

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

Order Instituting Rulemaking Regarding  
Policies, Procedures, and Incentives For  
Distributed Generation and Distributed Energy  
Resources

Rulemaking 04-03-017

**PACIFIC GAS AND ELECTRIC COMPANY'S  
PROPOSAL FOR A PERFORMANCE BASED INCENTIVE  
FOR THE CALIFORNIA SOLAR INITIATIVE FOR  
DISCUSSION AT THE WORKSHOP ON MARCH 16, 2006**

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Dated: February 24, 2006

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In accordance with the Ruling of Administrative Law Judge Malcolm issued on February 3, 2006, Pacific Gas and Electric Company (PG&E) respectfully circulates this proposal for a Performance Based Incentive (PBI) to implement the California Solar Initiative (CSI). The ALJ Ruling directed that these proposals not be filed but that they should be served electronically on the service list of this proceeding. PG&E appreciates this opportunity to address these issues and looks forward to a constructive workshop.

**I. EXECUTIVE SUMMARY**

In Decision 06-01-024, the CPUC adopted the CSI, and said that it wished to explore a performance based incentive structure (PBI). The decision correctly stated that a performance based structure could promote not only the installation of more efficient solar installations, but could also ensure their efficient operation after installation. PG&E supports a move to a PBI to the extent a mechanism can be designed that would help the State achieve our shared objective of building solar energy into a resource that can be counted upon to provide clean, reliable, reasonably priced power to California, and has some policy suggestions, which are outlined today.

Persistence and performance of solar systems are elements of PG&E's long-term planning process. Thus, PG&E supports crafting a PBI mechanism to provide an effective means to ensure prolonged high quality operation of these solar resources. PG&E looks forward to reviewing the comments, suggestions, and observations of solar vendors, customers and others, and reserves the right to revise the positions below in response to that feedback.

As an opening proposal for discussion at the March 16th workshop, PG&E proposes a PBI with the design elements set forth below. The primary elements are: (a) a PBI for all non-residential solar customers at the outset (extension to include residential customers could follow at a later stage); (b) a PBI payment over ten years; and (c) a PBI with the entire incentive paid under a performance structure. The PBI should be structured to maintain the rebate budget adopted in D.06-01-024. The present value of the expected payment stream to a customer should be no greater than the adopted per-kW payment target for the year in which the customer's system is installed, using reasonable discount rate and performance assumptions. Alternatively, PG&E would support the adoption of an auction proposal, which might allow even more solar projects to come on line within the budget.

## **II. PROPOSED ELEMENTS OF A PERFORMANCE BASED INCENTIVE FOR SOLAR PROJECTS**

### **A. Issue: Should PBI apply to all CSI projects or only non-residential projects?**

*PG&E Position:* Initially, only non-residential customers would get a performance based incentive. Residential customers would get a capacity based incentive, but could move to a PBI as more information is gathered.

*Discussion:* Decision 06-01-024 stated that the cost of a performance based system may be more than it is worth for small projects (p. 21). There are many details to be addressed in implementing a PBI program, therefore PG&E proposes to establish the program with the non-

residential customers because of the smaller number of participants and larger average system size, rather than beginning with thousands of residential units. Starting the PBI program with non-residential customers will help ensure that incentives for these typically larger solar projects will have adequate and effective performance incentives and tracking mechanisms in place to provide assurance that systems receiving incentives actually provide the solar resource expected to be acquired over the life of the project.

Finally, while PG&E supports an initial PBI program limited to non-residential customers for the reasons stated above, as the Commission gathers experience and cost data, the Commission may want to move to a PBI for all projects.

**B. Issue: How long should the payout period be?**

*PG&E Position:* 10 years

*Discussion:* Terms from one year to twenty or more have been proposed. PG&E believes that a middle figure makes more sense. A shorter payment stream allows customers to receive the incentive within a condensed time frame. This will provide a more attractive return on investment for business customers and will reduce financing needs and administrative costs. A longer payment stream captures more of the long term performance of the solar project, including not only the initial performance metrics, but also long term maintenance issues such as cleaning panels and replacing inverters. On balance, a payout of ten years provides the customer with an incentive to design and install the best facility, with a reasonable payback period, while also giving an incentive to sustain a dependable level of solar output over the longer term. This will also allow for the Commission to gather valuable information, data and reports on the performance and persistence of these systems.

