PIEOUG Panel Discussion:

Barriers and Opportunities for Battery Storage in PJM

April 16, 2025

Proposed PIEOUG initiatives to consider for 2025

- **Governance: Evaluate the bylaws**
- **Examine ways to remove barriers and encourage batteries/storage participation in PJM markets and planning.**
- Examine ways to promote and develop load flexibility throughout PJM markets. (Demand Response and Energy Efficiency participation in the PJM markets have been in a free-fall. Unfortunately, this comes at a time when prices are surging.)
- Explore sub-annual market designs that provide a more accurate and efficient capacity market construct. (PJM's annual market is broken and needs an overhaul).

Why should PJM care about Battery Storage?

- **PJM is facing a capacity crisis in 2030 due to load growth and backlogged interconnection queues and needs fast, flexible additional capacity. Battery storage fits the bill.**
- **Battery storage provides capacity similar capacity to natural gas.**
  - 4-hr storage ELCC: 50%; Gas CT ELCC: 60%.
- **Battery storage resources have the fastest development timelines.**
  - Battery storage takes an average of 20-30 months to construct, while gas plants take 40-50 months. The extreme gas turbine shortage may prevent gas from being constructed by 2030.
- **Battery storage provides essential grid services in a decarbonized system.**
  - A PJM report found that battery storage meets 43% of total system ramping needs in a highly decarbonized system, while thermal resources meet 32%.
- **Storage can replace retiring fossil and maintain reliability.**
  - Astrape found that 3 GW of battery storage capacity and renewable queue additions can replace 11.5 GW of fossil retirements in Illinois to maintain resource adequacy.
  - Battery storage can help avoid expensive Reliability Must-Run arrangements and can utilize SIS and CIR transfers to respond quickly to market signals and resolve RA needs.
- **Despite this, battery storage capacity in PJM lags behind other regions.**
  - PJM has only 501 MW of installed battery storage capacity, whereas CAISO has 11,200 MW, ERCOT has 7,740 MW. Why?

The Panel for Initial Discussion

Moderator: Claire Lang-Ree, Advocate, NRDC

Panel:

- **Walter Graf,** Chief Economist, PJM
- **Eric Miller,** Executive Director of New Jersey Governor Phil Murphy's Office of Climate Action and the Green Economy
- **Sergio Duenas Melendez,** Storage Sector Manager, California Independent System Operator
- **Grant Glazer,** Senior Manager, Regulatory and Market Affairs, MN8
- **Don Jenkins,** Chief Operating Officer, Convergent Energy and Power

What are the barriers and opportunities for battery storage in PJM?

Contact Information

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