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**Pacific Gas and Electric Comments on the Draft 2016 IEPR Update**

*Additional submitted attachment is included below.*

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**POSTED ELECTRONICALLY TO  
DOCKET 16-IEPR-01**California Energy Commission  
Dockets Office, MS-4  
Docket No. 16-IEPR-01  
1516 Ninth Street  
Sacramento, CA 95814-5512Re: Docket 16-IEPR-01: Pacific Gas and Electric Company Comments on the Draft 2016 Integrated Energy Policy Report Update

Pacific Gas and Electric Company (PG&E) appreciates the opportunity to provide comments on the California Energy Commission's (CEC, Commission, or Energy Commission) Draft 2016 Integrated Energy Policy Report Update<sup>1</sup> (IEPR, Report, or Update), which was discussed at a CEC Workshop on October 24, 2016.<sup>2</sup> The IEPR is the leading energy policy report for the State of California and impacts energy policy discussions among elected officials, public agencies, stakeholders, and the public.

PG&E broadly supports the findings and recommendations of the 2016 Draft IEPR. In partnership with industry stakeholders like PG&E, California continues to be a global leader in making strides toward achieving ambitious climate goals to prevent and mitigate the effects of climate change. With Californians continuing to experience severe drought, intense wildfires, extreme weather, and other climate change-related impacts, PG&E stands with the Governor, the Legislature, and the CEC in agreement that more must be done across **all** sectors, not just the electricity sector, to decarbonize California's economy. PG&E is committed to achieving California's climate goals and will work to do so while continuing to meet customer energy needs safely, reliably and affordably.

With this support, and acknowledging that more needs to be done to expand California's leadership to other states and countries, PG&E does find that the IEPR could be more clear in specifying that all facets of the "energy system" will need to contribute meaningful greenhouse gas (GHG) emissions reductions and that the substantial efforts of the electricity sector alone will not be enough to meet the State's GHG goals. PG&E does not recommend that California rest on its laurels, but further clarity in this Report's Executive Summary and Chapter 1 on the relationship between the "electricity sector," "energy system," and "electricity system" would bolster the recommendation that emissions reductions in other sectors of the energy system, such as transportation must also be made.<sup>3</sup>

PG&E's comments largely focus on language clarifications and technical forecasting inputs while seeking to acknowledge the meaningful advancements made to date and avoiding duplicative efforts in the future.

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<sup>1</sup> [http://docketpublic.energy.ca.gov/PublicDocuments/16-IEPR-01/TN213930\\_20161007T134148\\_Draft\\_2016\\_Integrated\\_Energy\\_Policy\\_Report\\_Update.pdf](http://docketpublic.energy.ca.gov/PublicDocuments/16-IEPR-01/TN213930_20161007T134148_Draft_2016_Integrated_Energy_Policy_Report_Update.pdf)

<sup>2</sup> [http://docketpublic.energy.ca.gov/PublicDocuments/16-IEPR-01/TN213932\\_20161007T150302\\_Notice\\_for\\_the\\_Workshop\\_on\\_the\\_Draft\\_2016\\_Integrated\\_Energy\\_Pol.pdf](http://docketpublic.energy.ca.gov/PublicDocuments/16-IEPR-01/TN213932_20161007T150302_Notice_for_the_Workshop_on_the_Draft_2016_Integrated_Energy_Pol.pdf)

<sup>3</sup> IEPR Update, pg. 13-14

Key points of PG&E's comments include:

- Duplicative planning efforts should be avoided when working to reduce GHG and other environmental impacts of the electric sector;
- The representation of Net Energy Metering in the Update is misleading and should be clarified;
- Statewide transmission planning and permitting efforts should be continued and priority projects should be expedited;
- Southern California winter fuel reliability work should be expanded to consider state-wide impacts of extreme cold weather events; and
- Updating the effects of behind-the-meter solar and energy efficiency on peak demand shift is critical to future electricity demand forecasts.

## **I. Environmental Performance of the Electricity Generation System**

PG&E was broadly supportive of the CEC's most recent Environmental Performance Report, the *2016 Environmental Performance Report of California's Electrical Generation System (2016 EPR)* and has been a strong proponent of the State's efforts to reduce GHG emissions and reduce electric-sector impacts to air quality, water, and land use, and environmental justice (EJ) issues in California. PG&E's comments on Chapter 1 of the Update largely mirror feedback that was provided on the *2016 EPR* Draft.<sup>4</sup>

### **A. No New Planning Processes**

PG&E applauds the CEC's continued efforts to study the environmental impacts of California's energy sector and to implement actionable steps toward achieving meaningful advancements toward the State's laudable GHG goals. However, meaningful change can continue to be made through existing programs and processes rather than creating additional planning processes. The intents of a "right-sizing policy<sup>5</sup>," a "wind repowering action plan<sup>6</sup>," and "landscape-scale planning<sup>7</sup>" are all commendable, but existing processes such as RETI 2.0, the Integrated Resource Plans (IRPs), and the California Independent System Operator's (CAISO) Transmission Planning Process should be used to achieve these goals. This will help avoid the risk of creating potentially duplicative portfolios that conflict with existing planning processes like those listed above.

