



BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

**FILED**

08-31-09

04:59 PM

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)

**RESPONSE OF THE DIVISION OF RATEPAYER ADVOCATES TO PACIFIC GAS AND ELECTRIC COMPANY'S PETITION FOR MODIFICATION OF DECISION 05-04-051 TO INCLUDE STAND-ALONE, NON-GENERATING RENEWABLE POWERED EQUIPMENT WITHIN THE POLICY RULES' DEFINITION OF AN ENERGY EFFICIENCY MEASURE**

DIANA L. LEE  
Attorney for the Division of Ratepayer Advocates  
California Public Utilities Commission  
505 Van Ness Avenue  
San Francisco, CA 94102  
Phone: (415) 703-4342  
Email: dil@cpuc.ca.gov

THOMAS C. ROBERTS  
Analyst for the Division of Ratepayer Advocates  
California Public Utilities Commission  
505 Van Ness Avenue  
San Francisco, CA 94102  
Phone: (415) 703-5278  
Email: tcr@cpuc.ca.gov

August 31, 2009

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**I. INTRODUCTION**

The Division of Ratepayer Advocates (DRA) submits this response to the Petition of Pacific Gas and Electric Company (PG&E) for Modification of Decision (D.) 05-04-051 to Include Stand-Alone, Non-Generating Renewable Powered Equipment within the Policy Rules' Definition of an Energy Efficiency Measure (PG&E's PFM), filed July 30, 2009.<sup>1</sup> PG&E's Petition for Modification (PFM) seeks to expand the current definition of energy efficiency measures articulated in D.05-04-051, and modified in D.07-11-004 to include "certain stand-alone, non-generating, energy saving equipment powered by a renewable energy source such as solar (e.g. equipment that is powered by

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<sup>1</sup> DRA's response is therefore timely filed pursuant to Rule 16.4(f) of the Commission's Rules of Practice and Procedure.

solar energy but does not utilize the solar energy beyond its own operation to power additional equipment or processes).”<sup>2</sup>

DRA supports the inclusion of new technologies within energy efficiency portfolios, and therefore agrees with PG&E’s recommended expansion of the definition of energy efficiency measures to include the two devices described in PG&E’s PFM, and more broadly, to include other solar-powered devices subject to certain limitations. However, DRA believes it is premature, based on the current record, to expand the definition of energy efficiency measures to include all renewable-fueled devices.

DRA also concurs that it is inefficient to require utilities to file a petition for modification each time they wish to expand the definition of energy efficiency to include a new solar-powered device that reduces or eliminates a customer’s need to procure electricity. DRA recommends that the Commission allow utilities to submit requests via advice letter rather than by filing a petition for modification. Such advice letters should demonstrate that all new measures comply with all relevant cost-effectiveness requirements.

Finally, while PG&E’s PFM does not seek to revise the requirement that solar-powered energy efficiency measures must be cost-effective on a stand alone basis, DRA respectfully recommends that the Commission consider taking that action now, to provide clarity and guidance relative to the zero-net energy strategic goals and to Rulemaking (R.) 08-03-008. The Commission should seek party input regarding a broader expansion of the definition of energy efficiency measures, and applicability of current cost effectiveness rules to solar-powered energy efficiency measures.

## **II. DISCUSSION**

Decision (D.) 05-04-051 adopted energy efficiency policy rules to “provide guidance... for the development of program portfolios for 2006 and beyond.”<sup>3</sup> The current energy policy rules define an energy efficiency measure as “an energy using

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<sup>2</sup> PG&E PFM, p. 2.

