

STATE OF CALIFORNIA

Public Utilities Commission  
San Francisco

**M e m o r a n d u m**

**Date:** March 22, 2011

**To:** The Commission  
(Meeting of March 24, 2011)

**From:** Edward Randolph, Director  
Office of Governmental Affairs (OGA) — Sacramento

**Subject:** **Assembly Bill 37 (Huffman) – Smart grid deployment: smart meters.**  
**As introduced: December 6, 2010**

**LEGISLATIVE SUBCOMMITTEE RECOMMENDATION:** OPPOSE UNLESS AMENDED

**SUMMARY OF BILL:**

AB 37 requires the California Public Utilities Commission (CPUC) to immediately suspend the deployment of advanced meters (also known as smart meters) by all electric utilities until the CPUC has complied with the requirements of the bill. The requirements must be completed by January 1, 2012 and include the following:

- 1) Identify alternative options for customers choosing to decline installation of “wireless advanced meter infrastructure devices” that are “equivalent” to the approved devices in terms of “reliability and efficiency.”
- 2) Once the alternative options are identified, require the electric utilities to allow customers to decline installation of an advanced meter device and make those options available to customers.
- 3) Direct the electric utilities to disclose information about the advanced meter technology, “including radio frequency (RF), magnitude & duration of signal.”
- 4) Assess the net effect of customers declining installation of advanced meter devices on smart grid (SG) reliability and efficiency.

The bill contains an urgency clause which, if passed and signed by the Governor, would take effect immediately.

**SUMMARY OF SUPPORTING ARGUMENTS FOR RECOMMENDATION:**

The CPUC President has required Pacific Gas and Electric (PG&E) to submit a plan that would allow individual customers to opt for an alternative smart meter by March 24, 2011. If amended, AB 37 would largely be consistent with that order. However, as drafted, the requirement of AB 37 would be difficult if not impossible to implement. The bill's current requirements will also likely lead to significant costs and operational challenges associated with smart meter deployment and may adversely affect the progress and benefits of smart grid.

Given that the PG&E, Southern California Edison (SCE), and San Diego Gas and Electric (SDG&E) will be near the end of their deployment of smart meters by the end of 2011, the moratorium imposed by the bill would effectively be moot. The unrestricted ability of customers to opt out of wireless metering devices will likely create major uncertainties in utility operations and adversely impact performance of the general wireless network, leading to more overhead and costs for the utility. The uncertainty will be created in part by the fact that there may be no, or limited, alternatives to the wireless meters that are equivalent in reliability and efficiency that can be found at reasonable cost. Additionally, the potentially broad nature of the opt-out language in the bill means the impact of an opt out plan on the operability of the remaining wireless meters could not be predicted until after the plan was put into place.

### **SUMMARY OF SUGGESTED AMENDMENTS**

We suggest the following conceptual amendments to the bill:

1. Eliminate the moratorium.
2. Extend the deadline to comply with the bill's requirements to January 1, 2013.
3. Authorize the CPUC to determine costs of opt-out options (both direct costs associated with an individual opt-out and other utility indirect overhead costs required to support an opt-out option generally) and how they will be recovered. Provide that costs should be borne by customers choosing to opt-out. This could be accomplished by including language in the bill that provides that ratepayers that do not choose to opt out are held indifferent. Costs associated with installing or re-installing smart meters for customers reversing their opt-out decision should also be included.
4. Eliminate the requirement for alternative options to be equivalent in "reliability & efficiency" to wireless smart meters. Authorize CPUC to determine appropriate criteria to evaluate and approve potential alternative options.
5. Limit the right to opt-out to individual customers (as opposed to entire communities, for example) and as applicable only to their individual meter (as opposed to the broader category of "wireless advanced metering infrastructure devices" specified in the bill).
6. Recognize that natural gas smart meters are also wireless and subject to customer opt-out.

## **DIVISION ANALYSIS (Energy Division):**

If this bill were to become law, the moratorium on smart meter deployment will have little impact on the overall deployment of smart meters but would still generate costs. All three electric utilities' advanced meter deployments will be most likely completed by the time the bill is passed. Previous analysis provided by PG&E in a CPUC proceeding<sup>1</sup> found that a moratorium would generate additional costs such as retention of meter installers who are currently under contract or the termination of such contracts which may lead to additional costs to train new staff if and when the moratorium is lifted. Storage for the equipment to be installed during the moratorium as well as the extension of management oversight of the deployment will also generate costs. Additionally, a moratorium may delay the realization of advanced meter benefits.