### **B. Acknowledge Progress That Has Been Made**

While forest biomass issues, especially those related to bark beetle tree mortality, continue to present major hurdles, the section of IEPR Chapter 1 related to the creation of bioenergy from biomass takes an overly-negative view on the matter and fails to acknowledge the great progress that the State and stakeholders have made to date.<sup>8</sup> This portion of Chapter 1 should acknowledge, at a minimum, recent legislation and implementation activities. Senate Bill (SB) 859 developed a new requirement for electrical corporations to procure an additional 125 Megawatts (MW) from existing biomass facilities using a prescribed amount of HHZ feedstock.

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<sup>4</sup> [http://docketpublic.energy.ca.gov/PublicDocuments/16-IEPR-03/TN212861\\_20160818T164726\\_Pacific\\_Gas\\_\\_Electric\\_Comments\\_Pacific\\_Gas\\_\\_Electric\\_Comments\\_o.pdf](http://docketpublic.energy.ca.gov/PublicDocuments/16-IEPR-03/TN212861_20160818T164726_Pacific_Gas__Electric_Comments_Pacific_Gas__Electric_Comments_o.pdf)

<sup>5</sup> IEPR Update, pg. 57

<sup>6</sup> IEPR Update, pg. 75

<sup>7</sup> IEPR Update, pg. 76

<sup>8</sup> IEPR Update, pg. 64

For example, to implement SB 859's provisions regarding BioRAM and BioMAT, the California Public Utilities Commission (CPUC) issued Resolution E-4770 requiring the investor-owned utilities (IOUs) to enter into contracts to purchase at least 50 megawatts (MW) of generating capacity from biomass generation facilities that use minimum prescribed levels of high hazard zones (HHZ) material as feedstock. Additionally, the CPUC is implementing SB 840, by modifying the existing bioenergy feed-in tariff (BioMAT), to include the BioMAT category of "bioenergy using byproducts of sustainable forest management" (Category 3) as including fuel obtained from HHZ.

### **C. Net Energy Metering Details Should be Clarified**

The portrayal of Net Energy Metering (NEM) in this Update is misleading and should be clarified. On page 67, the passage "As described in the 2016 EPR with the passage of AB 327, the CPUC updated rules and policies that better balance the cost of integrating distributed generation" is overly optimistic in its characterization of CPUC action. Assembly Bill (AB) 327 required the California Public Utilities Commission (CPUC) to develop a NEM successor tariff, and NEM 2.0 was adopted in January 2016 in a CPUC decision.<sup>9</sup> However, the CPUC did not take any specific steps to "better balance the cost of integrating distributed generation"; rather the CPUC specifically directed itself to use other proceedings to achieve "a better understanding of the impact of customer-sited distributed resources on the electric system."<sup>10</sup> The CPUC recognized that the Public Tool, developed specifically for use in analyzing different NEM Successor Tariff proposals, failed to produce a Ratepayer Impact Measure (RIM) value of at least 1.0 by any party using any assumptions.<sup>11</sup> The CPUC opined that this was because, while costs were well understood, benefits were not. Consequently, the CPUC took two steps. In addition to directing itself to look to other proceedings for better information, it also directed itself to reconsider the NEM Successor tariff in 2019. The IEPR could more accurately portray the NEM program by recognizing that the CPUC did not, in fact, "better balance the cost of integrating distributed generation," but hopes to do so in other proceedings.

### **D. Storage Details Should be Updated**

PG&E agrees that energy storage will be an integral component of California's decarbonized energy future. For completeness, the IEPR's discussion of advanced energy storage should include reference to AB 2868 which grants the CPUC authority to approve investor-owned utility (IOU) programs and investments in distributed energy storage up to 500 MW.<sup>12</sup>

### **E. Integrated Resource Plan Recommendation Details Should be Clarified**

The recommendation on page 75 should be modified for electric-sector specificity. "Continue to develop utility Integrated Resource Plans (IRPs) that **reflect the electric sector's percentage in achieving the economy-wide greenhouse gas (GHG) reductions of 40% from 1990 levels by 2030 as set forth by SB 350.**"

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<sup>9</sup> D.16-01-044

<sup>10</sup> D.16-01-044, page 4

<sup>11</sup> The Ratepayer Impact Measure, or RIM test, calculates the impact on ratepayers (including both participants and nonparticipants) of a given demand side measure. A value greater than 1.0 means that the benefits are greater than the costs. Many parties in the NEM Successor proceeding suggested that the RIM test was the appropriate measure to evaluate whether a proposal met the statutory criteria that the NEM Successor tariff ensure that total benefits of the tariff "to all customers and the electrical system" be "approximately equal to the total costs".