<sup>3</sup> D.05-04-051, p. 4.

appliance, equipment, control system or practice” the installation of which results in “reduced energy use (purchased from the distribution utility)” without a reduction in energy service from the customer’s perspective.<sup>4</sup> D.05-04-051 distinguished solar water heating from other renewable technologies by observing that solar water heating “*reduces* end-use energy consumption, while photovoltaic and solar-thermal electric are energy *production* technologies.”<sup>5</sup>

PG&E filed an earlier petition for modification of D.05-04-051 requesting expansion of the definition of energy efficiency measures to include solar water circulation devices.<sup>6</sup> The Commission granted PG&E’s request to add solar water circulating devices to the list of approved energy efficiency measures in D.07-11-004, but denied PG&E’s request to include an additional category within the definition of energy efficiency measures for all new cost-effective non-generating solar technologies. Instead, the Commission concluded that PG&E and other 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.”<sup>7</sup>

PG&E’s current PFM seeks to include two new solar technologies within the definition of energy efficiency measures, and “renews its request for a categorical expansion that would cover similar renewable technologies/equipment as they become known.”<sup>8</sup>

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<sup>4</sup> Energy Efficiency Policy Manual Version 4, Appendix B, “Glossary Common Energy Efficiency Terms and Definitions,” p. 5, available at <http://www.cpuc.ca.gov/PUC/energy/Energy+Efficiency/EE+Policy/>.

<sup>5</sup> D.05-04-051, pp. 29-30, emphasis in original.

<sup>6</sup> Petition of PG&E to Modify D.05-04-051 to Include Stand-Alone Solar Powered Equipment within the Policy Rules’ Definition of Energy Efficiency Measure, filed March 16, 2007.

<sup>7</sup> D.07-11-004, Ordering Paragraph 4 at p. 12.

<sup>8</sup> PG&E’s March 16, 2007 PFM sought to expand the definition of energy efficiency measures to include “a limited subset of solar products, beyond solar water heating...” PG&E’s March 16, 2007 PFM, p. 3. On July 16, 2007, PG&E proposed amending the policy rules governing fuel substitution programs so they would not apply when switching to “renewable resources.” 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 31, 2007, pp. 5-6.

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**A. DRA supports expanding the definition of energy efficiency measures to include certain solar-powered devices, including the two solar-powered devices described by PG&E.**

PG&E’s PFM recommends inclusion of two new solar-powered devices within the definition of energy efficiency measures. Both devices use solar power for their operation but do not generate power for PG&E’s system.<sup>2</sup> PG&E explains that the solar assisted crop drying technology can be used in conjunction with traditional natural gas heating equipment to heat air for crop drying and “uses little or no additional electric energy and replaces all or a significant portion of the natural gas otherwise required to heat the air for crop drying.”<sup>10</sup> DRA supports expansion of the definition of energy efficiency measures to include devices which use solar energy to assist crop drying.

PG&E’s PFM also recommends expanding the definition of energy efficiency measures to include a solar-assisted heat pump that includes a solar panel as part of the heat pump system to offset some of the electricity used for heating and cooling. It is unclear whether the solar assisted heat pump will produce significant energy savings, since it powers the “outdoor fan motor” rather than the more energy intensive compressor.<sup>11</sup> Nevertheless, DRA supports the expansion of the definition of energy efficiency measures to include solar-assisted air-conditioning units, including the heat pump discussed by PG&E.

PG&E provides no information about the cost effectiveness of these devices, but the energy efficiency policy rules currently require that before these fuel switching technologies could be funded, they would need to be cost effective on a stand alone basis under both the total resources cost (TRC) test and the program administrator cost (PAC)

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<sup>2</sup> PG&E PFM, p. 4

<sup>10</sup> PG&E PFM, p. 4.

<sup>11</sup> Per page 2 of the product brochure, available at <http://www.lennox.com/products/overview.asp?model=XPG20>

test. The Commission should clarify that before any of these technologies can be included within energy efficiency portfolios, the utilities should establish their cost effectiveness, either as part of a portfolio application, or through an advice letter if the proposed addition occurs within a funding cycle.

