

## **ATTACHMENT M-2 (PSE&G)**

### **PROCEDURES FOR LOAD DETERMINATION**

The procedures by which PSE&G will determine the peak and hourly loads reported to the Transmission Provider are set forth in the following provisions.

#### **A. CUSTOMER CAPACITY AND TRANSMISSION OBLIGATIONS**

Both the capacity (generation) and transmission obligations for retail and wholesale customers have been developed so that the sum of the individual customer obligations within a zone will total the PJM Electric Distribution Companies (EDCs) zonal obligation. This zonal obligation may vary as provided for under the PJM Reliability Agreement due to the effects of net new customer load. PJM uses a “top down” method in allocating the PJM system peak load to each EDC, while the transmission loads are EDC zone specific. Each EDC uses a “bottom up” approach to calculate individual peak loads based upon the zonal loads. These preliminary customer peak loads are then scaled up or down to match (1) the normalized peak load calculated by PJM for each EDC for capacity purposes and (2) the actual zonal load for transmission purposes. Capacity peak loads, aggregated by Supplier, are adjusted for reserves and diversity by PJM. Transmission peak loads, aggregated by Supplier, transmitted to PJM need no further adjustment.

Since retail customers within PSE&G’s zone are free to change suppliers, an obligation “tag” is assigned to each customer for both capacity and transmission obligations. These tags are recalculated periodically to incorporate new customers, changing customer usage and to ensure consistency with the PJM and EDC peak loads and obligation calculations.

Discussed below is an explanation of how each individual customer’s capacity and transmission peak load will be determined.

#### **1. Customer Capacity Peak Load Determination**

To calculate a retail and wholesale customer’s capacity peak load share, the total normalized peak demand is first determined for each zone by PJM. In the case of the PSE&G zone, the normalized peak load in the Summer of 2016 was 9,530 MW. This normalized peak load was based upon allocating PJM’s normalized peak load to PSE&G using the ratio between PSE&G’s actual load and PJM’s actual load during the five highest PJM peak hours.

In determining the peak load contribution for each of its customers, PSE&G will use the actual hourly meter readings for hourly (interval) metered customers at the time of the five highest peak hours for PJM. For non-hourly metered customers, summer kWh usage and billing demand information for each customer, along with load research (profile) data for customers in the same rate class will be used. There are several steps involved in the peak load calculation.

The first step requires the calculation of a preliminary peak load estimate for each customer based on the available information. For customers without demand meters, such as Rate Schedule RS, this preliminary peak will be based on the individual customer summer energy use

and the summer seasonal load factor (weather adjusted) calculated from the appropriate profile data. For customers with non-interval demand meters, including most customers served under PSE&G's Rate Schedule GLP, this preliminary peak is equal to the weighted average of their June to September billing demands. For customers with interval meters, such as Rate Schedule HTS, the average of five coincident hourly peaks will be used. The five hours will be based on the same five peak hours identified by PJM, as discussed above. If any of these hourly customers were interrupted during the five hours due to Active Load Management (ALM) events, their loads will be adjusted appropriately, or an alternate day peak load will be substituted, so that their subsequent peak is on an "unrestricted" basis. These adjustments are necessary to be consistent with the PJM and EDC loads, which are also on an "unrestricted" basis. The impact of these ALM events will be treated and tracked separately.

The second step calls for the total of these individual loads (with appropriate losses added) to be compared to the PSE&G normalized summer peak load calculated by PJM (9,530 MW as discussed above). A final scaling up or down is performed on each customer's peak load so that the total of the customer peaks equals the 9,530 MW.

An estimated peak load will also be assigned to each new customer added since the Summer peak period, based on available information and/or system average values.

This information, aggregated by Supplier (including PSE&G Basic Generation Service), will be transmitted to PJM. PJM applies a reserve factor and a diversity factor to each Supplier's capacity peak load received from the EDC to determine the Supplier's capacity obligation within the PSE&G zone.

