

Decision 07-11-004 November 1, 2007

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)

**INTERIM OPINION ON PETITION OF
PACIFIC GAS AND ELECTRIC COMPANY
TO MODIFY DECISION 05-04-051 TO INCLUDE
STAND-ALONE SOLAR POWERED EQUIPMENT
WITHIN THE POLICY RULES' DEFINITION OF
ENERGY EFFICIENCY MEASURE**

Summary

The Commission's policy rules for energy efficiency are contained in the document "Energy Efficiency Policy Manual, version 3," which was adopted in Decision (D.) 05-04-051.¹ These rules currently include solar water heating under the definition of energy efficiency, but not other technologies that result in a switch from electric or gas power to solar power. Today's decision approves the request made by Pacific Gas and Electric Company (PG&E) to include stand-alone solar-powered water circulators as an eligible energy efficiency measure under our rules.

¹ See D.05-04-051, Attachment 3. The Energy Efficiency Policy Manual, version 3, is also posted on the Commission's website at <http://www.cpuc.ca.gov/static/energy/electric/energy+efficiency/em+and+v/index.htm>.

As long as each installation passes the “dual-test” of cost-effectiveness,² PG&E, Southern California Edison Company, San Diego Gas & Electric Company and Southern California Gas Company (collectively, “the utilities”) are permitted to offer stand-alone solar water circulators as part of their 2006-2008 energy efficiency portfolio programs, using current authorized levels of portfolio funding. The verified savings from solar water circulators, as well as from other energy efficiency measures deployed with authorized portfolio funding, will count towards cumulative 2006-2008 savings goals.

Today’s decision denies PG&E’s request for a blanket pre-approval of future new solar technologies that are unknown at this time as energy efficiency measures, and PG&E’s corollary proposal to exempt such technologies (along with other “renewable sources”) from the current fuel-substitution rules. The utilities may request approval for including new, cost-effective stand-alone solar-powered technologies as an eligible energy efficiency measure when such technologies become available in the future. The utilities shall submit these requests by filing a petition for modification of our policy rules (D.05-04-051) in this rulemaking, or its successor proceeding. We will consider each request on a case-by-case basis in the context of our energy efficiency policy rules and overall procurement objectives.

² The “dual-test” requires passage of both the Total Resource Cost and the Program Administrator Cost tests of cost-effectiveness, which are defined in the Standard Practice Manual of cost-effectiveness for energy efficiency. See D.05-04-051, Attachment 3, Rules IV.1 through 7.

Procedural Background and Position of the Parties

On March 16, 2007, PG&E filed a Petition to Modify Decision 05-04-051 to Include Stand-Alone Solar Powered Equipment Within the Policy Rules' Definition of Energy Efficiency Measure (Petition). In its Petition, PG&E states that it has become aware of new solar-powered water circulator technology that could potentially capture significant cost-effective energy savings if available as a new measure within PG&E's 2006-2008 energy efficiency portfolio. Commercially known as the "Solar Bee" or "Solaer," this mechanical device can use solar energy to operate a small pump, *i.e.*, circulate water from the bottom to the surface facilitating mixing, oxygenation and light for wastewater treatment plants, food processing plants or recreational lakes.

According to PG&E, the solar-powered water circulator uses a little as 40 watts of power to provide the functionality that is typically provided by a 15 horsepower (11 kilowatt) aerator, and thereby could produce significant energy savings if it were offered as a fuel-substitution measure in the utility's energy efficiency portfolio. Since it is not interconnected to PG&E's electric grid, this device would not be eligible for the California Solar Initiative or the Self-Generation Incentive Program. PG&E requests that D.05-04-051 be modified to permit the inclusion of the solar-powered water circulator and other cost-effective, non-generating solar-power equipment as part of its energy efficiency portfolio.

The Division of Ratepayer Advocates (DRA) filed a response to the Petition.³ DRA supports PG&E's request to modify D.05-04-051 subject to two

³ *Response of DRA to PG&E's Petition for Modification*, April 16, 2007.

caveats that DRA believes are necessary to protect ratepayers' interests. The first caveat is that any additional solar technology included as an energy efficiency measure must meet the policy rule requirements for fuel substitution programs, which include a requirement that the program pass a dual-test of cost-effectiveness separate from overall portfolio cost-effectiveness. The second caveat is that the Commission more clearly set parameters on the types of measures that would qualify as "stand-alone solar-powered equipment" eligible for energy efficiency funding, or provide a list of eligible measures.

On May 1, 2007, with the permission of the assigned Administrative Law Judge (ALJ), PG&E filed a reply to DRA's response (Reply). In its Reply, PG&E argues that DRA's concerns over future solar additions that might not be in the best interest of ratepayers are unwarranted, given the stringent requirements for fuel-substitution programs that PG&E states would remain unchanged under the Petition.⁴ Further, PG&E argues that its proposal will result in a more efficient use of resources because it will obviate the need for filings each time a new cost-effective, stand-alone solar technology is introduced to the marketplace.

