DATA REQUEST
PACIFIC GAS & ELECTRIC COMPANY

Application No. 10-09-012

Date: December 21, 2010

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From: Division of Ratepayer Advocates
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Request No.: DRA_A1012009_2

Due Date: January 1, 2011

Subject: PG&E AMI Deployment

Please provide your responses to the originator by the due date. If you are unable to provide the information by this date, please provide a written explanation to the originator by December 27, 2010 as to why the response date cannot be met and your best estimate of when the information can be provided. If you have any questions regarding this data request, please call the originator at the above phone number.

Requests

1. Describe how the motion of the output shaft of a gas meter is read by the meter index (i.e. is the sensing element mechanical, optical, magnetic, etc.).

2. Describe how the motion of the output shaft of a gas meter is read by the SmartMeter module (i.e. is the sensing element mechanical, optical, magnetic, etc.).

3. Which of the following customer specific calibration or adjustment factors are calculated and applied in the SmartMeter system:

   a. Gas meter output, cubic feet (CF) per revolution of the meter output shaft,

   b. Temperature correction to standard cubic feet (SCF),

   c. Pressure correction to SCF, accounting for line and atmospheric pressure,

d. Heat content of delivered gas (BTU/SCF).

4. How are the factors listed in question 3 above measured or calculated, updated, and stored for each customer?

5. How often are the factors listed in question 3 above updated for each customer?

6. Where in the SmartMeter/billing system are the factors listed in question 3 above applied and stored for each customer?

7. Describe the steps or processes which ensure that the output of a gas meter is correctly measured by the SmartMeter module. For example, is a given meter model designed such that each revolution of the output shaft accurately corresponds to a fixed number of cubic feet (CF) of gas, within PG&E's accuracy standard, or does the CF per revolution vary meter to meter? If the later, how is the calibration factor (CF/rev) for each meter entered into the SmartMeter system?

8. Is it possible to install the wrong SmartMeter module on a given model of gas meter? If so, how would this impact the metered usage?

9. What is the minimum resolution, or range of minimum resolutions, of residential gas meters, independent of the resolution of the meter index or SmartMeter module?

10. What is the smallest unit of measure (in cubic feet) that can be measured and transmitted by a residential SmartMeter module?

11. How often do gas modules transmit usage to the Aclara network?

12. Does the gas meter module store and transmit daily incremental usage, cumulative gas consumption, or both?

13. Is data from the gas meter measured, stored, and transmitted by the Aclara system in cubic feet or therms?

14. Is it correct that each customer has a pressure regulator upstream of their gas meter? If so, does this pressure regulator provide a stable and pre-set pressure to the gas meter, independent of the line pressure?

15. What is the pressure tolerance for a properly working residential pressure regulator?

16. What national standards (e.g. ANSI XXXX) does PG&E use to determine the accuracy requirements for **residential** gas meters?

17. What national standards (e.g. ANSI XXXX) does PG&E use to determine the accuracy requirements for **commercial** gas meters?

18. The figure below shows web-presentment data of an actual PG&E gas customer. Based on this figure, it appears that gas consumption is only displayed to a resolution of 1 therm. Is

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this correct for all customers?
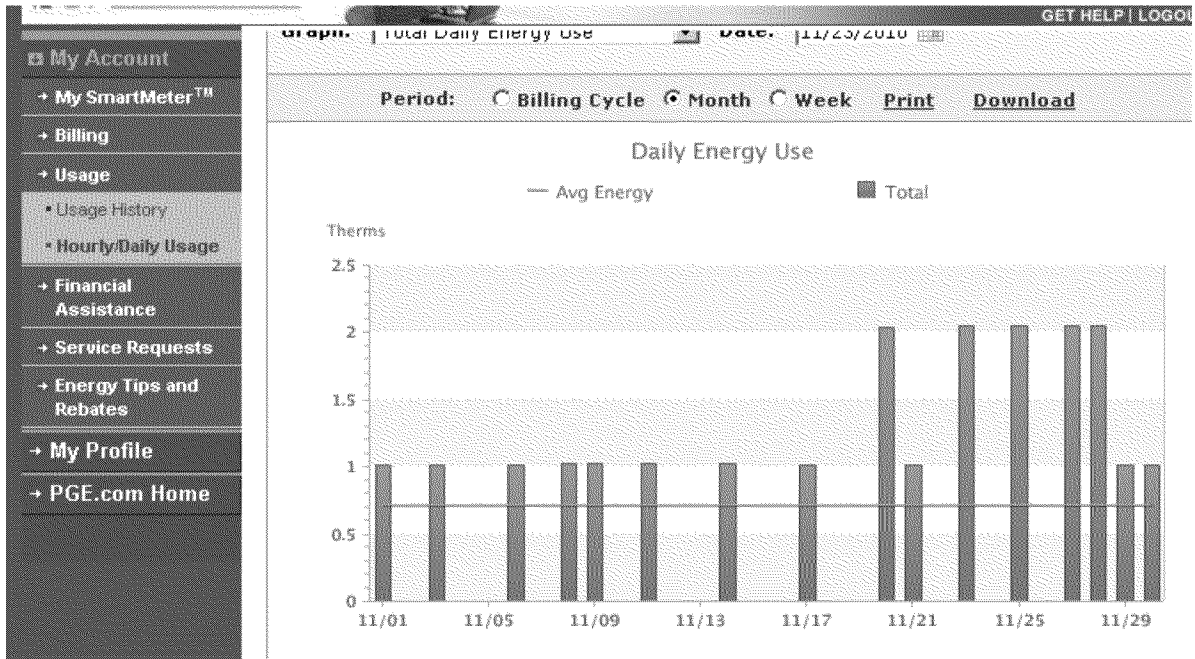
19. Is the 1 therm resolution for web display based on data transmitted from the meter, MDMS restrictions, web presentment software programming, or other limitations?

20. In DRA's opinion, the presentment of gas usage as shown above provides limited value in helping customers monitor usage of their water heaters, furnaces, clothes dryers, and other gas appliances. Describe how PG&E envisions customers using this data.

21. Has PG&E done any market research to determine how gas usage feed back will be used by customers?

22. What is required to provide customers with a reading of gas usage every day, even if the usage that day is less than 1 therm?

23. Does PG&E plan to provide better resolution of gas usage data such that a customer can see changes in daily gas consumption? If so, when is this change scheduled take place?

24. Do PG&E gas meters, pressure regulators, or any other gas distribution system within 5 ft of the gas meter vent gas? If so, please describe situations that result in gas venting, and provide an estimate of the amount of gas released.

25. Is it possible for gas to vent or leak into or through the meter index or SmartMeter module?

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