

June 18, 2013

**VIA E-MAIL DOCKET@ENERGY.
CA.GOV**California Energy Commission
Dockets Office, MS-4
Re: Docket No. 13-IEP-10
1516 Ninth Street
Sacramento, CA 95814-5512**Re: 2013 Integrated Energy Policy Report: Joint Lead Commissioner Workshop on Climate Change and the Energy Sector—Comments of Pacific Gas and Electric Company**

Pacific Gas and Electric Company (“PG&E”) appreciates the opportunity to provide comments on the California Energy Commission’s (“CEC” or “Commission”) Joint Lead Commissioner Workshop on Climate Change and the Energy Sector (“June 4 Workshop”), held as part of the 2013 Integrated Energy Policy Report (“IEPR”) proceeding. As stated in previous comments,¹ PG&E is supportive of the Commission’s inclusion of the impacts of climate change on the energy sector in the 2013 IEPR and was pleased to see an entire workshop dedicated to this topic.

I. INTRODUCTION

PG&E is among the most avid and active proponents of efforts to understand the potential physical impacts of climate change to its operations. PG&E commissioned its first technical study on climate change’s potential physical impacts in 1989 and, since 2008, has been investigating the potential physical risks of climate change to PG&E’s system on an ongoing basis. As a result of these efforts, PG&E has developed a systematic process for assessing the impact of climate change on its system and routinely incorporates that information into its planning process.

Consideration of climate change in the 2013 IEPR is especially timely considering that, in the last several years, California scientists and policy makers have increased their focus on climate adaptation. For example, in 2009, the State of California published a Climate Change Adaptation Strategy,² and in 2010, the California Adaptation Advisory Panel to the State of

¹ Pacific Gas and Electric Company. 2012. Comments of Pacific Gas and Electric Company on the Draft 2012 Integrated Energy Policy Report Update, website: http://www.energy.ca.gov/2012_energypolicy/documents/2012-11-07_workshop/comments/Pacific_Gas_and_Electric_Comments_2012-12-06.pdf. Page 4.

² California Natural Resources Agency. 2009. 2009 California Climate Adaptation Strategy, website: http://resources.ca.gov/climate_adaptation/docs/Statewide_Adaptation_Strategy.pdf

California published *Preparing for the Effects of Climate Change: A Strategy for California*,³ both of which include discussions on the potential physical impacts of climate change on the energy sector. These reports have identified a number of potential risks for the energy sector, including: increased electricity demand from more extreme and frequent hot weather events; and reductions in hydroelectric generation due to reductions in snowpack in parts of the Sierra Nevada mountains.

Given the risk from extreme heat events, PG&E supports the Commission's efforts to better understand and model the relationship between climate change, weather and energy demand. Specifically, the presentations on using the marine layer cloud cover to refine load forecasts⁴ and on the effects of climate change on the frequency, intensity and duration of heat waves⁵ were of particular interest. Public forums, such as the June 4 Workshop, also help foster stakeholder consensus around common climate change planning assumptions; these assumptions often differ dramatically between organizations. PG&E encourages the CEC, through the research activities it supports and public workshops, to continue to foster a better understanding of these topics.

Moving forward, PG&E is happy to continue to share information on its climate change assessments with the CEC staff. At the June 4 Workshop, for example, PG&E's Craig Bolger, a Principal hydrologist, presented on the potential climate change impacts to PG&E's hydroelectric generation system, along with its adaption strategy.⁶ In addition to the above comments, PG&E offers the following specific suggestions below as the Commission incorporate this and other climate change information in the 2013 IEPR.

II. CEC SHOULD LEVERAGE EXISTING UTILITY STRATEGIES AND PLANNING PROCESSES IN THE 2013 IEPR

PG&E would like to see the 2013 IEPR chapter on climate change consider the existing, real-world adaption strategies and planning processes from system operators. While general research like the innovative work discussed at the June 4 Workshop helps describe the wide-ranging impacts of climate change, these general impacts must always be examined in the specific context in which they occur. For example, sea-level rise will clearly affect long-term energy assets in California. However, PG&E's own assessment of its system indicates that there is not a great deal of vulnerability expected from sea level changes. Accordingly, strategies for

³ California Adaptation Advisory Panel. 2010. *Preparing for the Effects of Climate Change: A Strategy for California*, website: <http://www.pacificcouncil.org/document.doc?id=183>

⁴ Cayan, D. and Pierce, D. 2013. *Probabilistic Forecasts for the Energy Sector* (Scripps Institution of Oceanography, University of California, San Diego), website: http://www.energy.ca.gov/2013_energypolicy/documents/2013-06-04_workshop/presentations/02_pierce_2013_iepr.pdf

⁵ Cayan, D. 2013. [Untitled PowerPoint presentation] (Scripps Institution of Oceanography, University of California, San Diego), website: http://www.energy.ca.gov/2013_energypolicy/documents/2013-06-04_workshop/presentations/03_cayan_2013_iepr.pdf

⁶ Bolger, Craig. 2013. *Water Supply and Hydroelectric Generation: Potential Impacts of Climate Change* (Pacific Gas and Electric Company), website: http://www.energy.ca.gov/2013_energypolicy/documents/2013-06-04_workshop/presentations/06_Bolger_CEC_Water_Supply_and_Hydro_Gen_June%204_2013.pdf

addressing climate change should not result in a “one-size fits all” approach and must recognize the unique characteristics of California’s energy infrastructure.

Additionally, climate change impacts tend to occur gradually over time. Thus, once the effects of climate change are understood, utility planning processes can incorporate the impacts, like increased energy demand. PG&E suggests that the CEC consult with utilities about analysis already performed and adaptation strategies already in place for next 20 years. PG&E routinely incorporates new climate science into its planning processes and these efforts should be incorporated. For example, as PG&E’s Craig Bolger demonstrated, PG&E has already performed an assessment of the impact of climate change on its hydroelectric system. The results of these analyses should be leveraged in the 2013 IEPR. Moreover, considerations like operating requirements and location must be addressed, otherwise customers may bear higher costs, and PG&E’s ability to provide service to customers could be negatively impacted.

III. CONCLUSION

PG&E appreciates the opportunity to provide input on these important issues. Should you have any questions about PG&E’s comments, please do not hesitate to contact me.

Sincerely,

/s/

Matthew Plummer

cc: D. Stoms (David.Stoms@energy.ca.gov)