However, if the Commission wants to pre-approve each future stand-alone solar technology before it can be added as an energy efficiency, fuel-substitution measure, PG&E recommends that the Commission modify the Policy Rules to: (1) explicitly permit the inclusion of the described solar water circulator as an acceptable energy efficiency measure now, and (2) adopt an Advice Letter process for future solar technologies that are unknown at this time.

⁴ *Reply of PG&E to DRA's Response to Petition for Modification*, May 1, 2007 at p. 3.

Subsequent to filing its Reply, PG&E submitted comments in this proceeding that relate to its Petition in response to a June 27, 2007 ALJ ruling. In those comments, PG&E proposes that the policy rules governing fuel-substitution programs be amended so that they would not apply when switching to “renewable sources,” such as the type of new stand-alone solar technologies discussed in its Petition.⁵

DRA and The Utility Reform Network (TURN) filed reply comments objecting to PG&E’s proposal, arguing that it should not be adopted without additional information and evaluation. In particular, DRA argues that PG&E’s proposal cannot be accurately evaluated without clearly defining the term “renewable sources,” and without providing analysis supporting the exemption from these rules for all fuel sources included in that definition.⁶ TURN recommends that the “foreseeable reach” of PG&E’s proposal needs to be explored, including how to prevent “double dipping with current or future programs that provide ratepayer subsidies for renewable on-site technologies or net metering benefits.”⁷

By ruling dated August 24, 2007, the assigned ALJs clarified that the Commission would address PG&E’s proposal to amend the fuel-substitution rules in its decision on PG&E’s Petition.⁸

⁵ See *PG&E Response to ALJ’s Ruling Soliciting Response to Questions on Energy Efficiency Portfolio Composition and Development Rules and the Role of Advisory Groups*, July 16, 2007, pp. 5-6.

⁶ *DRA Reply Comments*, July 31, 2007, p. 10.

⁷ *TURN Reply Comments*, July 31, 2007, p. 5.

⁸ *ALJs’ Ruling on Petition of PG&E to Modify D.05-04-051 and Related Fuel-Substitution Rules*, August 24, 2007.

Discussion

In D.05-04-051, we approved the inclusion of solar water heaters as an eligible energy efficiency measure because the effect of solar water heating is indistinguishable from other efficiency measures that reduce natural gas or electricity consumption at the end-user site. We drew a distinction between solar water heaters and other renewable technologies, by noting that solar water heating “*reduces end-use consumption, while photovoltaic and solar-thermal electric are energy production technologies.*”⁹ As a condition for its inclusion within the definition of energy efficiency measures, we required that solar water heating installations be cost-effective on a stand-alone basis, *i.e.*, pass the “dual-test” of cost-effectiveness.¹⁰

As a general policy, we encourage the utilities to deploy new technologies that can improve end-use efficiencies cost-effectively without degrading environmental quality, as they become available. There is no dispute in this proceeding that the new solar-powered water circulator described in PG&E’s application represents such a technology. Moreover, like solar water heating, it is a technology that saves energy at the end-use, and does not generate power for the system. We therefore find it reasonable to add stand-alone solar-powered water circulators as an eligible energy efficiency technology at this time. As required for solar water heaters under our rules, installations of this new solar

⁹ D.05-04-051, *mimeo.*, pp. 29-30.

¹⁰ The “dual-test” requires passage of both the Total Resource Cost and the Program Administrator Cost tests of cost-effectiveness, which are defined in the Standard Practice Manual of cost-effectiveness for energy efficiency. See D.05-04-051, Attachment 3, Rules IV.1 through 7.

technology must be cost-effective (*i.e.*, pass the dual-test of cost-effectiveness) to be eligible for funding.¹¹

However, we do not adopt PG&E's recommendation for a blanket pre-approval of future new solar technologies as energy efficiency measures, and further, to exempt such technologies (along with other "renewable sources") from the current fuel-substitution rules. Under those rules, fuel substitution projects must pass a three-prong test to be considered further for funding: 1) the project must not increase source-British Thermal Unit (BTU) consumption, 2) the project must not adversely impact the environment, and 3) the project must pass the dual-test of cost-effectiveness. As DRA points out, switching to a broadly defined "renewable source" encompasses many possible fuel substitutions, including switching from diesel to solar photovoltaics, or from natural gas to hydrogen or biofuels. We are not persuaded by PG&E's limited showing that this recommendation will further our energy policy and procurement objectives – it may depend entirely upon the specific fuel substitution in question.

Instead, we will permit the utilities to 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. Such requests should be submitted by filing a petition for modification of our policy rules (D.05-04-051) in this rulemaking, or its successor proceeding. We prefer this approach to the advice letter filing process suggested by PG&E, since we will need to review the merits of each proposal on a case-by-case basis in the context of our energy efficiency policy rules and overall procurement objectives.

