

**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**

Application of PACIFIC GAS AND  
ELECTRIC COMPANY for Approval of  
Modifications to its SmartMeter™ Program  
and Increased Revenue Requirements to  
Recover the Costs of the Modifications

(U 39 M)

Application No. 11-03-

**APPLICATION OF PACIFIC GAS AND ELECTRIC  
COMPANY FOR APPROVAL OF MODIFICATIONS TO  
ITS SMARTMETER™ PROGRAM**

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March 24, 2011

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**I. INTRODUCTION AND SUMMARY OF REQUESTED ACTION**

Pursuant to the oral Order of California Public Utilities Commission (the “CPUC” or “Commission”) President Michael Peevey and Sections 451, 454, 701, 728, 729, 740.4 and 795 of the California Public Utilities Code, Pacific Gas and Electric Company (“PG&E” or “Applicant”) hereby requests that the CPUC approve the proposed modifications to PG&E’s SmartMeter™ Program, and the associated incremental revenue requirements and cost recovery proposal to implement the modifications. PG&E proposes to collect these costs through an up-front fee, monthly charges, and an “exit” charge when a customer leaves the premise so that subsequent residents can fully utilize their SmartMeters™. PG&E further proposes that customers have the option to pay the up-front fixed charge over a reasonable, financing period, as well as the option to pay the monthly costs either through a fixed charge or a new tariffed rate.

Specifically, PG&E requests that the Commission:

(a) Approve PG&E's proposed modifications to its existing SmartMeter™

Program to provide customers the choice to request that PG&E “turn-off”/disable the radio inside their gas/ and or electric SmartMeters™; thus eliminating the radio frequency (RF) communications from the SmartMeters™.

(b) Approve the proposed up-front fees and monthly fees/rates for customers who select the “radio-off” metering option, and “exit” fee, with the customer fees subject to future adjustment to reflect changes in actual costs;

(c) Determine that the proposed modifications to the SmartMeter™ Program are reasonable based on costs for the two-year period 2012-2013 of \$38.3 million of capital costs, and \$75.1 million of expenses, yielding a two-year combined electric and gas revenue requirement of \$84.4 million;

(d) Authorize PG&E to include in its electric and gas fees/rates the forecasted revenue requirement recovered from individual customers choosing the “radio off” metering alternative;

(e) Approve PG&E's ratemaking proposals and mechanisms for the proposed modifications to PG&E's existing SmartMeter™ Program, including establishing two-way balancing accounts in which to record the actual electric and gas revenue requirements and actual fees/revenue collected for the program, and authorizing PG&E to increase electric and gas rates effective on the date that PG&E implements the “radio off” option, to recover the costs of offering the option subject to annual true-up of the costs and forecasted revenue requirements; and

(f) Grant such other authority and relief as the Commission deems appropriate.

## **II. REGULATORY BACKGROUND**

### **A. CPUC Approval of PG&E's Original AMI Project (Decision 06-07-027)**

In 2002, the Commission held a rulemaking that directed the California investor-owned utilities to consider programs that would offer customers improved options to reduce their electric use during high-demand periods. The Commission directed these utilities to explore advanced metering infrastructure (AMI) technologies. In response to this Commission directive, on June 16, 2005, PG&E was the first California utility to apply to the CPUC for regulatory approval to install advanced meters for all of its electric and gas customers. On July 20, 2006, the Commission issued Decision 06-07-027, approving PG&E's original AMI project.

### **B. CPUC Approval of PG&E's SmartMeter™ Upgrade Project (Decision 09-03-026)**

In Decision 06-07-027, the Commission ordered PG&E to actively monitor and evaluate ongoing developments in technology related to advanced meters and the associated communication networks. In response to the Commission's directive to continually monitor and evaluate new technology in the field of advanced meters, PG&E later determined that the evolution of the AMI-market had presented an opportunity for PG&E customers to benefit from the substantial innovation and reduction in costs in the advanced metering technology market. Accordingly, PG&E submitted an Application to the Commission seeking authority to upgrade its originally-approved SmartMeter™ Program.

