

STATE OF CALIFORNIA

Public Utilities Commission
San Francisco

M e m o r a n d u m

Date: April 10, 2008

To: The Commission
(Meeting of April 24, 2008)

From: Bryan Crabb, Legislative Liaison
Office of Governmental Affairs (OGA) — Sacramento

**Subject: SB 1438 (Padilla) – Smart grid systems.
As introduced: February 21, 2008**

LEGISLATIVE SUBCOMMITTEE RECOMMENDATION: OPPOSE UNLESS AMENDED

SUMMARY OF BILL:

- This bill would require all electric utilities with more than 10,000 service connections to develop and adopt a 'smart grid' system deployment plan by June 2009 and issue Request for Proposals (RFPs) by September 2009. "Smart grid" is defined in the bill as two-way communications equipment installed on the utility distribution system as well as in the end-use customer premises and narrowly defines certain aspects of the smart grid, leading to potential elimination of technologies that could effectively operate a smart grid.
- The bill also authorizes electric utilities to recover from ratepayers all reasonable costs for the planning, development and deployment of the smart grid system, and it requires the California Public Utilities Commission (Commission) to adopt specific incentive mechanisms to generate interest by the utilities in smart grid.

SUMMARY OF SUPPORTING ARGUMENTS FOR RECOMMENDATION:

- The bill narrowly defines certain aspect of the smart grid, which could favor a particular technology over another. For example, it states that the smart grid "utilizes the electrical delivery system to provide real-time monitoring...." This text appears to limit communication to technologies like broadband over powerline, and would thus exclude other means of communication such as wireless technologies. The Commission has traditionally favored open competition when it comes to technology choices.

- The bill requires the Commission to establish rules by that will provide utilities adequate incentives to deploy smart grid systems, specifically determining that utilities will receive an enhanced rate of return on its investment (capital and operational costs) or receive a portion of cost savings attributable to the smart grid system. The Commission has its own processes for making determinations as to what, if any, incentives the utilities receive for smart grid systems.
- The timeline for implementation is too aggressive and will result in confusion in the marketplace and possibly missed opportunities. The bill requires utilities to submit their smart meter plans by 2009, with RFPs issued by September 2009. Much more time is needed to appropriately define what smart grid is, so that the investment makes the most sense for California ratepayers. There are many potential stakeholders who need to provide their input, most notably the California Independent System Operator (CAISO) as well as the technology industry.
- The Commission is already in the process of moving the utilities to the smart grid concept, via the advanced metering proceedings and through its staff paper that outlines additional inquiries into smart grid technology. The Commission and the California Energy Commission (CEC) are in active discussion as to how to proceed with respect to pursuing additional smart grid technologies, which makes this bill unnecessary.
- The bill would mandate a smart grid system without apparent regard to the advanced metering systems currently under Commission review which could lead to a misalignment of systems and thus unnecessary costs.

SUMMARY OF SUGGESTED AMENDMENTS:

- None

DIVISION ANALYSIS (Energy Division):

The bill has implications for both publicly-owned and investor-owned utilities in the state. The following analysis is limited to just the investor-owned utilities (IOUs) and Commission policy and practices.

- When an investor-owned utility procures equipment for the purpose of providing electric service to its ratepayers, the Commission has the authority to determine what expenditures will be recoverable from ratepayers and the method by which the expenditures will be recovered. The bill mandates that all 'reasonable' costs associated with smart grid planning and development will be recovered from ratepayers, but provides no definition of 'reasonable' costs, nor recognizes the Commission's authority to determine reasonable costs. The Commission has the ability and process to make the best determination for cost recovery of utility capital investments.

- The bill requires the Commission to establish rules by that will provide utilities adequate incentives to deploy smart grid systems, specifically determining that utilities will receive an enhanced rate of return on its investment (capital and operational costs) or receive a portion of cost savings attributable to the smart grid system. The Commission has its own processes for making determinations as to what, if any, incentives the utilities receive for smart grid systems.
- The Commission is already in the midst of approving advanced meters for each investor-owned utility. The Commission will need to ensure that the definition of smart grid is appropriately aligned with the current investment in advanced meters. This can best be done via a Commission-lead proceeding where the technical functionalities of the smart grid are completely vetted and understood in the context of the advanced meters that will be deployed.
- Title XIII of the Energy Independence and Security Act of 2007 Pub. L. 110-140 addresses smart grid technology. Section 1306(a) of the bill creates a matching Smart grid Investment Program up to 1/5 of qualifying smart grid investments. Sec. 1307 requires states to consider smart grid investment by regulated utilities and recover of associated smart grid investments.
- The Commission has the authority and the processes to best determine how the smart grid investments should be pursued and recovered from ratepayers. The Commission has already indicated its interest in smart grid technology via its formal proceedings on advanced metering and has also indicated via a staff paper that it is interested in additional smart grid technology. The Commission and CEC staffs are currently in discussion as to developing concrete next steps.

LEGISLATIVE HISTORY:

None.