**C. Issue: Should the PBI be combined with up front capacity payment?**

*PG&E Position:* No, the CSI payment stream for projects receiving a PBI should be solely for performance based incentives.

*Discussion:* There are pros and cons to both methods of delivering rebates. There is also a tradeoff between financing, ease of administration, and incenting customers to maximize the output of their solar systems. In addition, depending on the tax issue discussed below, a 100% PBI structure may increase the tax benefits available to solar customers without increasing costs to electric customers. A pattern of payments to be discussed at workshops could balance the benefits from the two methods. For example, the payment stream could be structured to provide higher payments in the early and late years, with smaller payments in the mid years, in order to balance the needs for cash flow in the first years, but also provide incentives to maintain the system in the later years. The primary reason PG&E recommends that the PBI not be combined with a capacity payment is to maximize the amount of the rebate that is available for performance-based payments.

**D. Issue: How should the federal tax credits be factored into the analysis?**

*PG&E Position:* To the extent a PBI (or payments made under one beyond 2006 and 2007) is not taxable, but a capacity based incentive is taxable, this would support a 100 percent PBI.

*Discussion:* Last November, Americans For Solar Power (ASPV) filed a motion with the CPUC asking it to adopt a PBI. It appeared to argue that the entire payment should be PBI, rather than capacity based, to maximize tax benefits. The motion appeared to assume that solar projects installed in 2006 and 2007 will qualify for a 30% tax credit based on the out of pocket cost of the solar equipment, and that a capacity based incentive paid in 2006 or 2007 would

reduce the tax credit. While not expressly stated, the ASPv motion suggested that an equivalent PBI could have more favorable tax impacts.

We have seen various write-ups and summaries of the new tax rules, which appear to contradict this position. These interpretations relay that reductions to the federal tax credit depend upon the taxability of incentives, rather than the incentive structure. If this interpretation is accurate, the federal tax credit would be the same regardless of whether the CSI incentive structure is an up-front capacity based payment or a PBI payment stream. This would suggest that while there are important reasons to move to a PBI, additional benefits from the federal tax credit may not be one of them. We welcome a better and clearer explanation of the tax issue.

**E. Issue: How should the payment stream be calculated?**

*PG&E Position:* The present value of the payment stream should be no greater than the payment levels set forth in D.06-01-024, Appendix A, page 16. Thus, the first 50 MW of projects receiving CSI incentives in 2007 would get an expected payment stream with a present value of up to \$2.50 per watt.

*Discussion:* The CPUC should use a reasonable discount rate that appropriately incorporates all stakeholders' risks and expected level of operation in making this calculation. The expected level of operation figure should be reviewed on a regular basis as each new payment stream is set prospectively, to make sure it is set in a way that does not allow all or most projects to either exceed or fail to meet the target figure. Additionally, the PBI should incorporate the "trigger" mechanism described in Appendix A, page 16 to adjust the present value of the payment stream to the next scheduled incentive payment if program participation exceeds the pre-determined capacity level. This will help ensure optimal funding availability by reacting quickly to the marketplace.

At this time, PG&E proposes that the payment stream for each customer be an equal cents per kWh for each of the ten years. However, one way to address the tension between capacity payments and PBI might be to front-load and back-load the incentives—providing higher cents per kWh in the earlier years, reduce the payment in the mid-term, and increase payments in the latter years to encourage PBI participants to maintain their solar systems including replacement of inverters if needed.

In any case, the PBI should not increase the budget adopted for rebates in D.06-01-024. The commitment made in that Decision to provide no more than \$2.8 billion in rebates over 11 years should be respected, and the PBI should be adjusted as necessary to ensure that the annual amounts specified in the Decision are not exceeded.

**F. Issue: Is low-cost financing necessary in conjunction with PBI as a way to offset the up-front costs?**

*PG&E Position:* A utility financing option should not be offered at the outset. Such funding should come from traditional lenders or solar vendors.

*Discussion:* Initially, parties should look to see if customers are able to finance such projects either from their usual lenders, or whether solar vendors wish to finance these projects. If these alternatives are not adequate, then a utility funding alternative could be explored, along with other changes to the program to ensure there is no increased risk to non-participating customers.

**G. Issue: What types of meters would be required for PBI applications?**

*PG&E Position:* Revenue grade output meters.