Through its application, PG&E proposed to replace the first-generation of advanced meters with second-generation SmartMeter™ technology that used advanced solid state technology, offered remote connect/disconnect capability, and provided a Home Area Network (HAN) interface. On March 13, 2009, the Commission approved PG&E's

SmartMeter™ program upgrade in Decision 09-03-026. PG&E's second-generation AMI-technology relies upon wireless RF signals.

**C. CPUC President Issues Order Directing PG&E to File a Proposed Alternative to Wireless SmartMeters™**

On March 10, 2011, during the CPUC public Business Meeting, CPUC President Peevey noted that some PG&E customers have expressed concern about the RF signals from PG&E's SmartMeter™ technology. Commissioner Peevey responded to these concerns by directing PG&E on behalf of the Commission to "prepare a proposal for [CPUC] consideration that will allow some form of opt-out for customers who object to these devices at reasonable cost, to be paid by the customers who choose to opt-out." Commissioner Peevey ordered that PG&E submit its proposal within two weeks, and this application timely responds to that request.

**III. SMARTMETER™ TECHNOLOGY DESCRIPTION AND DEPLOYMENT STATUS**

PG&E's electric SmartMeter™ is a solid-state electric meter that includes two low-power radios embedded in the meter. It is capable of both transmitting and receiving a signal through the radios. The primary radio uses RF signals in the 902-928 megahertz (MHz) radio band to communicate with PG&E over its SmartMeter™ electric mesh network. The secondary radio, not currently in use but which can be made operational in the future, operates in the 2.4-2.5 gigahertz (GHz) band. The secondary radio is only enabled if the customer affirmatively decides to implement an integrated HAN that uses utility and meter data. PG&E's gas SmartMeter™ technology has one radio and uses low-power radio frequency signals in the 450-470 MHz radio band.

The above-described radio technology is the same commonplace radio technology contained in the myriad of radio devices that are in widespread use in our homes, businesses, commercial establishments, and public facilities including cellphones, microwave ovens,

baby monitors and garage door openers. In contrast to some radio-based devices that are designed for people to operate close to their bodies (e.g., cellphones, baby monitors), SmartMeter™ radios typically are located on the outside of buildings at some distance away from the building's inhabitants. And whereas these other devices may operate for extended time periods and in some cases continuously (e.g. cellphones and microwaves), SmartMeter™ radios transmit for milliseconds at a time and for a very short cumulative duration (a total of approximately 45 seconds per 24 hours). In short, exposure to SmartMeter™-related RF is considerably less than that of exposure from the other radio devices in widespread use, including cellphones and microwave ovens.

As of March 1, 2011, PG&E has installed a total of approximately 7.7 million gas and electric SmartMeters™.

#### **IV. OVERVIEW OF THE PROPOSED MODIFICATIONS TO PG&E'S EXISTING SMARTMETER™ PROGRAM**

Pursuant to Commissioner Peevey's order, PG&E requests CPUC approval of its proposed modifications to its existing SmartMeter™ Program. PG&E had a team research and analyze whether technically-and economically-feasible alternatives to the wireless SmartMeter™ RF technology exist in the marketplace such that customers may have an alternative metering option, without RF communications, at a reasonable cost. Given the State's energy policy and the transition to SmartMeter™ wireless technology in PG&E's service area and across the state, PG&E determined that it is critical that any adopted alternative operate effectively in conjunction with the SmartMeter™ infrastructure and not irreparably degrade the integrity and reliability of the overall SmartMeter™ network, which serves the vast majority of its customers.

Based on its feasibility analysis and evaluation, PG&E proposes the following modifications to its SmartMeter™ Program:

**1. SmartMeter™ “Radio Off” Option**

- Residential PG&E electric and gas customers will be eligible to request that PG&E “turn off” or deactivate the wireless radios embedded in the electric meter and gas meter module. The only eligibility criterion for the program is that the customer is a residential customer.
  
