

Decision 09-12-022 December 17, 2009

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Examine the Commission's post-2005 Energy Efficiency Policies, Programs, Evaluation, Measurement and Verification, and Related Issues.

Rulemaking 06-04-010
(Filed April 13, 2006)

ORDER MODIFYING DECISIONS 05-04-051 AND 07-11-004

1. Summary

This decision modifies Decision (D.) 05-04-051 and D.07-11-004 to provide categorical approval of stand-alone solar-powered technologies as energy efficiency measures. In order to provide one or more new stand-alone solar-powered energy efficiency measures as part of an approved energy efficiency portfolio, a utility must file an Advice Letter showing the measure(s) are cost-effective on a stand-alone basis¹ using both the Total Resource Cost Test and the Program Administrator Test.

¹ The term "stand-alone" is used in two different ways in this decision. "Stand-alone" in the context of energy efficiency measures refers to equipment that is powered by a renewable resource such as solar, but does not utilize this resource beyond its own operation to power additional equipment or processes. "Stand-alone" in the context of cost-effectiveness refers to determining the cost-effectiveness of an individual energy efficiency measure without regard to other measures or the overall utility energy efficiency portfolio.

2. Background

In D.05-04-051, the Commission (among other things) updated the Energy Efficiency Policy Manual to articulate the Commission's objectives for energy efficiency and to provide portfolio development guidance for utility program administrators. The decision clarified that solar water heaters should be eligible energy efficiency measures in 2006 and beyond under certain conditions, and required that this new measure be cost-effective on a stand-alone basis to be eligible for funding. However, the decision does not authorize the inclusion of other solar-operated equipment within the utilities' energy efficiency portfolio operations.

In D.07-11-004, the Commission granted a Petition for Modification by Pacific Gas and Electric Company (PG&E) for the inclusion of a specific solar water circulation technology as an energy efficiency measure, again requiring that the technology be cost-effective on a stand-alone basis as a condition of receiving funding. However, that decision denied a broader request from PG&E to include an additional category within the definition of energy efficiency measures for new, cost-effective, non-generating solar technologies as such technologies became known. Ordering Paragraph #4 stated:

The utilities may request approval for adding new, cost-effective stand-alone solar technologies to the definition of energy efficiency measures as they become known in the future. For this purpose, the utilities shall file a petition for modification of the energy efficiency policy rules (D.05-04-051) in this rulemaking, or its successor proceeding. The merits of each proposal shall be considered on a case-by-case basis in the context of the Commission's energy efficiency policy rules and overall procurement objectives.

PG&E filed this Petition for Modification² on July 30, 2009. The Division of Ratepayer Advocates (DRA) filed a response on August 31, 2009. PG&E filed reply comments on September 10, 2009.

3. Positions of Parties

PG&E contends that solar-powered crop drying and solar-assisted heat pumps should be included within the definition of energy efficiency measures because they are similar to solar water heating and solar water circulators approved as energy efficiency measures in D.05-04-051 and D.07-11-004, respectively. These technologies are described in Attachment A and Attachment B, respectively, of PG&E's Petition.

PG&E contends these technologies are similar to those approved in previous decisions because the new technologies use a renewable resource to power or partially power only the actual devices and do not generate power for PG&E's system. PG&E contends solar-powered crop drying uses little or no additional electricity and replaces all or a significant portion of the natural gas otherwise required to heat the air for crop drying. Similarly, PG&E claims a solar-assisted heat-pump for residential or small business heating, ventilation, and air-conditioning includes a solar panel as part of the system to offset some of the electricity used for heating and cooling.

In addition to its request to expand the definition of energy efficiency measures to include two specific technologies, PG&E renews its request for a categorical expansion that would cover similar renewable technologies or equipment as they become known. PG&E contends that such an expansion

² In this decision, we use the terms "Petition to Modify" and "Petition for Modification" interchangeably.

would be consistent with Commission policy because the Commission has taken significant steps to expand the scope of energy efficiency in California through the Long-Term Energy Efficiency Strategic Plan (adopted in D.08-09-040) and other actions.

To this end, PG&E requests the inclusion of renewable-powered, stand-alone, non-generating technologies as energy efficiency measures subject to the fuel-substitution cost-effectiveness criteria adopted in D.05-04-051 and D.07-11-004. PG&E argues that the current definition of energy efficiency measures effectively excludes solar and other renewable-powered offerings because it requires that the equipment or practice result in “reduced energy use (purchased from the distribution utility . . .).”