*Discussion:* Point of common coupling meters now used for net metering customers will not tell the administrators how much power is generated on site. To know how much power comes from the solar unit, the administrator will need output metering. The CEC PBI program

requires revenue grade meters, which should also be required here. In addition, as the AMI initiative moves forward, there may be opportunities to enhance the metering in the PBI program in order to provide performance information and price signals that would benefit both the customer and the utility.

**H. Issue: What types of auctions or bidding systems are possible for solar installations? How should they be conducted and for what types of projects?**

*PG&E Position:* If there are more requests for funds than there is budget available, then a bidding system should be set up, where parties or vendors bid the lowest incentive price they would accept, and available funds would be allocated to the lowest cost bidders. This would not reduce the amount spent on solar incentives in any one year, but would allow the program to procure more solar installations at the budgeted amount.

*Discussion:* An auction, or bidding system, would allow the market to determine the acceptable rebate level, and provide an automatic trigger to react to the ever-changing industry and marketplace. The goal of the program is to help reduce prices in the marketplace, and a bidding system might help that, and might produce more solar power within the same budget. This would align with the overall resource objective of securing clean, reliable power in the most cost-effective manner. Such a program could be structured to incorporate both large and small customers.

**I. Issue: Should the Commission consider the adoption of a feed-in tariff that combines the CSI, net metering above the current cap, and any renewable credits?**

*PG&E Position:* PG&E supports consideration of a feed-in tariff as a potential solution to the current tension surrounding the various subsidies supporting solar generation and its impact on non-participating customers. The various incentives including the CSI and net metering could be combined into a single incentive structure that declines over time. Customers



receiving the incentive would interconnect the solar generator on the grid side of their meter and receive compensation for the total output of the generator. In the early years, the combined incentive could be quite high, and could have a regular, steady, and planned decline. Such a mechanism could provide greater clarity to all parties and stakeholders on the total cost of the program and the total impact of subsidies for solar installations on non-participating customers.

*Discussion:* The net metering issue is before the legislature, and this issue should be discussed with all stakeholders.

**J. Issue: How should a PBI program be monitored and evaluated?**

*PG&E Position:* The Energy Division should set up a program to continue to evaluate the success of the program, the participation levels, the price changes in the industry, and the evolving output levels of the various types of generation. As new information develops, the Commission will want to evaluate whether prospective changes to the program are in the public interest.

*Discussion:* The evaluation program should be intended to help the CSI program react and adjust to changes in the solar industry, such as increases and decreases in manufacturing and in prices to consumers on a prospective basis. The evaluation process should also include monitoring of the persistence of the energy provided by the solar systems receiving the PBI. The evaluation program should not be intended to take away the unpaid benefits promised to individual customers when they installed their projects, even if it is clear that changes to the program make sense for customers who have not yet made such a decision. Instead, the focus of the evaluation should be to continue to make improvements to achieve the overall objective of building solar energy into a resource that can be counted upon to provide clean, reliable, reasonably priced power.

**K. Issue: If the Commission adopts PBI, which, if any, site-related eligibility requirements should be implemented?**

*PG&E Position:* The CSI program is intended to promote projects that serve on-site load (p 14). As such, the current SGIP site-related requirements should be retained, with the addition of a requirement for revenue grade output metering as described above.

Currently the SGIP definition of a Site is: “A single business enterprise or home located on an integral parcel or parcels of land undivided by a public road or thoroughfare regardless of the number of meters serving that Site; or if divided by a public road or thoroughfare, served by a single electric utility meter. Separate business enterprises or homes on a single parcel of land undivided by a highway, public road, thoroughfare or railroad would be considered for purposes of the SGIP as separate Sites.”

**L. Other Issues**

In setting up a PBI, the CPUC will want to address change of party issues, including what will happen if the party with the right to payment no longer owns the solar unit, the transferability of the payment stream to lenders or others, and whether the PBI will still be paid if the equipment is moved to a different location. The Commission has also indicated that it intends to look at the question of whether the output of projects receiving such payments will count towards the utilities’ renewable energy targets without additional payments.

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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 Pacific Gas and Electric Company, Law Department, 77 Beale Street, Department B30A, San Francisco, California 94105

On February 24, 2006, I served a true copy of:

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**[XX]** By Electronic Mail – serving the enclosed via e-mail transmission to all parties on the official service list for CPUC Docket R.04 03 017 that have provided e-mail addresses.

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 the 24h day of February, 2006 at San Francisco, California.

/s/

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PATRICIA A. KOKASON