

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA



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Application of Pacific Gas and Electric Company (U39M), San Diego Gas & Electric Company (U902E), and Southern California Edison Company (U338E) for Authority to Increase Electric Rates and Charges to Recover Costs of Research and Development Agreement with Lawrence Livermore National Laboratory for the 21st Century Energy Systems.

A.11-07-008
(Filed July 18, 2011)

**PROTEST OF
THE DIVISION OF RATEPAYER ADVOCATES**

KARIN HIETA, Senior Analyst
Division of Ratepayer Advocates
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102
Phone: (415) 703-4253
Facsimile: (415) 703-2905
Email: kar@cpuc.ca.gov

ROBERT HAGA, Attorney
Division of Ratepayer Advocates
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102
Phone: (415) 703-2538
Facsimile: (415) 703-2262
Email: rwh@cpuc.ca.gov

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I. INTRODUCTION

In accordance with Rule 2.6 of the Rules of Practice and Procedure of the California Public Utilities Commission (“Commission”), the Division of Ratepayer Advocates (“DRA”) submits this protest to the amended joint application of Pacific Gas and Electric Company (“PG&E”), San Diego Gas & Electric Company (“SDG&E”), and Southern California Edison Company (“SCE”), for the authority to increase electric rates in order to recover from ratepayers up to \$150 million to fund research and development (“R&D”) by the Lawrence Livermore National Laboratory (“LLNL”). The R&D would be conducted pursuant to an agreement between LLNL and the applicants (collectively, the investor-owned utilities or IOUs).

The IOUs originally filed application (“A.”) 11-07-008 on July 18, 2011 and protests were filed by DRA and TURN on September 2, 2011. A prehearing conference (“PHC”) was held on September 19, 2011, where the Administrative Law Judge (“ALJ”) agreed with DRA and TURN that the “application lacked detail and ruled that the application should be amended to include testimony supporting the application.”¹ On October 18, 2011, the assigned Commissioner issued an Assigned Commissioner Ruling and Scoping Memo (“ACR”), which adopted a schedule requiring the IOUs to file an amended application on October 19, 2011, with an opportunity to file protests on November 2, 2011. Accordingly, this protest is timely.

DRA recommends the Commission dismiss or summarily deny this application for the reasons set forth below.

II. ISSUES PRESENTED BY THE APPLICATION

The issues raised in DRA’s original protest to this application are still applicable, and are summarized below:

- The Commission may lack the authority to require ratepayers to fund the R&D in the manner proposed in this application.
- The application does not define the purpose of the R&D or the research that will be undertaken.

¹ Assigned Commissioner Ruling and Scoping Memo, October 18, 2011, at 5, citing PHC, RT at 48.

- The application does not explain how the R&D by LLNL would benefit IOU ratepayers or why it should be funded by the IOUs' ratepayers rather than by their shareholders and/or by other sources of funds.
- Assuming research of the type contemplated in the application would serve the public interest, the application does not explain why the research should not be funded through California's Public Interest Energy Research (PIER) program, or why the LLNL is the appropriate entity to perform the research.²

Additionally, DRA presents new issues based on further review of the application:

- The IOUs did not file any additional information, as ordered.
- Based on the limited information provided, the requested funding appears duplicative of funding authorized in other proceedings, despite claims to the contrary.

A. The IOUs Fail to Amend the Application as Instructed

At the PHC, the ALJ recognized that the application provided insufficient information on which to grant ratepayer funding. Therefore, the ALJ instructed the IOUs to file an amended application, including testimony, instructing:

. . . submit an amended application with actually some of the very sorts of evidentiary statements that Mr. Warner has made on behalf of PG&E's application, explaining how they compared it to other things, how it is incremental, it's not repetitive, the types of issues that I think I have identified earlier as well as TURN and DRA.³

The ACR confirmed the requirement for supplemental information in the amended application, stating "[t]he inclusion of more detail would allow a clearer determination of both the merits of the research proposal and the authority of the Commission to fund it."⁴

The IOUs filed an amended application on October 19, 2011. However, the IOUs did not submit the required information. Instead, they submitted the same application, almost

² For complete discussion see Protest of the Division of Ratepayers, A.11-07-008, filed September 2, 2011.

³ PHC, RT at 41.