DRA agrees with PG&E’s recommended expansion of the definition of energy efficiency measures to include the two devices described in the application. DRA recommends that utilities should be allowed to file Advice Letters instead of Petitions for Modification in order to include as energy efficiency measures new stand-alone solar-powered devices that reduce or eliminate a customer’s need to procure electricity or natural gas. However, DRA does not support an expansion of the definition of energy efficiency measures to include all similar renewable-fueled devices.

4. Discussion

Equipment that is powered solely by solar energy or other renewable-energy sources resulting in no energy use from the distribution utility (as distinct from reduced energy use) does not fit within the current definition of an energy efficiency measure. This is because total energy usage does not necessarily decrease, although less energy may need to be provided by the utility.

Exceptions have been made to this rule, as the Commission has done for solar water heaters in D.05-04-051 and for solar water circulators in D.07-11-004.

D.05-04-051 stated at 29-30: “the effect of solar water heating is indistinguishable from other efficiency measures that reduce natural gas or electricity consumption at the end-user site (such as water heater wraps, pipe insulation, etc.). In contrast, photovoltaic and solar-thermal electric technologies generate electricity and therefore should be considered renewable technologies. In sum, solar water heating *reduces* end-use energy consumption, while photovoltaic and solar-thermal electric are energy *production* technologies.”

D.07-11-004 stated at 6 that it is reasonable to add stand-alone solar-powered water circulators as an eligible energy efficiency technology because the technology saves energy at the end-use, and does not generate power for the system.

PG&E has shown convincingly that solar-powered crop drying and solar-assisted heat pumps should be included within the definition of energy efficiency measures, because they are similar to solar water heating and solar water circulators approved as energy efficiency measures in D.05-04-051 and D.07-11-004, respectively. These technologies both permanently reduce natural gas load, and also generate electricity outside of the grid for their own usage. While typical energy efficiency measures do not generate power for their own power generation, such is not in and of itself a barrier to being considered as an energy efficiency measure. We also note that it is possible that one or both of the technologies PG&E puts forward may increase electrical use while decreasing natural gas use. As long as the net impact is reduced usage, there is a positive energy efficiency impact. We will allow inclusion of these technologies as energy efficiency measures.

Allowing new technologies to be included as energy efficiency measures does not automatically allow funding of these measures. The Commission recently approved D.09-09-047, approving over \$3 billion for energy efficiency programs and measures for 2010 through 2012.³ PG&E's previously-approved solar-powered energy efficiency measures were not specifically approved for funding in D.09-09-047.

In D.09-09-047, as in past energy efficiency portfolio decisions, the Commission approved portfolios of energy efficiency programs and measures based on cost-effectiveness tests for the entire portfolio; specifically, the Commission has used the Total Resource Cost Test and the Program Administrator Test. However, we have provided that the new stand-alone solar-powered technologies must be cost-effective on a stand-alone basis using these two tests; in other words, these technologies must be cost-effective without regard to the rest of a utility's energy efficiency portfolio. This is reasonable because otherwise adding these new measures without a cost-effectiveness test could ultimately lower the entire portfolio below a level of cost-effectiveness. By ensuring that each new measure is cost-effective, the entire portfolio becomes more robust. We reaffirm this policy for the two new measures added today.

In the case of the two technologies at issue today, it is not clear that they are cost-effective. PG&E has not provided sufficient information to make this determination. Solar-powered crop drying appears to have the potential to increase electrical load by running fans which are connected to the grid. Factors such as this must be included in a cost-effectiveness analysis.

³ See Ordering Paragraph #3 of D.09-09-047.

D.07-11-004 addressed how newly-added energy efficiency measures could be added to 2006-2008 approved energy efficiency portfolios.⁴ However, that decision did not spell out how cost-effectiveness would be reviewed. Apparently, PG&E has included the approved solar-powered technologies based on its own determination of cost-effectiveness through workpapers submitted to the Energy Efficiency Groupware Application (EEGA) database, and PG&E and other utilities have used this process to add various new technologies to their portfolios between major decisions.⁵ There is no formal Commission review of this process. Once measures are added to in the portfolio via this method, PG&E and other utilities can shift funds from other approved measures to these new measures using the fund-shifting rules in Section II, Rule 11 of the Energy Efficiency Policy Manual,⁶ without adding more funding for the overall portfolio.⁷

D.09-09-047 did not include any specific provision for adding new energy efficiency measures, except as pilot programs.⁸ The provision for adding new measures in Ordering Paragraph #3 of D.07-11-004 applied only to the 2006-2008 portfolio, and has now expired. Therefore, in order for PG&E or other utilities to include these new stand-alone solar-powered, fuel-substitution measures, there must be some process for approval. We do not find appropriate the current

⁴ See D.07-11-004, Ordering Paragraph #3.

