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Additional submitted attachment is included below.

December 12, 2016

**SUBMITTED ELECTRONICALLY
TO DOCKET 16-OIR-03**

California Energy Commission
Dockets Office, MS-4
Re: Docket No. 16-OIR-03
1516 Ninth Street
Sacramento, CA 95814-5512

**Re: Title 20 Data Collection Regulations – Comments of Pacific Gas and Electric
Company on Working Draft Document Shared at November 16, 2016
Commissioner Workshop**

Pacific Gas and Electric Company (PG&E) appreciates the opportunity to provide additional comments to the California Energy Commission (CEC) on its “Working Draft Document” (Draft) which presents further revisions of proposed amendments to the Title 20 data collection regulations. Given the extensive detail in the draft data collection regulations as well as the continued discussions between CEC staff and interested parties on the draft regulations, PG&E reserves the right to provide additional comments as the pre-rulemaking process moves forward.

PG&E appreciates the ongoing, proactive efforts from CEC staff to engage stakeholders through data working groups. Furthermore, PG&E recognizes that the most recent Draft, shared ahead of the November 16, 2016 workshop, does not reflect all prior feedback and the related, forthcoming changes. In light of staff’s continued work, PG&E incorporates by reference, all prior comments on this Draft and augments those remarks below, while also providing additional feedback on the updated Draft sections.¹

As PG&E noted at the September 26 and November 16 workshops, as well as in working group meetings with CEC staff, the proposed amended regulations would, if adopted, significantly expand the quantities and types of data to be collected by the CEC from the investor-owned utilities (IOUs), publicly-owned utilities (POUs), non-utility load serving entities, energy marketers, energy suppliers, and other participants in California’s energy markets, including

¹ http://docketpublic.energy.ca.gov/PublicDocuments/16-OIR-03/TN214081_20161017T160706_Valerie_Winn_Comments_Pacific_Gas_and_Electric_Title_20_Comments.pdf

personally identifiable information from individual consumers and energy users. When scoping the extent of the data collection regulation, PG&E encourages the CEC to align requested data with those data being sought by other state agencies. A collaborative state-agency workgroup would make great strides toward streamlined, effective, and coordinated data efforts with minimized impacts on customer privacy and costs.

PG&E agrees with the goals of Senate Bill 350 and Assembly Bill 802 which authorize the CEC to collect additional energy-related data in order to make its energy supply, demand and energy conservation forecasting and policy recommendations more accurate and consistent with actual data in energy markets. However, the Legislature also has directed the CEC to minimize the data it collects to protect personal privacy and confidentiality and to reduce duplicative, unnecessary and burdensome reporting obligations on the entities and consumers from which it collects the data.² The CEC's development of the amended regulations should be informed by a discussion among all interested parties as to what data are available from utilities, what data are not collected, alternatives to collect the data going forward if not currently collected, and how to minimize the overall data collection to ensure that only data that are necessary for the CEC's forecasting and policymaking needs are collected. Just as importantly, to protect the privacy and confidentiality of consumers and utility customers, the amended regulations should exclude collection of customer-specific data except through voluntary participation and notification in surveys and other research techniques as required by Public Resources Code Section 25320(d) and the California Information Practices Act (California Civil Code Section 1798.17).

PG&E appreciates the willingness of the CEC to have informal discussions with parties as consideration of the amended data collection regulations moves forward. We look forward to continuing to fully participate in that process. PG&E's comments in Attachment A provide information on which proposed modifications are achievable and to which PG&E has no objection to the proposed language, as well as information on the data PG&E does and does not collect in a variety of areas. Additionally, PG&E has provided responsive information to the CEC's "Topics for In-depth Discussion" as requested at the November 16 workshop.

Very truly yours,

/s/

² Public Resources Code Sections 25320.

ATTACHMENT A – PG&E DETAILED COMMENTS

I. PV and EVSE Definitions Require Modification

PG&E has reviewed the definitions set forth in the most recently provided Draft and recommends modifications to language pertaining to photovoltaics and electric vehicle infrastructure, in addition to the definition modifications proposed in PG&E's October 17, 2016 comments.

The definition of "PV" in the most recent version of the Draft is limited and PG&E recommends replacing it with the following or something of similar specificity.