<sup>12</sup> IEPR Update, pg. 69

## **F. PG&E Supports Statewide Energy Planning and Permitting Recommendations**

Regarding the recommendation to “[e]xpedit[e] permitting of the highest priority transmission projects,” PG&E agrees that continued coordination between the CEC, CPUC, other applicable state agencies and IOUs would be beneficial in expediting the siting of long-lead-time, capital-intensive investments in infrastructure that support the State’s energy policy goals.<sup>13</sup> For example, transmission projects that support the attainment of the State’s RPS (Renewable Portfolio Standard) goals or which provide economic, capacity, and reliability benefits to customers, should be considered high priority and coordinated to ensure expedited approval in order to deliver these benefits to California’s customers. Early coordination among all parties can identify potential issues early in the process as well as identify opportunities to more efficiently meet the commitment to the California Environmental Quality Act (CEQA) and effective environmental stewardship. These efforts can potentially reduce the time required to issue permits, thus reducing potentially costly delays that could increase costs to customers.

## **G. New and Emerging Technologies Language Should be Clarified and Updated**

The first and third IEPR recommendations on pages 78 and 79 concerning new and emerging technologies should be adjusted to better reflect the uncertain nature of future technological developments, remain technology neutral, cost-effective, and not be overly specific at the risk of excluding potential future advancements.

Continue collaborative approach to develop emerging distributed energy resource (DER) technologies to support the development and implementation of DER deployment programs and efforts **that cost-effectively support California’s clean energy goals**. ~~DER technologies including distributed renewable generation resources, targeted energy efficiency, energy storage, electric vehicles, and demand response technologies offer similar GHG benefits as larger utility scale renewable technologies, and DER generation technologies tend to have much higher land use efficiencies.~~ To capture the benefits of these technologies, California should continue its work advancing DER technologies by coordinating with entities such as More Than Smart, the New York State Energy Research and Development Authority, the DOE’s Advanced Research Projects Agency-Energy, and the military, as well as with other states and countries. The Energy commission should also continue its collaboration with **the CPUC and** California utilities to better understand the cost and benefits of DER portfolios on utility systems.

Continue taking steps **to enable the integration of** high penetration of DER technologies into the electric grid while ensuring the safe, reliable, and cost-effective delivery of electricity. As investment in DER technologies continues to grow, DER technologies are affecting **how utilities plan and operate** the electric grid ~~is planned and operated~~. **There is significant variability in stakeholder estimates of** future DER deployment levels ~~is relatively unknown~~, which ~~can make it~~ poses challenges for grid planners **to forecast the location and timing of DER deployment and associated grid needs** ~~(predict where and when) future installations of DER technologies~~. Operating a grid with a high penetration of DER technologies, ~~especially portfolios of technologies,~~ can also be ~~just as~~ challenging due to the **intermittency of resources and lack of visibility** to grid

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<sup>13</sup> IEPR Update, pg. 76

operators. The state should continue to address ~~confront~~ these planning and operational challenges by applying knowledge gained and tools developed from DER research and demonstrations within future research and decision-making processes. **Efforts should be made to coordinate and share learnings from research across CEC, the CPUC, the CA IOUs and other research organizations. In particular, the CEC should consider participating in active CPUC proceedings where most of these issues will be addressed.**

The second IEPR recommendation on pages 78 and 79 concerning new and emerging technologies should be adjusted to include zero net energy (ZNE) on the list of elements that should receive joint-agency coordination given its broad implications.

## II. Energy Reliability in Southern California

PG&E supports the State's efforts to address Southern California fuel reliability issues in light of Aliso Canyon. As PG&E has expressed in prior written comments, assessments of reliability issues could be improved upon by investigating the broader reliability impacts of a winter with sustained cold in northern and southern California.<sup>14</sup> This potential scenario is more likely to deplete gas storage supplies than a 1-in-10 peak day as is currently studied and could have more wide-spread impacts on the state. More specific recommendations on language changes in Chapter 2: Energy Reliability in Southern California are noted below.

On page 87, it should be clarified that “[w]ithdrawals occurring during summer months **sometimes** provide support to gas-fired generation within the greater Los Angeles area.” Throughout the year withdrawals were made to support customer loads as well as to manage supply costs, often allowing for a lower utilization of pipeline supplies and Southern California Gas's (SCG) pipeline capacity. During the summer of 2016, the frequent use of low Operational Flow Orders (OFOs) facilitated a greater utilization of pipeline supplies and SCG's pipeline capacity and no withdrawals from Aliso Canyon. CPUC Decision D.15-06-014 enabled SCG to utilize low OFOs starting in the second half of 2015.

