



Evaluation Plan for

Statewide Load Impact Evaluation of Non-Residential Critical Peak Pricing (CPP) Rates for 2023

for

**Pacific Gas and Electric Company,
Southern California Edison,
San Diego Gas and Electric Company**

November 14, 2023

800 University Bay Dr #400
Madison, WI 53705-2299

608.231.2266
www.CAenergy.com

Table of Contents

1. INTRODUCTION AND KEY ISSUES	1
1.1 Project Goals	2
1.2 Roadmap	2
2. STUDY METHODS	2
2.1 CPP Event Days	3
2.2 Evaluation Methods	3
2.3 Ex-Post Load Impact Evaluation	4
2.4 Ex-Ante Load Impact Evaluation	6
3. DATA SOURCES	8
4. DETAILED PLAN OF WORK	8
5. PROJECT DELIVERABLES.....	12
6. QUALITY CONTROL MECHANISMS AND PROCESSES.....	12

1. INTRODUCTION AND KEY ISSUES

This research plan describes how Christensen Associates Energy Consulting, LLC (CA Energy Consulting) proposes to conduct a load impact evaluation of the non-residential critical peak pricing demand (CPP) programs offered by Pacific Gas and Electric Company (PG&E), Southern California Edison (SCE), and San Diego Gas and Electric Company (SDG&E) for 2023.

California’s non-residential CPP programs provide participating customers with lower rates during non-CPP summer season hours and momentary higher rates during CPP event hours when events are called. These “dynamic” pricing rates are designed to encourage price-responsive demand reductions during the higher priced critical periods. Customers should benefit financially from the lower rates for electricity consumed outside of the CPP periods, however new customers to the program are afforded bill protection for the first twelve months after enrollment to ensure that their energy costs on CPP do not exceed their pre-CPP costs while they learn how to respond to the program incentives.

PG&E, SCE, and SDG&E (henceforth the Joint Utilities) have implemented CPP as the default service for their non-residential customers (customers have the option to choose a different rate). PG&E began defaulting their large commercial and industrial (C&I) customers (over 200 kW) onto their CPP rates, called Peak Day Pricing (PDP), in 2010. Although PG&E began defaulting SMB customers onto PDP in late 2014, they later delayed the process in anticipation of a change in TOU pricing periods and have since resumed defaulting customers onto PDP. Approximately 32,000 SMB customers were defaulted onto PDP in March 2021. SCE began defaulting their large C&I customers onto CPP rates in 2010 and their SMB customers in 2019. SDG&E began defaulting their large C&I customers onto CPP rates in 2008 and their SMB customers in 2016. SDG&E’s small business CPP customer performance is analyzed in a separate evaluation and therefore will not be included in this evaluation. As of the previous program year, the Joint utilities had approximately the following enrollments in CPP:

Size Group	PG&E	SCE	SDG&E
Large (Over 200kW)	1,504	1,687	533
Medium (20 to 199kW)	17,723	22,119	4,324
Small (Under 20kW)	92,748	201,453	Excluded

Among the CPP tariffs offered by the Joint Utilities, there are a number of common rate design elements, but also some significant differences. All CPP tariffs are designed for bundled service customers. Customers on the CPP tariffs offered by the Joint Utilities are also eligible to participate in Technical Assistance and Technology Incentives (TA/TI) and Automated Demand Response (Auto-DR) programs. The following table summarizes some of the program provisions that vary by utility:

Program Characteristic	PG&E	SCE	SDG&E
Event hours	4 to 9 p.m.	4 to 9 p.m.	4 to 9 p.m.
Events / year	9 to 15	12 to 15	Maximum of 18
Days	All	All	All
Notification	Day ahead, by 4 p.m.	Day ahead, by 3 p.m.	Day ahead, by 3 p.m.

1.1 Project Goals

The primary goals of the evaluation include:

1. Estimate hourly ex-post load impacts of the CPP rates for each of the Joint Utilities in 2023, by size group and local capacity area (LCA);
2. Estimate ex-post load impacts for 2023 for each of the utilities' Technical Assistance and Technology Incentives (TA/TI) and Automated Demand Response (Auto-DR) programs for those CPP customers enrolled in those programs;
3. Produce ex-ante load impact forecasts for the CPP rates for 2024 through 2034;¹
4. Estimate the incremental CPP load impacts due to technology or dual participation in other programs.

