PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

ENERGY DIVISION **RESOLUTION E-4227A**
February 20, 2009

R E S O L U T I O N

Resolution E-4227A. The Commission approves in part and denies in part Southern California Edison's request to establish a memorandum account and recover up to $30 million in costs for a California IGCC study.

By Advice Letter 2274-E Filed on October 10, 2008.

SUMMARY

The Commission directs Southern California Edison Company (SCE) to fund Phase I of a feasibility study to evaluate an Integrated Gasification Combined Cycle plant, approves a memorandum account to record the costs of this study and any costs spent on Phase II, and further determines that SCE must file an application in order to request recovery of these costs.

This resolution approves Advice Letter (AL) 2274-E in part and denies AL 2274-E in part. The Commission approves SCE's request to establish a memorandum account to record costs for the Hydrogen Energy California (HECA) study. The Commission authorizes SCE to modify its tariff schedules at Preliminary Statement, Part N, Memorandum Accounts to include the HECA Memorandum Account (HECAMA). This resolution authorizes SCE to record, in HECAMA, up to $30 million in costs resulting from its participation in the HECA study with Hydrogen Energy International LLC (HEI).

The Commission denies SCE's request to authorize recovery of certain costs recorded in the HECAMA via this resolution. SCE may seek recovery of the costs stemming from SCE's participation in Phase I and Phase II of the HECA study by filing an application with the Commission requesting authority for recovery of the costs. The application may also seek authorization to spend, record in the HECAMA, and recover costs

spent on Phase II of the HECA study. This order to SCE to fund Phase I of the HECA feasibility study does not prejudge the Commission's review of any subsequent SCE application. A timely application will receive priority review.

While this advice letter was filed by SCE, we encourage the two other investor-owned utilities (IOU), Pacific Gas and Electric Company and San Diego Gas & Electric Company, as well as the publicly-owned utilities to become partners in the HECA Study project and for all utilities to work together on commercializing carbon capture and storage (CCS) technology. We suggest that SCE seek out this involvement from the other IOUs. We do acknowledge general support for emerging technologies on the part of all three IOUs, but do encourage them to work together on this particular HECA project. If the California utilities work together, the costs and risks of this and other CCS projects can be shared broadly so that the benefits can be realized by all Californians. If shown to be technically feasible and commercially reasonable, the HECA facility, and potentially other generation utilizing CCS technology, will be low-carbon, baseload-generation resources that will advance California's move towards reduced greenhouse gas emissions while producing reliable power within the state and with locally derived fuel sources.

BACKGROUND

On October 10, 2008 SCE submitted AL 2274-E, seeking authority to modify its tariff schedules to create HECAMA, to record up to $30 million in costs related to its participation in the HECA study, and to recover those costs subject to Commission reasonableness review in a future ERRA proceeding. On October 24, 2008 HEI submitted a letter in support of the AL.

SCE proposes to participate in the HECA study with HEI. The motivation for the HECA study is to evaluate the feasibility of an Integrated Gasification Combined Cycle (IGCC) plant with CCS via enhanced oil recovery (EOR). SCE states that such technology may be an important means of achieving sustained greenhouse gas (GHG) emissions reductions. As explained in the AL:

> "the HECA study will evaluate the feasibility of an HECA facility that will be designed to produce low-carbon baseload electricity by

> gasifying California's non-conventional fuels (primarily petroleum coke and potentially biomass) to produce hydrogen for electric generation through an IGCC, and to capture the CO_2 for EOR with sequestration in California's oil fields."[1]

The HECA study is an investigation of a CCS technology, which, according to SCE, is a potentially important means of reducing California's GHG emissions and meeting California's environmental objectives. SCE states that a study of this type is consistent with a variety of state policies including Assembly Bill (AB) 32, Senate Bill (SB) 1368, AB 1925, Energy Action Plan II, Executive Order (EO) S-3-05, and EO S-7-04. Further, SCE quotes a letter from Governor Schwarzenegger to the president of this Commission in support of in-state CCS projects.[2]

In December, 2008 the California Air Resources Board adopted the Climate Change Proposed Scoping Plan ("Plan") for meeting the ambitious GHG reduction targets established by the Legislature in AB32. While emphasizing initiatives to achieve the immediate goal of reducing statewide GHG emissions to 1990 levels by 2020, the plan notes the need to pursue strategies such as CCS that will contribute to "much deeper reductions in the long term." [Plan, p. 9] The Plan further observes that more research into CCS technology is needed, adding that "California should both support near-term advancement of the technology and ensure that an adequate framework is in place to provide credit for CCS projects when appropriate." [Plan, p. 117]

Assembly Bill 1925, (AB1925) passed unanimously by the California Legislature in 2006, directed the California Energy Commission (CEC) to prepare a report "containing recommendations for how the state can develop parameters to accelerate the adoption of cost-effective geologic sequestration strategies for the long-term management of industrial carbon dioxide." (Stats.2006, Ch.471, effective September 26, 2006) The CEC's February 2008 report notes the value of near-term CCS demonstration projects "to provide key data to set CCS policy" and to "provide early insight into public and property owner concerns about risks." [CEC report at 139] The report also identifies several strengths and benefits of the HECA project. It notes that the project "has the advantage of integrating

[1] AL 2274-E, pg 2
[2] AL 2274-E, pgs 5-6

expertise among its partners" [p. 37] and states that the project would be "an important demonstration" of applying pre-combustion CO2 capture technology to power generation. [Report, p.33] It further notes that by including geologic sequestration in the form of enhanced oil recovery, the HECA project would capture one of "several 'targets of opportunity' within California."