⁴ ACR at 5.

verbatim, and retitled what was previously Attachment A as “testimony.”⁵ This is clearly not what the ALJ intended when requiring submission of an amended application with supporting testimony.

B. The Amended Application Is As Insufficient As The Original Application

As DRA made clear in its original protest and at the PHC, and as acknowledged by the ALJ and in the ACR as discussed above, the application offers insufficient information on which to make a determination of reasonableness. Among other factors, the application does not:

- Establish a need for the proposed research;
- Does not provide any actual research proposals;
- Provides no demonstration that the research is not duplicative of other ongoing research efforts;
- Does not describe why LLNL is the best partner for the research, or how they were selected;
- Does not define any deliverables, timing, milestones, costs, quantified benefits, quality control, or accountability; or
- Does not demonstrate why ratepayers are the appropriate funding source.

The ACR also confirmed these deficiencies, as discussed above.

Instead of developing an actual research proposal for Commission review, the IOUs propose that the Commission simply grant them funding now, and specific project proposals would be approved by a governing Board of Directors later. Moreover, only

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⁵ The IOUs also provided a short list of decisions granting RD&D funding, with little to no description of the funding purposes or parameters. No information is provided regarding potentially similar research being done by other entities. This list is not inclusive of all decisions granting RD&D funding similar to the examples provided in the application.

certain members of that board would be representatives from the IOUs themselves.⁶ The Board of Directors would address certain “governance tasks”, including:

- Determining the need for research;
- Avoidance of duplicative research or funding;
- Competitive solicitation of services;
- Renewables integration planning, data and tools; and
- Transparency and public oversight of costs, benefits, and deliverables.⁷

Though the IOUs state that the requested research would be “subject to routine and periodic reporting by the Applications and oversight by the Commission,”⁸ there is no provision for Commission oversight in the IOUs’ request.

The “governance tasks” proposed in the application are tasks typically under Commission purview, and are elements lacking from the pending application. Essentially, the IOUs are asking for the Commission to forego its discretionary oversight, and to simply provide ratepayer funding to perform research that will be determined at a later time by the IOUs, with no reasonableness review before, or after, the fact.⁹ DRA urges the Commission not to do so.

C. The Proposed Research Appears Duplicative

The IOUs do not actually propose specific research projects. Rather, they note that “[i]t is important to emphasize that the IOUs and LLNL have not finalized or determined to undertake any project activities”¹⁰ and only provide “*illustrative* examples

⁶ “The CES-21 Project will be governed by a Board of Directors consisting of at least three voting directors with one director from each of the IOUs. In addition, *consideration* will be given to including directors representing public institutions such as the CPUC and CAISO, members of the public, and/or energy and environmental policymakers” A.11-07-008, amended, at 1-12, emphasis added.

⁷ A.11-07-008, amended, at 1-13.

⁸ A.11-07-008, amended, at 1-13.

⁹ The Commission has previously found such delegation of authority to be impermissible, see Interim Order Adopting Policies and Funding for the California Solar Initiative, 2006 Cal. PUC LEXIS 529, D.06-01-024, Conclusion of Law 1.

¹⁰ A.11-07-008, amended, at 1-5.

of the *types* of research and development activities that the IOUs *may consider* to undertake.”¹¹

While not proposing specific projects, the IOUs do claim that the Board of Directors will ensure avoidance of duplicative research or funding¹² and that “the topics we’ve proposed are absolutely incremental and not duplicative.”¹³ However, the application provides no concrete process for how the Board of Directors will ensure that research performed is not duplicative of either research being done by other entities, or funding for research previously granted to the IOUs.

DRA’s preliminary analysis indicates that at least some of the proposed research areas outlined in the illustrative cases likely *are* duplicative, as shown below. These few examples call into question the IOUs assurances that the proposed research will not be duplicative.

1. Electric Resource Planning

In the proposed Electric Resource Planning research area, the IOUs cite a need for new tools to model integration of renewable resources. They claim that modeling assessments of the integration of renewable resources in the Commission’s Long-Term Procurement Plan (LTPP) proceeding “have been inconclusive,”¹⁴ implying that modeling assessments are complete in the LTPP proceeding. However, the LTPP proceeding is not concluded, and a determination on the need for integration of renewables has not yet been made.

