

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

ENERGY DIVISION

RESOLUTION G-3436

June 18, 2009

R E S O L U T I O N

Resolution G-3436. The California Energy Commission ("CEC") requests approval of its Fiscal Year ("FY") 2009-2010 Proposed Program Plan and Funding Request for the Natural Gas Public Interest Research Program. The CEC's request is approved with one exception, pursuant to California Public Utilities Commission ("CPUC") Decision (D.) 04-08-010.

SUMMARY

This Resolution approves with one exception the CEC report, *Proposed Program Plan and Funding Request for Fiscal Year 2009-2010, Natural Gas Public Interest Research Program*, established pursuant to D. 04-08-010. The CPUC approves the CEC's proposed \$24 million budget but does not authorize their request for transfer of the \$700,000 resulting from savings in administrative costs in FY2008-09 to research projects.

If the CEC remains the program administrator of the natural gas R&D program beyond the 2009-2010 fiscal year, then for FY2010-2011, the CEC is directed to request \$700,000 less from the legislature than its proposed FY2010-2011 PIER NG R&D budget and to use the \$700,000 from FY2008-2009 to make up the difference.

If the CEC is not the program administrator of the natural gas R&D program beyond 2009-2010, the CEC is directed to promptly return the \$700,000 in excess administrative funding to the Gas Consumption Surcharge Fund and to seek legislative authority to do so if necessary.

BACKGROUND

D. 04-08-010 (the "Decision") implemented Assembly Bill (AB) 1002, establishing a natural gas surcharge to fund gas public purpose programs, including public interest research and development (R&D).

The CPUC instituted Rulemaking 02-10-001 to implement AB 1002. In this proceeding the Commission addressed various issues related to the design and implementation of a surcharge to fund gas public purpose programs.

D. 04-08-010 established certain criteria for gas R&D projects to be approved under this program.

The Decision defines public interest gas R&D activities as those which "are directed towards developing science or technology, 1) the benefits of which [sic] accrue to California citizens and 2) are not adequately addressed by competitive or regulated entities." (p.25)*.

The CPUC established the following criteria for public interest gas R&D projects:

- 1) Focus on energy efficiency, renewable technologies, conservation and environmental issues,
- 2) Support State Energy policy,
- 3) Offer a reasonable probability of providing benefits to the general public, and
- 4) Consider opportunities for collaboration and co-funding opportunities with other entities.

D. 04-08-010 designated the CEC as administrator of the R&D program.

The CEC administers the Public Interest Energy Research (PIER) program and is publicly accountable, being subject to the Bagley-Keene Open Meeting Act and

* See http://www.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/39314.PDF

the Public Records Act (p. 31). Projects are selected by the CEC and reviewed and approved by the CPUC.

D. 04-08-010 reserved ultimate oversight for the CPUC.

The CPUC is responsible for adopting the R&D program, and for setting the surcharge to fund the R&D program. The Decision therefore made it clear that the CPUC has final responsibility to “approve and resolve administration, funding, project approval, or other matters, and make a final decision” (p.32). The Decision further designated the CPUC’s Energy Division to serve as this Commission’s advisor (*ibid.*).

The CEC’s R&D program plans and budgets have been approved by the CPUC from 2005 to FY 2008-2009. D. 04-08-010 established a zero-based budget for the Gas R&D program, starting at \$12 million per year for 2005, with annual increases of up to \$3 million per year, subject to CPUC approval. The CPUC-approved program budget for FY2008-2009 was \$21 million. Thus the maximum allowable budget for the program for FY2009-2010 is \$24 million (p. 38).

The CEC has submitted its Program Plan and Funding Request for Fiscal Year 2009-2010.

In addition to providing its research plan and budget for FY2009-2010, the CEC also provided information on program activities and expenditures from 2005 to 2007.

DISCUSSION

The PIER R&D program budget is a zero-based budget, as stated in D. 04-08-010 (p.3). As such, the budget is reviewed and approved as a whole each year without provision for rollover of funds.

D. 04-08-010 provided for building up the budget request for each year based on the programs the CEC would be planning to undertake up to the maximum limits specified for each year. The maximum limit can increase by up to \$3 million each year. We note that the funding for gas research projects in the 2009-

2010 budget is double the level initially provided in the 2005 budget. For each year the CEC has requested a budget up to the maximum limit for the year and each year has increased the budget over the past year by the maximum allowable limit of \$3 million. The program began with a first year funding of \$ 12 million in 2005. With increases to the maximum limits, the proposed budget being sought now is \$ 24 million. The intent with the zero based budget was to avoid the practice of adding to previous year's budget and instead provide a well explained need for the level of funds requested.

