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**RE: Docket No. 09-IEP-1H and 08-WHCE-1**

Dockets Office:

Please find attached PG&E's comments on the workshop held July 23, regarding Combined Heat and Power.

Please contact me should you have any questions. I can be reached at 415/973-4185.

Sincerely,

Kathy Treleven

Attachment

**Pacific Gas and Electric Company Comments in Response to the California Energy Commission's Workshop on Combined Heat and Power Issues**
**July 23, 2009**
**Docket No. 09-IEP-1H**
**And Docket No. 08-WHCE-1**

Pacific Gas and Electric Company (PG&E) welcomes the opportunity to submit our written responses to the IEPR Committee workshop on Combined Heat and Power (CHP) issues. PG&E would also like to commend ICF Consulting's hard work and analysis in estimating potential for CHP applications in California, as well as California Energy Commission (CEC) staff for their work on developing efficiency guidelines for CHP projects under AB 1613. We look forward to working with ICF, CEC staff, and other stakeholders to deepen our understanding of the methodology, inputs, and assumptions underlying this analysis. PG&E's comments today are largely related to the ICF report and the associated Committee Workshop, but we would also like to provide some comments on the CEC's draft efficiency guidelines. We recognize that the guideline comments were due August 4, and apologize for our delay.

PG&E supports customer generation, including CHP, as one of an array of choices that should be available to customers as they make decisions about meeting their energy needs[1]. CHP ought to be a component of an environmentally sound energy policy to the extent that such installations reduce statewide GHG emissions. Today, through QF contracts, CHP makes up 15% of PG&E's resource portfolio, constituting 11,450 GWh in 2008. CHP clearly has value to our customers and is an essential part of our portfolio.

PG&E continues to support for CHP applications that are efficient and have bona fide "used" thermal heat applications. Efficiency should specifically mean that the CHP lowers California's statewide emissions profile, or that it emits less GHG than the alternative of the separate production of electricity and heat. PG&E supports increased use of efficient CHP and the CEC's development of standards that define and promote efficient CHP projects.

**ICF's Potential Study**

PG&E commends the CEC and ICF for providing this detailed report on GHG potential and relating this potential to estimated GHG reductions.

PG&E also notes the contrasting conclusions between the ARB Scoping Plan and the CEC/ICF Report. Notably, the Scoping Plan sets a program measure target of 4000 MW of new CHP, resulting in 6.7 MMT of GHG emissions reductions. In contrast, the ICF base case projects 2240 MW, resulting in 1.4 of GHG emissions reductions (p. 32 of the 7/23 presentation). In general, estimates of GHG emissions reductions are derived by

[1] As an example of our customers' interest in generation, as of June 2009, PG&E has 31,475 grid tied solar installations, accounting for some 307MW of capacity and comprising 40% of all grid tied solar installations in the United States. In addition, PG&E currently has 190 non-QF CHP installations that account for 228 MW of capacity.

comparing CHP efficiency to a double benchmark consisting of a stand alone boiler and an electric generation heat rate, among other assumptions. Key assumptions in the ICF report to estimate GHG reductions appear to be a range of CHP efficiencies from 63 to 79% depending on the technology (pp. 47-50), and a baseload heat rate of 7460 Btu/kWh. Assuming a boiler efficiency of 80% and average CHP efficiencies of 70%, PG&E has been able to reconcile ICF's estimate that 2240 MW of CHP should result in 1.4 MMT of GHG reductions.

PG&E fully supports making the ICF report available for stakeholder review. Many workshop participants also support PG&E's general belief that transparency around assumptions, inputs and analysis should be encouraged. This is a complex topic, and the public dialogue surrounding this topic will benefit from a more in-depth understanding. PG&E's welcomes the opportunity to review the report and provide comments.

The extent to which CHP will reduce GHG remains uncertain, as evidenced by the contrasting conclusions reached by the ARB and embedded in the ICF report. We can improve our expectations through better analysis, but ultimately the empirical results will be affected by the various legislative and regulatory policy choices, including AB1613 feed-in tariff for CHP under 20 MW, the contracting process for QFs, and current legislation that expands the Self-Generation Incentive Program to once again include CHP.

**Efficiency Guidelines**

As the Western States Petroleum Association (WSPA) acknowledged in its presentation on 7/23, one of the objections often raised to encouraging additional CHP is that some CHP installations are not as efficient as separate production. WSPA acknowledged that that is sometimes true, but stated that presumably with all parties interested in placing a greater emphasis on efficiency, policies will be developed that will encourage only efficient projects to move forward.

The CEC has within its proposed guidelines a standard that does just that, places greater emphasis on efficiency, by requiring a cogeneration facility to meet a "fuel savings standard," in addition to its overall 60% efficiency target and other standards. The fuel savings standard compares the output of a CHP to alternative separate electric and thermal production.

The CEC's proposed comparison is to the alternative of electric production efficiency of 8358 Btu/kWh, (a value that assumes some extra fuel burned to cover transmission and distribution losses) and a displaced boiler of 80% efficiency. PG&E's preliminary review of CHP technology, marginal electric production and boiler efficiencies suggest to us that lower heat rates and higher boiler efficiencies would be more appropriate proxies, but we strongly support the concept of a fuel savings standard as a must-have part of these regulations, since that is how lowered GHG production can be ensured. PG&E hopes to offer specific alternative target heat rates and boiler efficiencies soon.

PG&E also suggests that a more effective way to ensure maximum GHG emissions reductions from CHP might be to have higher efficiency standards for larger-capacity CHP installations.

Finally, PG&E is pleased to see explicit requirements for Ongoing Compliance, Performance Monitoring and Annual Reporting. PG&E looks forward to further development of these requirements. For example, what entity should perform any review of supporting data if the declaration of compliance was challenged, and how should the review be performed? Will all systems be required to have metering and monitoring? What type? Who would have access to the data? Who would pay for it? It would seem logical that the utility or other enforcing agency should have access to performance data upon request. This data could also be used to evaluate the performance of CHP systems, to guide future policy decisions.

**Conclusion**

PG&E appreciates the opportunity to review the ICF report and looks forward to an opportunity to delve more deeply into the inputs and assumptions underlying the model and its results. The variability in the estimates surrounding the contribution this technology can offer toward reducing GHG emissions is an important policy concern. PG&E commends the CEC's proposed draft efficiency guidelines for offering a specific standard for fuel savings, and for beginning to define a compliance and monitoring process. We look forward to the next iteration of the guidelines and remain committed to working with the CEC staff on these standards.