

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**



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Order Instituting Rulemaking Regarding Policies,
Procedures and Rules for the California Solar
Initiative, the Self-Generation Incentive Program and
Other Distributed Generation Issues.

Rulemaking 08-03-008
(Filed March 13, 2008)

**REPLY COMMENTS OF PACIFIC GAS AND ELECTRIC
COMPANY (U 39 E) ON THE PRELIMINARY REVISED
PROPOSED DECISION OF ADMINISTRATIVE LAW
JUDGE DUDA ON A COST-BENEFIT METHODOLOGY
FOR DISTRIBUTED GENERATION**

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March 9, 2009

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I. INTRODUCTION

In accordance with Administrative Law Judge Duda's Ruling of February 3, 2009, Pacific Gas and Electric Company (PG&E) provides these reply comments on the *Preliminary Revised Proposed Decision on a Cost-Benefit Methodology For Distributed Generation* (Preliminary Revised PD or PRPD).

Parties filed a variety of comments on how to evaluate the costs and benefits of Distributed Generation (DG) technology and programs. PG&E has the following brief responses:

- The CPUC should not use this docket to re-litigate how to calculate energy avoided costs, which has been addressed in other dockets. If the CPUC wants to update the 2006 E3 prices, it should use the methodology for gas prices used in the 2008 Market Price Referent (MPR) proceeding, but not the now-outdated gas price forecasts adopted in the 2008 MPR. If the CPUC wants to update the current CCGT capital cost figures, it should use the CEC's December 2007 Cost of Generation study. The CPUC could update environmental values, especially greenhouse gas (GHG) figures, with the GHG numbers used in the 2008 MPR.
- The CPUC should not adopt some of the definitions of DG proposed, but can clarify that the cost-benefit study will look at Advanced Energy Storage projects funded by the SGIP.

- The Commission should not revise its finding about T&D deferral as addressed in D.03-02-068.
- The Cost-Benefit calculation should not include an adder for “elasticity,” “reliability,” “employment or tax revenue,” or “national security.” There is no record adequately supporting such adders or how they would be calculated, and these adders are not used in other avoided cost calculations at the CPUC.
- PG&E supports the need for qualitative transformation studies to assess and improve the SGIP and CSI programs. However, the Commission should not include a quantitative transformation cost-benefit calculation as proposed in the PRPD.
- Exemptions from standby charges and cost responsibility charges should be addressed in the RIM and participant tests, as these costs are not avoided if not paid by the DG customer, they merely become part of the revenue requirement paid by other customers.
- The Commission should not decide today what conclusions will be drawn from the results of the cost-benefit studies.

Although PG&E opposes recognizing some of the claimed benefits of DG for purposes of this cost-benefit analysis, this should not be seen as signaling any change in PG&E’s strong support for the California Solar Initiative (CSI) and the Self-Generation Incentive Program (SGIP). Instead, PG&E encourages the Commission to use this opportunity to develop data showing costs and benefits of DG from multiple perspectives that are prepared in a manner consistent with the kinds of analysis done for other Commission programs. That information can then be used to improve, revise, and potentially expand DG programs.

II. DISCUSSION

A more detailed discussion of these topics follows. References are to the numbering in the Preliminary Revised PD.

A. Development of Avoided Costs (Sections 3.2 and 5.13)

The Preliminary Revised PD proposes to use the interim avoided costs from D.06-06-063, which are based on the “E3 calculator.” Several parties seek to change these figures. For example, Solar Alliance wants to use the 2008 Market Price Referent (MPR) figures for natural

gas price forecast, fixed and variable O&M, and CCGT capital cost approved in Resolution E-4214. CCDC wants to include an avoided capacity price (p. 8). The Division of Ratepayer Advocates (DRA) notes that various cost-benefit sources have been used in various CPUC proceedings, and encourages the Commission to develop figures for a meaningful comparison between all DSM programs and supply side alternatives. Pages 5-8 and 15-17.

PG&E encourages the CPUC to reject the proposal to base its analysis on the gas prices in the 2008 MPR. These calculations were based on mid-2008 gas forward prices, which are substantially higher than current market forward prices. PG&E also encourages the Commission not to use this docket to litigate how to calculate avoided energy costs. There are enough other dockets at the CPUC where those prices are litigated, and no record exists to create such a finding here.