⁵ Other new measures which are not fuel-shifting have not had to pass the cost-effectiveness tests on a stand-alone basis.

⁶ Ordering Paragraph #43 of D.09-09-047 revised the fund-shifting rules and Section II, Rule 11 of the Energy Efficiency Policy Manual.

⁷ Utilities may also request funding augmentations.

⁸ See Ordering Paragraph #20 of D.09-09-047.

process of adding the fuel-substitution measures at issue here through the EEGA process, both because self-approval of cost-effectiveness of a measure by a utility provides an insufficient level of public review, and because (as discussed below) we will now allow any solar-powered non-generating technologies to be classified as energy efficiency measures. Both of these reasons call for increased assurance that the new measures are cost-effective.

Therefore, we will require that a utility file an Advice Letter showing any new approved stand-alone solar-powered energy efficiency measure is cost-effective before it can be added to an existing energy efficiency portfolio, such as the portfolios approved in D.09-09-047.⁹ This necessitates a modification of Ordering Paragraph #4 of D.07-11-004. Because PG&E's Petition applies to the overall rules for energy efficiency measures (as articulated in the Energy Efficiency Policy Manual), Southern California Edison Company (SCE), Southern California Gas Company, and San Diego Gas & Electric Company are also subject to the rules for new solar-powered energy efficiency measures adopted herein.

In comments on the Proposed Decision (PD), PG&E, DRA, and SCE comment that the proposed Advice Letter process is cumbersome because it would require a new Advice Letter for each custom measure. We agree and modify the PD to simplify the Advice Letter process to allow multiple custom measures related to advice approved under a single Advice Letter.

We will require the Advice Letter to clearly show that a proposed stand-alone solar device is cost-effective (as described herein) for the first proposed

⁹ This provision does not apply to solar-powered, self generation energy efficiency measures approved before today's decision.

installation and will be cost-effective under a reasonable range of installation scenarios. For each installation under an approved Advice Letter, the utility shall keep descriptive workpapers that quantify actual savings from each project.

In such an Advice Letter showing cost-effectiveness, utilities should refer to the Administrative Law Judge (ALJ) Ruling issued in November 2009 in Application 08-07-021 et al. regarding the non-DEER¹⁰ measures review process, and follow the guidelines attached to the Ruling.

PG&E proposes that the requirement of filing a Petition to Modify (such as the one before us today) be eliminated for all new stand-alone renewable-powered technologies, by categorical approval of such measures as energy efficiency measures. DRA would not eliminate this step, but would allow requests to include a narrower category of new solar-powered devices that reduce or eliminate a customer's need to procure electricity to be filed as Advice Letters instead of Petitions for Modification.

We will partially grant PG&E's request for a categorical approval as new energy efficiency measures for any new stand-alone solar-powered device that reduces or eliminates a customer's need to procure electricity and/or natural gas from the utility. Now that four separate solar-powered technologies of this sort have come before us, we are comfortable that other solar-based technologies of this type should also fit within the definition of energy efficiency measures. We are not convinced at this time that PG&E's proposed categorical approval is warranted for all stand-alone renewable-powered, non-generating technologies. PG&E has not provided any specific examples of these technologies, and we

¹⁰ Database for Energy Efficient Resources.

cannot at this time evaluate whether any would be appropriately designated as energy efficiency measures. PG&E and the other energy utilities may still file Petitions for Modification of D.05-04-051 to propose including other renewable technologies as energy efficiency measures.

We recognize that a new solar thermal program is being developed in R.08-03-008. In a December 2009 decision in that docket creating the solar thermal program, there is guidance for how eligible energy efficiency incentives, as approved herein, will interact with solar incentives. Utilities and their customers should adhere to such guidance.