Secondary goals include estimating the effect of event notification on load impacts and comparing the load impacts for subgroups of interest, including:

1. Dually enrolled customers;
2. PG&E: net energy metered (NEM) customers; agricultural vs. commercial/industrial customers; BES/CRS customers; and customers with in-season support; and

The final report will contain a section that compares current and previous ex-post and ex-ante load impacts, similar to recent evaluations. The evaluation will conform to the Load Impact Protocols adopted by the California Public Utilities Commission (CPUC) in April 2008 (D.08-04-050).

1.2 Roadmap

Section 2 discusses technical issues and our approach for conducting the study. Section 3 lists the data sources. Section 4 describes our work plan by task for meeting the study objectives. Section 5 contains the main project deliverables with due dates. Section 6 concludes with a description of our quality control mechanisms and processes.

2. STUDY METHODS

This section discusses technical issues that need to be addressed in this study and our planned approach for resolving those issues. We begin by describing the planned ex-post load impact estimation methods, and then turn to development of the ex-ante forecasts.

¹ PG&E and SDG&E request that the forecast period includes the program year being evaluated (i.e., 2023), with the values serving as weather-normalized versions of the ex-post load impacts.

2.1 CPP Event Days

The table below summarizes the CPP events for each utility as of the end of September. PG&E has called 9 events, SCE has called 12 events, and SDG&E has called 1 event. All events are weekday events except two Saturday events called by PG&E.

Date	Day of Week	PG&E	SCE	SDG&E
6/30/2023	Fri	X		
7/1/2023	Sat	X		
7/14/2023	Fri	X		
7/15/2023	Sat	X		
7/17/2023	Mon	X	X	
7/20/2023	Thu		X	
7/21/2023	Fri	X	X	
7/24/2023	Mon		X	
8/15/2023	Tue	X	X	
8/16/2023	Wed	X	X	
8/17/2023	Thu		X	
8/28/2023	Mon		X	
8/29/2023	Tue		X	X
8/30/2023	Wed		X	
9/25/2023	Mon		X	
9/26/2023	Tue	X	X	

2.2 Evaluation Methods

Overview

The CPP ex-post load impact evaluation uses two methodologies: within-subjects panel models and customer-specific regressions. In both cases, load impact estimates are based on comparisons of event-day loads to non-event day loads, controlling for weather conditions and day type characteristics (e.g., day of week or month of year). Panel models, which combine customers into a model with common estimates, are used for all but the largest CPP customers. For the largest customers, we estimate customer-specific models to properly account for any idiosyncrasies in their load profiles that may affect their load impact estimates.

We select a set of event-like non-event days to best approximate the weather and day types associated with the event days. Weather conditions are assessed using CPP customer-weighted average temperatures across each utility's service territory. This ensures that the weather used in the analysis reflects the conditions faced by the program participants rather than the entire system. When selecting days, we exclude event days for dually enrolled programs and ensure that days are selected from a range of time periods (rather than just a series of consecutive dates).

2.3 Ex-Post Load Impact Evaluation

The objectives of the ex-post load impact analysis are listed in Section 1.1. This section describes the data and methods that we propose to use in the evaluation, including a discussion of the estimation of uncertainty-adjusted load impacts and distributions of the estimated load impacts.

Data

Analyses that address each of the load impact objectives require the following types of data:

- *Customer* information for CPP customers (e.g., date of enrollment and de-enrollment, enrollment dates for other DR programs, LCA, climate zone, weather station, NAICS code, size category);
- Monthly usage from billing data for a 12-month period (used to validate the interval data);
- Billing-based *interval load data* for treatment customers on event and event-like non-event days;
- *Weather data* (i.e., hourly temperatures and other weather variables for each applicable weather station);
- *Program event data* (i.e., CPP event dates).

Once we have received the data, we will screen it (particularly the interval load data) for quality and any possible anomalies, such as missing data, zero values, or extreme values that are far out of the range of customers' normal usage. We will decide how to treat those cases, such as potentially excluding some time periods from the analysis. Generally, we have found the load data in previous evaluations to be of high quality.

Model Validation Approach

We estimate ex-post hourly load impacts using regression equations applied to hourly load data. The regression equation models hourly load as a function of a set of variables designed to control for factors affecting consumers' hourly demand levels, such as:

- Seasonal and hourly time patterns (e.g., month, day-of-week, and hour, plus various hour/day-type interactions);
- Weather, including hour-specific weather coefficients;
- Event variables. A series of indicator variables was included to account for each hour of each event day, allowing us to estimate the load impacts for all hours across the event days.

