January 22, 2016

Erik Jacobson
Director, Regulatory Relations
Pacific Gas and Electric Company
77 Beale Street, Mail Code B10C
P.O. Box 770000
San Francisco, CA 94177

Subject: Submit Study Plan for Approval as Directed by D.15-08-005, O.P.10

Dear Mr. Jacobson:

Advice Letter 4708-E is effective January 19, 2016 per Resolution E-4756.

Sincerely,

Edward Randolph
Director, Energy Division
September 28, 2015

Advice 4708-E
(Pacific Gas and Electric Company ID U 39 E)

Public Utilities Commission of the State of California

Subject: Submit Study Plan for Approval as Directed by Decision 15-08-005, Ordering Paragraph 10

Purpose

This advice letter is in compliance with Decision (D.) 15-08-005, in which the California Public Utilities Commission (Commission or CPUC) ordered Pacific Gas and Electric Company (PG&E) to submit a study plan by September 29, 2015, for approval by the Commission’s Energy Division.

Background

Ordering Paragraph 10 of D.15-08-005 requires that:

PG&E shall file a data-rich analysis of the Small and Medium Commercial classes in its upcoming General Rate Case Phase 2 application. PG&E shall (1) schedule a “meet and confer” session with parties to this proceeding, to take place within 30 days of the effective date of this decision, and (2) file a Tier 2 Advice Letter 45 days from the effective date of this decision, providing a detailed plan for the study, including a description of the data that will be analyzed. PG&E shall not proceed with its proposed study until the Advice Letter is approved by the Commission’s Energy Division.

On August 27, 2015, PG&E notified the service list of the required “meet and confer” session, which was subsequently held on September 14, 2015. SEIA, CALSEIA, PG&E, CLECA, CFBF and ORA participated in the “meet and confer” session which was offered via webcast or in-person meeting.

In this advice letter, PG&E submits for Energy Division approval its study plan as directed by Ordering Paragraph 10.
Study Plan

PG&E’s proposed Study Plan, including a description of the data to be analyzed, is provided as Attachment A to this advice letter. PG&E will be filing the final study with its 2017 General Rate Case Phase II Application on March 31, 2016, and respectfully requests prompt approval of this study plan so that it can begin the work as soon as possible.

The proposed Scope of this Study is to examine the (1) cost of service by segment and class definitions, and (2) relevant and appropriate demand charges, if any, that should be imposed on small and medium commercial customers depending on their level and pattern of demand.

The filing would not increase any current rate or charge, cause the withdrawal of service, or conflict with any rate schedule or rule.

Protests

Anyone wishing to protest this filing may do so by letter sent via U.S. mail, facsimile or E-mail, no later than October 19, 2015, which is 21 days after the date of this filing. Protests must be submitted to:

CPUC Energy Division
ED Tariff Unit
505 Van Ness Avenue, 4th Floor
San Francisco, California 94102

Facsimile: (415) 703-2200
E-mail: EDTariffUnit@cpuc.ca.gov

Copies of protests also should be mailed to the attention of the Director, Energy Division, Room 4004, at the address shown above.

The protest shall also be sent to PG&E either via E-mail or U.S. mail (and by facsimile, if possible) at the address shown below on the same date it is mailed or delivered to the Commission:

Erik Jacobson
Director, Regulatory Relations
Pacific Gas and Electric Company
77 Beale Street, Mail Code B10C
P.O. Box 770000
San Francisco, California 94177

1 The 20-day protest period concludes on a weekend. PG&E is hereby moving this date to the following business day.
Any person (including individuals, groups, or organizations) may protest or respond to an advice letter (General Order 96-B, Section 7.4). The protest shall contain the following information: specification of the advice letter protested; grounds for the protest; supporting factual information or legal argument; name, telephone number, postal address, and (where appropriate) e-mail address of the protestant; and statement that the protest was sent to the utility no later than the day on which the protest was submitted to the reviewing Industry Division (General Order 96-B, Section 3.11).

Effective Date

PG&E requests that this Tier 2 advice filing become effective on regular notice, October 28, 2015, which is 30 calendar days after the date of filing.