## **2. Customer Transmission Peak Load Determination**

Each customer's transmission load/obligation is calculated using a similar method as described above for capacity. The method above is adjusted as follows: (1) the value assigned by PJM to each zone is based upon the actual load for each zone at the single highest hour of the zone load (not the weather normalized value) and (2) allocation of the transmission peak load to individual customers will be based on the five highest PSE&G zonal peak loads (not the five highest coincident with PJM peak loads).

This information, supplied by the Company and aggregated by Supplier, is transmitted to PJM. No further adjustment is required by PJM.

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## **DETERMINATION OF HOURLY LOAD OBLIGATIONS FOR THE LOAD SERVING ENTITIES**

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### **OVERVIEW**

PSE&G settles hourly load obligations with each LSE and PJM via a two-step process.

**Settlement A** – PSE&G determines the estimated (delivery day) hourly load responsibility by recreating the load characteristics of the delivery day in question using a combination of

available known, preliminary, and historically-based information. PSE&G then submits the load responsibility for all LSEs serving load on the settled day(s) to PJM in accordance with PJM procedural requirements and energy market schedules.

**Settlement B** – PSE&G determines the final hourly load responsibility 60 days after the end of the energy delivery month by reconciling actual individual customer meter readings and applicable dynamic load profile data with the Settlement A data for that month. PSE&G then calculates and submits the energy variances from Settlement A hourly scheduling in aggregate for all LSEs and PJM Contract Numbers to PJM in accordance with PJM procedural requirements and energy market schedules.

All hourly load obligations are adjusted for transmission and distribution losses.

### **SETTLEMENT A (ESTIMATED HOURLY LOAD OBLIGATIONS)**

FOR INTERVAL-SETTLED CUSTOMERS:

PSE&G calculates the estimated load responsibility for each individual customer based on actual interval data transmitted overnight to the settlement system.

FOR ALL OTHER CUSTOMERS:

PSE&G calculates customers' estimated hourly load responsibility based on the customer's assigned dynamic load profile and scaling factor. PSE&G assigns new customers the default scaling factors for their rate class and assigned dynamic load profile.

Following the above, PSE&G aggregates all of the customers' load responsibilities by LSE, and adds transmission and distribution losses. PSE&G allocates any remaining Unaccounted-For Energy to all customers by load share ratio of monthly settled load and applies this to the estimated hourly load responsibilities.

Finally, PSE&G creates energy schedules by PJM Contract Number and submits them to PJM in accordance with PJM procedural requirements and energy market schedules.

### **SETTLEMENT B ("60 DAY SETTLEMENT—FINAL" HOURLY LOAD OBLIGATIONS)**

For interval-settled customers, PSE&G uses the customer's actual interval data to determine the associated hourly load obligations, and then adjusts for losses.

For monthly-settled customers, PSE&G converts the monthly aggregate consumption into hourly consumption values for the related billing periods. PSE&G accomplishes this by generating an hourly load profile for the periods based directly on a sample customers actual hourly load, then scaling that load shape to tie to the customer's actual usage for the billing period, calculating the associated hourly load obligation values, and adjusting those values for losses.

For all customers, PSE&G then calculates a “bottom-up” load shape for the energy delivery month being reconciled and compares that shape with a load shape comprised of actual metered PSE&G zone load. PSE&G considers any resulting variance as being Unaccounted-For Energy for that hour and allocates it to hourly load obligations as appropriate.

PSE&G then calculates the difference between the estimated load obligations previously determined in Settlement A and the final hourly load obligations for Settlement B, aggregating the resulting variances by LSE and subsequently by PJM Contract Number. PSE&G then reports the resulting energy variances to PJM. PJM incorporates the variances as adjustments within its market settlement processes with LSEs.

If adjustments are made to the Hourly Load of a LSE in the PSE&G Zone after this load reconciliation, PSE&G may calculate the financial value of the adjustment and report that value to PJM. PSE&G will also allocate the equal and opposite financial value to all LSEs in the PSE&G Zone, on a load-ratio share basis, and report the adjustments to PJM. PJM will include any adjustments in the next monthly billing statement issued by PJM to the affected LSE(s).