We employ both panel and customer-specific regressions, with the latter applied to the largest customers based on their average hourly usage during event hours on non-event days.

We test a variety of weather variables to determine which set best explains usage on event-like non-event days. To determine which variables to include in the model, we go through a model selection and validation process. Model variations are evaluated according to the ability to predict usage on event-like *non-event days*.

Panel model specifications are evaluated for each utility and customer size. For the customer-specific models, we first classify customers according to whether their hourly loads are responsive to changes in weather conditions (weather-sensitive). Individual models for the

largest customers are evaluated by utility, industry group, and weather sensitivity classification. We select specifications by customer group (i.e., sixteen groups, with eight industry groups for each of the non-weather-sensitive customers and weather-sensitive customers).

Model Estimation Approach

A typical form for our within-subjects ex-post evaluation model is shown below. For customer-specific regressions, we estimate load impacts across all hours of the day by interacting these regression terms with the hour of the day. The model below is written to apply to a single customer; however, it can be modified to represent a panel model by adding customer fixed effects and customer subscripts to the appropriate variables. We estimate the panel models separately for each hour of the day and customer subgroup.²

$$Q_t = a + \sum_{Evt=1}^E (b^{Evt} \times CPP_t) + b^{MornLoad} \times MornLoad_t + b^{Wth} \times Wth_t + b^{OthDR} \times OthDR_t + \sum_{j=days\ of\ week} b^j \times DayType_t^j + \sum_{j=months} b^j \times Month_t^j + e_t$$

The variables are explained in the table below.

Regression Model Variables

Variable Name / Term	Variable / Term Description
Q_t	the customer's usage on day t
a and the various bs	the estimated parameters
CPP_t	an indicator variable for CPP event days
Wth_t	weather conditions on day t (e.g., measured by CDD, CDH, or THI)
E	the number of event days that occurred during the program year
$MornLoad_t$	variables equal to the average of the day's load in hours-ending 1 through 7 and separately for hours-ending 8 through 14.
$DayType_t^j$	an indicator variable for day of week j on date t
$Month_t^j$	a series of indicator variables for each month
$OthDR_t$	a series of indicator variables representing event days for other DR programs in which the service account is enrolled
e_t	the error term.

The first term in the equation containing a summation sign is the component that allows estimation of event-specific load impacts for each hour of the day (the b^{Evt} coefficients). The CPP_t variable equals one if date t is a CPP event day and the customer is enrolled in CPP and zero otherwise. The remaining terms in the equation are designed to control for weather and other periodic factors (e.g., days of the week and months of the year) that determine customers' loads.

The "morning load" variable is used in the same spirit as the optional day-of adjustment to the 10-in-10 baseline method currently used in some DR programs (e.g., CBP). That is, it is intended to adjust the reference load (the regression-based estimate of the loads that would have

² Regressions are estimated by size, LCA, and industry group. LCA level results are aggregated to calculate program-level load impacts. Other subsets of results are estimated by LCA-level regressions that included an interaction term with the event variables and the specific subgroup of interest (e.g., AutoDR, dually enrolled, customers that receive event notifications).

occurred in the absence of the event day) for unobserved exogenous factors that may affect customers' loads on a given day. The use of the morning load variable assumes that variations in the morning load are related to variations in reference loads later in the day; but that the changes in the morning load are not part of the customer's response to the event itself (e.g., pre-cooling the building in anticipation of an event).

Estimating Distributions of Load Impacts for Different Customer Segments

The distribution of load impacts across different subgroups of customers is explored by performing load impact analyses at the subgroup level (e.g., load impacts for AutoDR participants, by LCA, or industry group).

Calculating Uncertainty-Adjusted Load Impacts

The Load Impact Protocols require the estimation of uncertainty-adjusted load impacts. Thus, in addition to producing point estimates of the ex-post load impacts, we produce *uncertainty-adjusted* program impacts for each event, which show the uncertainty around the estimated impacts, as required by the Protocols. These methods use the estimated load-impact parameter values and the associated variances to derive scenarios of hourly load impacts. We also report the uncertainty associated with the average event hour, both on an event-specific basis and for the typical event day, which are based on the standard errors from regression models that aggregate the corresponding load impacts (e.g., by estimating a single average event-hour load impact).