Notice

In accordance with General Order 96-B, Section IV, a copy of this advice letter is being sent electronically and via U.S. mail to parties shown on the attached list and the parties on the service list for A.13-04-012. Address changes to the General Order 96-B service list should be directed to PG&E at email address PGETariffs@pge.com. For changes to any other service list, please contact the Commission’s Process Office at (415) 703-2021 or at Process_Office@cpuc.ca.gov. Send all electronic approvals to PGETariffs@pge.com. Advice letter filings can also be accessed electronically at: http://www.pge.com/tariffs/.

/S/
Erik Jacobson
Director, Regulatory Relations

Attachments

cc: Service List A.13-04-012
CALIFORNIA PUBLIC UTILITIES COMMISSION
ADVICE LETTER FILING SUMMARY
ENERGY UTILITY

MUST BE COMPLETED BY UTILITY (Attach additional pages as needed)

<table>
<thead>
<tr>
<th>Company name/CPUC Utility No.</th>
<th>Pacific Gas and Electric Company (ID U39 E)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utility type:</td>
<td></td>
</tr>
<tr>
<td>☑ ELC</td>
<td>☑ GAS</td>
</tr>
<tr>
<td>☑ PLC</td>
<td>☑ HEAT</td>
</tr>
<tr>
<td></td>
<td>☑ WATER</td>
</tr>
<tr>
<td>Contact Person:</td>
<td>Kingsley Cheng</td>
</tr>
<tr>
<td></td>
<td>Phone #: (415) 973-5265</td>
</tr>
<tr>
<td></td>
<td>E-mail: <a href="mailto:k2e0@pge.com">k2e0@pge.com</a> and <a href="mailto:PGETariffs@pge.com">PGETariffs@pge.com</a></td>
</tr>
</tbody>
</table>

EXPLANATION OF UTILITY TYPE

ELC = Electric              GAS = Gas
PLC = Pipeline              HEAT = Heat     WATER = Water

Advice Letter (AL) #: 4708-E       Tier: 2
Subject of AL: Submit Study Plan for Approval as Directed by Decision 15-08-005, Ordering Paragraph 10
Keywords (choose from CPUC listing): Compliance
AL filing type: ☑ Monthly ☐ Quarterly ☐ Annual ☑ One-Time ☐ Other _____________________________
If AL filed in compliance with a Commission order, indicate relevant Decision/Resolution #: D.15-08-005
Does AL replace a withdrawn or rejected AL? If so, identify the prior AL: No
Summarize differences between the AL and the prior withdrawn or rejected AL: ____________________
Is AL requesting confidential treatment? If so, what information is the utility seeking confidential treatment for: No
Confidential information will be made available to those who have executed a nondisclosure agreement: N/A
Name(s) and contact information of the person(s) who will provide the nondisclosure agreement and access to the confidential information: __________________________________________________________________________________________________
Resolution Required? ☐ Yes ☑ No
Requested effective date: October 28, 2015
No. of tariff sheets: N/A
Estimated system annual revenue effect (%): N/A
Estimated system average rate effect (%): N/A
When rates are affected by AL, include attachment in AL showing average rate effects on customer classes (residential, small commercial, large C/I, agricultural, lighting).
Tariff schedules affected: N/A
Service affected and changes proposed: N/A
Pending advice letters that revise the same tariff sheets: N/A

Protests, dispositions, and all other correspondence regarding this AL are due no later than 21 days1 after the date of this filing, unless otherwise authorized by the Commission, and shall be sent to:

California Public Utilities Commission
Energy Division
EDTariffUnit
505 Van Ness Ave., 4th Flr.
San Francisco, CA 94102
E-mail: EDTariffUnit@cpuc.ca.gov

Pacific Gas and Electric Company
Attn: Erik Jacobson
Director, Regulatory Relations
77 Beale Street, Mail Code B10C
P.O. Box 770000
San Francisco, CA 94177
E-mail: PGETariffs@pge.com

1 The 20-day protest period concludes on a weekend. PG&E is hereby moving this date to the following business day.
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1. Introduction

