

# NYISO 2025-2029 ICAP Demand Curve Reset (DCR)

Proposed Peak Load Window Enhancement to Battery Net EAS Model

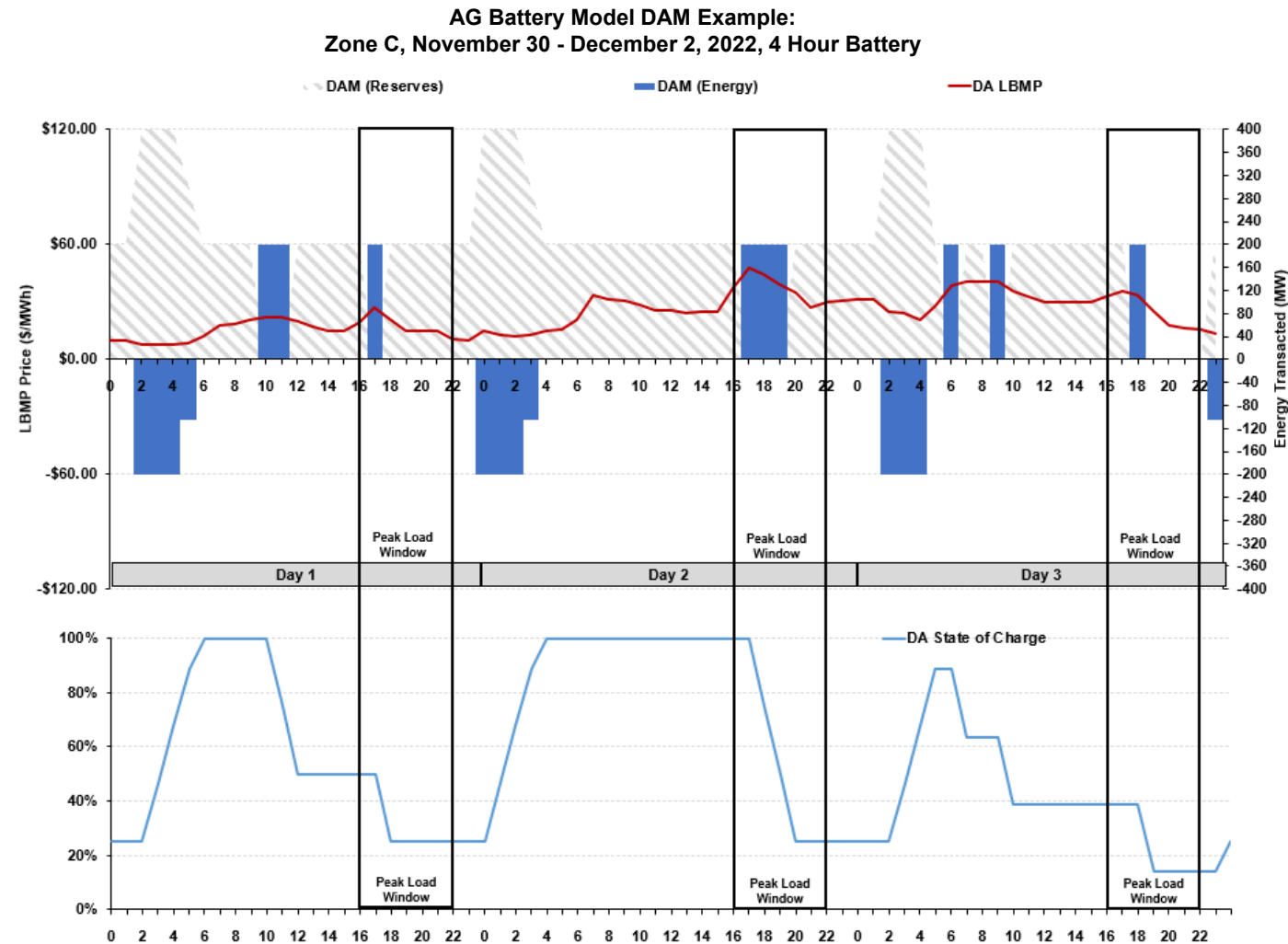
ICAP Working Group

September 10, 2024

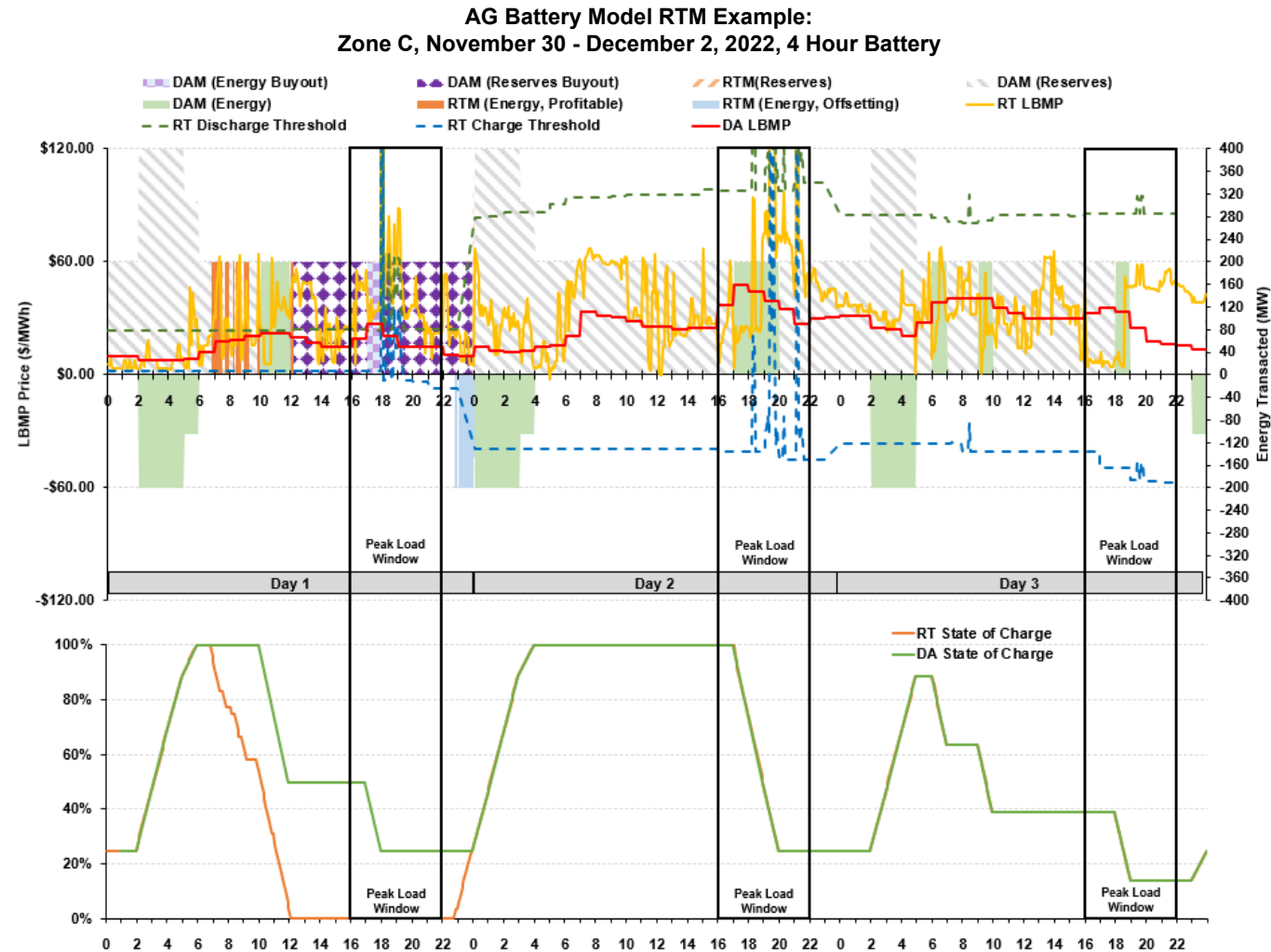
## Summary of Proposed Enhancement

- Stakeholders raised concerns that the net energy and ancillary services (EAS) model for the battery energy storage system (BESS) technologies permits buyouts of day-ahead market (DAM) energy and reserve positions during peak load window (PLW) hours.
  - Buyouts of DAM positions during PLW hours due to insufficient state of charge could result in a lower unforced capacity (UCAP) for the BESS technology in subsequent years.
