

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

PG&E Data Request No.:	DRA_003		
PG&E File Name:	SM CSI_DR_DRA_003-Q20		
Request Date:	December 22, 2010	Requester DR No.:	DRA_3
Date Sent:	March 16, 2011	Requesting Party:	DRA
PG&E Witness:	N/A	Requester:	Tom Roberts

QUESTION 20

Has PG&E performed accuracy tests of the Smart Meter measurement and billing system?

- a. Provide the test protocols which describe and govern this testing, including but not limited to how test subjects are selected, ANSI Z1.4 "Acceptable Quality Level" and other sampling specifications, the specific tests performed, protocols for each test performed, and post-test data processing.
- b. Provide any reports or testimony which present results of this accuracy testing,
- c. If accuracy testing is still active, describe any changes to the test plan which have taken place and describe why the changes were made.

ANSWER 20

Yes, PG&E performs accuracy tests of the SmartMeter™ measurement and billing system. These tests begin with the meter itself and also govern systems that receive the meter data, including the billing system.

PG&E performs extensive testing to ensure meters pass stringent quality assurance standards both before and after installation. Metering accuracy and quality are based on meter design, manufacturing consistency, and verification testing. This response is organized to address each of these three critical elements in ensuring meters are accurate and reliable. A detailed explanation of PG&E's meter test and Quality Assurance processes was previously provided to DRA in response to Bakersfield Data Request DRA_003-01. A copy is provided under separate cover.

In the transition period following the installation of a SmartMeter™ device, PG&E's Meter Data Management (MDM) system receives reads from both the SmartMeter™ system and from the Electronic Meter Reading (EMR) system used by meter readers. The MDM does a read comparison when reads from both systems are available, which currently occurs for approximately 71 percent of SmartMeter™ installations. The period when manual meter reads are available for comparison is variable based on the timing of route transition, but, on average, one to two EMR-based reads are available for each meter.

Because the time elapsed for the transition from manual meter reading to remote meter reading is sometimes less than a single billing cycle, an EMR comparison cannot be done for all installations. Consequently, PG&E has instituted other validation checks to verify read quality.

On a continuous basis independent of SmartMeter™ installations, PG&E performs the full series of usage validations consistent with the California VEE rules as detailed in the DASMMMD document, Section C-VEE, Version 2.0. These validations are designed to identify measurement errors or usage anomalies and are run on a daily basis. PG&E also conducts additional checks performed outside the MDM system, including:

- Average Daily Usage (ADU) Check and the High Usage Check. The ADU Check report examines ADU for the same customer and commodity for the two billing cycles prior to the SmartMeter™ install, and then compares it to the ADU for the ten days following the SmartMeter™ install, to detect extraordinarily high or low usage. Exceptions are evaluated against the last twelve months of customer usage, when available, to look for seasonal or other influences. This validation check includes a check for zero usage by active customers.
- High Usage Report: This report captures all instances where usage exceeds 150 kWh per day (for residential), and 300 kWh per day for commercial, as a static threshold. These values are then compared to the customer's previous usage history to see if this is realistic for the customer.
- Seven Day Estimation Report: This report identifies all meters that have failed to return a good read within the prior seven days. Meters are reviewed for network coverage and endpoint exceptions. Endpoints requiring field work are dispatched for maintenance.

Regarding reports that present results of PG&E's accuracy testing, in response to data requests during the CPUC's Structure Group investigation, PG&E provided five years of recorded testing results. Copies of those responses will be provided under separate cover.

Regarding any changes to PG&E's accuracy testing plan, in 2010, PG&E made the following three changes to the testing plan described in Bakersfield Data Request DRA_003-01:

- Reinstated random meter testing for SmartMeter™ devices;
- Instituted a program for side-by-side testing of SmartMeter™ devices and legacy meters; and
- Instituted a Quality Assurance goods receipt testing based on ANSI standards for meters prior to their delivery to Wellington.