- Customers who choose to “turn off” the SmartMeter™ radio will pay a reasonable up-front charge, and an ongoing monthly charge (either in the form of a fixed monthly fee or a volumetric per-kilowatt-hour (kWh) rate adder applied to the customer’s energy usage) to cover the costs PG&E incurs to implement the program, including the cost of sending personnel to a customer’s premise to manually “turn off” the radio, sending meter readers to manually read the meter on a monthly basis, providing program information to customers through call centers and other customer communications, modifying PG&E’s information technology (IT) as necessary to revert existing SmartMeter™ customers from the automated, hourly-interval usage collection back to the manual legacy system, and upgrading the existing SmartMeter™ RF-mesh network to compensate for any network degradation resulting from turning the radios off.
  
- PG&E proposes that customers selecting the “radio-off” option have the following fee structure choices, with the ability to finance up-front fees over a reasonable time period and CARE-enrolled customers to receive a 20 percent discount, all as set forth below:

<b>Non-CARE Customers:</b>				
	<b>One-Time Up Front Charge (\$)</b>	<b>Monthly Fixed Charge (\$/ month)</b>	<b>Monthly Volumetric Rate Adder Applicable to Gas Only Customers (\$/therm)</b>	<b>Monthly Volumetric Rate Adder Applicable to Electric Only Customers and Combined Electric and Gas Customers (\$/ kwh)</b>
1	\$135.00	\$20.00	N/A	N/A
2	\$135.00	N/A	\$0.532	\$0.036
3	\$270.00	\$14.00	N/A	N/A
4	\$270.00	N/A	\$0.387	\$0.026

<b>CARE Customers:</b>				
	<b>One-Time Up Front Charge (\$)</b>	<b>Monthly Fixed Charge (\$/ month)</b>	<b>Monthly Volumetric Rate Adder Applicable to Gas Only Customers (\$/therm)</b>	<b>Monthly Volumetric Rate Adder Applicable to Electric Only Customers and Combined Electric and Gas Customers (\$/ kwh)</b>
1	\$105.00	\$16.00	N/A	N/A
2	\$105.00	N/A	\$0.426	\$0.029
3	\$215.00	\$11.00	N/A	N/A
4	\$215.00	N/A	\$0.310	\$0.021

- The program will be self-funded; the up-front and monthly customer fees/rates are structured and will be adjusted to ensure full recovery of the costs of the program from customers selecting the no-RF communications “radio-off” option.
- If a customer later terminates service or requests that PG&E turn the radio back on, PG&E will charge the customer a cost-based “exit” charge at that time.

**2. Electric SmartMeter™ Relocation Option Per Existing Tariff**

- Separate from and not part of this Application, PG&E’s customers are already eligible to request that PG&E relocate their fully functioning electric SmartMeter™ to a different location on the customer’s property under the terms and conditions of an existing tariff, Electric Rule 16.
- Under Rule 16, individual customers who request meter relocation bear the customer-specific costs of the relocation, as set forth in the tariff.
- Because meter relocation pursuant to Rule 16 is a custom solution, the potential costs will vary based on the specific characteristics of the relocation. For illustrative purposes only, PG&E anticipates that meter relocation costs generally will range from approximately \$2,500 to \$4,500 for overhead customers and \$6,000 to \$11,000 for underground customers. Rare cases could fall outside of these estimated ranges.



**V. PG&E FORECASTS THAT APPROXIMATELY 145,800 CUSTOMERS MAY CHOOSE THE “RADIO-OFF” OPTION IN 2012 AND 2013. THE PER-CUSTOMER FEES AND RATES ARE BASED ON THIS FORECAST, SUBJECT TO TRUE-UP BASED ON ACTUAL CUSTOMER PARTICIPATION**

Based on PG&E’s market research as described in accompanying Testimony Chapter 2C, PG&E estimates that approximately 145,800 of its customers may choose the “radio-off” option. To implement this modification to its existing SmartMeter™ program, PG&E will incur incremental costs above those that the CPUC authorized under Decisions 06-07-027 and 09-03-026. These incremental costs will include the costs of turning the customers’ SmartMeter™ radios off and back on, modifying PG&E’s existing SmartMeter™-related IT, reinforcing the mesh network to counterbalance degradation due to the turn off of radios, communicating with customers about its alternatives, and incremental operations. These costs are described in more detail in accompanying Testimony, Chapters 2A, 2B and 2C.

