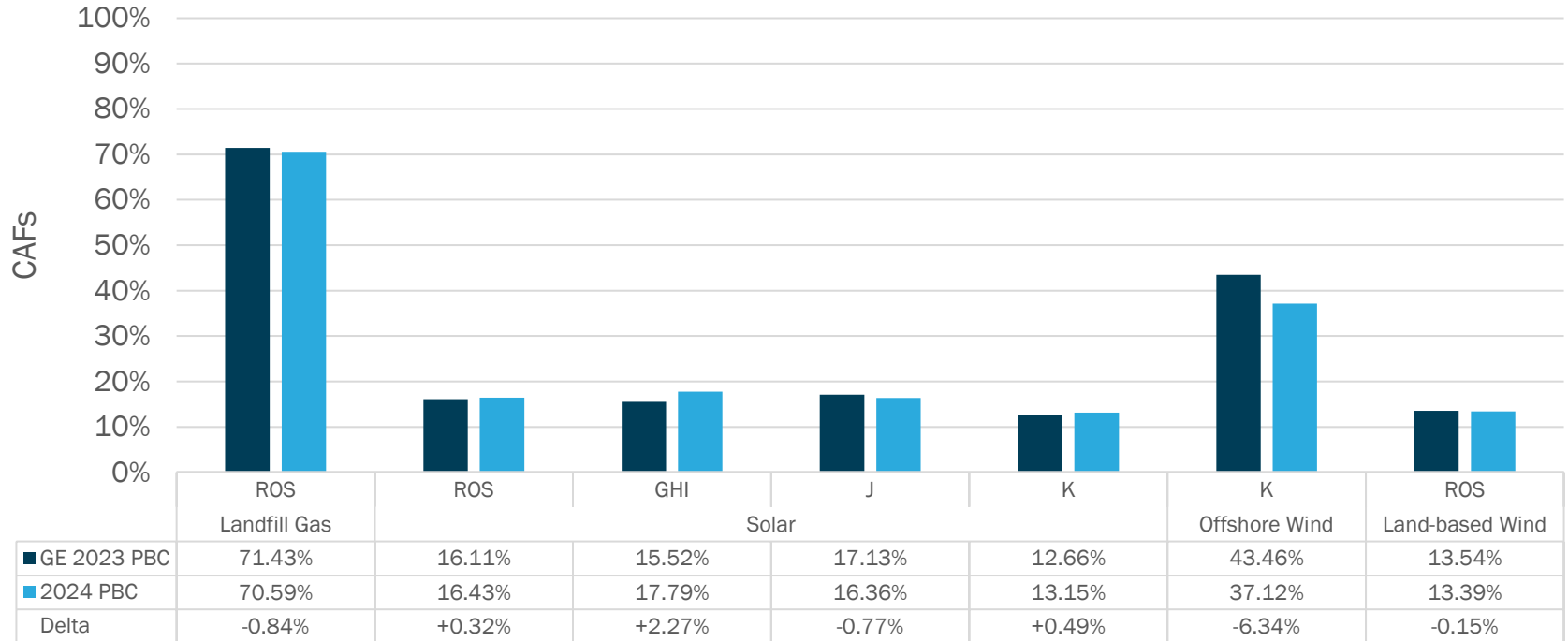
GE 2023 PBC Sensitivity

→ NYISO 2024 PBC (as approved)