The bill requires that alternative options be equivalent in reliability and efficiency to wireless advanced meters. Preliminary research indicates that this standard may be difficult to meet. For example, while some wire metered options may offer many of the same features of the current meters being installed they may not afford the same level of reporting efficiency. Also, for some utilities (e.g, San Diego Gas and Electric), the gas and electric smart meters are integrated into the same infrastructure. In this case, identifying alternative options may be even more difficult.

Supporting an alternative (non-wireless) smart meter will likely require significant on-going overhead customized for the alternate meter, leading to increased expense for the utility. The additional overhead potentially includes more back-office support for separate data collection and processing systems, a separate supply chain and inventory, and additional field testing in compliance with current regulations. It is not clear from the bill how these increased on-going costs would be accounted for and whether they could be assigned to the customers choosing to opt-out of wireless smart meter or would be absorbed by all ratepayers.

The option for a customer to decline a wireless advanced meter appears unlimited – a customer could decline at any time and for any reason. The resulting unpredictability in timing and rate of opt-outs could destabilize utility operations and lead to additional overhead and expenses. This is due to the fact that the utilities' advanced meter systems operate via mesh network, that relies on the smart meters themselves to relay usage data from other smart meters. Depending on the extent, location and timing of customer opt-outs, the utility may experience 'gaps' in its network, leading to heightened monitoring for communication failures and the deployment of additional devices to cover the gaps. The utility may need to staff technicians and maintain supplies (at a level higher than currently planned for in the post-deployment period), all of which could contribute to extra overhead costs.

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<sup>1</sup> The City and County of San Francisco (CCSF) filed a Petition for Modification requesting the Commission to place a moratorium on PG&E's smart meter deployment until the Commission completes its independent evaluation of PG&E's smart meter system. In December 2010, the Commission denied CCSF's request.

The term “customer” is not defined, and the phrase “wireless advanced meter infrastructure devices” is broad. Presumably, large groups of customers could also collectively exercise the opt-out option and decline installation of other supporting equipment like wireless access points in the community. This could have a substantial negative impact on the efficacy of the advanced meter infrastructure network and require expensive workarounds.

Although not explicitly stated, if the intent of the bill is to enable customers to avoid exposure to radio frequency (RF) associated with wireless advanced meters, then complying with the bill would not prevent the an opt-out customer from being exposed to surrounding RF . associated with other wireless meters, with mobile communications devices, and other household appliances,. Two of the three electric utilities are also currently deploying wireless gas smart meters(PG&E and SDG&E)).SoCal Gas has also begun deploying wireless gas smart meters.

The bill is silent on who pays for the added expense associated with providing alternative solutions to customers who opt out and implementing any measures necessary to mitigate the impact of the opt-out requests on the rest of the network. The CPUC should have final determination as to who pays for the additional expense caused by opt-outs.

It is not feasible for the CPUC to comply with the bill's January 1, 2012 deadline.

#### **PROGRAM BACKGROUND:**

Over the last few years, the CPUC has ordered all four major IOUs to deploy wireless advanced metering infrastructure (for both electric and gas) to achieve operational and demand-side benefits and advance larger policy goals for customer control of their energy costs, as well as operational benefits for the utilities.

More recently, the CPUC issued a decision denying EMF Safety Network's request for a moratorium on wireless smart meter installations based on concerns about RF exposure. The CPUC decision essentially relied on the Federal Communication Commission (FCC) as the authority responsible for setting safe exposure levels and FCC's certification that wireless smart meters comply with its standards for maximum exposure levels.

In January, the California Council of Science & Technology released a report assessing the health impacts of RF exposure based on a review of published health studies. It found that the FCC standard provides a significant factor of safety against thermally induced health impacts of smart meters and that there is no clear evidence that additional standards are needed. For non-thermal effects, it found that “[g]iven the existing significant scientific uncertainty,” no standards are needed at this time.

However, it suggested that additional research is needed to better understand the potential health impacts of non-thermal effects.

By July 1, 2011, the utilities are expected to file their long-term smart grid deployment plans in response to a CPUC order in the smart grid proceeding. Much of that smart grid, and the associated benefits, is expected to rely on wireless infrastructure extending beyond smart meters.

**LEGISLATIVE HISTORY:**

**FISCAL IMPACT:**

The CPUC will require two PURA positions (one PURA IV and one PURA V) to implement the bill at a cost of \$221,000 annually.

**STATUS:**

AB 37 is pending hearing in the Assembly Utilities and Commerce Committee.

