

# **PSE&G**

## **Capacity & Transmission Peak Loads and Obligations January 2025 Update**



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# I Introduction

This report describes the process, based on rules set by PJM, that PSE&G uses to allocate and report capacity and transmission loads and obligations.

The current Transmission Load calculations are based on the actual zonal 2024 summer peak load and the five PS zone peaks that are not coincident with the PJM peaks. These estimates of Transmission Loads are then modified by a loss factor and a transmission scaling factor to develop the Transmission Obligation. These Transmission Obligations are effective on January 1, 2025, for the entire calendar year.

The current Capacity Load calculations are based on the weather normalized 2024 summer peak load for the PJM system and the five PS zone peaks that are coincident with the five highest PJM system peaks.

These estimates of Capacity Loads are then modified for the Forecast Pool Requirement (FPR), the Final Zonal RPM Scaling Factor, and the PS Zonal Scaling Factor to calculate the Capacity Obligation. While the Capacity Loads are calculated for January 1, 2025, they are not effective until June 1, 2025. At that time, the Capacity Obligations will be modified by the most recent FPR, Zonal Scaling Factor, and PS Zonal Scaling Factor. After June, the Capacity Obligations will be updated for the most recent PS Zonal Scaling Factor. The update schedule is shown in the table below.

Table 1

Effective Obligation Dates

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Transmission Obligation	Jan 1st to Dec 31st		
Capacity Obligation	Jan 1st to May 31st	Jun 1st to Sep 30th	Oct 1st to Dec 31st

The remainder of this report describes these calculations in more detail with the calculation of the Capacity Obligation described in Section II, the Transmission Obligations in Section III, and tables summarizing the data used in the calculations are included in the Appendix.

## II Capacity Obligation Calculation

The calculation of the Capacity Obligations in the PS Zone begins with the calculation of the Capacity Load. The Capacity Load allocated to the PS Zone is the PS weather-normalized zonal peak of 9,700 MW that was coincident with the PJM weather-normalized zonal peak of 152,803.7 MW.<sup>1</sup> This 9,700 MW is then allocated to individual customers in a process that is based on their average hourly loads on the five hours that are coincident with the five highest peak hours of the PJM system shown in Table A-1.

For those customers where hourly reads are available, the average of the actual reads for those five hours are used as the basis of the calculation of their Peak Load Share. For customers where hourly reads are not available, the Peak Load Shares are calculated using the June to September 2024 billed kWh divided by the number of hours in their summer billing period, adjusted by the ratio that captures the relationship between summer kWh consumption and peak hours from the PSE&G load research sample for the pertinent rate.

New residential customers will generally receive a default Peak Load Share of 1.7kW. The other new customers are assigned Peak Load Shares based on customer specific information.

The Peak Load Shares are then adjusted by applying the PS Zonal scaling factor that is the product of the weather adjustment, the loss factor, and the capacity scale factor to calculate the Generation Capacity. The rate-specific weather adjustment is based on the econometrically estimated relationship between kWh and summer weather, as measured by the Temperature Humidity Index (THI). The rate-specific loss factors, shown in Table A-5, are based on a PSE&G system loss study as incorporated into the PSE&G tariff. The capacity scale factor adjusts the sum of the individual loads to the weather-normalized PS zonal peak coincident with the PJM peak load. The factors and the Generation Capacity calculations are shown in Tables A-2 and A-3.

Then the Capacity Obligation is calculated by applying the Final RPM Zonal scaling factor (1.1207018), Forecast Pool Reserve factor (1.117), that are assigned by PJM Interconnection, and PSE&G Capacity Obligation Factor of 1.0100204 to the calculated Generation Capacity described above.<sup>2</sup>

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<sup>1</sup> PJM interconnection, "Summer 2024 Weather Normalized RTO Coincident Peaks (MW)", (e-mail), November 14, 2024.

<sup>2</sup> Note that the Peak Load Share and the Generation Obligation for all street lighting rates are set equal to zero

### III Transmission Obligation Calculation

Unlike the total generation load, the total 2024 transmission load for the PS zone is 10,152 MW, which is the PS system peak load not necessarily coincident with the PJM system. The same Peak Load Shares that were described above are then adjusted by applying the PS Zonal Transmission Scaling factor that is the product of the transmission loss factor and the transmission scale factor to calculate the Transmission Capacity. This calculation is shown in Table A-4.

The Transmission Obligation is equal to the Transmission Capacity.