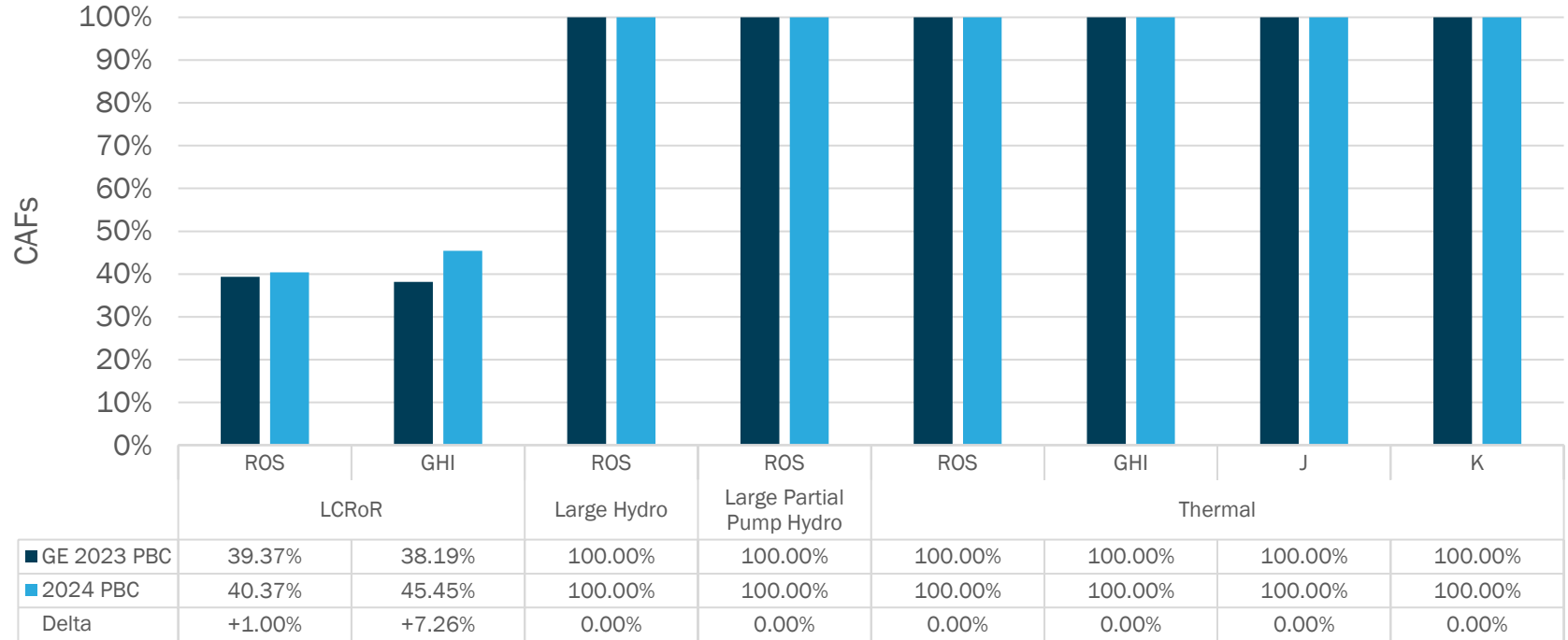
GE 2023 PBC Sensitivity

→ NYISO 2024 PBC (as approved)



GE 2023 PBC Sensitivity

→ NYISO 2024 PBC (as approved)



Large Delta comparison (EDLs)

CAF results vs. Informational CAF Deltas

CARC	Zone	2023 PBC Sensitivity CAF results	2024 PBC Informational CAF	Delta
2-hour EDL	ROS	57.20%	53.96%	-3.24%
	GHI	63.67%	57.25%	-6.42%
	J	44.71%	66.70%	+21.99%
	K	39.88%	56.45%	+16.57%
4-hour EDL	ROS	86.24%	79.11%	-7.13%
	GHI	90.96%	79.88%	-11.08%
	J	93.60%	80.02%	-13.58%
	K	77.89%	88.04%	+10.15%

Refined Assumptions

GE MARS is a Reliability Model

- **GE MARS does not wait for the best hours for Energy Limited Resources to be used; it simply “dispatches” resources if there is load to meet**
 - There is no economic consideration
 - Market bids are not considered
- **NYISO’s “delayed” removal of the injection restriction to represent ELRs more consistently with expected market performance**
 - **ELRs were not used at the first opportunity in the reliability model**
 - **Instead, the delayed eligibility window served as a proxy for units that “wait” for high LMBP hours expected near the evening peak**

Daily Energy Limit

- **Energy Limited Resources (ELRs) would be assigned an Energy Duration Limited (EDL) CARC reflecting their EDL participation election**
- **NYISO limited ELRs' daily output to the product of their UOL and energy duration election**
- **GE's CAF results from November 2022, calculated on the New Load Shape Sensitivity of the 2023 PBC, did not have a daily energy limit for ELRs**
 - GE did not restrict the amount of energy an ELR could inject per day

GE: 2023 PBC Sensitivity CAFs

Energy Limited Resources were modeled dynamically without a daily energy limit with injection eligible after:

- HB14 for 2-hr ELR
- HB14 for 4-hr ELR
- HB13 for 6-hr ELR
- HB12 for 8-hr ELR

NYISO: 2024 PBC CAFs

ELRs were and will be modeled dynamically with a daily energy limit and injection eligible after:

- The hour which yields the maximized reliability improvement
 - This may vary by zones within the same CARC

Capacity Accreditation Timeline

Upcoming Information

- **NYISO is considering resource constraints to calculate a second set of information for the 2024/2025 Capability Year**
 - These CAFs may use inputs and assumptions that are relevant to the final CAFs based on information available in the early December timeframe
 - These results would be expected in January/February but may be deprioritized by production of effective final CAFs
 - Cases that will be considered include:
 - NYSRC-ICS approved Final Base Case
 - Preliminary LCR case based on NYSRC-ICS approved Final Base Case
 - Preliminary LCR case based on NYSRC-ICS approved IRM

Material Changes from 2024 PBC → 2024 FBC

- ELR Update, output limitation deferred to HB14
- SCR Update
- Emergency Operating Procedure (Volt Reduction)
- Updated UDR Elections
- Fall Load Forecasts

Final CARCs and CAFs

- **The final CARC list for the 2024/2025 Capability Year will be posted by November 30, 2023**
 - The [Preliminary List of CARCs for the 2024/2025 Capability Year](#) may be accessed on the [Capacity Accreditation](#) web page in the “Preliminary CARCs & Informational CAFs” folder
- **The final Capacity Accreditation Factors will be posted by March 1st, immediately preceding the start of the Capability Year**
 - The final CAFs will utilize the Locational Minimum Installed Capacity Requirement study model for the upcoming Capability Year, as approved by the NYISO Operating Committee

Questions?

Email: accreditation@nyiso.com

Our Mission & Vision



Mission

Ensure power system reliability and competitive markets for New York in a clean energy future



Vision

Working together with stakeholders to build the cleanest, most reliable electric system in the nation