**SUPPORT/OPPOSITION:**

**STAFF CONTACTS:**

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**Date:**

**BILL LANGUAGE:**

BILL NUMBER: AB 37        INTRODUCED  
                              BILL TEXT

INTRODUCED BY    Assembly Member Huffman

DECEMBER 6, 2010

An act to add Section 8370 to the Public Utilities Code, relating to electricity, and declaring the urgency thereof, to take effect immediately.

LEGISLATIVE COUNSEL'S DIGEST

AB 37, as introduced, Huffman. Smart grid deployment: smart meters.

(1) The federal Energy Independence and Security Act of 2007 states that it is the policy of the United States to maintain a reliable and secure electricity structure that achieves certain objectives that characterize a smart grid. Existing federal law requires each state regulatory authority, with respect to each electric utility for which it has ratemaking authority, and each nonregulated electric utility, to consider certain standards and to determine whether or not it is appropriate to implement those standards to carry out the purposes of the federal Public Utility Regulatory Policies Act. The existing standards include time-based metering and communications, consideration of smart grid investments, and providing purchases with smart grid information, as specified.

Under existing law, the Public Utilities Commission (CPUC) has regulatory authority over public utilities, including electrical corporations and gas corporations, as defined. Existing law requires the CPUC, by July 1, 2010, and in consultation with the State Energy Resources Conservation and Development Commission, the Independent System Operator, and other key stakeholders, to determine the requirements for a smart grid deployment plan consistent with certain policies set forth in state and federal law. Existing law requires that the smart grid improve overall efficiency, reliability, and cost-effectiveness of electrical system operations, planning, and maintenance. Existing law requires each electrical corporation, by July 1, 2011, to develop and submit a smart grid deployment plan to the commission for approval.

This bill would require the CPUC, by January 1, 2012, to identify alternative options for customers of electrical corporations that decline the installation of wireless advanced metering infrastructure devices, commonly referred to as smart meters, as part of an approved smart grid deployment plan. The bill would also require the CPUC, when it has identified those alternative options, to require each electrical corporation to permit a customer to decline the installation of an advanced metering infrastructure device and make the alternative options available to that customer. The bill would also require the CPUC to disclose certain information to customers

about the technology of smart meters. The bill would require the CPUC to direct each electrical corporation to suspend the deployment of advanced metering infrastructure until the CPUC has complied with the above requirements.

(2) Under existing law, a violation of the Public Utilities Act or any order, decision, rule, direction, demand, or requirement of the CPUC is a crime.

Because the bill would require action by the CPUC to implement certain of its requirements, a violation of which would be a crime, these provisions would impose a state-mandated local program by creating a new crime.

(3) The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that no reimbursement is required by this act for a specified reason.

(4) This bill would declare that it is to take effect immediately as an urgency statute.

Vote: 2/3. Appropriation: no. Fiscal committee: yes.  
State-mandated local program: yes.

THE PEOPLE OF THE STATE OF CALIFORNIA DO ENACT AS FOLLOWS:

SECTION 1. Section 8370 is added to the Public Utilities Code, to read:

8370. (a) By January 1, 2012, the commission shall do all of the following:

(1) Identify alternative options for customers of electrical corporations that decline the installation of wireless advanced metering infrastructure devices as part of a smart grid deployment plan approved by the commission pursuant to this chapter. The alternative options identified by the commission shall provide reliability and efficiency equivalent to the approved devices.

(2) When the commission has identified alternative options in accordance with paragraph (1), it shall require each electrical corporation to permit a customer to decline the installation of an advanced metering infrastructure device, and to make alternative options identified pursuant to paragraph (1) available to that customer.

(3) Direct each electrical corporation to disclose to customers information about the technology of advanced metering infrastructure devices, including radio frequency, magnitude of signal, and duration of signal.

(4) Assess the net effect of customers declining the installation of advanced metering infrastructure devices on smart grid reliability and efficiency.

(b) The commission shall direct each electrical corporation to suspend the deployment of advanced metering infrastructure until the commission has complied with the requirements of subdivision (a).

SEC. 2. No reimbursement is required by this act pursuant to Section 6 of Article XIII B of the California Constitution because the only costs that may be incurred by a local agency or school district will be incurred because this act creates a new crime or infraction, eliminates a crime or infraction, or changes the penalty for a crime or infraction, within the meaning of Section 17556 of the

Government Code, or changes the definition of a crime within the meaning of Section 6 of Article XIII B of the California Constitution.

SEC. 3. This act is an urgency statute necessary for the immediate preservation of the public peace, health, or safety within the meaning of Article IV of the Constitution and shall go into immediate effect. The facts constituting the necessity are:

In order to ensure that utility customers in California are able to make informed decisions about the deployment of smart grid technology, it is necessary for this act to take effect immediately.