If the CPUC wants to update its data sources from 2006, there are several ways it could do that without re-litigating contested cost issues. For natural gas prices, it could follow the methodology used in calculating the 2008 MPR. As explained in D.08-10-026 at pp. 8-14 and Res. E-4214, gas prices were calculated based upon a 22-day snapshot of forward gas prices (averaged over the 22 trading days). Here, the snapshot could be taken immediately after the effective date of the decision in this proceeding in order to reflect the most recent market expectations about future gas prices. In the MPR process, Energy Division staff was given some flexibility in how many years of NYMEX prices to use, and the Resolution provides information on what Staff decided. As to the current CCGT capital cost, the CPUC should use the CEC's Cost of Generation study,^{1/} which is one of the sources being considered by the Commission in the ongoing Demand Response Proceeding (R.07-01-041) for the capital cost of the proxy new combustion turbine (which forms the basis for the avoided generation capacity cost figure in evaluating cost-effectiveness). For GHG costs, PG&E's opening comments expressed support for use of the figures adopted by the Commission in the 2008 MPR.

^{1/} California Energy Commission, "Comparative Costs of California Central Station Electricity Generation Technologies," Final Staff Report, December 2007, which can be found at <http://www.energy.ca.gov/2007publications/CEC-200-2007-011/CEC-200-2007-011-SF.PDF>.

If the CPUC bases its evaluation on the E3 model, one assumption in that model must be deleted before it can be used to calculate avoided costs for DG. The E3 model includes deferred T&D as a benefit for energy efficiency, but it would be inappropriate to include this as a benefit for DG, as more fully described in section C, below. DG does not impact the transmission and distribution systems the same way that energy efficiency does. Energy efficiency installations are more diverse and more numerous by several orders of magnitude. In addition, failure of an energy efficient appliance leads to a short term drop in demand while failure of DG project leads to an increase. The mis-match between the dispersion and behavior of DG compared to energy efficiency makes it inappropriate to use the E3 model for DG without removing the T&D deferral benefit.

B. Defining DG (Section 3.3)

The Proposed Revised PD correctly declines to adopt a new definition of DG that would include 50 to 1,000 MW natural gas plants. However, several parties seek specific definitions of DG. None should be adopted here. None provide clarity or are relevant to defining the costs and benefits of DG.

A few parties sought clarification that the benefit-cost methods would be applied to Advanced Energy Storage projects funded by the SGIP. See California Center for Sustainable Energy (CCSE) page 3 and California Energy Storage Alliance page 2. PG&E has no objection to this clarification.

C. T&D Investment Deferrals (Section 5.3)

Numerous parties commented on the T&D investment deferral section of the Proposed Revised PD. A number of parties joined PG&E in questioning the accuracy of a separate measure for “small, customer-side DG installations interconnected under net energy metering rules.” (PRPD p. 31). See comments of California Clean DG Coalition at page 7 (criticizing the net metering proposed distinction), and Solar Alliance explaining (pages 8-10) that the impact on

T&D deferral is exactly the same, whether the DG is connected on the customer side or the utility side of the meter. PG&E agrees that the distinction should be deleted.

Other parties continue to argue that adding any DG unit to a circuit necessarily provides T&D benefits, or some variation of this argument. See, for example, Solar Alliance at pages 10-14, and California Clean DG Coalition at p. 8 (arguing that DG cogeneration projects have an excellent reliability record). However, as the CPUC concluded in D.03-02-068 after thoughtfully considering the record evidence, even a relatively reliable DG unit does not necessarily avoid any T&D upgrade. PG&E has over 3,000 distribution circuits. Adding a single DG unit – even one with a 90% capacity factor -- to a circuit in need of upgrades will not avoid the construction of any T&D lines, because the utility will need to assume that that DG unit will be unavailable ten percent of the time.^{2/} It is simply unacceptable to other customers that they risk inadequate service 10% of the time. Similarly, adding a DG unit to a circuit with sufficient existing capacity will not avoid the construction of any upgrades, since none are needed. The Preliminary Revised PD should reaffirm the finding of the Commission in D.03-02-068 that installation of a DG unit defers T&D investment only in specific circumstances where a facility can demonstrate its location, capacity and operational characteristics justify an investment deferral.

D. Electricity Market Price Impacts (Section 5.4)

Various parties proposed that DG be given a credit for reducing electric prices, as proposed in the PRPD, or for reduced natural gas prices. (See Solar Alliance at pp. 16-17). PG&E already explained in its opening comments why these credits are inappropriate. PG&E also noted that, since 2005 when the original PD was issued, the Commission has heard similar arguments advanced in the Demand Response Rulemaking, R.07-01-041. In that proceeding, a broad spectrum of parties were all signatories to the “Consensus Framework” for recommending

^{2/} The Itron Seventh Year Impact Report makes clear that few DG units achieve a 90% capacity factor. See pages 5-3 to 5-7. The Report can be found at http://www.pge.com/includes/docs/pdfs/shared/newgenerator/selfgeneration/SGIP_ImpactEvaluation_7thYear.pdf.

a cost evaluation framework that concluded that “Utilities are not expected to include the various other benefits which are sometimes attributed to DR programs, such as price elasticity effects, market performance benefits, reliability impacts, and ‘hedge’ or ‘insurance’ value.”