This Study Plan is provided to describe the detailed analysis and comprehensive review of Pacific Gas and Electric’s (PG&E) small and medium-sized commercial customer class as it relates to cost allocation and rate design. In Decision 15-08-005 dated August 18, 2015, on page 26, the Commission stated that “we expect an exhaustive examination of the question of relevant and appropriate demand charge or charges, if any, that should be imposed on small and medium commercial customers depending their level and pattern of demand” and that “this study must also justify the appropriate limit for Schedule A-6.” In Ordering Paragraph 10, the Commission also stated that “PG&E shall (1) schedule a “meet and confer” session with the parties to this proceeding, to take place within 30 days of the effective date of this decision, and (2) file a Tier 2 Advice Letter 45 days from the effective date of this decision, providing a detailed plan for the study, including a description of the data that will be analyzed” and that “PG&E shall not proceed with its proposed study until the Advice Letter is approved by the Commission’s Energy Division.”

On September 14, 2015, PG&E conducted a meet and confer workshop to discuss the study parameters of the segmentation, cost allocation and rate design applicable to the small and medium-sized commercial customer class. Attendees of the workshop included:

a. California Large Energy Consumers Association (CLECA) – Cathy Yap
b. California Farm Bureau Federation (CFBF) – Laura Norin
c. Small Business Utility Advocates (SBUA) – James Birkelund
d. Solar Energy Industries Association (SEIA) – Tom Beach
e. California Solar Energy Industries Association (CalSEIA) – Brad Heavner
f. Office of Ratepayer Advocates (ORA) – Chris Danforth; Dexter Khoury; Nathan Chau
In the sections below, the study plan is described. Once approved, PG&E will develop the study. The results of the study shall be filed with PG&E’s 2017 General Rate Case (GRC) Phase II application.

2. Scope of the Study

The scope of this study is to examine (1) cost of service by demand segments and class definitions, and (2) relevant and appropriate demand charges, if any, that should be imposed on small and medium commercial customers depending on their level and pattern of demand. Accordingly, the planned analysis is described separately for these two studies.

3. Cost of Service by Demand Segment and Class Definition

The first study is intended to review cost of service for various segments of small and medium commercial customers. This work was initially proposed by ORA as part of the Small Commercial Settlement agreement. ORA requested ‘filing quality’ cost allocation for the commercial sector segmented at 20, 50 and 75 kW. This portion of the study will also address SBUA’s request to segment customers by their North American Industry Classification System (NAICS) code. PG&E proposes the following research.

3.1 PG&E will initially develop an analysis of Small and Medium Commercial customers (less than 500 kW) in fixed increments of demand: 0 to 20 kW, 20 to 50 kW, 50 to 75 kW, 75 to 200 kW and 200 kW to 500 kW. This customer count (frequency) analysis will be conducted to make an initial assessment of whether there is any “natural grouping” of customers based on customer
Attachment A: Small and Medium Commercial Customer Rate Study Plan

This analysis will be conducted separately for Net Energy Metering (NEM) and non-NEM customers and will track current rate schedule. In addition, customers will be categorized by their NAICS codes up to the first three (3) digits to the extent such data is available in PG&E’s billing system.

Data Requirements: Recorded billing data will be used in conjunction with Smart-Meter interval data (i.e., integrated kW demands measured over 15-minute periods) available for the class.

Accounts without NAICS code information in PG&E’s billing system will be identified and reported as having missing data.

3.2 PG&E will assign customers and develop cost allocation results (based on marginal costs) for class divisions at 20 kW, 50 kW, and 75 kW and over.

Data Requirements by Segment Studied:

- System Peak Cost Allocation Factors (PCAF) based on adjusted net loads (i.e., gross loads net of solar, wind and hydro generation) for allocation of generation capacity costs based on load research data and information for migrating (across demand thresholds) customers;

- Distribution PCAF loads for allocation of primary voltage marginal distribution capacity costs based on load research data and information for migrating customers;

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1 If there is a clustering of customers at one of the identified break points, that is, 20 kW, 50 kW, 75 kW, etc., it may be appropriate to modify that particular break point.

2 A NAICS code is a six-digit code identifying sector and sub-sector industrial classifications, where each successive digit subdivides an industry sector into progressively more detailed categories.