Rather, the California Independent System Operator (“CAISO”) is continuing to work on renewable resource integration modeling, with the support and input of a large group of stakeholders, including the IOUs, within the context of the LTPP proceeding. There is currently a settlement on the table, supported by the IOUs, which states that:

¹¹ A.11-07-008, amended, at 1-4, emphasis added.

¹² A.11-07-008, amended, at 1-13.

¹³ PHC, RT at 30, statement by PG&E Counsel.

¹⁴ A.11-07-008, amended, at 2-5.

[T]he Settling Parties recommend that the Commission, in conjunction with the CAISO's ongoing work on this subject, should further expeditiously examine the system resource need and the integration of intermittent renewable resources into the CAISO grid, either in the next LTPP cycle or in an extension of the current LTPP cycle. There is general agreement that further analysis is needed before any renewable integration resource need determination is made.¹⁵

As part of the settlement proposal, the CAISO, IOUs, DRA and other parties are actively participating on a technical Advisory Team that is working toward consensus on the scope, schedule, and approach for renewable resource integration modeling.

Additionally, one of the priority tasks for the Advisory Team includes stochastic simulations to evaluate probability and risk over range of conditions.¹⁶ This is similar to the IOU-proposed planning tool of "[s]tochastic short-term unit commitment considering renewable resources, load forecast, and market uncertainties."¹⁷ The IOUs make no mention of the ongoing efforts in the LTPP proceeding in which they are participating, or how the proposed research with LLNL would differ than the work of the Advisory Team. Nor do the IOUs explain why it is necessary to bypass the collaborative stakeholder process currently underway through a Commission proceeding in order to perform similar research with LLNL, and no stakeholder or Commission input.

To the extent the Commission finds a need to have a parallel effort to develop a renewable integration model, the Commission and its staff, not the utilities, should drive and manage such an effort, including hiring and managing the consultants who would be

¹⁵ "Motion for Expedited Suspension of Track 1 Schedule, and for Approval of Settlement Agreement Between and Among Pacific Gas and Electric Company, Southern California Edison Company, San Diego Gas & Electric Company, The Division of Ratepayer Advocates, The Utility Reform Network, Green Power Institute, California Large Energy Consumers Association, The California Independent System Operator, The California Wind Energy Association, The California Cogeneration Council, The Sierra Club, Communities for a Better Environment, Pacific Environment, Cogeneration Association of California, Energy Producers and Users Coalition, Calpine Corporation, Jack Ellis, Genon California North LLC, The Center for Energy Efficiency and Renewable Technologies, The Natural Resource Defense Council, NRG Energy, Inc., The Vote Solar Initiative, and The Western Power Trading Forum", R.10-05-006, at 4.

¹⁶ Notes from Advisory Team Conference Call, email correspondence, October 25, 2011.

¹⁷ A.11-07-008, amended, at 2-6.

engaged in developing and running the model. Ultimately, the Commission is the final arbiter in the LTPP proceeding on the structure of the renewable integration model, and the scenarios and assumptions for the model.

Also, in the proposed Electric Resource Planning research area, the IOUs propose a need for methodologies to forecast the effects of dynamic pricing, demand response, and bidding disaggregated load into CAISO's markets, claiming "limited tools and methodologies for modeling market behavior and customer response to market dynamics."¹⁸ However, the IOUs have all received funding for research related to dynamic pricing and demand response in numerous decisions at the Commission. A few examples regarding PG&E include:

- Decision ("D.") 09-08-027 granted \$9.062 million for measurement and evaluation of PG&E's demand response programs and dynamic pricing tariffs;¹⁹
- D.10-02-032 granted \$1.321 million to estimate annual load impacts for default peak day pricing rates, to update enrollment forecasting models, and to complete other studies;²⁰ and
- D.08-02-009 granted \$2.955 million for measurement and evaluation, including a load impact study to assess demand response and critical peak pricing impact.²¹

None of these proceedings were included in PG&E's short list of R&D funding in the application.

Additionally, the Brattle Group has performed extensive research into dynamic pricing. A recent article by the Brattle Group assesses residential dynamic pricing, using empirical data on customer response drawn from 109 tests carried out internationally over

¹⁸ A.11-07-008, amended, at 2-6.