**VI. OVERVIEW OF PREPARED TESTIMONY**

PG&E’s prepared testimony in support of this Application is organized in the following manner:

Chapter 1 – Overview: Policy and Program

Chapter 2 – Costs of Modifications to PG&E’s Existing SmartMeter™ Program:

Chapter 2A-Field Deployment Costs

Chapter 2B-Information Technology Costs

Chapter 2C-Customer Communications and Operations Support Costs

Chapter 3 - Cost Recovery and Revenue Requirements

Appendix 1 – Statements of Qualifications

## **VII. COMPLIANCE WITH THE COMMISSION'S RULES OF PRACTICE AND PROCEDURE**

### **A. Statutory Authority**

PG&E files this Application pursuant to Sections 451, 454, 701, 728, 729, 740.4 and 795 of the Public Utilities Code, the Commission's Rules of Practice and Procedure, and prior decisions, orders, and resolutions of this Commission.

### **B. Categorization, Hearings, and Issues to be Considered (Rule 2.1(c) and Rule 7.1)**

#### **1. Proposed Category**

PG&E proposes that this Application be categorized as a "rate setting" proceeding.<sup>1/</sup>

#### **2. Need for Hearing**

PG&E does not request hearings at this time but reserves the right to do so. PG&E anticipates that hearings will be requested, and accordingly proposes two alternative schedules as set forth in subsection 4 below.

#### **3. Issues to be Considered**

PG&E requests that, as part of this proceeding, the Commission:

##### **1. Approve PG&E's proposed modification to its existing SmartMeter™**

Program including the up-front, monthly, and exit charges/rates to customers who choose the "radio off" option, with the customer charges/ rates subject to future adjustment to reflect changes in actual costs. Cost recovery and associated revenue requirements for the period after December 2013 shall be addressed in PG&E's 2014 GRC Phase 1 and subsequent GRCs;

##### **2. Determine that the proposed "radio off" choice is a reasonable modification**

to PG&E's existing SmartMeter™ Program based on a 2012-2013 estimated capital cost of

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<sup>1/</sup> Rule 1.3(e) defines "rate setting" as proceedings in which the Commission sets or investigates rates for a specifically named utility (or utilities) or establishes a mechanism that in turn sets rates for a specifically named utility or utilities."

\$38.3 million, estimated expense of \$75.1 million, and a two-year electric and gas revenue requirement of \$84.4 million;

3. Authorize PG&E to include in its electric and gas rates the forecasted revenue requirement recovered from individual customers choosing the “radio off” metering option;

4. Approve PG&E’s ratemaking proposals and mechanisms for the proposed modifications to its existing SmartMeter™ Program, including establishing two-way balancing accounts in which to record the forecasted electric and gas revenue requirements and actual costs of the program, and authorizing PG&E to increase electric and gas rates effective upon implementation of the program, so as to recover the costs of offering the “radio off” option subject to annual true-up of the costs and forecasted revenue requirements; and

5. Grant such other authority and relief as the Commission deems appropriate.

#### **4. Proposed Schedule**

The CPUC’s schedule for this proceeding should be as expeditious as possible, while still providing for participation by all interested parties. PG&E offers below two alternative procedural schedules for this proceeding. The first is a more expedited schedule without the need for evidentiary hearings, and the second is a similar schedule that also provides evidentiary hearings. Because of the prerequisite AMI network upgrades, customer communications and billing system changes and enhancements needed to implement a program of this type, PG&E will need a brief but reasonable period of time following Commission approval of this Application to finalize the modifications necessary to make the option available to customers. PG&E understands the urgency of implementing the approved program and will begin offering the “radio off” option to customers as soon as reasonably practical after a final CPUC Decision.