Finally, as SDG&E notes in its opening comments, the Commission in Decision 07-09-040 considered and rejected a similar “price effects” argument advanced by the California Cogeneration Council. (Page 65 and Finding of Fact 25.) That decision also noted that in the E3 2004 model, the adder declined to zero by 2008. The PRPD should be revised to remove this claimed “benefit” from the cost-effectiveness calculations.

E. Reliability Impacts (Section 5.5)

Several parties suggested that the cost-benefit calculation include increased system reliability as a benefit. For reasons explained in its opening comments, PG&E continues to believe that such benefits have not been demonstrated.

F. Employment and Tax Revenue (Section 5.6)

The Solar Alliance argues that employment effects should be added to the societal test, relying on the TIAX report. (Amended Comments pages 13-14). PG&E disagrees. The TIAX report claims that the SGIP added approximately 500 full time jobs; but has no calculation of how many jobs would have been incurred due to other energy supply arrangements. Moreover, given that a majority of PV panels and inverters are manufactured abroad, and need little maintenance other than washing once per year, there is some doubt about what permanent employment results after installation. PG&E welcomes further study of the job impacts of various kinds of DG compared to similar job creation that would have resulted from central station generation units displaced by the DG. However, at this time there is not an adequate record to include such a calculation in the cost-benefit calculation. Moreover, although the TIAX report was included in the record, it was not in the hearing, and therefore has not been the subject of cross examination or received any other test of its validity. In the TIAX report, the calculation of job creation is not reduced to reflect jobs attributable to DG alternatives (such a

conventional power facilities) because TIAX posits, without providing any supporting evidence of the geographic location of the displaced central station generation units, that “DG will replace imported electricity” (page 49) and further points out that it is not the purpose of its macroeconomic model to “analyze which technology is more expensive” (page 51). Indeed, employment effects have not been recognized in any other Commission avoided cost proceeding. The PRPD correctly concludes that they should not be recognized here.

G. Market Transformation Effects (Section 5.7)

A number of parties filed opening comments arguing that a market transformation is occurring with respect to photovoltaic generation. See, for example, the opening comments of the Solar Alliance at pages 3-6. PG&E agrees that the CSI program has contributed to the substantial increase in the number of solar installations, and PG&E has been delighted to see the rapid increase in the deployment of solar power in its service area. Indeed, through 2007, almost half of the nation's solar interconnections are in PG&E's service area. However, while prices of modules now appear to be dropping, it is less clear that the CSI has reduced the installed cost of solar, or if other factors are responsible. As the Energy Division stated in its notice of the Workshop on Solar PV Pricing to be held on March 13, “As big as the CSI is, it does not seem that we have sufficient global market power to affect such a change [reduced panel costs] in the near to medium term.” (Notice pages 2-3).

Moreover, no party explained how a contractor could quantify the transformational values in the manner suggested by E3, or in any other manner. Instead, many of their suggestions highlight the difficulty of such a quantification effort. For example, Solar Alliance asked that the transformation contractor “project benefits ten years beyond the conclusion of the CSI program” in 2016. (p. 7). Projecting what solar panels will cost in the next several years, much less in the year 2026, would be fraught with controversy.

Thus, PG&E continues to support the CSI and the incentives it provides for increasing the installation of panels in California. PG&E also supports the need for qualitative

transformation studies to continue to assess and improve the SGIP and CSI programs. However, it questions the value of a quantitative transformation benefit-cost calculation as proposed in the PRPD.

H. Environmental Values—CO₂, NO_x, and PM 10 Emissions (Section 5.10)

PG&E recommends that the PRPD be modified to be consistent with its most recent decision in this area, D.08-10-026 and implementing Resolution E-4214 (2008 MPR). These forecasted carbon costs should be used in the DG cost-effectiveness evaluation until such time as the CPUC adopts new values.

I. Exemptions From Standby Charges and the Cost Responsibility Surcharge (Sections 5.12 and 5.15)

Solar Alliance and other parties argue that exemptions from Standby Charges and Cost Responsibility surcharges should be ignored in doing cost benefit calculations. As PG&E explained in its original briefs and in its opening comments on the PRPD, all lost revenue resulting from customers installing DG units -- whether associated with generation rates, transmission and distribution (T&D) rates, or non-bypassable charges (NBCs) – needs to be accounted for as a benefit or cost, respectively, when performing cost-effectiveness analyses from the Participant and RIM perspectives.

