

DRAFT

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

ENERGY DIVISION

Item# 47 I.D.#6222

RESOLUTION G-3394

December 14, 2006

R E S O L U T I O N

Resolution G-3394. The California Energy Commission (CEC) requests approval of its 2007 program plan and funding request for the Natural Gas Public Interest Research Program. The CEC's request is approved.

Pursuant to California Public Utilities Commission Decision (D.) 04-08-010.

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SUMMARY

**This Resolution approves the California Energy Commission (CEC) report, *Proposed Program Plan and Funding Request for 2007, Natural Gas Public Interest Research Program*. That program was established pursuant to D. 04-08-010. The CEC filed this plan and the funding request on August 31, 2006.**

This resolution also modifies the timetable for the public interest gas R&D program approval process. This modification to the current timetable is made at the request of the CEC, in response to provisions of SB 1250 (Chapter 512, Statutes of 2006) that affect the California Energy Commission's (Energy Commission) administration of the Natural Gas Research Program.

In short, this resolution approves the CEC plan with a change in its timetable. Funding will begin for the 2007 fiscal year July 1, 2007, and follow a fiscal year through June 30, 2008. Previously, funding ran January to January. Existing project funding will not be affected in the January 2007-June 2007 time frame, but no new projects will be funded during that period. In addition, at the request of the CEC, we change the due date for the CEC Annual Plan to October 31. (The

CEC reports in the Annual Plan information on costs, balances of approved project budgets and expenses, and benefits and progress of R&D projects.)

The timetable we approve here will also be in effect for future years.

## **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.

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\* See [http://www.cpuc.ca.gov/WORD\\_PDF/FINAL\\_DECISION/39314.PDF](http://www.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/39314.PDF)

**D. 04-08-010 designated the CEC as administrator of the R&D program,** because the CEC already administers the Public Interest Energy Research (PIER) program and it is publicly accountable, being subject to the Bagley-Keene Open Meeting Act and the Public Records Act.

Projects will be 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 for calendar years 2005 and 2006.** D. 04-08-010 established a zero-based budget of up to \$18 million for the Gas R&D program for 2007 (p. 36 and 47).

**The CEC timely submitted its Program Plan and Funding Request for 2007 on August 31, 2006.** In addition to providing its research plan and budget for 2007, the CEC also provides information on 2006 program activities and expenditures.

## DISCUSSION

**Consistent with D. 04-08-010, the CEC’s Public Interest Natural Gas Research Program comprises a research and development effort directed towards maximizing efficiency and mitigating environmental effects of gas consumption.** The CEC proposes to allocate its \$18 million budget to administration (\$1.8 million), small grants (\$1 million), and a set of five ranked Key Research Areas, broken down into their sub-areas for further explication:

1. Affordable, comfortable, and energy-smart choices for daily life and a strong California economy

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- a. Increase efficiency of existing building systems and industrial processes (for example, develop replacement/retrofit products, improve operational strategies, identify intervention tactics).
  - b. Reduce the first costs and operating costs of energy efficient technologies and systems for buildings and industries.
  - c. Reduce and optimize the hot water use in residential, commercial, and industrial operations by developing technologies that conserve water or provide cost-effective alternate thermal energy sources.
2. Clean and diverse natural gas supply that optimizes California's resources
    - a. Assess the quality and interchangeability of LNG to determine its environmental and performance impact.
    - b. Improve and reduce the cost of clean combustion technologies.
    - c. Reduce the cost and improve the performance of solar thermal, biogas, and geothermal technologies for natural gas replacement (for example, space heating and industrial applications) as well as hybrid systems (for example, solar/gas hybrids).
  3. Clean and diverse transportation system
    - a. Develop and demonstrate advanced fuel efficient transportation technologies and fuel switching strategies that result in a cost-effective reduction of on-road and off-road petroleum fuel use in the short and long term.
    - b. Develop and demonstrate technologies for the in-state production of renewable and non-petroleum transportation fuels that can augment transportation fuel supplies, provide state economic and ratepayer benefits, reduce air pollutant and greenhouse emissions, and increase on- and off-road transportation fuel diversity.
  4. Integrated natural gas system that is reliable and secure
    - a. Analyze the impact storage would have on the market and the conditions required for investment in storage infrastructure.
    - b. Develop a natural gas system (cyber and physical) that is resilient to natural and man-made events, self-diagnosing, and self-healing.
    - c. Improve means of measuring and predicting economic impacts of natural gas use.
  5. Environmentally sound natural gas system