- Analysis Group (AG) has updated the BESS net EAS model from the interim final report to ensure sufficient state of charge (SOC) to eliminate the need for DAM energy and reserve buyouts during PLW hours due to insufficient state of charge.
  - For purposes of the model, the PLW hours are defined as hour beginning (HB) 13-18 for all Summer Capability Period months (May-October) and HB 16-21 for all Winter Capability Period months (November-April).
- AG's proposed solution requires the BESS model to enter the PLW with a real-time (RT) SOC equal to or greater than the DAM SOC at the beginning of the PLW.
  - If the RT SOC > DAM SOC during PLW hours, then the battery can discharge until RT SOC = DAM SOC.
  - In practice, the model typically takes new offsetting RT charging positions to make-up for RT discharging prior to the PLW.
  - This enhancement may tend to lower net EAS revenues because BESS technologies can have more limited opportunities to arbitrage RT prices during PLW hours.
- For the recommended 2-hour reference technology, the proposed enhancement results in negligible changes in net EAS revenues for all locations except Load Zone K, where net EAS revenues fall by 12%.
  - The decline in net EAS revenues in Load Zone K is likely driven by the large differences between DAM and RT prices in Load Zone K. Larger differences between DAM and RT prices will tend to increase the potential net revenues from RT energy arbitrage during PLW hours.

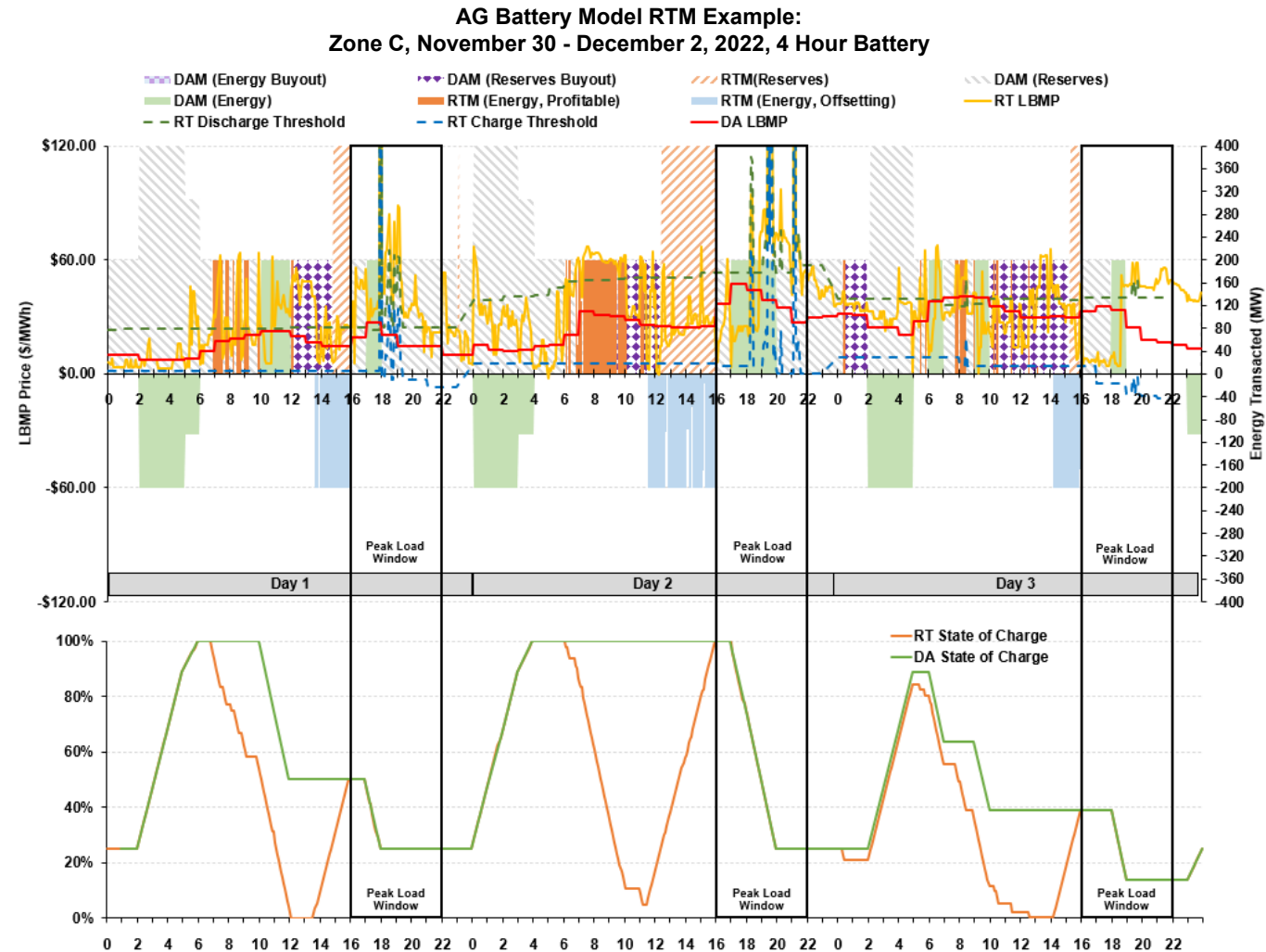
# DAM Energy Positions in Battery Net EAS Model (Unchanged From the Interim Final Report)



