



Removing Storage Charging Limitations in GIAs (PAC-2024-3)

Planning Subcommittee (PSC)

April 29, 2026

Purpose & Key Takeaway

Purpose

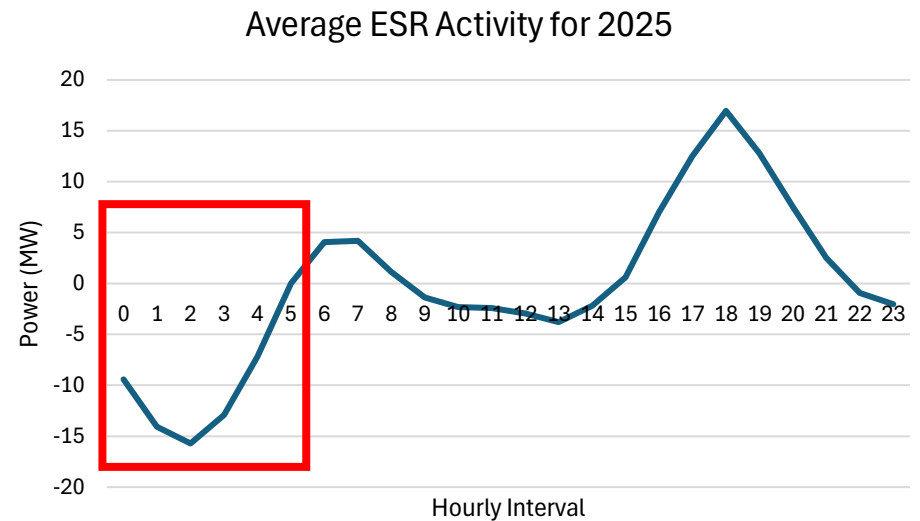
Present MISO's proposed updates regarding storage units in MISO study processes and request feedback

Key Takeaways

- MISO proposes replacing the Shoulder off-peak charging case with a Light Load charging case
- MISO proposes only studying charging in Phase II & Phase III of the DPP process
- Feedback is requested on these changes by May 20th, 2026

Charging Scenario Change

- MISO plans to replace the Shoulder case in DPP with a Light Load case for studying charging
 - The Light Load model will be built to represent the early morning hours of the day
- This change comes after MISO presented historical data on what hours of the day storage units charge the most



Base Model Dispatch Changes

- New dispatching assumptions for the Light Load case in Generation Interconnection are needed

Fuel Type under Study and Higher Queued	Summer Peak Dispatched as % of Interconnection Service	Shoulder Peak Dispatched as % of Interconnection Service	Light Load Dispatched as % of Interconnection Service
Loading Level	100%	70-80%	45-65%
Combined Cycle	100%	50%	25%
Combustion Turbine	100%	0%	0%
Diesel Engines	100%	0%	0%
Hydro	100%	100%	100%
Nuclear	100%	100%	100%
Storage	100%	~~-100%~~ , 0%	-100%
Steam – Coal	100%	100%	25%
Oil	100%	0%	0%
Waste Heat	100%	100%	0%
Wind	18.1%	100%	100%
Solar	100%	47%	0%
Hybrid Facility (Any combination of the above fuel types except Battery which can be assumed up to 100% dispatchable in both ~~Summer and Shoulder~~ Peak and Off-Peak cases)	Battery up to 100% Last Fuel Dispatched. Other Fuels based on above dispatch assumptions of each fuel type with any adjustment based on requested interconnection Service	Battery up to 100% Last Fuel Dispatched. Other Fuels based on above dispatch assumptions of each fuel type with any adjustment based on requested interconnection Service	Battery at -100%. Other Fuels based on above dispatch assumptions of each fuel type with any adjustment based on requested interconnection Service

BPM-015 Redlines

- Table 6-1 subpoint – 13. A hybrid facility is a Generating Facility that utilizes more than one fuel source to inject power on to the Transmission System. This Generating Facility can be any combination of the fuel types in Table 6-1. For e.g., Solar + Storage, Wind + Storage, Solar + Wind, CC + Solar, Solar + Wind + Storage etc. This is inclusive of Surplus, Replacement, and Generator expansion requests that incorporate additional fuels. Batteries are last fuel dispatched in a hybrid configuration limited by either the Battery installed capacity or requested service level in both Peak and ~~Shoulder~~ Off-Peak Cases.