3 If necessary to preserve the confidentiality of customer data, some customer information may be aggregated to mask the identities of specific customers.

4 PG&E used this methodology in its 2015 Rate Design Window proceeding, to develop its proposal for new time-of-use (TOU) period definitions for residential customers, to reflect the changing pattern of generation costs.
- Distribution Final Line Transformer loads for allocation of New Business Primary and Secondary marginal cost based on load research data and information for migrating customers;

- Recorded monthly kWh sales;

- Marginal Customers Access Costs;

- Locational marginal costs for primary marginal costs, new business primary marginal costs and secondary marginal costs; and

- Annual marginal generation capacity cost and hourly marginal energy cost.

PG&E plans to use its load research sample for 2012, 2013 and 2014 for this analysis. The table below shows the number of Small and Medium Commercial customers in PG&E’s load research sample for 2012, 2013 and 2014.

**Table 1.0 – Population and Load Research Sample Counts for 2012, 2013 and 2014**

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Small Commercial (A-1 &amp; A-6)</td>
<td>462,624</td>
<td>14,239</td>
<td>479,184</td>
<td>13,446</td>
<td>486,560</td>
<td>13,859</td>
</tr>
<tr>
<td>Medium Commercial (A-10)</td>
<td>47,257</td>
<td>10,230</td>
<td>48,579</td>
<td>4,161</td>
<td>49,447</td>
<td>4,367</td>
</tr>
<tr>
<td>Medium C&amp;I E-19 (All)</td>
<td>20,651</td>
<td>7,310</td>
<td>22,208</td>
<td>4,796</td>
<td>24,984</td>
<td>5,510</td>
</tr>
<tr>
<td>Total</td>
<td>530,532</td>
<td>31,779</td>
<td>549,971</td>
<td>22,403</td>
<td>560,991</td>
<td>20,736</td>
</tr>
</tbody>
</table>

PG&E will perform a “filing quality” cost of service study by demand segment using the data described above. The flow chart detailed in Framework 1.0 describes the segmentation and class definitions. Specifically, the flow chart describes the input, analyses and output in order to segment the small and medium-sized commercial class and to determine appropriate thresholds for the application of rates.
4. Rate Design

In Decision 15-08-005, at page 26, the Commission states “we expect an exhaustive examination on the question of the relevant and appropriate demand charge or charges, if any, that should be imposed on small and medium commercial customers depending on their level and pattern of demand. We reiterate that this study should comprehensively analyze cost allocation and rate design within the small and medium commercial classes.” In order to evaluate the most appropriate rate designs for Small and Medium Commercial classes, PG&E proposes to develop samples of customers representing a range of different operating characteristics taken from PG&E’s class load research sample. PG&E will estimate the annual cost of service for each sample. PG&E will then test the cost recovery of a variety of different rate designs by billing each sample customer under each rate design and comparing the cost recovery achieved (i.e., annual revenue collected versus cost to serve) by each rate design over the range of sample customers. PG&E will identify the rate design that best recovers the cost of service for the sample customers. In this analysis, too, customers in the samples will be segmented by NEM versus non-NEM.

A limited sensitivity analysis will also be performed on various cost-based time-of-use (TOU) periods, that is peak, peak, partial-peak and off-peak, used for rate design.

Data Requirements (Cost):

- Customer load profiles
- Generation capacity cost allocated to hours based on net loads
- Distribution capacity cost allocated to hours based on PCAF loads
- Non-coincident costs
- Hourly energy costs

**Data Requirements (Alternative Rate Structures):**

- Allocated Cost

- Forecast Billing Determinants

- Alternative Rate Structures to include fixed, maximum demand, peak demand, and energy charges.

The flow chart detailed in Framework 1.0 describes the cost allocation and rate design analysis. Specifically, the flow chart describes the input, analyses and output in order to allocate marginal costs for small and medium-sized commercial class and to design fair and reasonable rates.