(64) A photovoltaic cell (PV cell) is a specialized semiconductor diode that converts visible light into direct current (DC). Some PV cells can also convert infrared (IR) or ultraviolet (UV) radiation into DC electricity.

Additionally, PG&E recommends supplementing this definition with that of a PV generator as well. The terms are often used interchangeably and defining both terms would further strengthen the regulation.

The electric vehicle supply equipment (EVSE) definition in the Draft refers to equipment associated with charging electric drive vehicles. It encompasses all of the conductors, plugs, fittings, and other hardware purposed to deliver energy from the electric grid to the vehicle. This definition is close to, but not aligned with the National Electric Code (NEC) definition. PG&E recommends using the NEC's EVSE definition to ensure consistency:

"The conductors, including the ungrounded, grounded, and equipment grounding conductors, and the electric vehicle connectors, attachment plugs, and all other fittings, devices, power outlets, or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric vehicle."

Additionally, the EVSE definition in the most recent Draft is broad enough to include portable cordsets like those that come with the vehicle and plug into a 110v outlet. When such portable cordsets are included in the EVSE definition, reporting becomes unduly burdensome, given every electric car has a portable cordset. The NEC's EVSE definition includes the word "installed", which would eliminate the need to report cordsets and would, therefore, reduce the reporting burden.

PG&E appreciates the addition of the “Networked EVSE provider” definition to clarify reporting responsibilities under the draft regulation. However, this definition is still vague. PG&E recommends the following alternative for increased clarity:

(67) “Networked EVSE provider” means any individual, company, or entity that provides connectivity across a network of charging stations, managing the software, database, and/or communication interfaces that enable operation of the station.

II. Detailed Information on Electric Vehicle Ownership is Not Collected by the Utilities

Regarding Section 1306(b)(1-2)(K-M) on page 40, PG&E does not have this data. The only customers PG&E can identify as owning an electric vehicle are those who have signed up for the EV rate, which encompasses just 25-30% of all EV owners in PG&E’s service territory. Even for those customers on the EV rate, PG&E has no way of knowing what type of vehicle the customer owns. Accordingly, PG&E suggests that the CEC evaluate whether the Department of Motor Vehicles has data on EV registrations and can provide it to the CEC.

Similarly, PG&E only knows when customers have installed an EVSE if the customer informs PG&E, which only occurs for a small fraction of customers. Currently, for the few customers that do opt to inform the utility, PG&E does not record this information in conjunction with specific customer accounts. Due to the lack of information for specific customers, these proposed reporting requirements will be unworkable.

Finally, as mentioned in the definitions section comments above, the current definition for “EVSE” would include the level 1 cordset that comes with every vehicle. In this case all customers identified with PEVs would be identified with EVSEs, and there would be no “date of installation” as these cordsets are portable.

With respect to hourly load data requested in Section 1344(a) on page 49, in many cases, such as for behind-the-meter calculations of EV load in section (g), there will only be estimation techniques. Thus, the requirement to provide a process to “come into compliance” is not feasible as the estimation methodology will have to suffice indefinitely.

Additionally, in response to Section 1344(g)(2)(D), PG&E may ultimately develop an estimation methodology for behind-the-meter electric vehicle charging. However, the results of that estimation methodology would rely on data from a very small subset of customers (approximately 300 today), which may not be a representative sample. These estimation techniques, and results, should be further explored through a working group process prior to adoption of specific regulatory language.

As PG&E noted during the November 16 workshop, PG&E cannot determine disaggregation by vehicle type. Furthermore, such distinctions between the two types listed in the regulation are of declining importance. For example, the plug-in hybrid Chevy Volt has an 18.4 kWh battery, while a fully electric Ford Focus battery is only 4.6 kWh larger at 23 kWh. Meanwhile, a Chevy Bolt, also full battery electric, has a 60 kWh battery. The differences and variety within and across the vehicle types make collecting this data essentially meaningless. PG&E recommends deletion of this disaggregation from the regulation. To the extent the CEC can glean this information from information gathered from the DMV, the DMV data would be far superior to any information the utilities could provide.

