PACIFIC GAS AND ELECTRIC COMPANY
SmartMeter™ CPUC Staff Inquiry
Data Response

PG&E Data Request No.:	ED_012		
PG&E File Name:	SM CSI_DR_ED_012-Q01		
Request Date:	July 22, 2011	Requester DR No.:	7/22/11
Date Sent:	July 26, 2011	Requesting Party:	Energy Division
PG&E Witness:	N/A	Requester:	Aloke Gupta

QUESTION 1

Based on prior Commission decisions, please provide a list of the minimum functional requirements specified by the Commission as requirements that must be satisfied by the electric and/or gas smart meters deployed by the utility. Please include citations to the Commission decisions for each of the requirements. Please do not list any extra functionality or capabilities of the smart meters that exceed the minimum Commission-specified requirements.

ANSWER 1

The minimum functional requirements required by the CPUC to be satisfied by PG&E's electric and/or gas SmartMeters™ are listed below.

February 19, 2004 ACR: The foundational functional requirements were specified by the Commission on February 19, 2004, in the *Joint Assigned Commissioner and Administrative Law Judge's Ruling Providing Guidance for the Advanced Metering Infrastructure Business Case Analysis.* Please see Section 3, Guidance on AMI System Functionality (pages 2 - 4).

> As indicated in the original rulemaking, we prefer to take a broad view of the investigation of AMI. The Commission can always authorize a narrower scope AMI system implementation if warranted, but it is more difficult to expand functionality if it has not been considered in the business case analysis. Therefore, the AMI system analyzed should support the following six functions:
>
> a. Implementation of the following price responsive tariffs[3] for:
> (1) Residential and Small Commercial Customers (200kW) on an opt out basis:
> (a) Two or Three Period Time-of-Use (TOU) rates with ability to change TOU period length;
> (b) Critical Peak Pricing with fixed (day ahead) notification (CPP- F);
> (c) Critical Peak Pricing with variable or hourly notification (CPP-V) rates;

(d) Flat/inverted tier rates.

(2) Large Customers (200 kW to 1 MW) on an opt out basis:
   (a) Critical Peak Pricing with fixed or variable notification;
   (b) Time-of-Use;
   (c) Two part hourly Real-Time Pricing.

(3) Very large customers (over 1 MW) on an opt out basis:
   (a) Two part hourly Real-Time Pricing;
   (b) Critical Peak Pricing with fixed or variable notification;
   (c) Time-of-Use Pricing.

b. Collection of usage data at a level of detail (interval data) that supports customer understanding of hourly usage patterns and how those usage patterns relate to energy costs.
c. Customer access to personal energy usage data with sufficient flexibility to ensure that changes in customer preference of access frequency do not result in additional AMI system hardware costs.
d. Compatible with applications that utilize collected data to provide customer education and energy management information, customized billing, and support improved complaint resolution.
e. Compatible with utility system applications that promote and enhance system operating efficiency and improve service reliability, such as remote meter reading, outage management, reduction of theft and diversion, improved forecasting, workforce management, etc.
f. Capable of interfacing with load control communication technology.

Footnote 3: The costs of developing an AMI system capable of supporting a variety of rate designs and customer service applications must be separated from the actual costs associated with implementing a specific new tariff. If a party chooses to estimate the benefits of a particular dynamic rate in its AMI analysis, the benefits and the costs of implementing that rate (such as customer education or billing changes) should be separated from core costs of developing and installing AMI hardware, software, and communications systems.

Decision 06-07-027, July 20, 2006: In Decision 06-07-027, the Commission affirmed the functional requirements specified in the February 19, 2004 ACR (see Section 7.1, Functionality Criteria, beginning on page 19). Decision 06-07-027 also amended one and added two functional requirements, as follows:

- Finding of Fact 2: The proposed systems meet the Commission's functional criteria for AMI, except that the electric communications system is not an open architecture system. DSCI's system does not create a bottleneck blocking other communications over the electric distribution network. PG&E's contract with DCSI provides for a commercially viable licensing of the technology.

- Conclusion of Law 16: PG&E should provide free web access to day-after data for individual customers.

- Ordering Paragraph 3: PG&E shall include in its compliance advice letter an electric tariff for a voluntary Critical Peak Pricing (CPP) rates, as modified and adopted by this decision, for residential customers and for its small commercial and industrial customers with peak demand of less than 200 kW. The compliance advice letter shall include PG&E's proposal regarding bill protection for customers who opt-out of the CPP program before the end of the bill protection period.

- This Bill Protection requirement is also described in Finding of Fact 15: A bill guarantee, limiting the CPP customer's accumulated bills for the six month CPP season to the total amount otherwise payable under the customer's default rate, provides a participation incentive through a customer's first full summer on the CPP tariff.

Decision 09-03-026, March 12, 2009: In Decision 09-03-026, the Commission added a functional requirement regarding connect/disconnect switches:

- Conclusion of Law 3: The increased functionality and the potential uses of the integrated load limiting connect/disconnect switches justify providing all electric residential customers with such switches.

In addition, Decision 09-03-026 contained numerous provisions related to Home Area Network enablement.