The PRPD should account for all NBC losses, whether forecast or not, so that the results of the Participant and RIM tests accurately depict the true effects of DG customers avoiding such charges. To do otherwise artificially makes DG look more cost-effective than it truly is from the RIM perspective, and less cost-effective from the Participant perspective. There is no question that the Commission granted exemptions from certain NBCs for certain types of DG, and declared in some instances that this decision did not constitute a cost shift. However, it is an entirely different question whether the costs go away when a customer installs DG and stops paying such costs. They do not, and instead are absorbed by other customers. Furthermore, this is an entirely different question from whether existing exceptions should be maintained or

expanded. Instead, it gives the CPUC and other stakeholders useful information upon which it can make these determinations.

Regarding standby revenue, PG&E agrees that, as long as the PRPD accurately considers lost transmission and distribution revenues in these calculations, and does not artificially attribute T&D deferral costs absent any compelling evidence, standby revenues need not be additionally considered. This is because standby revenues are assessed to ensure recovery of a certain level of T&D revenues once a customer installs DG. Including the waiver of standby charges for various types of DG under 5 MW simply eliminates a means by which the Commission can mitigate against the lost revenues that now must be borne by other non-participating customers. However, from a RIM perspective, they do not represent an additional cost shift if full T&D lost revenues are already considered. Similarly, from a participant perspective, the standby charge (or waiver) will be captured in the reduced electricity bill calculation.

J. National Security Benefits and Ease of Siting DG.

The Solar Alliance asks the Commission to direct the development of a method for quantifying benefits related to improved National Security and ease of siting. PG&E does not believe that such a study will produce any meaningful result. As explained in testimony, at the hearing, and in briefs, there is no proof that DG increases the security of the grid, and no method to quantify such benefits if they did exist. Similarly, there is no need for an additional figure related to the ease of siting, as the costs of siting a power plant are already included in the avoided cost calculation. No additional factor should be recognized, or has been quantified.

K. How The Results of Benefit-Cost Studies Will Be Used.

Several parties asked the CPUC to resolve today how the results of these studies will be used. For example, DRA asked that Energy Division be given the flexibility to revise CSI and

SGIP programs based on the results of these studies. (p. 10). Similarly, several parties argued that the Societal test should be given priority over all other studies. (California Clean DG Coalition pp. 4-6.)

None of these issues should be addressed in this decision. The purpose of the studies is to give stakeholders more information about how to evaluate and improve programs. Some of these results need to be reported to the legislature, which has assumed control of various program elements of the CSI, the SGIP, and the net metering program. Neither the CPUC, the program administrators, nor Energy Division can change some of these program design elements without legislative authorization. Other program elements are within the CPUC's control, but there should be a robust public debate before these program elements are revised, rather than leaving it to Energy Division discretion, as proposed by DRA

L. Motions to Introduce New Evidence Into The Record

Several parties sought to introduce new evidence into the record, not considered at the last hearing. In particular, the Solar Alliance seeks to incorporate three documents into the record, and San Diego Gas and Electric/Southern California Gas seek to introduce four. PG&E has no objection to consideration of the 2008 MPR data, as suggested by the Solar Alliance, as those were in a final CPUC decision. However, it opposes the other efforts to introduce new evidence without the opportunity for other parties to introduce their own evidence, and for all parties to be able to conduct discovery and cross-examine witnesses about the conclusions to be drawn from these documents. In some cases, it is not even clear what conclusions parties seek to draw from these lengthy documents.

III. CONCLUSION

PG&E appreciates the opportunity to provide these comments and encourages the Commission to revise the Preliminary Revised Proposed Decision as discussed in Opening comments and above.

Respectfully submitted,

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By: _____ /s/
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March 9, 2009

CERTIFICATE OF SERVICE BY ELECTRONIC MAIL

I, the undersigned, state that I am a citizen of the United States and am employed in the City and County of San Francisco; that I am over the age of eighteen (18) years and not a party to the within cause; and that my business address is 77 Beale Street, San Francisco, California 94105

On March 9, 2009, I served a true copy of:

**REPLY COMMENTS OF PACIFIC GAS AND ELECTRIC COMPANY
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DECISION OF ADMINISTRATIVE LAW JUDGE DUDA ON A
COST-BENEFIT METHODOLOGY FOR DISTRIBUTED
GENERATION**

- [XX] By Electronic Mail – serving the enclosed via e-mail transmission to each of the parties listed on the official service list for R.08-03-008 with an e-mail address.
- [XX] By U.S. Mail – by placing the enclosed for collection and mailing, in the course of ordinary business practice, with other correspondence of Pacific Gas and Electric Company, enclosed in a sealed envelope, with postage fully prepaid, addressed to those parties listed on the official service list for R.08-03-008 without an e-mail address.

I certify and declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed on this 9th day of March 2009, at San Francisco, California.

/s/

PAT KOKASON