



PSEG

2025 PSE&G Load Forecast Adjustments

Methods and Approach to Adjustments

December 2024





Background

Public Service Electric and Gas (PSE&G) is requesting an adjustment to the 2025 PJM Load Forecast to reflect the growth of non-econometric load in its service territory. PSE&G's several departments including Electric Delivery Planning, Business Customer Solutions, and Financial Forecasting collaborated on this adjustment request.

PSE&G is requesting PJM to adjust the PS Zone for load growth due to data centers and electrification of ports. These two components of the load forecast are not reflected in the PJM econometric model.

Data Centers

- During the summer of 2024, PSE&G had 39 data centers sites. The forecasted summer peak demand of those sites was 343 MW for 2024.
- Data centers are significant users of on-peak electricity and since they are more energy intensive than the average commercial activity, data centers are not captured by the PJM econometric based load forecast model.
- PSE&G is projecting an increase of the demand of its data center customers to 1196 MW by the Summer of 2030 and 1545 MW by Summer of 2045. The growth is based on four different categories of data center development as listed below.
 - Expansion of Existing Data Centers
 - New Service Data Center Requests
 - Feasibility of Service Data Center Requests¹
 - PSE&G's estimation of continued Data Center growth (2035 - 2045)
- Methodology:
 - In order to assess the likelihood of the realization of each data center request, PSE&G assessed a likelihood of completion, which ranges from 0% to 100%. The assessment of likelihood is based on the following factors:
 - Customer Readiness.
 - Site Control.
 - Construction Complexity.
 - Equipment lead time / availability.
 - Overall Customer Commitment.
 - Other information known to PSE&G.
 - As a result of this methodology, the completion rates of various categories of Data Centers are as follows:
 - Expansion of Existing Data Centers: 100%.
 - New Service Data Center Requests: 95%.
 - Feasibility of Service Data Center Requests: 40%.
- The expected load behavior is flat throughout the year.
- The large load request submitted to PJM for data centers is also reflected in PSE&G planning and financial forecasts.

¹ Customers submitted feasibility analysis requests for service but have not submitted formal new service applications.

The Projected Data Center Load in the PS Zone is shown below:

Summer Peak Year	Existing Load (MW)	Expansion of Existing (MW)	New Business Requests* (MW)	Feasibility Requests* (MW)	PSE&G 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

Table 1: PSE&G Data Center Peak Demand (MW) by Summer Year

* Values consider the completion rate.

Port Electrification

- The Inflation Reduction Act of 2022 provides US Environmental Protection Agency with \$3 billion to fund zero-emission port equipment and infrastructure as well as climate and air quality planning at U.S. ports.
- 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 facilities in the PSE&G territory are leased to port operators by independent public port authorities; South Jersey Port Corporation (SJPC) and Port Authority of New York and New Jersey (PANYNJ).
- PANYNJ has instructed its port operators to electrify their operations to achieve the goal of net zero carbon emissions by 2050.
- This load increase is not captured by the PJM econometric based load forecast model.
- PSE&G has received load requests for three port operators and has estimated the load impacts for the other two port operators.
 - For ports that did not submit a request, PSE&G gathered publicly available equipment counts to calculate the electric demand.
- The port equipment to be electrified includes container cranes, gantry cranes, forklifts, stackers, and tractor trucks. Port electrification also includes vessel shore power (“cold iron” technologies) to supply the electrical needs of docked ships.

The projected schedule of Port Electrification is shown below:

Summer Peak Year	Cumulative Load Additions (MW)
2026	11
2029	89
2030	115
2035	142
2040	177
2045	177

Table 2: PSE&G Port Electrification Peak Demand (MW) by Year²

- This request is fully modeled in the PSE&G planning and financial forecasts.

² The load data shown above reflects the steady state values. The short duration in-rush values have been ignored.