In sum, PG&E can only provide electric vehicle tariff and metering details for those customers who are on EV rates (EV-A and EV-B), which represents only 25-30% of the total EV population. The regulations should be modified to reflect these limitations.

PG&E does appreciate the additional clarity reflected in the draft regulation on who would be responsible for EV charging information (i.e., EV Service providers would be responsible, rather than utilities or station owners). However, additional modifications to the utility customer data reporting are still needed to capture previously requested changes. Specifically, questions regarding data standards, market competitiveness, and data volume would best be posed to EV service providers. If posed, this should be asked of many providers, not just those who are most active in the regulatory space so as to capture a complete picture of the market.

Finally, at the November 16 workshop, Chair Weisenmiller asked about information that PG&E would be reporting regularly to the California Public Utilities Commission on its charging stations. At this time, PG&E is not specifically involved in the installation of charging equipment beyond providing power to customers adding load or requesting a new service. While PG&E has proposed to provide certain types of data to the CPUC as part of its EV infrastructure filing,³ these requirements are not yet final, so it would be premature for PG&E to suggest that the same information be provided to the CEC, when the CPUC requirements might change. Once the requirements do become final, PG&E would likely not object to providing the same information to the CEC, provided the same protections are applied to protect the information at CEC as the CPUC. PG&E notes additional information on residential charging may also be available through the annual EV Load Research Report that is jointly filed with the other IOUs each year at the CPUC.

³ Appendix B, page 60. <http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M159/K711/159711579.PDF>

III. Proposed Energy End User Data Surveys May be Prohibitively Expensive

PG&E has long supported energy end user surveys. It is currently conducting a customer end-use study and PG&E recently met with CEC staff to share preliminary information on that study. Next year, PG&E will be beginning a study on the commercial sector.

As noted in earlier comments, PG&E questions the need for the very detailed data needs that are found in the Draft. To build on previous comments, PG&E provides a 2006 study detailing specific cost findings regarding surveys conducted at the level of detail proposed by the CEC. Of note, it shows how requiring a 95/5 instead of 90/10 precision/confidence level significantly increases the sample size and cost of a survey. Additionally, the most basic survey costs estimated in the 2006 study run as high as \$3 million and enhanced surveys, in line with the Draft proposal, were estimated to cost as much as \$27 million. We would expect those costs to be significantly higher in 2017 dollars.

IV. Natural Gas

As noted in earlier comments, much of the information requested by the CEC on pipeline segment characteristics in Section 1308(e)(2)(A-D), is not available and/or would be unduly burdensome to collect and report. For example, monthly flow information is not available for many pipeline segments. Additionally, according to the Pipeline and Hazardous Materials Safety Administration, a pipeline segment may only have two ends; no branches are allowed. To determine and collect the requested segment data on PG&E's roughly 6,700 miles of transmission line and approximately 47,000 of distribution pipeline, divided at each branch, would be a major undertaking and is not information that currently exists, nor is it clear what the benefit would be from collecting such information.

The CEC has asked "What data are collected and sampled to ensure gas injected into the natural gas distribution system meets specifications?" PG&E assumes that this question relates to PG&E's gas quality specifications information. Under that assumption:

1. For very large suppliers, including the out of state suppliers as well as PG&E and third-party underground storage fields, gas quality at the delivery point is continuously monitored to allow us to calculate the heating value. Monitoring for the water content, the hydrogen sulfide concentration, and the odorant concentrations is also performed at most locations.
2. For California producers, PG&E also normally monitors the gas at the master meters. This monitoring includes collecting a time-weighted sample that is used to calculate a

heating value for payment purposes. Periodic moisture content readings are also taken to ensure that the producers are complying with PG&E's water vapor specification. If the gas is non-compliant, the producer will likely be shut in. California-produced gas is not monitored for hydrogen sulfide content, however, because the gas from these fields is known to be "sweet", meaning it does not require treatment for removal of hydrogen sulfide to meet PG&E's limit of 4 parts per million.

3. PG&E also monitors the gas at several of our terminals, such as Antioch and Milpitas to provide more assurance that these large volumes of gas are compliant with PG&E's moisture and heating value limits.