**First Alternative Schedule (without hearings)**

Application Filed	March 24, 2011
Prehearing Conference	April 7, 2011
Responsive Testimony	April 21, 2011
Concurrent Rebuttal Testimony	May 12, 2011
Opening Briefs	May 27, 2011
Reply Briefs (case Submitted)	June 10, 2011
Proposed Decision	July 28, 2011
Final Decision	August 25, 2011

**Second Alternative Schedule (with hearings)**

Application Filed	March 24, 2011
Prehearing Conference	April 7, 2011
Responsive Testimony	April 21, 2011
Concurrent Rebuttal Testimony	May 12, 2011
Evidentiary Hearings	May 23-26, 2011 (4 days)
Opening Briefs	June 9, 2011
Reply Briefs (case Submitted)	June 25, 2011
Proposed Decision	August 18, 2011
Final Decision	September 15, 2011

**C. Legal Name and Principal Place of Business (Rule 2.1(a))**

The legal name of the Applicant is Pacific Gas and Electric Company. PG&E's principal place of business is San Francisco, California. Its post office address is Post Office Box 7442, San Francisco, California 94120.

**D. Correspondence and Communication Regarding This Application (Rule 2.1(b))**

PG&E's attorneys in this matter are:

Chonda J. Nwamu  
Law Department  
Pacific Gas and Electric Company  
P.O. Box 7442  
San Francisco, CA 94106  
Telephone: (415) 973-6650  
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Law Department  
Pacific Gas and Electric Company  
P.O. Box 7442  
San Francisco, CA 94106  
Telephone: (415) 973-6695  
Facsimile: (415) 973-5520

All correspondence and communications regarding this Application should be addressed to Chonda J. Nwamu at the above address.

**E. Articles of Incorporation (Rule 2.2)**

PG&E is, and since October 10, 1905, has been, an operating public utility corporation organized under California law. It is engaged principally in the business of furnishing electric and gas services in California. A certified copy of PG&E's Restated Articles of Incorporation, effective April 12, 2004, is on record before the Commission in connection with PG&E's Application 04-05-005, filed with the Commission on May 3, 2004. These articles are incorporated herein by reference pursuant to Rule 2.2 of the Commission's Rules.

**F. Balance Sheet and Income Statement (Rule 3.2(a)(1))**

PG&E's most recent balance sheet and an income statement are contained in Exhibit A of this Application.

**G. Statement of Presently Effective Rates (Rule 3.2(a)(2))**

The presently effective rates PG&E proposes to modify are set forth in Exhibit B of this Application.

**H. Statement of Proposed Changes and Results of Operations at Proposed Rates (Rule 3.2(a)(3))**

The statement is not required since the proposed changes in revenue do not exceed one percent.

**I. Summary of Earnings (Rule 3.2(a)(5) and Rule 3.2(a)(6))**

Exhibit C shows for the recorded year 2009, the revenues, expenses, rate bases and rate of return for PG&E's Electric and Gas Departments.

**J. Most Recent Proxy Statement (Rule 3.2(a)(8))**

PG&E's most recent proxy statement, dated March 31, 2010, was filed in Application 10-04-017. This proxy statement is incorporated herein by reference.

**K. Type of Rate Change Requested (Rule 3.2(a)(10))<sup>2/</sup>**

This proposed change reflects changes in PG&E's base revenues to reflect the costs PG&E incurs to own, operate and maintain its gas and electric plant and to enable PG&E to provide adequate service to its customers.