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- a. Create tools for assessing the impacts of global climate change on key sectors (for example, ecosystems, energy, and infrastructure) and develop robust mitigation and adaptation strategies.
- b. Develop strategies to reduce direct and indirect GHG emissions (for example CO<sub>2</sub>, NO, CH<sub>4</sub>) associated with natural gas in California.
- c. Improve understanding of and develop solutions to reduce impact of air quality, biological, land-use, public health, and water from natural gas production, distribution, storage, and use, and contribute to a sustainable energy future.
- d. Develop methodologies (e.g. emissions testing protocols) to improve regulatory processes (e.g. pipeline siting) and inform future state environmental/energy policy.

These areas and the CEC's proposed budget allocation are delineated in the appended table, *Exhibit III-1 Program Budget Summary*, taken from the CEC report (p.17).

**The Energy Innovations Small Grants Program is intended to complement ongoing core research for natural gas.** This program is modeled on a well established one in electricity research 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. Maximum funding is to be set at \$95,000 per hardware project and \$50,000 per modeling project. The program will be administered by the San Diego State University Research Foundation.

**Provisions of SB1250 would hold up budget allocations for this program until FY 2007 beginning July, 1 2007.** SB 1250 changes the manner for allocating funds to the Energy Commission for natural gas research. It changes the budget cycle from a calendar year to a fiscal year basis, so the \$18 million proposed in the Energy Commission's budget plan will be available at the earliest on July 1, 2007. For this reason, the proposed Program Plan and Funding Request needs to be modified to reflect the changes to the annual program cycle originally established in D.04-08-010.

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In a letter dated October 30, 2006, the CEC requested of the Executive Director of CPUC that certain timetable changes be made pursuant to SB 1250. Specifically, this letter requested that the CEC's annual Program Plan and Funding Request be rescheduled from August 31 to April 30. It also requested that outside party project proposals be due to the CEC on March 30, rather than the current deadline of July 31. This schedule does not leave this Commission with adequate time to review CEC's annual Program Plan and Funding Request before the July 1 start of the fiscal year.

**A March 31 due date for the Program Plan and Funding Request is appropriate and necessary.** As part of implementing the new schedule pursuant to SB 1250, CEC has proposed a deadline of April 30<sup>th</sup> to submit its Program Plan and Funding Request to the CPUC. The CPUC finds that the April 30<sup>th</sup> deadline will not leave sufficient time for the CPUC to process the funding request and that the deadline should be moved to March 31<sup>st</sup>.

**The CEC's proposed program budget and funding request should be approved, with these modifications to its timetable.** In accordance with D. 04-08-010, the annual proposed R&D program for 2007 was provided by the CEC to the Energy Division by August 31. The CEC has furthermore 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.

The timetable changes for the gas R&D program approval process that we approve above will apply to future budget years as well as the 2007-2008 fiscal year.

### 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. Our Rules of Practice and Procedure (Rule

14.6(c)(2)) provide that the Commission may waive or reduce the period for public review and comment on draft resolutions in an uncontested matter where the decision grants the relief requested. The Rules of Practice and Procedure (Rule 14.6(c)(9)) also allow the Commission to waive or reduce the review and comment period when required by “public necessity”. “Public necessity” refers to circumstances in which the public interest in the Commission’s adopting a decision before expiration of the 30-day review and comment period clearly outweighs the public interest in having the full 30-day period for review and comment. In this instance, no protests have been filed since the proposal was made outside of the usual advice letter process, and we are approving the CEC’s proposed gas R&D budget and program.

Because we are approving the CEC’s proposed plan and budget and because there is a public necessity in notifying the CEC of this approval and the changes to the approval timetable as soon as possible, the CPUC allowed comments on this draft resolution with a reduced comment period. Accordingly, the draft resolution was mailed to parties for comments on November 28, 2006, with comments due on December 8, 2006.

Comments were received from the CEC, and jointly from San Diego Gas & Electric Company and Southern California Gas Company (Sempra).