Consistent with D. 04-08-010, the CEC's Public Interest Natural Gas Research Program comprises a research and development effort directed towards maximizing energy efficiency and mitigating environmental effects of gas consumption.

The CEC proposes to allocate its \$24 million budget to administration (\$2.65 million), small grants (\$1.75 million), and a set of four ranked Key Research Areas, consistent with the state energy loading order and broken down into sub-areas for further explication:

1. Improve Residential, Commercial, and Industrial Energy Efficiency (\$9.95 million)
 - a. Improved efficiency of hot water distribution systems
 - b. Improved efficiency of food service operations
 - c. Improved efficiency of industrial and institutional natural gas use
 - d. Demonstration of emerging technologies for industrial applications
 - e. Development of advanced distribution systems for residential space heating
 - f. Development and demonstration of advanced fuel-efficient transportation technologies and fuel-switching strategies that result in cost-effective reduction of on-road and off-road petroleum fuel use in the short and long-term
2. Accelerate the Adoption of Clean Alternatives to Conventional Natural Gas Resources and Technologies (\$4.95 million)
 - a. Natural gas-fired waste heat – augmented heating/power systems and cooling solutions for commercial buildings,

- b. Energy efficient cost-effective, safe, clean durable and reliable combined heat and power and distributed energy resources technologies,
 - c. Low-cost and thermally efficient energy storage system for concentrating solar power, and
 - d. Alternative fuels that reduce petroleum consumption and transportation-related GHG emissions, while assisting economic development
3. Improve Natural Gas System and Infrastructure Performance and Reliability (\$1.7 million)
- a. Improve understanding of consumer behavior and market issues and
 - b. Identification and integration of integrating opportunities between state natural gas systems and smart grid technologies
4. Reduce the Environmental Footprint of California's Natural Gas System
- a. Assess impacts of global climate change (\$3.0 million)
 - b. Develop strategies to reduce direct and indirect greenhouse gas emissions associated with natural gas
 - c. Understand and develop solutions to reduce the impacts of natural gas production, distribution, storage, and use on air quality, biological diversity, land use, public health, and water quality

The CEC's proposed budget allocations are delineated in the appended tables of this resolution.

The Energy Innovations Small Grants Program is intended to complement ongoing core research for natural gas.

This program is modeled on a well-established electricity research program known as the Energy Innovations Small Grant Program (EISG). It is primarily intended to fund feasibility studies, which will assess proofs of concepts, and as a new mechanism for identifying emerging and promising natural gas technologies. The program will be administered by the San Diego State

University Research Foundation. The CEC requests \$1.75 million for the Small Grants program.

We commend the CEC on its administrative cost savings and encourage efficient use of program R&D and administrative funds in the future as well.

The CEC's request for administrative expenses is significantly lower for 2009-2010 than the request made for 2008-2009. The CEC also notes that actual administrative expenses in 2008-2009 were lower than expected. The Commission is pleased that the CEC has cut down its costs of administering the program and is seeking a lower budget for these expenses for 2009-10.

The CEC requests \$2.65 million for administrative expenses. This amount represents a reduction of \$450,000 from the \$3.1 million requested in last year's report. In addition, in response to questions from CPUC staff, the CEC reviewed actual administrative expenses for 2008-2009 as of the date of the report. The CEC found that actual administrative expenses would be only \$2.4 million, rather than the \$3.1 million requested. The CEC requests approval to transfer the \$700,000 savings to fund research projects.

We encourage the CEC to consult with the CPUC on future excess program funds *prior* to filing proposed budgets.

The CEC's proposed program budget and funding request for 2009-2010 is approved except for CEC's proposed use of \$700,000 in excess administrative funds from the FY2008-2009 budget.

In accordance with D. 04-08-010, the annual proposed R&D program for Fiscal year 2009-2010 was provided by the CEC to the Energy Division. The CEC has solicited R&D project proposal abstracts and incorporated them into the development of its plan. The Energy Division has reviewed the CEC report and found it to be submitted properly in compliance with D. 04-08-010. The basic program areas meet the criteria for public interest gas R&D projects laid out in the Decision, the CEC reasonably selected gas R&D program areas, and the CEC reasonably allocated the program's budget to the different program areas. We authorize the CEC's proposed \$24 million budget as described in its *Proposed*

Program Plan and Funding Request for Fiscal Year 2009-2010, Natural Gas Public Interest Research Program.

The Commission denies the CEC's request for release of \$700,000 in excess administrative funds left over from FY2008-2009.