¹⁹ D.09-08-027, "Decision Adopting Demand Response Activities and Budgets for 2009-2011", at 193-197 and 200-201.

²⁰ D.10-02-032, "Decision for Peak Day Pricing for Pacific Gas and Electric Company", at 123 and 132.

²¹ D.08-02-009, "Opinion Granting Application as Modified and Approving Settlement Agreement between and Among Pacific Gas and Electric Company, The Division of Ratepayer Advocates and The Utility Reform Network", Exhibit 1, at 4 and 7.

the past decade.²² A Brattle Group presentation from a conference last June summarizes more than 80 studies done on dynamic pricing and customer response to date.²³ There is no mention in the application of any of these studies on dynamic pricing.

2. Cyber Security

In the proposed Cyber Security research area, the IOUs state that the main objective “will be on understanding the Smart Grid communication network, the threats to the network, and the prevention, response, and/or reaction to those threats”²⁴ with an overall objective of building a more resilient, reliable grid and to protect customer information privacy.²⁵ However, they fail to acknowledge that there is ongoing work on cyber security at the national level, and the IOUs have already requested and received funding for cyber security. Some of the cyber security research by entities other than the IOUs includes, but is certainly not limited to:

- In February 2011, the Department of Energy announced collaborative grid cyber security initiative with the National Institute of Standards and Technology (“NIST”) and the North American Electric Reliability Corporation (“NERC”). The effort will collaborate with public and private sector representatives.
- NIST released its “Guidelines for Smart Grid Cyber Security” in September 2010.
- NERC’s Critical Infrastructure Protection program coordinates efforts to improve physical and cyber security for the bulk power system of North America as it relates to reliability. Efforts include standards development, compliance enforcement, assessments of risk and preparedness, disseminating critical information via alerts to the industry, and raising awareness of key issues.

²² “Dynamic Pricing and its Discontents: Empirical Data Shows Dynamic Pricing of Electricity Would Benefit Consumers, Including the Poor,” Fall 2011. See <http://www.cato.org/pubs/regulation/regv34n3/regv34n3-5.pdf>, accessed October 28, 2011.

²³ “Michigan Speaks – Consumer Energy’s Dynamic Pricing Experiment,” CRRI Western Conference, June 16, 2011.

²⁴ A.11-07-008, amended, at 2-22.

²⁵ A.11-07-008, amended, at 2-21.

- The American Reinvestment and Recovery Act of 2009 allocated \$4.5 billion for Smart Grid investment and demonstration grants. Cyber security solutions were a main required component of all grant applications.
- The National Cyber Defense Initiative, an ad hoc group of cyber security professionals, has been working behind the scenes to help inform the US research agenda for strategic cyber defense since 2006.
- The Pacific Northwest National Laboratory has extensive ongoing research efforts on multiple cyber security topics.

Additionally, all three IOUs have already developed cyber security strategies pursuant to Legislation. Senate Bill 17 required the IOUs to submit Smart Grid Deployment Plans in July 2011.²⁶ A plan for addressing cyber security is a required element of the Deployment Plans—all three IOUs include strategies for addressing risk assessments and mitigations in their Deployment Plans, similar to what is described in the application.

SDG&E states in its Deployment Plan that the core tenets of its security strategy are: “adhere to security principles, broaden awareness, converge security governance and distribute security controls.”²⁷ SDG&E spent \$1.789 million on cyber security between 2006 and 2010, and anticipates requesting an estimated \$181.344 million on cyber security through 2020.²⁸

SCE states in its Deployment Plan that the “foundation element of SCE’s approach to cyber security is a multi-layered, defense-in-depth strategy that provides integrated system-wide and asset-specific protection through multiple layers of technology procedures and controls.”²⁹ Noting that it has leveraged numerous available security standards, SCE claims it already “leads and supports efforts to accelerate the

²⁶ Codified at Public Utilities Code § 8380.

²⁷ “Smart Grid Deployment Plan Application of San Diego Gas & Electric Company (U 902 E),” A.11-06-006, Attachment A at 143 and 278.

²⁸ “Smart Grid Deployment Plan Application of San Diego Gas & Electric Company (U 902 E),” A.11-06-006, Attachment A at 279.