**L. Notice and Service of Application (Rules 3.2(b)-(d))**

Within ten (10) days of filing this Application, PG&E will mail a notice stating in general terms the proposed revenues, rate changes, and ratemaking mechanisms requested in this Application to the parties listed in Exhibit D, including the State of California and cities and counties served by PG&E. This Application and attachments, or a Notice of Availability of this Application and attachments, is being served on the parties of record in PG&E's Advanced Metering Infrastructure Application, A.05-06-028, PG&E's SmartMeter™ Upgrade Application, A.07-12-009, A.10-09-012, A.11-01-002, and A.10-04-028. PG&E will publish in newspapers of general circulation in each county in its service

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<sup>2/</sup> Rule 3.2(a)(9) is inapposite to this Application.

territory a notice of filing this Application. PG&E will also include notices with the regular bills mailed to all customers affected by the proposed changes.

### **VIII. REQUESTED RELIEF**

WHEREFORE, Pacific Gas and Electric Company respectfully requests that the CPUC:

1. Approve PG&E's proposed modifications to its existing SmartMeter™ Program (i.e., the "radio-off" option) as described and proposed herein;
2. Approve as reasonable PG&E's proposed up-front and monthly customer fees/rates (differentiated for CARE-enrolled customers, and non-CARE customers as specified herein), and "exit" fee for the SmartMeter™ radio-off option as described herein;
3. Adopt PG&E's proposed balancing account to track up-front charges and ongoing fees/rates and the capital and expense revenue requirements associated with implementing the proposed "radio-off"-related modifications to the existing SmartMeter™ Program;
4. Approve the proposed forecasted incremental revenue requirements for 2012-2013 as presented in this Application as the starting point for up-front and ongoing fees/rates and determine that cost recovery and associated revenue requirements for the period after December 2013 shall be addressed in PG&E's 2014 GRC Phase 1 and subsequent GRCs;
5. Approve PG&E's ratemaking proposals and mechanisms for the proposed modifications to PG&E's existing SmartMeter™ Program, including establishing two-way balancing accounts in which to record the actual electric and gas revenue requirements and actual fees/revenue collected for the program, and authorizing PG&E to increase electric and gas rates effective on the date that PG&E implements

the “radio off” option, to recover the costs of offering the option subject to annual true-up of the costs and forecasted revenue requirements; and

6. Grant such other and further relief as the CPUC finds just and reasonable.

Dated this 24th day of March, 2011 at San Francisco, California.

Respectfully Submitted,

ANN H. KIM  
CHRISTOPHER J. WARNER  
CHONDA J. NWAMU

By: \_\_\_\_\_ /s/  
CHONDA J. NWAMU

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Attorneys for  
PACIFIC GAS AND ELECTRIC COMPANY



## **VERIFICATION**

I, the undersigned, say:

I am an officer of the applicant corporation herein, and am authorized to make this verification on its behalf. The statements in the foregoing document are true to my own knowledge, except as to matters which are therein stated on information or belief, and as to those matters I believe them to be true.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this 24th day of March, 2011 at San Francisco, California.

/s/

\_\_\_\_\_  
GREGORY KIRALY  
Vice President SmartMeter™ Operations  
PACIFIC GAS AND ELECTRIC COMPANY

CERTIFICATE OF SERVICE

I, the undersigned, state that I am a citizen of the United States and am employed in the City and County of San Francisco; that I am over the age of eighteen (18) years and not a party to the within cause; and that my business address is Pacific Gas and Electric Company, Law Department B30A, 77 Beale Street, San Francisco, California 94105.

I hereby certify that on March 24, 2011, I served:

APPLICATION OF PACIFIC GAS AND ELECTRIC COMPANY  
FOR APPROVAL OF MODIFICATIONS TO ITS  
SMARTMETER™ PROGRAM

Via electronic mail to each party on the following official service lists providing an email address or by first-class mail, postage prepaid, to each party on the official service lists not providing an email address.

A. 05-06-028; A. 07-12-009; A. 10-04-018; A. 10-09-012; A. 10-09-015;  
and A. 11-01-002;

I certify and declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed on this 24th day of March, 2011 at San Francisco, California.

\_\_\_\_\_  
/s/  
MARY SPEARMAN