



BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

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Order Instituting Rulemaking to Consider Smart Grid Technologies Pursuant to Federal Legislation and on the Commission's own Motion to Actively Guide Policy in California's Development of a Smart Grid System.

Rulemaking 08-12-009
(Filed December 18, 2008)

**COMMENTS OF THE DIVISION OF RATEPAYER ADVOCATES
ON THE SEPTEMBER 27, 2010 ASSIGNED COMMISSIONER'S RULING
SOLICITING INPUT ON SMART GRID PRIVACY**

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TABLE OF CONTENTS

I. RULING § 3.5: ELECTRICITY PRICING INFORMATION3
A. PRICING INFORMATION MUST BE EASY TO UNDERSTAND AND USEFUL.....3

II. RULING § 3.6: PRIVACY POLICY4
A. DRA SUPPORTS IN PRINCIPLE THE CDT/EFF PRIVACY POLICY4
B. USE OF CUSTOMER ENERGY USAGE DATA SHOULD BE LIMITED TO
PURPOSES NECESSARY TO ACHIEVE ENERGY SAVINGS GOALS5
C. THE COMMISSION MAY CONTROL THE FLOW OF INFORMATION TO THIRD
PARTIES8

III. CONCLUSION12

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The Division of Ratepayer Advocates (DRA) hereby submits these comments in response to the September 27, 2010 *Assigned Commissioner's Ruling* (Ruling). DRA commends the Assigned Commissioner and Administrative Law Judge (ALJ) for their receptiveness to privacy protections for Smart Grid-related data. Privacy is not a luxury or a trivial concern, but a fundamental right enshrined in Article 1, Section 1 of the California Constitution:

SECTION 1. All people are by nature free and independent and have inalienable rights. Among these are enjoying and defending life and liberty, acquiring, possessing, and protecting property, and pursuing and obtaining safety, happiness, and privacy.

It would have been best for privacy protections to be in place before investor owned utilities (IOUs) shared data with third parties. However, DRA knows from the record of this proceeding, that San Diego Gas and Electric Company (SDG&E) is already sharing data with Google,¹ and other sharing arrangements (with OPOWER and Aclara) also appear to be in place.²

¹ Ruling at 5.

² The portion of PG&E's website providing customers their Smart Meter data is run by Aclara Software.

Whether the maxim is attributable to Stewart Brand (of *Whole Earth Catalog* fame) or those who later espoused the twin virtues and curses of modern technology, “Information wants to be free.” That is, once it is distributed, information will spread rapidly, and sometimes fall into the wrong hands. Thus, it is essential to recognize the risks information release poses for personal privacy and security – in addition to assumed benefits – and to safeguard against harm in advance.

The Commission has acknowledged the privacy concerns that arise as new customer energy usage data becomes available and has taken a measured approach to privacy rules. DRA commends the Commission for adopting Fair Information Practice principles (FIPs) as the appropriate framework for its privacy rules.³ Since it did so, there have been several new developments, several of which are now in the record of this proceeding.⁴ For example, the National Institute of Standards and Technology (NIST) explained their process and findings regarding Smart Grid privacy in a Commission workshop on September 29, 2010; and Senate Bill (SB) 1476 (Padilla),⁵ now codified at Public Utilities Code § 8380, governing privacy of Smart Grid data, was enacted.

The Ruling correctly recognizes that it is now time to turn from abstract principles to adoption and implementation of specific privacy rules. DRA encourages the Commission to take the following steps:

³ Decision (D.) 10-06-047 at 41-42.

⁴ Additionally, the Department of Energy (DOE) recently released a report summarizing information it gathered in the spring and summer of 2010 about privacy issues related to data collected by Smart Meters. Based on areas of nationwide consensus, the report made the following recommendations: 1) utilities should not disclose customer data to a third party unless the customer has provided consent through a transparent opt-in process; 2) jurisdictions designing such opt-in authorization processes should require valid authorization that specifies the purposes for which the third party is authorized to use the data, defines how long the authorization remains valid, and identifies a way for customers to withdraw their authorization; and 3) third parties authorized to receive customer energy usage data should be required to protect the privacy and security of the data, and to use it only for the purposes specified in the authorization. These recommendations dovetail with the privacy policies DRA recommends in these comments. The DOE report is available at http://www.gc.energy.gov/documents/Broadband_Report_Data_Privacy_10_5.pdf.