V. Some Level of Aggregation Should be Considered for Interval Metering Data

Providing full population customer level meter data may potentially be very burdensome from a process and governance perspective. PG&E continues to seek clarity on the CEC's intended uses for this data at such levels of granularity. For example, if the intent is to roll-up individual customer data by segment and geography, PG&E can provide the data in this more aggregate format. The benefit of this aggregation is threefold:

1. Aggregation allows PG&E to avoid customer privacy related issues that were brought up by many of the attendees at the November 16 workshop.
2. PG&E can leverage an existing model and process which estimates full population data from a representative sample.
3. This aggregation will allow PG&E to avoid providing proprietary data-cleaning methodologies currently in place or being developed.

Load Metering Reports discussed on page 49 would require PG&E to submit alternative estimation techniques for any section where using load metering data is infeasible and to provide explanations of all methods used to resolve data quality issues. Related to this stipulation, data quality issues, missing data, and misread data are called out explicitly. PG&E seeks clarification on the three points. For example, how does the CEC define "clean data?" As above, PG&E recommends eliminating this requirement as long as a majority of the data is clean. This will keep from having to provide proprietary data cleaning methodologies currently in place or being developed. Finally, the Draft uses the terms "building meter code" and "meter identification number." PG&E seeks specific definitions of the two, specifically on how they differ.

VI. Green Button is a Useful Tool for Customers to Share Information on Their Energy Usage

In response to the “Topics for In-depth Discussion” prompt regarding Green Button Download, PG&E launched Green Button Download feature in December 2011. Using this tool, customers can download, in human or machine readable format, their usage and associated cost per Service Agreement. Customers can use this data or share this file with a third party of their choice. The historical data are available back to December 2011.

PG&E launched Green Button Connect (which PG&E calls Share My Data) in 2015. This product allows customers to share their gas and electric usage, billing, and account information, on an on-going basis and across many Service Agreements, with a registered business of their choice. The product allows a customer to access up to four years of historical data as well as to grant on-going third party access to their data.

VII. Behind-the-Meter Load Modifier Estimation Processes

Finally, CEC staff provided “Topics for In-depth Discussion” regarding behind-the-meter (BTM) load modifiers.

To characterize BTM generation facilities in PG&E’s service area, PG&E estimates generation from these resources as customers are not required to collect and report to PG&E generation data that serves on-site load.

For BTM non-PV generation resources such as wind, fuel cells, and combustion turbines, PG&E uses annual capacity factors to model generation that are informed by data and Measurement & Evaluation reports developed through the Self Generation Incentive Program.

To model generation from BTM PV resources, PG&E uses California Solar Initiative and PG&E interconnection data on PV system characteristics — for PG&E’s over 250,000 interconnected PV systems — coupled with typical weather/insolation data. System characteristics (rated capacity, tilt, and orientation) and weather data is input into PV Watts, a solar generation modeling tool developed by the National Renewable Energy Laboratory (NREL) to estimate generation for a given Distribution Planning Area. PG&E is also considering options to better understand how customers’ energy usage changes once they adopt solar as well as how extreme weather events may affect BTM PV generation.

In PG&E’s proposal for a Net Energy Metering (NEM) successor tariff dated Aug 3, 2015, PG&E asked that the California Public Utilities Commission (CPUC) require metering of onsite generation that operates under a NEM tariff but this proposal was not adopted by the CPUC.

Further, PG&E has consulted with Clean Power Research and NREL staff on approaches to modeling PV generation and is leveraging information developed through Measurement & Evaluation activities funded through BTM generation incentive programs.

In the NEM Successor Tariff Proposal, PG&E does not prescribe the method by which the data would be provided to the IOUs, but believes that the CPUC should establish the general requirement as a condition of interconnection starting at a given date and establish a forum in which stakeholders would select the means by which customers would provide this data. There are several important considerations that must be addressed in evaluating and selecting the appropriate method of data backhaul, including cost, customer privacy, data quality, ease of implementation, and preservation of interconnection efficiencies. PG&E has assessed a variety of options and believes that the Smart Inverter Working Group provides a promising path for conveyance of production data through the smart inverter and AMI network. However, PG&E believes an open process with all stakeholders exploring how best to collect production information would be beneficial. As a result, language in the draft regulation should be flexible enough to accommodate this evolving framework.