²⁹ “Application of Southern California Edison Company (U-338-E) for Approval of its Smart Grid Deployment Plan”, A.11-07-001, at 143.

development of Smart Grid interoperability standards.”³⁰ SCE is currently requesting \$28 million related to cyber security in its pending general rate case.³¹

PG&E acknowledges in its Deployment Plan that “[m]any of the security and privacy challenges are being addressed through utility, vendors, and government participation in collaborative associations and research forums.”³²

PG&E anticipates spending \$19-\$54 million in next five years, and \$74-\$157 million through the next 20 years on cyber security.³³

None of these research efforts, approved funding, or funding requests were mentioned in the application. The IOUs do not explain why additional funding is necessary, or how the proposed research would differ from that of numerous organizations around the country.

D. Changes are Necessary if the Application is Not Dismissed

While asking for \$150 million of ratepayer money in order to fund unspecified research that may or may not be beneficial, the IOUs provide no project plans, specified processes or standards that the Board of Directors would meet, safeguards against duplicative research, or guaranteed benefits. DRA recommends that this application be dismissed. If, for some reason, the Commission decides to move forward with this application, protections for ratepayers should be included. While not an exhaustive list of changes,³⁴ the Commission should impose at least the following changes.

First, ratepayers should be represented on the Board of Directors. As previously described, the only certain members of the proposed Board of Directors would be utility

³⁰ “Application of Southern California Edison Company (U-338-E) for Approval of its Smart Grid Deployment Plan”, A.11-07-001, at 152.

³¹ “Application of Southern California Edison Company (U-338-E) for Approval of its Smart Grid Deployment Plan”, A.11-07-001, at 128.

³² “Smart Grid Deployment Plan Application of San Diego Gas & Electric Company (U 902 E)”, A.11-06-029, Attachment A at 220.

³³ “Smart Grid Deployment Plan Application of San Diego Gas & Electric Company (U 902 E)”, A.11-06-029, Attachment A at 166.

³⁴ See also Pub. Utils. Code § 740.1.

representatives. While the IOUs state that consideration will be made about other members, they fail to consider ratepayer representatives. If ratepayer funding is granted without any showing of reasonableness, ratepayers should have a voice in the determination of beneficial research and reasonable costs.

Second, administrative costs should be constrained. The IOUs state that the total costs for the proposed research “will include a maximum of \$150 million in funding for both internal utility administrative costs and CRADA [cooperative Research and Development Agreement] costs,” with a maximum of \$52 million “potentially allocated to the LLNL High Performance Computing Innovation Center.”³⁵ As no further description of costs is provided, DRA is unclear why up to 65% of the funding would be devoted to administrative and CRADA costs. Administrative costs should be capped at a reasonable level.

Third, shareholders should fund at least a portion of the research. The IOUs provided no explanation of why the proposed undefined research should be funded by ratepayers, or how such undefined research will provide benefits to ratepayers. Though the IOUs state that they intend research results to be made available “as appropriate and consistent with ensuring that benefits accrue primarily for the benefit of utility customers funding the research,”³⁶ they do not explain how benefits will be measured or shared with ratepayers. Nor do the IOUs provide any explanation or plan for determining or constraining expenditures. At minimum, shareholders should provide 10% of the funding, which could provide the IOUs with incentive to carefully select research projects and stay within budget.

³⁵ A.11-07-008, amended, at 1-15.

³⁶ A.11-07-008, amended, at 1-13.

III. CONCLUSION

The IOUs' application is insufficient and does not actually define any research projects. It instead offers illustrative cases that might possibly be pursued. Despite guarantees to the contrary, the applicants fail to demonstrate that the proposed research is not duplicative of other ongoing research. The applicants fail to define deliverables, timing, milestones, decision-making authority and structures to ensure quality control and accountability, or any detailed information on costs. And the applicants failed to provide any of the supplemental information requested by the ALJ and assigned Commissioner.

The application should be dismissed or summarily denied.

Respectfully submitted,

/s/ ROBERT HAGA

Robert Haga
Staff Counsel

Attorney for the Division of Ratepayer
Advocates

California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102
Phone: (415) 703-2538
Fax: (415) 703-2262
E-mail: rwh@cpuc.ca.gov

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