⁵ See Senate Bill No. 1476, Chapter 497, Statutes of 2010, available at http://www.leginfo.ca.gov/pub/09-10/bill/sen/sb_1451-1500/sb_1476_bill_20100929_chaptered.pdf.

- Require that any energy usage or pricing information provided to customers be easy to understand and useful for achieving energy savings goals, as DRA outlines below;
- Adopt the proposed privacy rules offered by the Center for Democracy and Technology (CDT) and the Electronic Frontier Foundation (EFF), with appropriate modifications justified by DRA's comments, including a sunset provision after two years;
- Limit the release and usage of customer energy usage to purposes necessary to achieve California's energy savings or green energy goals; and
- Find that the Commission has jurisdiction to establish privacy rules for third parties who desire access to customer energy data.

I. RULING § 3.5: ELECTRICITY PRICING INFORMATION

A. Pricing Information Must be Easy to Understand and Useful

The Ruling asks parties to make proposals for how utilities should provide access to electric pricing information. As the Ruling notes, "since residential prices vary with consumption, it is unclear what price to communicate to customers."⁶ The Ruling therefore invites proposals – particularly from utilities and consumer groups – at the time of Opening Comments. DRA presents its preliminary recommendations here, but cautions that it may revise these proposals after seeing the utilities' proposals.

At a minimum, pricing information should make clear to residential and small business customers how to save energy and money on utility bills. DRA is less concerned with the format in which the information is delivered than with the substance such information conveys. Thus, for example, the information should tell customers

- a) When their energy usage is most expensive, and why; b) when their energy usage is least expensive, and why; and c) how to shift the maximum energy usage from time a) to time b);

⁶ Ruling at 6.

- How much energy customers' most commonly-used appliances use; how much such energy costs; and how much such usage would cost if shifted to less expensive times of the day or night;
- If applicable, why a customer's usage is in the higher-cost tiers (*e.g.*, during what periods of the day or year energy usage is highest and most costly); and how and when to use appliances to stay out of the high-priced tiers;
- How to practicably shift load, given that consumers do not now have "smart" appliances in the home and cannot generally be expected to do common chores in the middle of the day or night; and
- How to use energy most efficiently.

It is difficult to see how wholesale pricing information would help residential or small business customers make any of the foregoing determinations, but DRA will respond in reply comments to any such proposals.⁷

There may also be no-cost or low-cost means of educating such customers about how to achieve energy and bill savings. For example, it may be far cheaper to tell average consumers in bill inserts, or other tangible formats such as refrigerator magnets, which appliances are most costly to operate, what hours of the day experience peak demand, how to shift load or change to more efficient appliances, and how to avoid high-priced tiers. Indeed, the pricing information the Smart Grid delivers may be far too complex for the average consumer to employ, and best used only when smart appliances are in wide distribution.

II. RULING § 3.6: PRIVACY POLICY

A. DRA Supports in Principle the CDT/EFF Privacy Policy

DRA has received a preliminary copy from CDT and EFF of a privacy policy they propose for adoption here, and generally supports adoption of that policy. Where DRA requests more than the proposed policy, we so indicate below:

⁷ See also DRA April 7, 2010 Reply Comments at 13-14, <http://docs.cpuc.ca.gov/EFILE/CM/115955.htm>, and DRA August 13, 2010 Prehearing Conference Statement at 2, <http://docs.cpuc.ca.gov/EFILE/ST/122150.htm>, which DRA incorporates herein by this reference.

- The policy requires meaningful customer consent, following what is essentially an opt-in model. DRA's proposal goes further in that we oppose asking customers to consent to *any* use of Smart Grid data that does not relate to energy goals of the state, as explained in Sections B and C below.
- Consent is required for each activity, which must be spelled out clearly. Blanket consent for all activities is not appropriate. Customers may easily withdraw their consent at any time.
- If third parties share data with others, the notice and consent requirements travel with the data;
- The policy will expire and data sharing will terminate if technological solutions emerge that allow energy savings, renewables deployment and achievement of other California energy goals without the need for sharing of customer data at all;⁸
- The proposal has specific provisions related to law enforcement access.