# RTM Energy Positions in Battery Net EAS Model (Interim Final Report)



# RTM Energy Positions in Battery Net EAS Model (Proposed PLW Enhancement)



# Impact of Proposed PLW Enhancement on BESS Net EAS Revenues

Comparison of BESS Net EAS Revenues from Interim Final Report vs. Proposed PLW Enhancement

Battery Duration	Zone	Interim Final	Proposed PLW Enhancement	Percentage Difference
2 Hours	C	\$48.55	\$48.74	0.4%
2 Hours	F	\$67.73	\$66.96	-1.1%
2 Hours	G (Dutchess)	\$65.38	\$66.10	1.1%
2 Hours	G (Rockland)	\$65.36	\$66.09	1.1%
2 Hours	J	\$68.31	\$68.84	0.8%
2 Hours	K	\$87.89	\$77.27	-12.1%
4 Hours	C	\$57.24	\$57.22	0.0%
4 Hours	F	\$79.99	\$78.23	-2.2%
4 Hours	G (Dutchess)	\$75.81	\$75.65	-0.2%
4 Hours	G (Rockland)	\$75.75	\$75.60	-0.2%
4 Hours	J	\$76.60	\$76.58	0.0%
4 Hours	K	\$109.18	\$98.46	-9.8%
6 Hours	C	\$60.77	\$59.91	-1.4%
6 Hours	F	\$85.55	\$83.16	-2.8%
6 Hours	G (Dutchess)	\$81.79	\$81.60	-0.2%
6 Hours	G (Rockland)	\$81.70	\$81.52	-0.2%
6 Hours	J	\$81.52	\$80.61	-1.1%
6 Hours	K	\$119.79	\$109.02	-9.0%
8 Hours	C	\$61.29	\$61.00	-0.5%
8 Hours	F	\$85.91	\$83.62	-2.7%
8 Hours	G (Dutchess)	\$84.08	\$83.84	-0.3%
8 Hours	G (Rockland)	\$83.99	\$83.76	-0.3%
8 Hours	J	\$82.51	\$82.15	-0.4%
8 Hours	K	\$124.13	\$114.83	-7.5%

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