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 11-03-014 (March 24, 2011)

PACIFIC GAS AND ELECTRIC COMPANY'S (U39M) RESPONSE TO ADMINISTRATIVE LAW JUDGE'S OCTOBER 12, 2011 RULING DIRECTING IT TO FILE ADDITIONAL COST INFORMATION

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Dated: October 28, 2011

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I. INTRODUCTION

On October 12, 2011, Administrative Law Judge Yip-Kikugawa issued *Administrative Law Judge's Ruling Directing Pacific Gas and Electric Company to File Additional Cost Information*, in the above-captioned proceeding. Specifically, the Ruling directs PG&E to file additional information related to the costs and technological feasibility of various SmartMeter™ opt-out alternatives by October 28, 2011. PG&E hereby timely responds to the Ruling.

II. PG&E'S COST DATA ON THE SMARTMETER™ OPT-OUT ALTERNATIVES IDENTIFIED IN THE RULING

The ALJ Ruling requests that PG&E provide cost estimates for replacement of a wireless SmartMeter™ with the following opt-out alternatives: (1) analog meter, (2) a digital meter with no radio, and (3) a wired smart meter (telephone line). In compliance with the Ruling, PG&E has developed cost estimates for the requested opt-out alternatives, and also incorporated its cost estimates for the alternative that it proposed in its original Application and continues to endorse, a SmartMeter™ with its radio turned off. (See, Attachment A).

PG&E has exercised best efforts to provide the requested cost estimates on a timely basis, but significant cost uncertainty exists. Each of the opt-out alternatives represents a significant departure from PG&E's previously approved SmartMeter™ Program. As this Commission is aware, the shift to advanced metering is a major change in the way that PG&E does business,

and one that this Commission approved only after years of regulatory scrutiny. The reversal of course may have financial implications that are not yet known. Accordingly, and because these opt-out alternatives would require significant modifications to PG&E's current SmartMeter™ deployment, PG&E's cost estimates may not identify categories of costs that are currently unknown to PG&E, and/or may rely on cost assumptions that incorrectly estimate identified cost categories.

In addition to cost data on the non-"radio-off" opt-out alternative, the Ruling also requests additional cost information related to PG&E's radio-off proposal. Specifically, the Ruling seeks cost estimates on development of potential, future SmartMeter™ functionality that does not currently exist with PG&E's SmartMeters™ (e.g., remote radio turn off). Given that the functionality does not currently exist and vendor development of the functionality is beyond PG&E's control, PG&E's estimates of the costs to make such technology modifications are uncertain. For these reasons, actual costs to implement the opt-out alternatives identified in the Ruling may vary from the cost estimates presented here based on the actual circumstances and implementation needs as they exist once the Commission issues a Decision in this proceeding.

PG&E continues to recommend and support its proposed radio-off SmartMeter™ as the most economically and technologically feasible alternative to its SmartMeter™ Program, as fully described in A.11-03-014 and supporting Testimony. To enable a comparison of the requested opt-out alternatives cost data with the radio-off costs submitted in PG&E's Application, PG&E includes radio-off cost data as part of Attachment A. PG&E seeks to clarify that the cost estimates it provides for each SmartMeter™ opt-out alternative in Attachment A reflect estimated costs to offer customers only the identified alternative. If customers are able to select from more than one opt-out alternative, PG&E likely will incur additional costs related to offering multiple opt-out alternatives.

In recognition of all of the foregoing risks, PG&E proposed two-way balancing account treatment when it submitted its Application to the Commission on March 24, 2011. PG&E reiterates here the appropriateness of providing balancing accounts for these costs. Such

treatment is particularly appropriate with respect to the alternatives that PG&E did not propose in its Application and for which this Commission has requested detailed cost information within such a short time frame. PG&E submits that the short time frame in which the Commission has requested this cost-information raises the risk that PG&E may have missed or underestimated categories of cost.

III. PG&E RESPONSES TO THE ADDITIONAL INFORMATION REQUESTED RELATED TO ITS RADIO-OFF PROPOSAL

ALJ Ruling, Question 1:
1. Do the current wireless electric and gas smart meters have the capability to be turned off remotely?

PG&E Response:

Electric – No. The radio in PG&E's electric SmartMeter™ cannot currently be turned off remotely from the head-end system.

Gas – No. The radio in PG&E's gas SmartMeter™ module cannot be turned off remotely from the head-end system.

ALJ Ruling, Question 1.a. and 1.b.:

- *a. If so, what is the associated cost to include this capability?*
- *b. If not:*
  - *i. Will this capability be available in the future and what is the estimated cost?*
  - *ii. Is it possible to acquire an electric or gas smart meter with this capability and what is the estimated cost?*

PG&E Response:

a. N/A

b.(i.) **Electric** – PG&E has been informed by its vendor, Silver Spring Network (SSN), that the electric SmartMeter™ is capable of future modifications which would enable remote radio-off/on functionality. PG&E's preliminary discussions with vendors indicate this functionality could be made possible through Information Technology software/firmware changes that could be enabled on the current hardware and head-end infrastructure. SSN also would need to implement remote radio-off/on into its future product development work. PG&E

estimates that the cost of the required changes would be approximately $2.0 million At this time, PG&E is uncertain how much time it would take to design, test, and implement the functionality, but such functionality would probably not be available before early 2013. This is consistent with PG&E's original filing, which proposes manual radio-off/on for customers that choose to opt-out of the SmartMeter™ Program.