B. Use of Customer Energy Usage Data Should be Limited to Purposes Necessary to Achieve Energy Savings Goals

Thus far, the Commission has not given customers the right to avoid the installation of Smart Meters at their homes. Hence, the Smart Grid will give rise to large amounts of potentially revealing information, whether customers want it or not. The Smart Grid is thus easily distinguishable from situations in which customers choose to log onto the Internet, download an “app,” or otherwise voluntarily opt to use technology with the potential to compromise their privacy. The customers here are captives of the monopoly utility and have no choice in what data about them is generated. For this reason, among others, the need for strict privacy rules is especially strong.

As Commissioner Ryan has stated, the Smart Grid is a means to help achieve California's energy savings and green energy goals, rather than an end in itself, and its

⁸ DRA proposes that the rules sunset two years from the date of the Commission decision, and that parties wanting access to customer data be required to come in and affirmatively seek the rules' extension, with evidence that data sharing continues to be necessary. Other parties may also seek modification of the rules if they have evidence that the rules are not adequately protecting consumers, or if new technology emerges before the two-year sunset date.

implementation must be accomplished with customer buy-in and ample privacy protection:

[A] Smart Grid can enable the integration of much higher levels of renewables as well as energy storage and eventually electric vehicles at a lower cost to consumers, and that's really one of the prizes that we're after here; but it's equally clear that this just isn't going to happen unless consumers can understand and control their energy use. And I think moreover that they [should] ... see the Smart Grid as something that's being done for them, not something that's being done to them.

So last December the Commission laid out some aggressive goals to get energy information and prices into the hands of consumers; and the Commission recognized that putting in place robust privacy policies is a critical precondition to protect consumer ... information. Prehearing Conference August 20, 2010, Transcript at 53:23-54:20.

The right to be left (or let) alone is as vital today as it was 80 years ago, as Justice Brandeis then observed regarding the essential nature of a right to privacy against governmental intrusion:

The makers of our Constitution undertook to secure conditions favorable to the pursuit of happiness. They recognized the significance of man's spiritual nature, of his feelings and of his intellect. They knew that only a part of the pain, pleasure and satisfactions of life are to be found in material things. They sought to protect Americans in their beliefs, their thoughts, their emotions and their sensations. They conferred, as against the Government, *the right to be let alone -- the most comprehensive of rights and the right most valued by civilized men.* *Olmstead v. U.S.*, 277 U.S. 438, 478 (1928) (Brandeis, J., dissenting) (emphasis added).

Just as *Olmstead v. U.S.* was about the latest technology in 1928 – telephones and wiretapping – so today's technology allows intrusions never before envisioned. That the technology is new does not alter the essential principle, however – that citizens have a

fundamental need and right to be left alone. Privacy protections are essential to guaranteeing this right in today's context.

Nor is customer "consent" alone always adequate to ensure customers are protected. The consent must be meaningful, voluntary, specific and easy to understand. For example, in *In the Matter of Sears Holdings Management Corporation*, FTC File No. 082 3099,² the Federal Trade Commission alleged that an online customer consent system was deceptive where Sears disclosed what it would do with the data "only in a lengthy user agreement." In so doing, the FTC made clear that "consent" alone does not permit unfettered use of data.¹⁰ The FTC required any new disclosure to be "clear and prominent," which it defined as follows:

A. In textual communications (*e.g.*, printed publications or words displayed on the screen of a computer), the required disclosures are of a type, size, and location sufficiently noticeable for an ordinary consumer to read and comprehend them, in print that contrasts with the background on which they appear;

B. In communications disseminated orally or through audible means (*e.g.*, radio or streaming audio), the required disclosures are delivered in a volume and cadence sufficient for an ordinary consumer to hear and comprehend them;

C. In communications disseminated through video means (*e.g.*, television or streaming video), the required disclosures are in writing in a form consistent with subparagraph (A) of this definition and shall appear on the screen for a duration sufficient for an ordinary consumer to read and comprehend them, and in the same language as the predominant language that is used in the communication;

D. In communications made through interactive media, such as the Internet, online services, and software, the required disclosures are unavoidable and presented in a form consistent with subparagraph (A) of this definition, in addition to any audio or video presentation of them; and

E. In all instances, the required disclosures are presented in an understandable language and syntax, and with nothing contrary to, inconsistent with, or in mitigation of the disclosures used in any communication of them.¹¹

² The complaint is available at <http://www.ftc.gov/os/caselist/0823099/090604searscmpt.pdf>.