# Appendix

Table A-1

Top 5-Peak Days for Transmission & Capacity

CAPACITY		TRANSMISSION	
PJM		PSE&G	
Top 5 Peak Days 2024		Top 5 Peak Days 2024	
DATE	Time-Hour Ending	DATE	Time-Hour Ending
6/21/2024	18	7/9/2024	18
7/15/2024	18	7/10/2024	18
7/16/2024	18	7/15/2024	19
8/1/2024	18	7/16/2024	18
8/28/2024	18	8/1/2024	19

Table A-2

Calculation of the PS Zonal Scaling Factor

Rate Class	Proportion of Weather Sensitive Load of Total	Hourly %	Class Adjustment (MW)	Hourly System Output (MW)	% Weather Adjustment	Adjustment Factor
RS	74.46%	0.946949	-181.32	4153	-4.37%	0.95634
RHS	0.18%	0.951210	-0.43	12	-3.56%	0.96439
RLM	0.80%	1.000000	-2.06	63	-3.27%	0.96726
GLP	8.89%	0.928427	-21.23	1515	-1.40%	0.98599
LPLS	15.65%	0.996713	-40.12	1761	-2.26%	0.9774
HS	0.02%	1.000000	-0.05	2	-2.90%	0.97099

Table A-3  
Calculation of Generation Capacity

A	B	C	D	E
	Peak Load Shares prior to any adjustments or scaling	Estimated Peaks Incl Weather Adj and Losses	Scaled to 9700 Target	Generation Capacity Scale
Rate Class	(MW)	(MW)	(MW)	Factors
RS	4,385	4,480	4,556	0.9727
RSH	157	161	164	0.9809
RHS	13	13	13	0.9809
RLM	63	65	66	0.9838
WH	0	0	0	0.0000
WHS	0	0	0	0.0000
HS	2	2	2	0.9876
GLP	1,632	1,719	1,748	1.0029
LPLS	1,766	1,844	1,876	0.9941
LPLP	472	491	500	1.0171
HTS-SUB	642	659	670	1.0171
HTS-HV	58	59	60	1.0171
WHOLESALE	44	44	44	
Total**		9,537	9,700	
Scale Target		9,700		
Initial Scale Factor		1.0171		

\*\*NOTE: Due to the exclusion of a few rate classes from this chart, the above totals may differ from calculated summations of each column.

Col B. For each rate class, these are the sum of all preliminary Peak Load Shares. They are preliminary as they have not been adjusted for weather, any special circumstances, or scaled. They include losses.

Col C. These estimated peaks were developed using interval-metered customer data which have been adjusted to include losses and include an adjustment for weather.

Col D. These 'scaled' values were calculated by multiplying the values in Col C times the initial scale factor of 1.0171 (9700 MW / 9537 MW). To achieve the targeted 9700 MW for all rate classes.

Col E. Column E displays the generation scale factors.

**Table A-4**  
**Calculation of Transmission Capacity**

A	B	C	D	E
	Transmission Loads prior to any adjustments or scaling	Estimated Peaks Incl Losses	Scaled to 10152 Target	Transmission Capacity Scale
Rate Class	(MW)	(MW)	(MW)	Factors
RS	4,474	4,779	4,876	1.0203
RSH	161	172	175	1.0203
RHS	13	14	14	1.0203
RLM	64	68	70	1.0203
WH	0	0	0	0.0000
WHS	0	0	0	0.0000
HS	2	2	2	1.0203
GLP	1,622	1,733	1,768	1.0203
LPLS	1,773	1,894	1,932	1.0203
LPLP	485	504	514	1.0203
HTS-SUB	661	679	693	1.0203
HTS-HV	56	56	58	1.0203
WHOLESALE	47	48	49	
Total**		9,950	10,152	
Scale Target		10,152		
Initial Scale Factor		1.0203		

\*\*NOTE: Due to the exclusion of a few rate classes from this chart, the above totals may differ from calculated summations of each column

**Col B.** For each rate class, these are the sum of all but new and default customers' preliminary transmission loads. They are preliminary as they have not been adjusted for any special circumstances or scaled. They include losses.

**Col C.** These estimated peaks were created using interval-metered customer data which have been adjusted to includes losses.

**Col D.** These 'scaled' values were calculated by multiplying the values in Col C times the initial scale factor of 1.0203 (9950 MW / 10152 MW). To achieve the targeted 10152 MW for all rate classes.

**Col E.** Column E displays the transmission scale factors.

Table A-5

System Loss Expansion Factors

<u>Rate Schedule</u>	<u>Loss Expansion Factor</u>
RS	1.068154
RSH	1.068154
RHS	1.068154
RLM	1.068154
WH	1.068154
WHS	1.068154
HS	1.068154
GLP	1.068154
LPLS	1.068154
BPL, BPL-POF, PSAL	1.068154
LPLP	1.040342
HTS - SUBTRANSMISSION	1.026874
HTS - HIGH VOLTAGE	1.014582