FISCAL IMPACT:

Likely absorbable, but not zero.

STATUS:

SB 1438 is scheduled to be heard in the Senate Committee on Energy, Utilities and Communications on April 15, 2008.

SUPPORT/OPPOSITION:

None on file.

STAFF CONTACTS:

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Date: April 10, 2008

BILL LANGUAGE:

BILL NUMBER: SB 1438 INTRODUCED
BILL TEXT

INTRODUCED BY Senator Padilla

FEBRUARY 21, 2008

An act to add Chapter 4 (commencing with Section 8360) to Division 4.1 of the Public Utilities Code, relating to electricity.

LEGISLATIVE COUNSEL'S DIGEST

SB 1438, as introduced, Padilla. Electricity: smart grid systems.

Under existing law, the Public Utilities Commission has regulatory authority over public utilities, including electrical corporations, as defined. Existing law provides that the Commission has no authority to establish rates or regulate the borrowing of money, the issuance of evidences of indebtedness, or the sale, lease, assignment, mortgage, or other disposal or encumbrance of the property of any electrical cooperative, but that electrical cooperatives are otherwise subject to the regulatory authority of the Commission pursuant to the Public Utilities Act. Under existing law, the governing board of a local publicly owned electric utility, as defined, generally has authority over the activities of the utility.

This bill would state that it is the policy of the state to encourage, and where appropriate, mandate the utilization of smart grid systems, as defined, by electric utilities, defined as including electrical corporations, electrical cooperatives, and local publicly owned electric utilities. The bill would require each electric utility with more than 10,000 service connections to develop and adopt a smart grid system deployment plan by June 30, 2009, and by September 31, 2009, to issue a smart grid system request for proposals consistent with the deployment plan. The bill would require respondents to the request for proposals to offer to serve at least a majority of the utility's subscribers. The bill would require the electric utility to make a final selection of a winning response to the request for proposals no later than 120 days after the request is issued. The bill would authorize an electric utility to decline to select a winning proposal only if there are no proposals meeting the requirements of the request or the electric utility makes written findings that the costs to implement any bids meeting the requirements of the proposal would clearly outweigh the potential benefits of deploying a smart grid system.

The bill would provide for the recovery by the electric utility of its reasonable costs for planning, building, and operating a smart grid system from ratepayers, subject to certain restrictions. The bill would require the Commission, by April 1, 2009, to establish rules to ensure that electrical corporations with more than 10,000 service connections have adequate economic incentives to deploy smart grid systems. The bill would authorize the governing board of an electric utility that is not an electrical corporation to establish

incentives to deploy smart grid systems consistent with those adopted by the Commission for an electrical corporation with more than 10,000 service connections. Electrical corporations with 10,000 or fewer service connections would be authorized to file an application with the Commission seeking authorization to establish incentives to deploy smart grid systems. The bill would prohibit a city, county, or city and county from prohibiting or regulating (1) the installation or operation of a smart grid system by an electrical corporation or electrical cooperative, or a contractor or affiliate, within the service area of the electrical corporation or electrical cooperative, and (2) the installation or operation of a smart grid system by a local publicly owned electric utility, or a contractor, within the service area of the utility, when approved by its governing board.

Vote: majority. Appropriation: no. Fiscal committee: yes.
State-mandated local program: no.

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

SECTION 1. Chapter 4 (commencing with Section 8360) is added to Division 4.1 of the Public Utilities Code, to read:

CHAPTER 4. SMART GRID SYSTEMS

8360. The Legislature finds and declares all of the following:

(a) Smart grid systems that allow real-time, two-way digital communications between electric utilities and their distribution grid and with their customers can greatly improve the efficiency and reliability of electrical distribution systems and facilitate conservation by enabling real-time demand response pricing.

(b) Smart grid systems constitute critical infrastructure that can support important homeland security needs, both by providing disaster prevention and recovery capabilities to protect the state's electric grid and by enabling remote monitoring of other critical infrastructure and key assets.

(c) Smart grid systems will permit the state to take full advantage of distributed generation resources that will increase distribution efficiency, lower customer prices, stimulate innovation and new job creation, and ultimately reduce emissions of greenhouse gases and decrease dependence on foreign oil.

8361. For purposes of this chapter, the following terms have the following meanings:

(a) "Electric utility" means an electrical corporation, electrical cooperative, or local publicly owned electric utility.

(b) "Electrical delivery system" means those facilities that are not under the control of the Independent System Operator that are used by an electrical corporation, electrical cooperative, or local publicly owned electric utility to transmit, deliver, or furnish electricity to retail end-use customers.

(c) "Smart grid system" means a two-way communications system and associated equipment and software, including equipment installed on the electrical delivery system and on the premises of retail end-use customers, that utilizes the electrical delivery system to provide real-time monitoring, diagnostic, and control information and services that improve the efficiency and reliability of the distribution and use of electricity, including automated load control or demand response, power loss detection and prevention, remote

outage and restoration detection, continuous reporting of utility and customer demand, dynamic pricing of electrical service, performance monitoring of electrical distribution network equipment, and predictive maintenance and diagnostics. An electric utility may treat an electrical meter installed to enable the electrical delivery system to function properly as being part of the smart grid system if the meter has the capability of measuring and recording electricity usage data on a time-differentiated basis of at least 15-minute intervals for at least four separate time segments per day.