¹⁰ FTC "For Your Information" Release, Sept. 9, 2009, <http://www.ftc.gov/opa/2009/09/sears.shtm>.

¹¹ FTC Decision and Order entered August 31, 2009, at 3, <http://www.ftc.gov/os/caselist/0823099/090604searsdo.pdf>.

While customer consent will be necessary to an opt-in scheme, the Commission must ensure that consent is knowing and voluntary. Old paradigms in which a customer is asked to read pages of densely packed and highly technical language, and then click on a button marked “Agree,” will not adequately protect customers. Instead, the Commission should define appropriate uses of customer data in the privacy rules, and ensure consent is only requested after consumers are given easy-to-understand, yet complete, disclosure of what will be done with their data.

C. The Commission May Control the Flow of Information to Third Parties

This Commission can – and should – control the flow of information generated by the Smart Grid to third parties. While enhancing energy savings and other green energy goals may be the Commission's objective in allowing third party access to the data the Smart Grid generates, one can be reasonably certain that some third parties view the data primarily as a marketing opportunity. Third parties will have products to sell, and Smart Grid data will give them the means of targeting the customers most likely to buy. To be clear, DRA opposes any third party access to data – whether via customer consent or through the IOUs – if such data is not necessary to achieve California's energy goals.

As DRA made clear in earlier comments,¹² Smart Grid data does not just reveal information about energy usage. The data released may disclose intimate personal details related to customers’ presence in or absence from the home, appliances in the home, health, and cohabitation arrangements. For example:

- Scant energy usage may allow third parties, and potentially criminals, to determine which homes are empty;
- Hackers have used poorly secured utility networks to pass their utility charges to other customers and disconnect customers from the grid;

¹² DRA March 9, 2010 Comments on Scoping Memo at 14-15, <http://docs.cpuc.ca.gov/efile/CM/114709.pdf>.

- Law enforcement agencies in Texas have mined thousands of customers' energy usage data—without their consent—to identify and target high energy users as potentially running marijuana-growing operations;¹³
- Landlords may be able to determine how many people live in a home, perhaps in violation of a leasing arrangement, leading to evictions;
- In-home devices may allow two-way communication and facilitate the reading of Radio Frequency Identification tags (RFIDs), disclosing, for example, occupants' prescription data to third parties;
- Data may be stored at the meter, so if a meter is not de-energized when one tenant leaves, the next tenant could have access to that data;
- Data sent over wireless devices is easily intercepted by drive-by data collectors and must be securely encrypted to prevent interception. All Smart Meters have Home Area Network functionality, even if the meters are not yet activated; once activated they enable wireless transmission of data with the consequent risk of compromising data.

The Commission has the right and duty to limit the commercial use of such data by IOUs and third parties. Fortunately, the Commission has legal means at its disposal to limit access to Smart Grid data to uses genuinely associated with California's energy goals.

First, there is an analog in the telecommunications context. The Federal Communications Commission's "customer proprietary network information," or CPNI, rules, prohibit access to or use of customer account data except in certain limited circumstances.¹⁴ The FCC required telecommunications carriers to obtain opt-in consent from a customer before disclosing that customer's CPNI to a carrier's joint venture

¹³ See <http://www.austinchronicle.com/gyrobase/Issue/story?oid=oid%3A561535>.

¹⁴ *Report and Order and Further Notice of Proposed Rulemaking, in the Matter of Implementation of the Telecommunications Act of 1996: Telecommunications Carriers' Use of Customer Proprietary Network Information (CPNI) and Other Customer Information*, CC Docket 96-115: IP Enabled Services, WC Docket No. 04-36, *Report and Order and Further Notice of Proposed Rulemaking*, FCC 07-22, adopted March 13, 2007 (*Report and Order*). CPNI includes personally identifiable information derived from a customer's relationship with a provider of communications services. Section 222 of the Communications Act of 1934, as amended establishes a duty of every telecommunications carrier to protect the confidentiality of its customers' CPNI. 47 U.S.C. § 222. *Report and Order*, ¶ 37. The opt-in rule has survived appeals since 2007.

partner or independent contractor for the purpose of marketing communications-related service to that customer.

Second, Public Utilities Code Section 701 provides that “The commission may supervise and regulate every public utility in the State and may do all things, whether specifically designated in this part or in addition thereto, which are necessary and convenient in the exercise of such power and jurisdiction.”

