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TO: MPWMD Board of Directors

FROM: David C. Laredo, General Counsel

RE: Memorandum on Smart Meters

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This memo provides an overview of California’s policy efforts toward energy efficiency and the expansion of Advanced Metering Infrastructure (AMI) including the installation of Smart Meters. The early activity was focused on the energy utilities; water utilities followed later.

## **I. Background**

In 2002, the California Public Utilities Commission (Commission or CPUC) opened Rulemaking (R.) 02-06-001 “as a policymaking forum to develop demand response as a resource to enhance electric system reliability, reduce power purchase and individual consumer costs, and protect the environment.”<sup>1</sup>

By 2005, Pacific Gas and Electric Company (PG&E) filed Application (A.) 05-06-028 to deploy Advanced Metering Infrastructure (AMI).<sup>2</sup> Since PG&E provides electric and gas service to California-American Water Company’s (Cal-Am) Monterey Water District, this memo focuses initially on Commission AMI proceedings with PG&E.

## **II. PG&E’s AMI Implementation**

PG&E’s proposed system-wide deployment of AMI was estimated to take five years. It filed A.05-06-028 on June 16, 2005 and subsequently revised it on October 13, 2005. AMI includes metering and communications infrastructure together with computerized systems and software. A wireless smart

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<sup>1</sup> R.02-06-001, *Order Instituting Rulemaking on policies and practices for advanced metering, demand response, and dynamic pricing*, filed June 6, 2002. The Rulemaking was closed by Decision (D.) 05-11-009 dated November 18, 2005. Pacific Gas and Electric Company (PG&E) was one of the investor owned utilities named as a respondent in the proceeding.

<sup>2</sup> A.05-06-028, *Application of Pacific Gas and Electric Company for Authority to Increase Revenue Requirements to Recover the Costs to Deploy an Advanced Metering Infrastructure*.

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meter transmits customer usage data through radio transmission. For evaluation purposes, PG&E had to show the likelihood of long-term benefits from utility operating cost savings as well as demand response and consumer energy consumption management potential.

PG&E's technology provides two-way communications to each customer's meter. It also allows other functions including direct polling to the meter by PG&E which can assist in completing customer service related requests. It also has the potential for direct communication with in-home devices like thermostats and load control switches.

AMI module-equipped meters provide significant operating data and consumption data with applications in demand forecasts, service-related issues, and rate design. The useful life of the system was determined to be 20 years. PG&E was authorized to proceed with AMI implementation in D.06-07-027 on July 20, 2006.

### A. Addition of an Opt-Out Option

In 2011, PG&E applied to the Commission for a modification to its "SmartMeter™" Program to include an opt-out option.<sup>3</sup> In Phase 1 of the proceeding, the Commission determined the option was available only to residential customers who, *for whatever reason*, preferred an analog meter. To cover the costs of this service, interim fees and charges were authorized.

### B. FCC Exposure Limits

As part of the record in Phase 1, PG&E produced a response from the FCC which sets exposure limits for radio frequency (RF) fields. FCC standards are derived from recommendations by the Institute of Electrical and Electronics Engineers, Inc. and the National Council on Radiation Protection and Measurements, as well as by the U.S. Environmental Protection Agency, the Food and Drug Administration, and other federal health and safety agencies. These scientists and engineers have extensive experience and knowledge in the area of RF biological effects and related issues.

In the case of PG&E's SmartMeters, the FCC had no data or report to suggest that exposure was occurring at levels of RF energy that exceed their RF exposure guidelines.<sup>4</sup> The Commission further noted that the issue of whether RF emissions from SmartMeters "have an effect on individuals is outside the scope of this proceeding."<sup>5</sup>

### C. Analog Meter Opt-Out Option

The Commission balanced the customer concerns about exposure to RF transmissions with California's energy policy that required investor owned utilities (IOU) to replace analog meters with smart meters "to give consumers greater control over their energy use."<sup>6</sup>

Only analog meters were authorized for customers exercising the opt-out option. An initial fee plus monthly charges for a period of three years were authorized to cover the anticipated costs.

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<sup>3</sup> A.11-03-014, *Application of Pacific Gas and Electric Company for Approval of Modifications to its SmartMeter™ Program and Increased Revenue Requirements to Recover the Costs of the Modifications. (U39M)*.

<sup>4</sup> In D.10-12-001, the Commission determined that PG&E's SmartMeter technology complied with FCC requirements.

<sup>5</sup> D.12-02-014, pp. 15-16.

<sup>6</sup> D.12-02-014, p. 16.

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### D. Phase 2 Issues

Phase 2 of A.11-03-014 was limited in scope to consideration of cost and cost allocation issues associated with providing an opt-out option and whether to expand the opt-out option to allow for a community opt-out option.

#### 1. Cost and Cost Allocation (Opt-Out Fees)

Because costs are based primarily on the number of customers who choose the analog option, results vary greatly. The Commission examined what were the utility costs associated with offering an analog meter opt-out option and whether more than one option should be offered.