The CEC provided only a very brief explanation for its transfer request of the \$700,000 in administrative cost savings and did not describe the nature of the projects on which the funds would be spent. The CEC stated:

After reviewing the expenses, it was determined that administrative costs were lower than expected and approximately \$700,000 in FY 2008-2009 Program Administration funds would be better spent on natural gas systems integration research efforts. Therefore, the Energy Commission is requesting approval to transfer \$700,000 in FY 2008-2009 Program Administration funds to research projects.

The CPUC denies release of the \$700,000 for multiple reasons. First, the CEC did not provide sufficient explanation for how the funds would be spent in the 2009-2010 Report. Second, the PIER R&D program budget is a zero-based budget, as stated in the Decision (p.3). As such, the budget is reviewed and approved as a whole each year without provision for rollover of funds. Third, even if the CEC were to formally amend its proposed 2008-2009 budget and adequately describe how it would spend the \$700,000, it is unclear whether the money would be better used by a) saving it for future use or b) spending it on research projects that are apparently marginal relative to the projects that were submitted for approval.

The CEC is directed to hold but not to spend the \$700,000 left over from administrative cost savings from FY2008-2009.

In D. 04-08-010, the Commission stated that the CPUC will "assess the reasonableness of the funding level, and the overall R&D program" after the fourth year of the program, i.e., this year. (p. 38) In Ordering Paragraph 18 of that decision, the Commission ordered that "The California Energy Commission is appointed as administrator of the gas R&D program until further action of the

Commission.” The Commission will be examining the gas R&D program at some point in the future, and we can’t be absolutely certain that the CEC will remain as the administrator if the gas R&D program is continued.

There are two possibilities for the eventual disposition of the \$700,000 in unspent administrative funds. If the PIER NG R&D program is renewed with the CEC continuing as program administrator after the 2009-2010 fiscal year, the CEC is directed to request \$700,000 less from the legislature than its proposed FY2010-2011 PIER NG R&D budget and to make up the difference by using the \$700,000 in excess administrative funding from FY2008-2009.

If the CEC is not the program administrator of the renewed program, or if the program is not renewed after the 2009-2010 fiscal year, then in the absence of further direction from the CPUC, the CEC should promptly return the \$700,000 in excess FY2008-2009 administrative funding to the Gas Consumption Surcharge Fund and seek such legislative authority to do so as may be necessary.

The natural gas R&D program should remain focused on natural gas-related R&D, and should not subsidize the electric R&D program using natural gas ratepayer funds.

The PIER natural gas R&D program is funded by a surcharge on natural gas ratepayer bills. There is an analogous PIER electric R&D program funded by electric ratepayers. Therefore PIER natural gas R&D programs should focus on gas-related research and development--not electric. Doing otherwise a) would subsidize electric R&D using natural gas ratepayer funds and b) might be redundant since an electric PIER R&D program already exists.

We realize that what constitutes cross-subsidization is not always clear. For instance, solar water heating directly displaces natural gas consumption and is permissible as a PIER natural gas R&D project. Concentrated solar (solar thermal) electric generation has a more tenuous link to natural gas; such solar power could displace some existing electric generation, part of which could be from gas-fired power plants, but this is at least one step farther removed from natural gas than is the case with solar water heating.

Although we are approving the CEC's proposed FY2009-2010 budget (except for the release of \$700,000), the CEC's future projects should avoid cross-subsidization. This is potentially a significant issue, particularly in the second of four research areas in the proposed budget, "Accelerate the Adoption of Clean Alternatives to Conventional Natural Gas Resources and Technologies". This research area has a budget of \$4.95 million--nearly a quarter of the non-administrative portion of the \$24 million total budget. The CEC anticipates research in this area to focus primarily on California's abundant renewable resources, including solar, wind, geothermal and bio-energy. In the future, if the CEC has questions about what would constitute impermissible cross-subsidization, the CEC should consult the CPUC *prior* to filing its proposed budget.

COMMENTS

Public Utilities Code section 311(g)(1) provides that this resolution must be served on all parties and subject to at least 30 days public review and comment prior to a vote of the Commission. Section 311(g)(2) provides that this 30-day period may be reduced or waived upon the stipulation of all parties in the proceeding. The 30-day comment period for the draft of this resolution was neither waived nor reduced. Accordingly, this draft resolution was mailed to parties for comments on May 19, 2009. Comments were due June 8, 2009.

No comments were received.

FINDINGS

1. The CEC filed its Fiscal Year 2009-2010 public interest gas R&D report, per D. 04-08-010.
2. The CEC's proposed R&D project areas meet the criteria set forth in D. 04-08-010.
3. The CEC reasonably selected gas R&D project areas, and reasonably allocated the Fiscal Year 2009-2010 R&D budget to the different project areas.
4. The CEC's report, *Program Plan and Funding Request for Fiscal Year 2009-2010, Natural Gas Public Interest Research Program*, should be adopted with the

exception of the request for release of \$700,000 in excess program administration funds from FY2008-2009.

