PSE&G Load Forecast Adjustment Request

Presentation for the PJM Load Analysis Subcommittee

10/25/2024

PSE&G Requests Adjustment to the 2025 PJM Load Forecast for PS Zone

- An accurate load forecast is crucial to ensuring grid reliability in the near-term and long-term.
- PSE&G requests adjustments to PJM's 2025 load forecast to improve the accuracy of the load forecast.
- PJM's forecast must reflect evolving energy demand trends driven by New Jersey data centers growth and ports electrification/expansion.
  - **Data Center Load Growth:** Significant increases are being experienced due to expansion of the existing data centers, new data center load requests, and the feasibility study requests.
  - **Port Electrification:** Major projects to electrify operations at ports will drive new energy demands.

Data Centers Load Forecast

- PSE&G currently has 39 data center sites with a summer peak demand of 343MW.
- Data centers are significant users of on-peak electricity, since they are more energy intensive than the average commercial activity, data centers are not captured by the PJM econometric based load forecast model framework.
- Expansions of existing data centers, new data center load requests, and feasibility study requests from data center customers, are driving an increase in load forecast.
- For each new load and feasibility study request, PSE&G assessed a likelihood percentage (confidence level: 0% to 100%) using the factors below:
  - Customer readiness
  - Construction complexity
  - Equipment lead time / availability
  - Site control
  - Overall customer commitment, etc.
- This approach factors in the likelihood of realization of Data Center projects.

Existing and Projected Data Center Load

- PSE&G developed a 20-year forecast through 2045 comprised of:
  - **Expansion and New Data Center load requests:** At various stages of completion. The analysis assumes an average completion likelihood of 95% for new data centers.
  - **Feasibility Study requests:** Assumes an average completion likelihood of 40%.
  - **Estimate:** An extrapolation of continued Data Center growth from 2035-2045.

	Existing (MW)	Expansions of Existing (MW)	New Load Requests (MW)	Feasibility Study Requests (MW)	Estimate (MW)	Total (MW)
2024	343					343
2025	343	29	10	8		390
2026	343	65	70	78		556
2030	343	145	330	377		1196
2035	343	168	330	456	39	1337
2040	343	168	330	456	143	1441
2045	343	168	330	456	247	1545

Port Electrification

- The Clean Ports Program in the Inflation Reduction Act includes $3 billion in funding to plan, purchase or install zero-emission port equipment or technology at the nation's ports[1]. The electrification of ports is seen as a key way to reduce air pollutants and address public health and environmental impacts on surrounding communities.

- The Port Authority of New York and New Jersey (PANYNJ) has begun planning to electrify the Ports of Newark, Elizabeth and Bayonne to achieve the goal of net zero carbon emissions by 2050[2].

- This load increase is not captured by the PJM Load Forecasting Model's economic drivers.

	2026	2029	2030	2035	2040	2045
Load Requests[3]	11	34	41	68	103	103
Estimates	0	56	74	74	74	74
Total (MW)	**11**	**89**	**115**	**142**	**177**	**177**

1: United States Environmental Protection Agency, "Clean Ports Program", https://www.epa.gov/inflation-reduction-act/clean-ports-program
2: Squires, Anna," NREL Leads the Charge to Electric Trucks at Port of New York and New Jersey", National Renewable Energy Laboratory, January 30, 2023
3: Includes requests from South Jersey Port in Camden, NJ

PSEG

Thank *you*