**B. DRA does not support expanding the definition of energy efficiency measures beyond solar-powered devices at this time.**

In addition to PG&E's request to expand the definition of energy efficiency measures to include the solar crop drying equipment and solar-assisted heat pumps, PG&E "renews its request for a categorical expansion that would cover similar renewable technologies/equipment as they become known."<sup>12</sup> In particular, PG&E requests that the energy efficiency definition in D.05-04-051 be modified to include "other renewable-powered devices that do not provide generation distinct from the operation of the device..."<sup>13</sup> "Renewable-powered devices" could include devices that burn non-fossil fuels produced from food-stock (biofuels) and waste-streams including waste-treatment plants, farms, other biomass, and land-fill gas. Each of these potential devices has greater environmental impacts at the customer site than solar-powered devices.<sup>14</sup> DRA recommends that until a public process is completed to explore these impacts, PG&E's recommended use of "Renewable-powered devices" should be replaced with "solar-assisted devices."

**C. DRA supports a more streamlined process to add new solar-assisted devices into the energy efficiency portfolios.**

PG&E contends that its request is consistent with the Commission's significant steps to expand the scope of energy efficiency in California, and that "a narrowly tailored categorical expansion ...will capture efficiencies by avoiding the need for continued

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<sup>12</sup> PG&E PFM, p. 3.

<sup>13</sup> PG&E PFM, p. 6.

<sup>14</sup> All devices including solar devices have environmental impacts in their manufacturing and disposal, which should be considered.

filings of Petitions to Modify each time a new, similar technology emerges.”<sup>15</sup> DRA agrees that it is inefficient to require utilities to file a petition for modification every time they wish to add a new solar-assisted technology to the definition of energy efficiency measures. Rather than requiring a petition for modification, the Commission should allow utilities to submit requests to expand the definition of energy efficiency measures to include other solar-assisted technologies via the advice letter process adopted in D.05-09-043,<sup>16</sup> which provides that:

“Where an Advice Letter is required under these rules, absent a protest or written data request by Energy Division for additional information by the end of the 20-day protest period, the request will become effective on the twentieth day after filing. If Energy Division staff issues a data request before the end of the protest period, the response time requirements and other procedures applicable to our normal advice letter procedures, as updated by D.05-01-032, will take effect.”

Using the Advice Letter process would inform parties about the existence of new energy efficiency technologies, and provide information for parties and the Commission to ensure compliance with all cost-effectiveness requirements.

**D. The Commission should initiate a public process to evaluate a broader definition of energy efficiency measures, and to consider revising the cost-effectiveness test for fuel-switching measures that switch from fossil fuels to renewably powered devices.**

In response to PG&E’s previous request to amend the policy rules governing fuel substitution programs, DRA stated that a switch from diesel to solar-powered devices would be desirable, but the benefits of switching to hydrogen or biofuels are less obvious.<sup>17</sup> DRA supports expanding the definition of energy efficiency measures to

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<sup>15</sup> PG&E PFM, p. 3.

<sup>16</sup> D.05-09-043, Table 8 “Adopted Fund-Shifting Rules,” p. 2.

<sup>17</sup> DRA Reply Comments in Response to ALJ’s Ruling Soliciting Response to Questions on Energy Efficiency Portfolio Composition and Development Rules and the Role of Advisory Groups, July 31,

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include devices that benefit ratepayers financially or through an improved environment, but more data is required to alter the energy efficiency definition in compliance with these goals. DRA recommends that the Commission initiate a public process to evaluate a broader definition of energy efficiency measures to allow public input about the benefits of expanding the definition of energy efficiency measures to include stand-alone, non-generating devices powered by renewables other than solar, as well as energy storage devices.

DRA further recommends that the Commission consider changes in the cost-effectiveness requirements for fuel-switching programs in this public process. In R.08-03-008, the Commission is currently evaluating a staff proposal to establish a solar water heating program to comply with the requirements of Assembly Bill (AB) 1470. In August 12, 2009 comments, PG&E suggested including solar water heating within energy efficiency portfolios if the technology is cost-effective:

“If the [solar water heating] program is cost-effective using the tools used to evaluate other energy efficiency measures, it should be included as an energy efficiency program, rather than as a separate California Solar Initiative (CSI)/Assembly Bill 1470 program.”<sup>18</sup>

Solar water heating (and solar water circulation devices) are required under the current policy rules to meet a higher cost-effectiveness standard than other energy efficiency measures.<sup>19</sup> Typically, energy efficiency programs are required only to be cost-effective at the portfolio level, but solar hot water heating and solar water circulating devices must satisfy the more stringent three-prong test for fuel substitution<sup>20</sup> measures,

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2007, p. 10.