BPM-015 Redlines cont.

- Section 6.1.1.1.2 – Table 6-1 above describes the fuel type dispatch levels for individual fuel type in summer peak, ~~and~~ shoulder peak, ~~and~~ light load models for the DPP studies. The following assumptions will be used, as applicable, for hybrid facilities
- Section 6.1.1.1.2 – i. The fuel type dispatch levels of Table 6-1 will be used for each corresponding fuel type in hybrid facilities except that, if the total Generating Facility output per fuel type dispatch in both ~~summer~~ peak and ~~shoulder~~ off-peak steady state models is below the total Interconnection Service requested

BPM-015 Redlines cont.

- Section 6.1.4 – If a storage interconnection applications indicates that it will charge from the grid, it will be modeled at its maximum charging capability in the DPP ~~Shoulder Peak Light Load~~ charging case as shown in Table 6.1. For system constraints that appear only in the DPP ~~Shoulder Peak Light Load~~ charging case, limiting the battery charging rate(s) is an acceptable mitigation option. Any lower charging limit identified would be documented in the GIA as a control scheme requirement.

BPM-015 Redlines cont.

- Section 6.6.3.1 – The Annual ERIS evaluation will include the following suite of reliability analyses that will be carried out on ~~both~~ the Summer Peak, ~~and~~ Shoulder Peak, ~~and~~ Light Load cases
- Section 6.6.3.2 – The Summer Peak, ~~and~~ Shoulder Peak, ~~and~~ Light Load cases for the Annual Interim ERIS evaluation will be reflective of the Generation and Transmission System expected to be in service at the start of the Planning Year
- Section 6.6.3.3 – The Summer Peak, ~~and~~ Shoulder Peak, ~~and~~ Light Load cases Load Levels and Generation Dispatch will be consistent with Load Level and Dispatch assumptions used for the respective MTEP Cases as per Section 3.3 of MISO Transmission Planning BPM 020

Charging Studied in Phase II and Phase III

- MISO is considering not studying charging in Phase I of the DPP cycle
 - In line with how MISO does not run Stability or Affected Systems analysis in Phase I
 - CAISO & SPP don't study charging in all phases either
 - Vast majority of battery projects elect to not charge in Phase I, skip Network Upgrades, wait until projects withdraw, and proceed to Phase II
 - Speed up DPP Phase I

IC's may prefer to see what upgrade costs they may have earlier

Next Steps: Feedback Request

- MISO requests feedback on **Removing Storage Charging Limitations in Generator Interconnection Agreements (PAC-2024-3)** by May 20th, 2026
 - Feedback requests and responses are managed through the Feedback Tool on the MISO website: <https://www.misoenergy.org/engage/stakeholder-feedback/>
- MISO is requesting feedback on:
 - MISO replacing the Shoulder case with the Light Load scenario for charging
 - Not studying charging in DPP Phase I

Next Steps & Timeline

Date	Venue	Summary	Feedback Request
10.21.25	PSC	Clean Grid Alliance re-introduced the issue	-
12.03.25	PSC	MISO response to CGA, summarize work plan	-
01.28.26	PSC	MISO highlights historical trends, solicit feedback	Yes
03.11.26	PSC	Review & respond to feedback, present additional data	-
04.29.26	PSC	Present solution / new BPM language, solicit feedback	Yes
06.10.26	PSC	If needed	
Q3 2026	PAC	Introduce issue solution / BPM, request feedback	
Q4 2026	-	MISO Legal review and posting of updated BPMs	

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