The CEC recommended:

1. To facilitate timely project funding, the Resolution should authorize a single annual transfer of Program funds from the CPUC to the Energy Commission’s sub-account on July 1, or the effective date of the State Budget, whichever is later. This would, according to the CEC, ensure that needed funds be on hand before the beginning of the budget cycle.
2. The submittal date for the Program’s Annual Plan should be changed to October 31 from the current March 31. The Annual Plan is filed with Energy Division and provides information on the costs and balances of approved projects, and summarizes the progress of Research, Development and Demonstration (RD&D) projects. Since the Resolution changed the submittal date of the Budget Plan to March 31, it now seems impractical to the CEC to have the Annual Plan also due on March 31.

3. The requirement for general project solicitation should be eliminated, and instead a "road mapping" process should be employed in lieu of an annual general project solicitation. Apparently, under a "road mapping" process, the CEC would conduct periodic targeted R&D project solicitations, rather than conduct the current single annual general solicitation. The CEC indicates that the current project solicitation process is cumbersome and unworkable, and no existing State procurement method accommodates the schedule required by D.04-08-010. According to the CEC, with a "road mapping" process the CEC would better target specific solicitations aimed at addressing high priority policy issues and projects not likely to be conducted by the private sector. The CEC asserts that a "road mapping" process is superior to a broad based general solicitation, and would be a more efficient process, and would eliminate the uncertainty associated with the current process.

Sempre expressed concern that the project selection and budget allocation processes are not transparent enough. The comments note that "it is still not clear what criteria are used to select between various R&D projects and how funds are allocated between various projects." Stating a belief that stakeholders and ratepayers should have more input in these processes, Sempra urges the CPUC and CEC to reinstate the Research Advisory Council and expand the use of Advisory Committees for each program area, similar to the model used by the CEC for its Electric Transmission program.

In response to the CEC's request for a single fund transfer on July 1<sup>st</sup>, the Commission will not adopt this recommendation in this resolution. Funds are currently transferred to the CEC on an as-needed basis. The availability of funds specifically targeted to gas R&D depends on the revenues the utilities have received from ratepayers for that purpose. If the CEC withdraws the entire R&D budget on July 1<sup>st</sup>, this money may temporarily have to come from funds intended for other gas PPP efforts. Of course those programs would eventually be reimbursed, but the CEC's request would essentially transfer some of the interest that would be accumulated for other gas PPP programs to the gas R&D fund. Energy Division staff should work with the CEC and the utilities to arrive at a workable fund transfer arrangement. D.04-08-010 authorized the Energy

Division to work out administrative changes to the Gas R&D program with the CEC.

The Commission will also not adopt the CEC's request for a "road mapping" approach at this time. Energy Division staff needs to understand the suggested approach better, and confirm that it is in compliance with D.04-08-010. Energy Division staff should discuss the matter with the CEC, and agree on an approach.

CPUC's Energy Division Director will subsequently follow-up with a letter to the CEC confirming what the CPUC and CEC staffs have worked out with regard to the single transfer and the road-mapping approach. Program changes regarding these issues acceptable to the Energy Division can be implemented without the need for formal Commission action.

There is no problem regarding the CEC's request that the "Annual Plan" be submitted on October 31, and the Commission will adopt that date as the new due date for the Annual Plan.

Sempra's comments are appreciated. The utilities should work with the CEC and CPUC staffs to determine the extent to which Sempra's comments can be adopted.

## FINDINGS

1. The CEC filed its 2007 public interest gas R&D report on August 31, 2006, as per D. 04-08-010, and has met its obligation.
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 2007 R&D budget to the different project areas.
4. The CEC's report, *Program Plan and Funding Request for 2007, Natural Gas Public Interest Research Program*, should be adopted.

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5. We should adopt a change to the program approval timetable to require that the CEC submit its budget and program proposal for future program years by March 31<sup>st</sup>, and its Annual Plan by October 31<sup>st</sup>.
6. Energy Division staff should work with the CEC to determine an appropriate fund transfer schedule and an appropriate solicitation process.

**THEREFORE IT IS ORDERED THAT:**

1. The 2007 public interest gas R&D plan submitted by the CEC in its report, *Program Plan and Funding Request for 2007, Natural Gas Public Interest Research Program*, is approved.
2. The CEC shall submit its annual Public Interest Gas R&D Program and Budget Proposal by March 31<sup>st</sup>, and its Annual Plan by October 31<sup>st</sup>, beginning in 2008.