THEREFORE IT IS ORDERED THAT:

1. The Fiscal Year 2009-2010 public interest gas R&D plan submitted by the CEC in its report, *Program Plan and Funding Request for Fiscal Year 2009-2010, Natural Gas Public Interest Research Program*, is approved with the exception of the request for release of \$700,000 resulting from administrative cost savings from FY2008-2009.
2. The CEC is directed to hold and not to spend the \$700,000 resulting from administrative cost savings from FY2008-2009.
3. If the PIER NG R&D program is renewed with the CEC continuing as program administrator beyond the 2009-2010 fiscal year, the CEC is directed to request \$700,000 less from the legislature than its proposed FY2010-2011 PIER NG R&D budget and to make up the difference by using the \$700,000 in excess administrative funding from FY2008-2009.
4. If the CEC is not the program administrator of the renewed program, or if the program is not renewed beyond the 2009-2010 fiscal year, then in the absence of further direction from the CPUC, the CEC should promptly return the \$700,000 in excess FY2008-2009 administrative funding to the Gas Consumption Surcharge Fund and seek such legislative authority to do so as may be necessary.

This Resolution is effective today.

I certify that the foregoing resolution was duly introduced, passed and adopted at a conference of the Public Utilities Commission of the State of California held on June 18, 2009; the following Commissioners voting favorably thereon:

/s/ Paul Clanon

Paul Clanon
Executive Director

MICHAEL R. PEEVEY
PRESIDENT

DIAN M. GRUENEICH

JOHN A. BOHN

RACHELLE B. CHONG

TIMOTHY ALAN SIMON

Commissioners

**Appendix (Numbering by CEC Proposed Program Plan and Funding Request
for Fiscal Year 2009-2010)**

Table 1: FY 09-10 Natural Gas Budget Plan Summary

Research Topic Areas	Budget (\$ MM)
Improving Residential, Commercial and Industrial Energy Efficiency	\$9.95
Accelerate the Adoption of Clean Alternatives to Conventional Natural Gas Resources and Technologies	\$4.95
Improve Natural Gas System and Infrastructure Performance and Reliability	\$1.70
Reducing the Environmental Footprint of California's Natural Gas System	\$3.00
Energy Innovation Small Grants Program	\$1.75
Program Administration	\$2.65
TOTAL	\$24.00

Table 2: Budget Breakdown for *Improving Residential, Commercial and Industrial Energy Efficiency*

Research Solution	Budget (\$MM)
Energy Efficient Food Service Operations	\$1.60
Energy Efficient Hot Water Distribution	\$1.80
Advanced Distribution Systems for Residential Heating	\$0.50
Emerging Technology Demonstration Program	\$0.40
Natural Gas Efficiency Research for Industrial & Institutional Use	\$1.40
Develop and Demonstrate Advanced Fuel-efficient Transportation Technologies and Fuel Switching Strategies	\$4.25
TOTAL	\$9.95

Table 3: Budget Breakdown for *Accelerate the Adoption of Clean Alternatives to Conventional Natural Gas Resources and Technologies*

Research Solution	Budget (\$MM)
Natural Gas-Fired and Waste Heat-Augmented Heating/Power Systems and Cooling Solutions for Commercial Buildings.	\$0.45
Develop Energy Efficient, Cost Effective, Safe, Clean, Durable, and Reliable CHP and Distributed Energy Resources Technologies.	\$1.00
Develop Low-cost and Thermally Efficient Energy Storage System for Concentrating Solar Power.	\$1.50
Research, Develop, and Deploy Alternative Fuels that Reduce Petroleum Consumption and Transportation-related GHG Emissions, While Assisting Economic Development within the State of California.	\$2.00
TOTAL	\$4.95

Table 4: Budget Breakdown for *Improve Natural Gas System and Infrastructure Performance and Reliability*

Project Title	Budget (\$MM)
Integration of Smart Grid Technologies	\$1.00
Improve Understanding of Consumer Behavior and Market Issues	\$0.70
TOTAL	\$1.70

Table 5: Budget Breakdown for *Reducing the Environmental Footprint of California's Natural Gas System*

Project Title	Budget (\$MM)
Improve the Understanding of and Develop Solutions to Reduce Impacts from Natural Gas.	\$0.70
Develop Strategies to Reduce Direct and Indirect GHG Emissions Associated with Natural Gas.	\$0.80
Create Tool for Assessing the Impacts of Global Climate Change.	\$1.50
TOTAL	\$3.00