2.4 Ex-Ante Load Impact Evaluation

Estimating ex-ante load impacts for future years requires three key pieces of information:

- A utility-provided *enrollment forecast* for relevant components of the program, which consists of forecasts of the number of customers by required type of customer;
- *Reference loads* by customer type;
- A forecast of *load impacts per customer*, again by relevant customer type, where the load impact forecast also varies with weather conditions (if applicable), as determined in the ex-post evaluation.

We will provide ex-ante load impacts for the following subgroups of customers:

1. Utility program;
2. Size group (under 20 kW, 20 to 200 kW, and over 200 kW); and
3. LCA.

In addition, separate program-specific and portfolio-level forecasts are developed to account for dual enrollment in other DR programs. The program-specific load impacts reflect the full enrollment of the CPP program, while the portfolio-level impacts remove the load impacts from the dual enrolled customers.

The load impacts are provided for the years 2023 through 2034³, for a number of day types, and weather scenarios, including the following:

- A typical event day under the four weather scenarios, defined by both utility-specific and CAISO peaking conditions in both 1-in-2 (normal) and 1-in-10 (extreme) scenarios; and
- The monthly system peak load day of each month, again under the above four weather scenarios.

The utilities provide the enrollment forecasts. The second item, per-customer reference loads, are simulated based on regression models designed to reflect customer load patterns on non-event days during summer and non-summer months, focusing on weather sensitivity. The reference load regression models require 8,760 load profile data (as opposed to the ex-post regression models, which include only event and event-like days), which we will request for a representative sample of treatment customers. Reference loads are simulated using the appropriate weather scenario data (i.e., the 1-in-2 and 1-in-10 weather-year conditions to be provided by the utilities) and event-day characteristics (e.g., weekday and weekend).

The third element, *per-customer load impacts*, will be derived from an analysis of the current and previous ex-post load impact evaluations, with a particular focus on differences in load impacts across customer types and the effect of weather on the estimated load impacts. This will be implemented as “second-stage” regressions specific to reported customer groups, using the estimated ex-post load impacts as the dependent variable and weather conditions and day-type variables as explanatory variables. The resulting per-customer load impacts are then applied to the appropriate reference loads to develop the forecast load impacts and (by extension) event-day reference load profiles. CPP load impacts must be forecast for both winter and summer months. We will summarize average load impacts for both the usual 4 to 9 p.m. Resource Adequacy window and the newly established 5 to 10 p.m. RA window that applies to March to May.

Uncertainty-adjusted load impacts will be generated using the standard errors of the predicted load impacts from the second-stage load impact regression models described above. Scenario-specific percent load impacts will be developed from 10th, 30th, 50th, 70th, and 90th percentile load changes estimated for the relevant program year.

As in all recent load impact evaluations, we will present results of analyses of the relationship between current ex-post and ex-ante load impacts, focusing on key factors causing differences between them (e.g., differences between observed temperatures in the current program year and the temperatures in the various weather scenarios). We will also compare current and previous ex-post load impacts, and current and previous ex-ante load impacts.

In addition to an ex-ante forecast that conforms with the load impact protocols, we will also produce a time-temperature matrix of ex-ante results. The time-temperature matrix is a useful tool for program managers that displays the load impacts across temperatures that vary between 50- and 110-degrees Fahrenheit for various customer segments.

³ PG&E and SDG&E requested the inclusion of a “back-cast” of 2023 load impacts, which we also provide.

We will also include with the load impact protocols “Slice-of-Day” results which will display hourly CPP load impacts by month for selected results (e.g., forecast year).⁴ The 24-hour slice-of-day framework is a California Independent System Operator (CAISO) requirement that each IOU demonstrate it has enough capacity to satisfy its specific gross load profile in all 24 hours on the CAISO’s “worst day” in that month. Providing CPP slice-of-day results will assist the IOUs in fulfilling this requirement.

3. DATA SOURCES

PG&E, SCE, and SDG&E will provide the required data, including customer characteristics, billing data, interval load data, weather data, program participation data, and event information, as well as ex-ante weather scenario data (i.e., the weather conditions associated with each required scenario). The above data have already been requested by CA Energy Consulting with the exception of the interval load data, which will be requested in the second data request.

4. DETAILED PLAN OF WORK

This section describes our work plan for conducting the project, which consists of seven tasks.

