

PSE&G Load Profiling Methodology

PSE&G has developed Dynamic Load Profiling and will be prepared to implement the process for its established rate schedules which will support retail choice following the Board Order. Dynamic Load Profiling requires that load research sample meters be read, data validated and load profiles produced daily. This is a “real time” construction of a rate schedule load shape. This technique captures all of the factors (i.e., weather) that drive the shape of a load profile. It is PSE&G’s intention to use these shapes for retail competition.

The dynamic load profiles are created by reading the load research meters each day for the active load research sample, and producing daily load shapes which reflect actual usage for that customer segment for the same day. Data collected for the sample today is used for settlement of today’s load activity.

Sample Design Description

PSE&G sample designs were performed for each major rate schedule: 5 residential samples and 3 commercial/industrial samples. Each of the samples was designed based on stratified kWh for the month of the class coincident peak. The Dalenius-Hodges statistical procedure and Neyman allocation method were used in developing strata boundaries and sample size. The load research sample points were determined using Lodestar sampling software according to standard industry practice for selecting load research samples using a 90/10 accuracy criteria. The sample was randomly selected from the customer data base. This is the methodology used in all prior PSE&G load research samples required for cost of service and PURPA.

Each customer in the sample has a solid state recording device connected to their electric meter. The recording device collects hourly usage data. This data is sent once a day using either cellular or standard phone line from the customer’s recording device to the PSE&G computer system in Newark.

Customer to Profile Assignment

Each customer is assigned to a load profile based on Rate Schedules according to their respective tariff.

Load profiles for the unmetered rate classes such as traffic signals and street lights are static. Because the load profiles for these rate classes are flat and vary seasonally by on- and off-time, there is no need to directly meter these classes.

High Tension Service (HTS) rate class customers, as well as Large Power and Lighting Service (LPLP, LPLSH) customers, are all individually metered. Therefore, a rate class load profile is not required.

*Please note: Due to significant reduction of customers for WHS rate class, the dynamic load profiles for this rate class will no longer be available after September 30, 2008.

Data Analysis Experience

The table below indicates the Sample Size (n) selected from each rate schedule, Population Size (N) and Design Criteria (season).

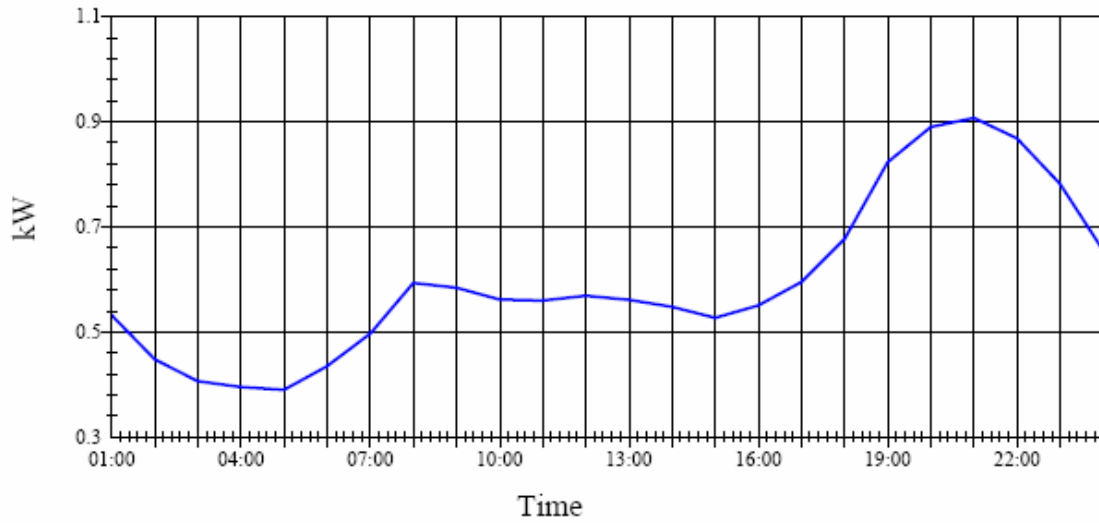
Rate Schedule	N	n	Design Criteria
RS	1,607,477	125	Summer
RHS	32,095	100	Winter
RLM	14,951	100	Summer
LPLS	6,159	150	Summer
GLP	229,313	250	Summer
WH	7,010	100	Winter
HS	2,093	125	Winter

Sample Load Profiles

A sample residential and commercial load shape is presented as average kW per customer. The residential load shape is for rate schedule, RS and the commercial load shape is for rate class, GLP. Both shapes represent data for November 11, 1998.

Residential Load Shape

Residential Service - Nov. 11, 1998



Commercial Load Shape

General Light & Power - Nov. 11, 1998