One-time costs required to provide the functionality to remotely turn-off or on the electric SmartMeter™ radio transmitter will likely include:

- Firmware modifications
- Head-end modifications
- Changes to affected PG&E Information Technology systems, including but not limited to the Meter Data Management System, the Meter Data Warehouse, the Field Order System (FAS), the Customer Care and Billing System, the Asset Management System (SAP), and application tools that run on meter technicians' laptops.

In addition, recurring costs associated with this functionality could include the costs of office activities to initiate radio-off and radio-on field activities when remote operation is not successful, as well as customer engagement activities.

The development of remote radio-off functionality will not obviate the need for PG&E to physically visit the opt-out customer's premise. The labor costs associated with the field visit to manually turn off the meter in PG&E's radio-off proposal will still be incurred, even with remote turn off capability, because the gas SmartMeter™ is not capable of remote radio-on/off as described below; and also because PG&E will need to ensure that a physical identifying marker is placed on an opt-out meter to identify both to the customer and field personnel that the SmartMeter's™ radio has been turned off.

Gas –PG&E's gas SmartMeter™ will not have remote radio-off/on capability available in the future because the modules do not receive any form of radio-communication from the head-end system. This also is consistent with PG&E's original filing – that manually turning off the electric SmartMeter™ is cost-effective because PG&E would need to manually turn off the

gas SmartMeter™ for its opt-out customer-population.

b(ii.) PG&E's current SmartMeter™ vendors do not offer SmartMeters™ with remote radio-off capability, and PG&E is not currently aware of the availability of smart meters with such technology.

ALJ Ruling, Question 2:

2. Do the current wireless electric and gas smart meters have the capability to be programmed to turn on and transmit data at a specified time each month (i.e., a "snap read")?

PG&E Response:

Electric – No. PG&E's current SmartMeter™ technology architecture does not support predefined scheduled radio transmissions. PG&E believes that the fundamental changes to the underlying electric system technology that would be required to develop "snap read" functionality renders such an alternative impractical, if not impossible, with the current SmartMeter™ system architecture. PG&E's electric system is designed to provide short but frequent maintenance messages to maintain its status as a device in the network. Further, the electric system is designed such that each meter endpoint receives a time-synch message, and without this message the interval data could not be relied upon to be accurate enough for billing purposes.

Gas – No. PG&E's current gas SmartMeter™ modules cannot be programmed so that the radio will transmit on a predefined schedule for a fixed and limited period of time. The firmware for PG&E's gas SmartMeter™ module does not currently support clock or time accumulation beyond a four-hour transmission period. Moreover, the gas SmartMeter™ module does not have the ability to accept new firmware. PG&E's gas Advanced Meter Infrastructure (AMI) technology can only hold 12 hourly interval reads and cannot be re-programmed to perform an automatic or requested "wake up" to read on a predetermined cycle. The gas technology in use by PG&E at the meter does not receive any message communication from the network.

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ALJ Ruling, Question 2.a. and 2.b.:

a. If so, what is the associated cost to include this capability?

b. If not:

i. Will this capability be available in the future and what is the estimated cost?

ii. Is it possible to acquire an electric or gas smart meter with this capability and what is the estimated cost?

PG&E Response:

a. N/A

b.(i). Electric and **Gas** – As PG&E described in response 2 above, PG&E does not believe "snap read" capability will be available for its systems in the future, because of the fundamental changes that PG&E's suppliers would need to make to the existing systems. PG&E is unable to provide a cost estimate to develop "snap read" functionality.

b.(ii.) Electric and **Gas** – PG&E is not aware of the availability of any electric or gas smart meters with this capability.

IV. CONCLUSION

PG&E respectfully submits the requested additional data related to its radio-off SmartMeter™ proposal, and the technological feasibility and cost data related to the other SmartMeter™ opt-out alternatives that the Commission is considering in this proceeding. Due to the considerable uncertainty surrounding implementation of any SmartMeter™ opt-out alternative, PG&E's actual opt-out implementation costs will be determined by the specific circumstances that exist once the CPUC issues a final Decision in this proceeding. Based on the totality of circumstances surrounding PG&E's current SmartMeter™ Program and the identified opt-out alternatives, including the technological and cost feasibility of the identified alternatives; the Commission should approve PG&E's SmartMeter™ radio-off proposal as requested in A.11-03-014. PG&E's radio-off proposal provides an alternative to customers with an aversion to wireless SmartMeter™ transmissions and its implementation, as compared to the other identified alternatives, would be more operationally consistent with PG&E's SmartMeter™ deployment.

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Respectfully Submitted,

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ATTACHMENT A