<sup>18</sup> Comments of Pacific Gas and Electric Company on the Staff Proposal for a Solar Water Heating Program filed August 12, 2009 in R.08-03-008, p. 1.

<sup>19</sup> Although the energy efficiency policy rules permit solar hot water heating as an energy efficiency measure eligible for funding, PG&E and the other investor-owned utilities do not currently offer solar hot water heating as part of their portfolios. The California Center for Sustainable Energy (CCSE, formerly San Diego Regional Energy Organization) currently administers a solar water heating pilot project as part of the California Solar Initiative (CSI).

<sup>20</sup> Fuel substitution measures replace one form of energy use with another form of energy use, for  
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including the cost-effectiveness criteria of passing both the TRC test *and* the Program PAC test on a stand-alone basis. In R.08-03-008, Southern California Edison Company, San Diego Gas & Electric Company, and Southern California Gas Company have all commented that solar water heating should be an energy efficiency program, and that this technology should not be subjected to the dual test on a stand-alone basis.<sup>21</sup> DRA recommended that the Commission consider requiring solar water heating and other programs that promote a switch to renewable fuels to meet the same portfolio-level cost effectiveness standard as other energy efficiency measures, rather than the current requirement that such programs be cost effective on a stand alone basis under. DRA observed that any revision of current rules governing the cost effectiveness of energy efficiency measures was an issue for A.08-07-021 et al, not R.08-03-008.<sup>22</sup>

DRA believes that the Commission’s strategic objectives regarding Zero Net-Energy buildings will require changes to the energy efficiency policy rules, and may also require a revised definition of energy efficiency devices. DRA respectfully requests that the Commission initiate a public process to consider a broader definition of energy efficiency and modification of the cost-effectiveness requirements for fuel-switching programs in the context of PG&E’s PFM.

### **III. CONCLUSION**

PG&E’s petition for modification illustrates the importance of modifying energy efficiency policy over time so that utilities can adjust their portfolios to include promising new technologies. DRA therefore supports PG&E’s request to include solar crop drying

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example the switch from electric resistance heating to gas furnaces. Energy Efficiency Policy Manual Version 4, Appendix B, “Glossary Common Energy Efficiency Terms and Definitions,” p. 6, available at <http://www.cpuc.ca.gov/PUC/energy/Energy+Efficiency/EE+Policy/>.

<sup>21</sup> Opening Comments of Southern California Edison Company on the Administrative Law Judge’s Ruling Noticing Workshop and Requesting Comment an Staff Proposal for SolarWater Heating Program, filed August 12, 2009 in R.08-03-008, pp. 6-7; Comments of San Diego Gas & Electric Company and Southern California Gas Company on Energy Division Staff Proposal for Solar Water Heating Program filed August 12, 2009 in R.08-03-008, pp. 3-4.

<sup>22</sup> DRA Reply Comments on Staff Proposalfor Solar Water Hearing Program, filed August 24, 2009 in R.08-03-008, p. 7.

equipment and the solar assisted heat pump within the definition of energy efficiency measures, subject to applicable cost-effectiveness rules for such technologies. DRA also supports streamlining the procedure for adding new solar-powered measures to the energy efficiency portfolio via the advice letter process. Finally, the Commission should initiate a public process to consider modification of the current cost-effectiveness rules to allow consideration of cost-effectiveness on a portfolio-basis for approved energy efficiency measures, as well as a broader definition of energy efficiency measures.

Respectfully submitted,

/s/     DIANA L. LEE

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Diana L. Lee  
Staff Counsel

Attorney for the Division of Ratepayer  
Advocates  
California Public Utilities Commission  
505 Van Ness Ave.  
San Francisco, CA 94102  
dil@cpuc.ca.gov  
Phone: (415) 703-4342  
Fax: (415) 703-4432

August 31, 2009