Clarifying language regarding OFOs is also recommended on page 94. “Given the mild weather during late winter 2016 **and the use of low OFOs to increase volumes of pipeline supplies**, none of the reserves remaining in the field were needed, preserving the 15 Bcf for summer 2016.”

PG&E recommends similar clarifications on page 102. “~~The interagency efforts~~ **The continued use of Low OFOs and the stricter noncore balancing rules** avoided withdrawals from Aliso Canyon **by increasing the use of pipeline supplies**, preserving the gas in the field for later use.”

## III. Climate Adaptation and Resiliency

PG&E appreciates the CEC's leadership and collaboration with other agencies on climate change adaptation and resiliency and is generally supportive of the recommendations in Chapter 3 of the Update. Specifically, PG&E supports the notion of actionable research that can lead to tangible improvements; more standardized climate scenarios, guidance, and downscaled climate data to support resiliency planning; and enhancing tools and resources such as Cal-Adapt. PG&E looks forward to continuing to work with and support the CEC and other stakeholders in this important undertaking.

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<sup>14</sup> [http://docketpublic.energy.ca.gov/PublicDocuments/16-IEPR-02/TN213571\\_20160909T134107\\_Pacific\\_Gas\\_and\\_Electric\\_Comments\\_Pacific\\_Gas\\_and\\_Electric\\_Comm.pdf](http://docketpublic.energy.ca.gov/PublicDocuments/16-IEPR-02/TN213571_20160909T134107_Pacific_Gas_and_Electric_Comments_Pacific_Gas_and_Electric_Comm.pdf)

#### **IV. Electricity Demand Forecast Update**

PG&E appreciates the CEC's continued efforts to update energy forecasts, especially in California's dynamic and rapidly changing energy environment. PG&E is supportive of the forecast recommendations in this Update and strongly agrees that updating the effects of behind-the-meter (BTM) solar and energy efficiency (EE) on peak demand shift is the most critical forecast improvement facing the CEC. Specific technical feedback regarding Chapter 4 of the Report follows below.

Page 169 of the Report states "Assuming the availability of more granular data such as that flowing from customer-level advanced metering infrastructure, further disaggregation of this model would be possible. Energy Commission staff is working with utility staff to determine an optimal level of disaggregation to better serve transmission and local area planning." Regarding available customer data and levels of disaggregation that are possible while preserving the integrity of customer privacy, PG&E points CEC staff to prior comments on the Title 20 rulemaking and on-going work with the CEC on related data matters.<sup>15</sup>

Additionally, page 169 asserts that, "This adjustment will be based on historical rather than projected load patterns and is, therefore, somewhat incomplete. The decision about whether to include this adjustment in the adopted energy demand forecast update or provide this as an add-on product remains to be made." Adjustment to peak for DERs should be made based on projected future impacts of each DER at the coincident peak hour. This requires an hourly load shape for each DER to determine the MW impact of each at each hour of the day. Recorded data may accurately capture the peak shift for one or two years out, but not for 10 years out, when solar is expected to have a significant impact on midday loads, which will shift the peak demand out to later hours.

PG&E is very supportive of modeling efforts to account for the effect of DER technologies on hourly loads, particularly due to the importance of correctly modeling the peak shift, as previously indicated. However, with increased modeling complexity, especially in moving to hourly long-term forecasting, there is greater difficulty in benchmarking different forecasts. The CEC should engage IOU stakeholders as all parties work through the issues of moving from a top-down forecasting approach, to a much more granular, data-intensive and technically rigorous approach.

PG&E looks forward to reviewing the CEC's *2016 IEPR Forecast Update* however; Table 17 on page 177 does not appear to provide a schedule for comments on the forthcoming forecast.

#### **V. Conclusion**

PG&E appreciates the opportunity to comment on the CEC's Draft 2016 Integrated Energy Policy Report Update, and looks forward to continuing to collaborate with CEC staff on this important work.

Sincerely,

/s/

Wm. Spencer Olinek

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<sup>15</sup> [http://docketpublic.energy.ca.gov/PublicDocuments/16-OIR-03/TN214081\\_20161017T160706\\_Valerie\\_Winn\\_Comments\\_Pacific\\_Gas\\_and\\_Electric\\_Title\\_20\\_Comments.pdf](http://docketpublic.energy.ca.gov/PublicDocuments/16-OIR-03/TN214081_20161017T160706_Valerie_Winn_Comments_Pacific_Gas_and_Electric_Title_20_Comments.pdf)