Task 1: Project Initiation Meeting

The PI meeting took place via conference call on August 29, 2023. An agenda was provided prior to the meeting. At the PI meeting, we discussed the proposed approach and data requirements, refined research objectives and requirements, and discussed the proposed approach, work plan, schedule, and communication plan, as well as any other issues or optional activities regarding the evaluation.

A summary memorandum and initial data request were provided on August 31, 2023.

Deliverables|Dates:

- | | |
|-------------------------|-----------------|
| • PI Meeting agenda | August 29, 2023 |
| • PI Meeting | August 29, 2023 |
| • PI Meeting memorandum | August 31, 2023 |

Task 2: Evaluation Plan

CA Energy Consulting will draft a measurement and evaluation (M&E) plan, which will build on this proposal document and take into account discussions at the PI meeting. This document represents the deliverable for this task.

We will modify the draft plan based on comments received from the DRMEC and SDG&E project manager and submit a Revised Draft evaluation plan. Additional comments will be addressed in the Final Evaluation plan.

⁴ SDG&E has requested the inclusion of slice-of-day results. We will provide these for the other IOUs if wanted.

Deliverables|Dates:

- Draft M&E plan 5 business days after PI meeting
- Final M&E plan 5 business days after receipt of comments

Task 3: Impact Evaluation

This task involves assembling data and conducting the ex-post and ex-ante evaluations.

Task 3.1: Data Collection and Validation

CA Energy Consulting prepared a data request memorandum for SDG&E, PG&E, and SCE specifying the information required to conduct the analysis. The requested data included:

- Customer account information for all participants, including:
 - a Customer ID that is consistent across databases;
 - rate code;
 - closest weather station and climate zone;
 - NAICS or SIC code; and
 - information on participation in Auto-DR and TA/TI;
- Billing-based monthly usage data including the program period and prior months, for each participating customer;
- Billing-based interval load data for the event and event-like non-event days for all treatment customers;
- Billing-based interval load data for a 12-month period for a sample of treatment customers (used to estimate reference loads in the ex-ante analysis);
- Hourly temperatures and other weather variables for each weather station; and
- Program event data.

We will examine the data as it arrives to ensure that the customer information can be matched to hourly load data; and to ensure that the hourly load data appear to be accurate. CA Energy Consulting will then create the databases required to conduct the analyses.

Deliverables|Dates:

- Data request August 31, 2023

Task 3.2: Ex-Post Load Impact Analysis

We will undertake the ex-post load impact analysis using the data received from the utilities and the methods described in Section 2.

We will estimate hourly CPP load impacts for each event-day, for the various sub-groups requested, at the aggregate and per-called customer level, using the methods described in Section 2, and as agreed upon with the DRMEC and SDG&E project manager. Uncertainty-adjusted load impacts and distributions of load impacts by customer subgroups will be developed as described in Section 2. We will also compare load impact results for the various subgroups requested (e.g., by LCA, industry group, Auto-DR and TA/TI, dually enrolled, etc.).

We will also estimate the effect of event notification on load impacts.

Task 3.3: Ex-Ante Impact Analysis

Forecasted load impacts and reference loads for 2023 through 2024 will be produced for the 1-in-2 and 1-in-10 weather scenarios for both utility-specific and CAISO system peak days, for the typical event day and the system peak day of each month, as described in Section 2. The forecast will also include "Slice-of-Day" results that display hourly load impacts by month for selected results (e.g., forecast year). These load impacts will represent the "worst day" scenario for that month which aligns with the 1-in-2 system peak day weather scenarios. Ex-ante reference loads and per-customer load impacts will be developed for the required subgroups. Average participant load impacts and enrollment forecasts will be combined to produce program-level load impact forecasts. Uncertainty-adjusted load impacts will also be provided.

Both the ex-post and ex-ante load impact methods and results will be incorporated into the evaluation report described in Task 4. We will include detailed descriptions of the relationships between the estimated load impacts (by utility and size group) for each of the required comparisons, including current ex-post vs. previous ex-post; current ex-post vs. previous ex-ante; current ex-ante vs. previous ex-ante; and current ex-post vs. current ex-ante. These descriptions have the goal of clarifying reasons behind any substantial differences between the two sets of load impact estimates.

Finally, each IOU may request that we produce an updated ex-ante forecast for a July 1st filing. The IOUs have the option to make the filing if the forecast load impacts increase by 20% or 10 MW above the assigned QC value.

