

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

PG&E Data Request No.:	DRA_002		
PG&E File Name:	SM CSI_DR_DRA_002-Q01-Supp01		
Request Date:	December 21, 2010	Requester DR No.:	DRA_2
Date Sent:	March 29, 2011	Requesting Party:	DRA
PG&E Witness:	N/A	Requester:	Tom Roberts

**QUESTION 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.).

**ANSWER 1**

Gas meters have a rotating shaft with a “drive dog” that, in legacy meters, turned a gear in the mechanical register. In the SmartMeter™ design, this drive dog turns a mechanical shaft that is part of the Module. That shaft extends through the Module and engages the mechanical register in the same manner as in the legacy meter. In addition, the shaft has magnets. The rotation of the magnets is sensed by the Module with magnetic reed switches in a redundant fashion to increase reliability.

**ANSWER 1 -- SUPPLEMENTAL**

The original January 14, 2011 response to this data request is provided above. DRA subsequently requested that PG&E explain what was meant by “in a redundant fashion.”

The magnetic reed switches provide a means of verifying the reliability of the gas meter. These switches reside within the Module and, as the shaft rotates, the magnet on the shaft passes one switch and then the second switch. Therefore, if there is an operating problem with the meter that causes both switches to show closed (or open) at the same time, an error will be recorded.