PG&E will present the results of this data-rich analysis of the Small and Medium-Commercial classes in its upcoming 2017 General Rate Case Phase II application.
Framework 1.0 – Class Segmentation, Cost Allocation and Rate Design

Load Research Sample & Billing System Customer Characteristics
- Rate Schedules: A-1; A-6; A-10; A-15; Voluntary E-19
- Net Energy Metering & Non-NEM Customers
- Max. Monthly kW Demand Segments: E.g. 0-20; 21-50; 51-75; 76-200; 201+
- 15-Minute Interval kW Demand
- Hourly kWh Energy
- Peak Capacity Allocation Factors (PCAF’s)
- Business Owner & North American Industrial Classification System (NAICS) Codes
- Geographical Location / Premise Code

Marginal Costs
- Marginal Customer Access Cost $/Customer-Yr.
- Marginal Distribution Capacity Cost $/kW-Yr.
- Marginal Transmission Capacity Cost $/kW-Yr.
- Marginal Generation Capacity Cost $/kW-Yr.
- Marginal Generation Energy Cost $/kWh

Rate Components
- Customer Charge $/Month
- Time-Differentiated Charges $/kW-Mo.
- Demand Charge $/kW-Mo.
- Energy Charge $/kWh

Study Examination & Analyses
- Differentiation and Segmentation
- Cost Causation and Cost of Service
- Cost Recovery Efficiency
- Revenue Requirement Allocation
- Time-of-Use Period Determination
- Rate Component Variation & Efficacy
- Stakeholder Feedback

Report & Recommendation
- Relevant & Appropriate Rate Designs
- Segmented Applicability
- Bill Frequencies
AT&T  
Albion Power Company  
Alcantar & Kahl LLP  
Anderson & Poole  
BART  
Barkovich & Yap, Inc.  
Bartle Wells Associates  
Braun Blaising McLaughlin, P.C.  
CENERGY POWER  
CPUC  
California Cotton Ginners & Growers Assn  
California Energy Commission  
California Public Utilities Commission  
California State Association of Counties  
Calpine  
Casner, Steve  
Center for Biological Diversity  
City of Palo Alto  
City of San Jose  
Clean Power  
Coast Economic Consulting  
Commercial Energy  
Cool Earth Solar, Inc.  
County of Tehama - Department of Public Works  
Crossborder Energy  
Davis Wright Tremaine LLP  
Day Carter Murphy  
Defense Energy Support Center  
Dept of General Services  
Division of Ratepayer Advocates  
Don Pickett & Associates, Inc.  
Douglass & Liddell  
Downey & Brand  
Ellison Schneider & Harris LLP  
G. A. Krause & Assoc.  
GenOn Energy Inc.  
GenOn Energy, Inc.  
Goodin, MacBride, Squeri, Schlotz & Ritchie  
Green Power Institute  
Hanna & Morton  
In House Energy  
International Power Technology  
Intestate Gas Services, Inc.  
Kelly Group  
Leviton Manufacturing Co., Inc.  
Linde  
Los Angeles County Integrated Waste Management Task Force  
Los Angeles Dept of Water & Power  
MRW & Associates  
Manatt Phelps Phillips  
Marin Energy Authority  
McKenna Long & Aldridge LLP  
McKenzie & Associates  
Modesto Irrigation District  
Morgan Stanley  
NLine Energy, Inc.  
NRG Solar  
Nexant, Inc.  
ORA  
Office of Ratepayer Advocates  
OnGrid Solar  
Pacific Gas and Electric Company  
Praxair  
Regulatory & Cogeneration Service, Inc.  
SCD Energy Solutions  
SCE  
SDG&E and SoCalGas  
SPURR  
San Francisco Water Power and Sewer  
Seattle City Light  
Sempra Energy (Socal Gas)  
Sempra Utilities  
SoCalGas  
Southern California Edison Company  
Spark Energy  
Sun Light & Power  
Sunshine Design  
Tecogen, Inc.  
Tiger Natural Gas, Inc.  
TransCanada  
Troutman Sanders LLP  
Utility Cost Management  
Utility Power Solutions  
Utility Specialists  
Verizon  
Water and Energy Consulting  
Wellhead Electric Company  
Western Manufactured Housing Communities Association (WMA)  
YEP Energy