¹¹ *Ibid.*, Rule IV.7.

As long as each installation passes the dual-test of cost-effectiveness, PG&E and the other utility administrators are permitted by today's decision to include stand-alone solar-powered water circulators as a measure as part of their 2006-2008 portfolio activities, using current authorized levels of energy efficiency funding. We do not authorize (nor does PG&E request in its Petition) funding augmentation to provide this new technology to utility customers. Our fund shifting rules provide the utilities with a great deal of latitude to manage their authorized funding levels over the three-year program cycle, in order to maximize the performance of their portfolios with respect to savings accomplishments and cost-effectiveness.¹² Therefore, the utilities may use this flexibility to deploy stand-alone solar-powered water circulators using 2006-2008 authorized energy efficiency funding, as long as each installation passes the dual-test of cost-effectiveness. We will count the verified savings accomplishments from this measure towards cumulative 2006-2008 savings goals.

Comments on Proposed Decision

The proposed decision of 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. No parties filed comments on the proposed decision.

Assignment of Proceeding

Dian M. Grueneich is the assigned Commissioner and Meg Gottstein is the assigned ALJ in this proceeding.

¹² The adopted fund-shifting rules are presented in Table 8 of D.05-09-043.

Findings of Fact

1. The new solar-powered water circulator described in PG&E's Petition represents a technology that can improve end-use efficiencies cost-effectively, without degrading environmental quality.
2. Like solar water heating, which is an eligible energy efficiency measure per D.05-04-051, the solar-powered water circulator saves energy at the end-use and does not generate power for the system.
3. It is reasonable to add stand-alone solar-powered water circulators as an eligible efficiency technology at this time, subject to the same cost-effectiveness requirements established in D.05-04-051 for solar water heating.
4. By utilizing the fund shifting rules adopted in D.05-09-043, the utilities are able to deploy stand-alone solar-powered water circulators without any augmentation to 2006-2008 portfolio funding levels.
5. Fuel switching to a broadly defined "renewable source" encompasses many possible fuel substitutions, including switching from diesel to solar photovoltaics, or from natural gas to hydrogen or biofuels.
6. The reasonableness of including future new solar technologies (or more broadly, any "renewable source") in the definition of an energy efficiency measure and as eligible for portfolio funding may depend entirely upon the specific fuel substitution in question.
7. Each proposal to add a new, stand-alone solar technology to the definition of energy efficiency measures should be reviewed on a case-by-case basis in order to consider the merits of taking such action within the context of the Commission's energy efficiency policy rules and overall procurement objectives.

Conclusions of Law

1. Stand-alone, solar-powered water circulators should be added as an eligible energy efficiency measure. To be eligible for funding, installations of this new solar technology should be required to pass the dual-test of cost-effectiveness (i.e., pass both the total resource cost and program administrator cost tests).
2. No augmentation to 2006-2008 portfolio funds should be authorized for the purpose of deploying solar-powered water circulators during the 2006-2008 program cycle.
3. Verified savings accomplishments from solar-powered water circulators should count towards cumulative 2006-2008 savings goals.
4. The utilities should be permitted to file a petition for modification of the energy efficiency policy rules to request approval of adding new, cost-effective stand-alone solar technologies to the definition of energy efficiency measures as they become known in the future.
5. In order to permit the utilities to proceed with the deployment of solar-powered water circulators as soon as possible, this order should be effective today.

INTERIM ORDER

IT IS ORDERED that:

1. The Energy Efficiency Policy Manual, version 3, adopted in Decision (D.) 05-04-051 (Attachment 3) is modified as follows:
 - (a) The following sentence is inserted after the second full sentence in Rule IV.7:

“Similarly, solar-powered water circulators must be cost-effective on a stand-alone basis (*i.e.*, pass the Dual-Test) to be eligible for funding.”

- (b) The last sentence for the definition of “Energy Efficiency Measure” in Appendix B is modified as follows (additions are shown in *italics*):

“For the purpose of these Rules, solar water heating and stand-alone solar-powered water circulators are eligible energy efficiency measures.

2. As soon as practicable after the effective date of this decision, the Commission’s Energy Division shall post to the Commission website an updated version of the Energy Efficiency Policy Manual that reflects the modifications adopted under Ordering Paragraph 1.

3. As long as each installation passes the dual-test of cost-effectiveness, Pacific Gas and Electric Company, Southern California Edison Company, San Diego Gas & Electric Company and Southern California Gas Company (collectively, “the utilities”) are permitted to include stand-alone solar-powered water circulators as an energy efficiency measure as part of their 2006-2008 portfolio activities, using current authorized levels of energy efficiency funding. Verified savings accomplishments from solar-powered water circulators shall count towards the utilities’ cumulative 2006-2008 savings goals.

4. 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.

This order is effective today.

Dated November 1, 2007, at San Francisco, California.

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