Task 4: Prepare Reports

CA Energy Consulting will prepare draft, high-level summary, and final reports that summarize the load impacts estimated in Tasks 3.2 and 3.3 (see main deliverables schedule below). The report will contain a non-technical abstract and executive summary; an introduction summarizing objectives and an overview of the program and project; a section describing the data used and analysis techniques employed; a results section presenting ex-post load impacts; a validity assessment of the findings discussing any threats to the reliability of the results; and a conclusion section summarizing findings and recommendations. In conjunction with the final report, we will deliver spreadsheet-based Protocol table generators, which will provide the user with explanations for why some data may not be reported in the table (e.g., no customers in the cells, or restrictions to maintain customer confidentiality). The report will include an abstract of less than 3,000 characters that is suitable for posting on the CALMAC website.

In addition, we will provide a Quality Control (QC) report that will demonstrate that load impacts add up correctly, demonstrate that the number of customers in the program agrees with the datasets provided, compare ex-post and ex-ante load impacts, and ensure that MW levels are consistent with the enrollment forecasts.

Descriptions of the ex-ante load impact methods and results will be incorporated into the ex-post report. The report will include an abstract of less than 3,000 characters that is suitable for posting on the CALMAC website. Detailed tables of hourly ex-ante results will be provided in Excel-based table generators.

Task 5: Presentation of Results

CA Energy Consulting will attend the DRMEC load impact workshop that traditionally follows the submittal of the utilities' impact evaluation reports and will present results of each utility's CPP program.

Deliverable:

- Presentation at workshop TBD

Task 6: Project Management and Progress Reporting

The CA Energy Consulting project manager (Dr. Daniel Hansen) shall manage all day-to-day details of the project. He will work closely with the SDG&E project manager to ensure smooth operation of the project.

We shall participate in conference calls as requested and shall provide monthly written status reports by the 10th day of each month.

Deliverables|Dates:

- Monthly conference calls TBD
- Monthly status reports showing: 1) summary of accomplishments in previous month; 2) current month's planned activities; and 3) any variances in schedule and budget, with explanations as needed. Monthly

Task 7: Database Documentation

Upon Program Manager's request, CA Energy Consulting shall provide an integrated project database for each utility consisting of all the data collected and developed in the project and produce detailed documentation of all variables used in the database.

Deliverables|Dates:

- 2023 integrated project database March 1, 2024
- 2023 database specifications and documentation March 1, 2024

Task 8: Time-Temperature Matrix Tables (Optional)

Under this optional task, CA Energy Consulting would provide IOU-specific tables showing the relationship between expected load impacts and temperatures.⁵ The relationship is derived from regression of current and previous estimated ex-post load impacts on temperature.

Deliverables|Dates:

- Time-temperature matrix tables March 1, 2024.

⁵ SDG&E and SCE would like a load impact temperature matrix provided, which indicates the expected load impact over weather temperatures from 50 to 110 degrees. PG&E will confirm later if they also would like the load impact temperature matrix.

5. PROJECT DELIVERABLES

The dates for key deliverables discussed in Section 4 are summarized below.

- Draft ex-post LI estimates (table generators) Late December 2023
- Final ex-post LI estimates (report/table generators) Early January 2024
- Draft ex-ante LI estimates (report/table generators) February 15, 2024
- Final ex-ante LI estimates (report/table generators) March 1, 2024
- Final hourly and monthly ex-post and ex-ante datasets March 1, 2024
- Time-temperature matrix tables March 1, 2024
- Executive Summary write-up for April 1st reports March 10, 2024
- Non-technical abstract for CALMAC website April 10, 2024

6. QUALITY CONTROL MECHANISMS AND PROCESSES

CA Energy Consulting will conduct a variety of quality assurance procedures, as described below and in the Validity Assessment portion of Section 2.3.

- *Database review.* We will compare data across various sources to ensure that our study has produced valid results. For example, we will compare the load levels contained in the hourly interval data to summary statistics produced for each customer account. This will help identify any data problems or processing errors.
- *Evaluation of estimated reference loads.* We will review our estimated load impacts to ensure consistency across customer groups and months of the year (i.e., explaining or addressing apparent anomalies). We will compare the estimates (and the associated reference loads) to those of the previous evaluation on a per-customer basis by utility, size group, and other relevant subgroups.
- *Validate estimates against reported values.* We will create a program that consolidates all the most recent estimates and forecast to facilitate a comparison to reported values. This will help ensure that the entire report contains the most up-to-date values.

CA Energy Consulting will also carefully review the databases that must be provided to comply with the Protocols.