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 December 14, 2006; the following Commissioners voting favorably thereon:

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STEVE LARSON  
Executive Director

## Natural Gas Public Interest Research Program 2007/DRE

**Appendix -- Exhibit III-1 Program Budget Summary**

Key Research Areas/Research Solutions	Proposed Research Solution Funds	Total for Research Area
<b>Research Area 1. Affordable, comfortable, and energy-smart choices for daily life and a strong California economy</b>		<b>\$3,000,000</b>
Research Solution 1a: Increase efficiency of existing building systems and industrial processes (for example, develop replacement/retrofit products, improve operational strategies, identify intervention tactics).	\$500,000	
Research Solution 1b: Reduce the first costs and operating costs of energy efficient. technologies and systems for buildings and industries.	\$1,000,000	
Research Solution 1c: Reduce and optimize the hot water use in residential, commercial. and industrial operations by developing technologies that conserve water or provide cost –effective alternate thermal energy sources.	\$1,500,000	
<b>Research Area 2. CLEAN AND DIVERSE NATURAL GAS SUPPLY THAT OPTIMIZES CALIFORNIA'S RESOURCES</b>		<b>\$2,350,000</b>
Research Solution 2a: Assess the quality and interchangeability of LNG to determine its environmental and performance impact.	\$800,000	
Research Solution 2b: Improve and reduce the cost of clean combustion technologies.	\$550,000	
Research Solution 2c: Reduce the cost and improve the performance of solar thermal, biogas, and geothermal technologies for natural gas replacement (for example, space heating and industrial applications) as well as hybrid systems (for example, solar/gas hybrids).	\$1,000,000	
<b>Research Area 3. CLEAN AND DIVERSE TRANSPORTATION SYSTEM</b>		<b>\$6,000,000</b>
Research Solution 3a: Develop and demonstrate advanced fuel efficient transportation technologies and fuel switching strategies that result in a cost-effective reduction of on-road and off-road petroleum fuel use in the short and long term.	\$1,000,000	
Research Solution 3b: Develop and demonstrate technologies for the in-state production of renewable and non-petroleum transportation fuels that can augment transportation fuel supplies, provide state economic and ratepayer benefits, reduce air pollutant and greenhouse emissions, and increase on- and off-road transportation fuel diversity.	\$5,000,000	
<b>Research Area 4. INTEGRATED NATURAL GAS SYSTEM THAT IS RELIABLE AND SECURE</b>		<b>\$1,950,000</b>
Research Solution 4 a: Analyze the impact storage would have on the market and the conditions required for investment in storage infrastructure.	\$350,000	
Research Solution 4b: Develop a natural gas system (cyber and physical) that is resilient to natural and man-made events, self-diagnosing, and self-healing.	\$800,000	
Research Solution 4c: Improve means of measuring and predicting economic impacts of natural gas use.	\$800,000	
<b>Research Area 5. 1. ENVIRONMENTALLY SOUND NATURAL GAS SYSTEM</b>		<b>\$1,900,000</b>
Research Solution 5a: Create tools for assessing the impacts of global climate change on key sectors (for example, ecosystems, energy, and infrastructure) and develop robust mitigation and adaptation strategies.	\$750,000	
Research Solution 5b: Develop strategies to reduce direct and indirect GHG emissions (for example CO <sub>2</sub> , NO, CH <sub>4</sub> ) associated with natural gas in California.	\$500,000	
Research Solution 5c: Improve understanding of and develop solutions to reduce impact of air quality, biological, land-use, public health, and water from natural gas production, distribution, storage, and use, and contribute to a sustainable energy future.	\$250,000	
Research Solution 5d: Develop methodologies (e.g. emissions testing protocols) to improve regulatory processes (e.g. pipeline siting) and inform future state environmental/energy policy.	\$400,000	
<b>PROGRAM ADMINISTRATION</b>		<b>\$1,800,000</b>
<b>SMALL GRANTS</b>		<b>\$1,000,000</b>
<b>GRAND TOTAL</b>		<b>\$18,000,000</b>