Where the authority sought is “cognate and germane” to utility regulation, the PUC's authority under section 701 has been liberally construed. (Citations omitted). . . . [N]othing in section 701 or elsewhere limits that statute's reach to public utilities. Although the statute initially refers to the PUC's power to “supervise and regulate every public utility,” the PUC's authority to do all things “necessary and convenient” in the exercise of that power is not expressly limited to actions against public utilities. *PG&E Corp. v. Public Utilities Comm.*, 118 Cal. App. 4th 1174, 1198 (2004). *See also Southern Calif. Edison Co. v. Peevey*, 31 Cal. 4th 781, 792 (2003) (discussing broad reach of § 701).

In *PG&E Corp. v. Public Utilities Comm.*, the court made clear that the Commission may enforce conditions against non-public utilities (in that case, utility holding companies) where such jurisdiction was not barred by statute and was essential to the Commission's assertion of regulatory authority over utilities. 118 Cal. App. 4th at 1199. The Commission was not seeking plenary regulatory authority over third parties, but simply to enforce contractual conditions it imposed when it approved the relationship between the utilities and the holding companies.

DRA advocates the same limited exercise of jurisdiction here. We in no way urge general assertion of jurisdiction over the Googles, OPOWERs or Tendrils of the world – although the Legislature could confer such jurisdiction. Rather, we seek to ensure that the Commission require any third party who seeks to gain access to customer data – whether from customers or IOUs – be required to abide by certain simple rules, and that the third party agree in writing to limit the data's usage before having access to such data:

- The data may only be used to achieve California’s energy goals made possible by the Smart Grid, by
 - reducing energy use
 - increasing use of renewable energy
 - producing energy savings
 - facilitating demand response
 - reducing greenhouse gas output
 - enhancing energy reliability or security and/or
 - otherwise contributing to articulated energy goals;
- Third parties should certify that the data is actually necessary to achieve articulated state energy goals. If third parties do not need customer-specific data, but can instead develop products without it, they should not seek or receive access to it.¹⁵
- The data will not be used for marketing or other activity not related to the foregoing uses.
- The data should actually be produced by the Smart Grid itself. Data the IOUs otherwise develop or use is irrelevant to this proceeding, and third parties should not request or receive such data (although existing data-sharing arrangements already authorized by the Commission may continue).

To the extent the Commission determines that customer consent is a permissible means to obtain access to such data, the third party shall obtain such consent in accordance with the rules the Commission adopts, and abide by any Commission-imposed privacy policy. This limitation ensures that Smart Grid data will be used for Smart Grid purposes. It will not create a new, unrelated marketing opportunity for people who wish to sell energy customers products and services that have nothing to do with energy use or savings.

In addition, where a third party seeks customer information from the utility, as a condition of that dissemination, the Commission should require the third party to provide

¹⁵ For example, third parties may seek to develop or sell smart appliances like refrigerators or dishwashers that do not require customer data to develop. If they do not need the data, the Commission should make clear they cannot seek or receive the data either from customers or IOUs.

the utility with data explaining how many customers have signed up with the third party and how often customer data is being accessed. This information will help the utilities accurately report to the Commission whether their Smart Grid investments are achieving California's energy goals.

III. CONCLUSION

DRA respectfully requests that the Commission:

- 1) Require utilities to disclose pricing information to customers that allows them to take steps that reduce energy usage and increase bill savings;
- 2) Adopt a clear and enforceable privacy policy governing access to all data the Smart Grid makes available, whether on the utility or the customer side of the meter, based on the CDT/EFF proposal, with a sunset provision in 2 years;
- 3) Limit uses to which utilities and third parties may put Smart Grid data to uses that further the state's energy goals and that are necessary to those goals; and
- 4) Apply its rules not only to utilities but to any third party that seeks access to data made available by Smart Grid technology.

Respectfully submitted,

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October 15, 2010

CERTIFICATE OF SERVICE

I hereby certify that I have this day served a copy of **COMMENTS OF THE DIVISION OF RATEPAYER ADVOCATES ON THE SEPTEMBER 27, 2010 ASSIGNED COMMISSIONER'S RULING SOLICITING INPUT ON SMART GRID PRIVACY** to the official service list in **R0812009** by using the following service:

E-Mail Service: sending the entire document as an attachment to all known parties of record who provided electronic mail addresses.

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Executed on October 15, 2010 at San Francisco, California.

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