8362. (a) It is the policy of the state to encourage, and where appropriate mandate, the utilization of smart grid systems by electric utilities.

(b) An electric utility shall recover its reasonable costs for planning, building, and operating a smart grid system from ratepayers, including administrative and operational costs, costs for services rendered by utility employees, contractors, and subcontractors, capital investment and depreciation, taxes, financing, financial incentives paid to customers for participation in demand response, load control, and other conservation programs, and marketing and advertising costs for such programs.

(c) An electric utility shall recover the reasonable costs of equipment rendered obsolete by deployment of a smart grid system, based on the remaining depreciable life of the obsolete equipment.

(d) An electric utility shall not recover the costs of equipment or software from ratepayers unless the equipment and software is compatible with, and capable of interoperating with, a smart grid system.

(e) Subdivision (d) does not apply in the following situations:

(1) The electric utility has, prior to February 22, 2008, entered into a binding financial commitment to make a purchase of, or expenditure for, the equipment or software that is not compatible with, or capable of interoperating with, a smart grid system.

(2) The equipment or software is for providing service in a geographical area where the demonstrated cost of deploying a smart grid system exceeds the reasonably anticipated benefits of deployment, including benefits to the utility, ratepayers, the environment, and homeland security.

8363. (a) Each electric utility with more than 10,000 service connections shall develop and adopt a smart grid system deployment plan by June 30, 2009. An electric utility with 10,000 or fewer service connections may elect to develop and adopt a smart grid system deployment plan.

(b) Each electric utility shall, by September 31, 2009, issue a smart grid system request for proposals consistent with the deployment plan. Respondents to a request for proposal shall offer to serve at least a majority of the electric utility's residential electric subscribers.

(c) Unless subdivision (d) is applicable, an electric utility shall make a final selection of a winning response to its smart grid system request for proposals no later than 120 days after the date request for proposals is issued. Any winning response selected shall propose to construct a smart grid system that provides sufficient capacity and capabilities to meet anticipated demands for management and control of the electric utility's electrical delivery system until at least December 31, 2023.

(d) An electric utility may decline to select a winning proposal only if there are no proposals meeting the requirements of the

request or the electric utility makes written findings that the costs to implement any bids meeting the requirements of the proposal would clearly outweigh the potential benefits of deploying a smart grid system, including environmental benefits and direct and indirect benefits to the utility's ratepayers.

8364. By April 1, 2009, the Commission shall establish rules to ensure that electrical corporations with more than 10,000 service connections have adequate economic incentives to deploy smart grid systems. The rules shall encourage electrical corporations to deploy smart grid systems that have sufficient capacity and capabilities to meet anticipated future demands for management and control of the electrical distribution system until at least December 31, 2023. The economic incentives shall, for smart grid systems deployed on or after December 31, 2007, include one or more of the following:

(a) An enhanced return on its reasonable capital expenditures and on a portion of its reasonable operations and maintenance costs for a smart grid system.

(b) Retention of a portion of any cost savings attributable to the use of a smart grid system.

8365. (a) The governing board of an electric utility that is not an electrical corporation may establish incentives to deploy smart grid systems consistent with Section 8364.

(b) An electrical corporation with 10,000 or fewer service connections may file an application with the Commission seeking authorization to establish incentives to deploy smart grid systems consistent with Section 8364.

8366. (a) An electric utility or its contractors installing a smart grid system shall be permitted access to any poles, ducts, conduits, and rights-of-way on terms and conditions at least as favorable as those granted to a holder of a state franchise pursuant to Division 2.5 (commencing with Section 5800). The rights granted by this section do not limit either of the following:

(1) Any right that a utility or a third party installing a smart grid system may have to access poles, ducts, conduits, and rights-of-way pursuant to contract or under any other law.

(2) The services that may be offered over a smart grid system.

(b) A smart grid system is an integral component of the electrical delivery system and the installation of a smart grid system shall not require an electric utility or its contractor to obtain or expand easements or other rights-of-way or to provide additional consideration as a result of the installation or operation of the smart grid system. Installation of a smart grid system is consistent with, and part of, the installation of the electrical distribution system.

8367. An electrical corporation may elect to own and operate a smart grid system on its own electrical delivery system, or may permit an affiliated or unaffiliated entity to own or operate the smart grid system.

8368. A city, county, or city and county shall not prohibit or regulate either of the following:

(a) The installation or operation of a smart grid system by an electrical corporation or electrical cooperative, or a contractor or affiliate, within the service area of the electrical corporation or electrical cooperative.

(b) The installation or operation of a smart grid system by a local publicly owned electric utility, or a contractor, within the service area of the utility, when approved by the governing board of

the utility.