Load Forecast

Method and Approach to Adjustments

December 22, 2023

Data Centers

- PSE&G currently has 34 data center sites with a summer peak demand of 290MW.

- 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 framework.

- PSE&G's data center load is forecasted to increase by 277 MW by 2031 due to addition of four new data centers and the expansion requests of 18 of the existing data center.

- These additions are consistent with the analysts' projections of 10 percent annual growth in energy use by data centers[1,2].

- Data center load will continue to grow past 2031 given the trend that factors driving the increased demand for data centers will continue past 2031 and evidence[3] that companies are planning to invest in data centers beyond 2031.

Table 1

Projected PS Zone Data Center Load
(MW)

	Existing Customers	New Customers	Expansions of Existing	Forecast	Total
2022	290	0	0	0	290
2023	290	0	13	0	303
2024	290	15	34	0	338
2025	290	37	56	0	383
2030	290	127	136	0	553
2035	290	130	147	115	682
2039	290	130	147	230	797

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[1] McKinsey & Company, "Investing in the rising data center economy", January 17, 2023
[2] Prescient & Strategic Intelligence, "Data Center Market Size and Share Analysis by Infrastructure Type (IT Infrastructure, Support Infrastructure, General Construction), Type (Co-Location, Hyperscale), End User (BFSI, IT and Telecom, Healthcare, Government and Defense) - Global Industry Demand Forecast to 2030", March 2023
[3] Insidenova.com, "Amazon investing $35 billion in data centers across Virginia by 2040", January 20, 2023.

Port Electrification

Newark, Elizabeth, & Bayonne

- 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[4].

- 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[5].

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

- PSE&G estimated the load impacts of the electrification of these three ports.

- The following port equipment would be electrified, which would result in an additional 81MW of peak load by 2030: container cranes, gantry cranes, forklifts, stackers, tractor trucks.

- This initiative will also include the electrification of the "cold iron"[6] function of the ports, which is estimated to be 49MW by 2030.

- The projected schedule for the port electrification is shown below:

Table 2

	2027	2028	2029	2030
Port Electrification Peak Impact (MW)	33	66	99	130

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[4] United States Environmental Protection Agency, "Clean Ports Program", https://www.epa.gov/inflation-reduction-act/clean-ports-program

[5] Squires, Anna," NREL Leads the Charge to Electric Trucks at Port of New York and New Jersey", National Renewable Energy Laboratory, January 30, 2023.

[6] Supplying the electrical needs of the docked ships while at the port