The decision was to continue with the original “Initial Fee” (\$75.00)<sup>7</sup> and “Monthly Charge” (\$10.00) for customers who were Non-California Alternative Rates for Energy (CARE) Customers. Reduced fees for CARE customers were \$10.00 and \$5.00 respectively. These are the same amounts that were established in D.12-02-014. Collection of the monthly charge was limited to three years from the date the opt-out was chosen. Analog meters would be read every other month. If these fees did not cover all program costs, the balance would be allocated to the residential customer class as a whole.

There was unanimous agreement among the parties that the only opt-out option would be an all-analog meter. Offering multiple meter types would have increased already high program costs. The Commission agreed with this determination.

Consideration was given to imposition of an “exit cost” or “exit fee” reflecting the costs associated with returning an opt-out customer’s meter to standard service with a smart meter. The Commission agreed with intervenors that no exit fee would be assessed on opt-out customers.

Consideration was also given to whether the opt-out fees should be assessed on a per meter or per location basis. The Commission directed that fees should be assessed on a per location basis.

#### 2. Community Opt-Out

D.14-12-078 determined that local governments may not collectively opt out of smart meter programs on behalf of residents in their jurisdiction. Similarly, multi-unit dwellings with homeowner and condominium associations may not collectively opt-out of smart meter programs on behalf of individual residents who are members of the association.<sup>8</sup>

In making this determination, the Commission first examined whether it could delegate its authority to allow local governments or communities to determine what type of electric or gas meter can be installed within the government or community’s defined boundaries.

“Article XII, Section 3 of the California Constitution grants the California Legislature ‘exclusive control over the PUC’s regulation of public utilities.’ Section 8 of Article XII of the California Constitution states, ‘a city, county or other public body may not regulate matters over which the Legislature grants regulatory power to the Commission.’ Thus, the Commission holds the power to regulate public utilities, and this authority

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<sup>7</sup> The opt-out option was not offered prior to the installation of SmartMeters. For water utilities where no conversion to smart meters has taken place, this could reduce or eliminate the Initial Fee expense.

<sup>8</sup> D.14-12-078, p. 4.

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may not be delegated to another entity or public agency without statutory authorization.”<sup>9</sup>

In addition, the Legislature granted the Commission authority over a public utility’s infrastructure, including the installation of metering equipment.<sup>10</sup> Thus, in the absence of statutory authority modifying this intention, only the CPUC has authority to regulate public utilities.

### **III. AMI for Water Utilities**

As part of a rulemaking proceeding begun in 2011, the Commission provided guidance for the use of AMI for regulated investor-owned water utilities.<sup>11</sup> The Commission determined that AMI “can harness and communicate data to manage water production and purchases, identify and stop leaks, protect drinking water quality by promptly identifying backwash incidents, produce data that yield more accurate forecasts, and provide customers and water system operators timely information. Current meters do not accomplish these objectives.”<sup>12</sup>

The Commission’s 2016 Decision provided guidance for water IOUs’ implementation of AMI. Specifically, the Decision ordered “the commencement of a transition to the use of AMI for Class A and B water services to increase data for customer and operational use, produce conservation signals through real-time data delivery, improve water management, reduce leaks, and promote equity and sustainability.”<sup>13</sup> The Monterey region was identified as an area where AMI installation was warranted.

While the Decision ordered the “commencement of a transition to the use of AMI for Class A and B water services,”<sup>14</sup> the approach would be gradual over one or two General Rate Case (GRC) cycles. The initial targets were converting flat rate customers to metered service, replacing aging or obsolete meters, and installing AMI meters in new construction. Class A and B water IOUs were to coordinate with electric and gas IOUs that have smart meters. Customers who didn’t want analog meters replaced with AMI could request an opt-out via a process established by the water IOU.

Cal-Am’s 2016 GRC effort to implement AMI was denied in D.18-12-021, but the Commission encouraged it to make a new proposal in a future application or GRC.

### **IV. Conclusion**

Smart meters have been installed by PG&E in the Monterey area beginning in 2006. The CPUC has exclusive jurisdiction over all utility infrastructure and delegation of this authority to other jurisdictions is prohibited without further legislative enactment. Customers who do not want smart meters can opt out for any reason or no reason, but they bear the costs for this service. Cal-Am does not yet have an approved program for district-wide AMI but could link up with PG&E’s infrastructure in the future.

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<sup>9</sup> Id. pp. 56-57.

<sup>10</sup> See Public Utilities Code Section 761.

<sup>11</sup> R.11-11-008, *Order Instituting Rulemaking on the Commission’s Own Motion into Addressing the Commission’s Water Action Plan Objective of Setting Rates that Balance Investment, Conservation, and Affordability for Class A and Class B Water Utilities*.

<sup>12</sup> D.16-12-026, pp. 61-62.

<sup>13</sup> D.16-12-026, p. 63. The AMI features respond to the Governor’s May 9, 2016 Executive Order B-37-16 that directed the CPUC to take steps to stem water leaks.

<sup>14</sup> Id.