5. Comments on Proposed Decision

The proposed decision of the ALJ in this matter was mailed to the parties in accordance with Section 311 of the Public Utilities Code and comments were allowed under Rule 14.3 of the Commission's Rules of Practice and Procedure. Comments were filed on December 7, 2009 by PG&E, and reply comments were filed on December 14, 2009 by PG&E, DRA, and SCE.

6. Assignment of Proceeding

Dian M. Grueneich is the assigned Commissioner, and David M. Gamson is the assigned ALJ in this proceeding.

Findings of Fact

1. Solar-powered crop drying and solar-assisted heat pumps are similar to solar water heating and solar water circulators approved as energy efficiency measures in D.05-04-051 and D.07-11-004, respectively.

2. After reviewing four stand-alone solar-powered, non-generating technologies in this and previous Petitions for Modification, it is clear that these and similar solar-powered technologies are appropriately categorized as energy efficiency measures.

3. There is not sufficient information to determine whether renewable-powered, non-generating technologies – other than solar-powered, non-generating technologies – would be appropriately categorized as energy efficiency measures.

4. New stand-alone solar-powered technologies which are approved energy efficiency measures must be cost-effective on a stand-alone basis to become part of an existing energy efficiency portfolio in order to ensure that the overall cost-effectiveness of a utility energy efficiency portfolio is not negatively impacted.

5. There are no explicit provisions in D.09-09-047, the decision adopting 2010-2012 energy efficiency portfolios, for adding new energy efficiency measures other than as pilot programs.

6. For 2006-2008, new energy efficiency measures were added to utility portfolios consistent with D.07-11-004. This process included a utility showing of stand-alone cost-effectiveness for solar-powered non-generating technologies, but no formal public review process of this showing.

Conclusions of Law

1. Categorical approval as energy efficiency measures is not warranted for all stand-alone renewable-powered, non-generating technologies, but it is reasonable to allow categorical approval for stand-alone solar-powered non-generating technologies.

2. It is not reasonable to allow utilities to use an informal process for adding new energy efficiency measures to their portfolios, in the case where the utilities must show stand-alone cost-effectiveness for the new measure, because this process provides an insufficient level of public review.

3. Utilities should file Advice Letters to show new solar-powered non-generating technologies are cost-effective on a stand-alone basis and receive

Commission approval before adding such measures to an existing energy efficiency portfolio.

IT IS ORDERED that:

1. The Energy Efficiency Policy Manual (previously adopted in Decision 05-04-051 (Attachment 3) and subsequently updated) is modified as follows:

- a) The following sentence is substituted for the second and third full sentences in Rule IV. 7: “As a condition for inclusion of solar-powered, non-generating technologies within the definition of energy efficiency measures, such technologies must be cost-effective on a stand-alone basis, i.e., pass the dual-test of cost-effectiveness to be eligible for funding.”
- b) The last sentence for the definition of “Energy Efficiency Measure” in Appendix B is modified to read as follows: “For the purpose of these Rules, solar-powered, non-generating technologies are eligible energy efficiency measures.”

2. Ordering Paragraph #4 of Decision 07-11-004 is modified to state:

“Pacific Gas and Electric Company, Southern California Edison Company, Southern California Gas Company, and San Diego Gas & Electric Company shall file an Advice Letter showing that new solar-powered non-generating energy efficiency measures are cost-effective on a stand-alone basis using both the Total Resource Cost Test and the Program Administrator Test, if any such measures are proposed to be added to an approved energy efficiency portfolio. The Advice Letter must show that such a proposed measure is cost-effective for the first proposed installation, and that the proposed measure will be cost-effective under a reasonable range of installation scenarios which may be subsequently installed.

Pacific Gas and Electric Company, Southern California Edison Company, Southern California Gas Company, and San Diego Gas & Electric Company may request approval for adding other new, cost-effective stand-alone renewable technologies to the definition of energy efficiency measures as they become known in the future. For

this purpose, Pacific Gas and Electric Company, Southern California Edison Company, Southern California Gas Company, and San Diego Gas & Electric Company shall file a petition for modification of the energy efficiency policy rules in this rulemaking, or its successor proceeding. The merits of each proposal will be considered on a case-by-case basis in the context of the Commission's energy efficiency policy rules and overall procurement objectives."

3. This proceeding remains open.

This order is effective today.

Dated December 17, 2009, at San Francisco, California.

MICHAEL R. PEEVEY
President
DIAN M. GRUENEICH
JOHN A. BOHN
RACHELLE B. CHONG
TIMOTHY ALAN SIMON
Commissioners