Geologic Carbon Sequestration Strategies for California: A Report to the Legislature, California Energy Commission and California Department of Conservation.
http://www.energy.ca.gov/2007publications/CEC-500-2007-100/CEC-500-2007-100-CMF.PDF

SCE also contends that federal support will be "weighted towards early projects," citing provisions of several cap-and-trade bills that have recently been introduced in Congress. Each has included significant levels of financial support for early CCS projects, ranging from tens to hundreds of billions of dollars. [Att. B, p. 25] For example, the Warner-Lieberman Bill (S2191, Sec. 3601-3605) provides for 4% of all CO2 allowances to be allocated as a bonus to CCS projects that achieve a minimum 85% capture rate and sequester the CO2 in a geologic formation. The allocation formula favors the plants that are first to meet these criteria.

The HECA facility would be a 250 megawatt (MW) baseload power plant[3] interconnected with the California Independent System Operator (CAISO) transmission system. HEI has filed an Application for Certification (AFC) with the California Energy Commission (CEC) "for preliminary siting and analysis of the plant to assess its permittability."[4] The HECA facility would gasify petroleum coke [5](possibly blended with coal, biomass, or other solid fuels) to produce a hydrogen-enriched synthesis gas (syngas) for power generation. A portion of the hydrogen rich gas could be used for other purposes such as transportation fuel. SCE claims that approximately 90% of the CO_2 in the fuel source is captured and transported via pipeline and injected into deep underground oil reservoirs for EOR and sequestration at the Elk Hills Oil Field Unit in Kern County,

[3] Al 2274-E, pg 6
[4] AL 2274-E, pg 10
[5] Petroleum coke, often abbreviated as "pet-coke," is a byproduct of petroleum refining.

CA. AL 2274-E claims that the gasification process used in HECA would result in near zero sulfur emissions.[6]

HEI is equally owned by two major energy companies, BP and Rio Tinto.[7] Another major energy company, Occidental Petroleum (Oxy), will also participate as a CO_2 purchaser, using the CO_2 for EOR. HEI and Oxy jointly have substantial technical expertise relevant to carbon sequestration and EOR. The AL states that the partnership of SCE, HEI, and Oxy is a collaboration that may be a uniquely effective means of bringing IGCC with CCS to the energy marketplace.[8]

SCE requested authorization to fund the HECA Study to show its support, and the Commission's, so HEI could use the SCE funds as leverage in its request for Federal funds. As SCE stated in its advice letter filing, if HEI can demonstrate private co-funding for the study, HEI may be positioned to obtain a significant amount of funding from other public and private sources. In particular, HEI applied for an award from the U.S. Department of Energy (DOE) that noticed the availability of grant funds up to $308 million for IGCC projects with CO2 capture for beneficial use and storage. HEI stated in its comments that DOE will consider co-funding and market support as a critical factor in awarding the grants. SCE and HEI hope that Commission support of SCE's co-funding of the HECA Study will increase HEI's ability to attract DOE funds and possibly other funding.

HEI states that it has already invested millions of dollars and thousands of man-hours in the study to date. Therefore, the amount HEI is seeking in co-funding from SCE is well below 50% of the total cost of Phase I and II of the HECA Study. HEI will provide a detailed budget for the Study so that when SCE files its application for cost recovery SCE can demonstrate that its portion of the co-funding was less than 50% of the total Study cost.

Since comments were filed with the Commission Congress has enacted and President Obama has signed American Recovery and Reinvestment Act . This legislation, which is effective immediately, increases the funding available for demonstration of carbon capture and storage technology for power generation from $ 440 million to $ 1.2 billion. In addition, it

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[6] AL 2274-E, Attachment C, pgs 1-2
[7] http://www.hydrogenenergy.com/32.html
[8] AL 2274-E, pg 9

extends eligibility to projects using petroleum coke as their primary fuel source. The deadline for submitting applications for funding has been pushed back to April 15, 2009. HEI states that it expects a decision on its application by this fall. Given the later filing deadline, timely action by this commission on SCE's advice letter will enable HEI to amend the application it has already submitted to demonstrate the Commission's interest in the project while SCE's application for ratepayer recovery is pending before us.

The HECA study would be divided into two phases. Phase I will produce approximately 28 reports and documents on a variety of subjects: technology appraisal; feedstock and water; process and system configuration; EOR and carbon sequestration; environmental safety and health; operations, maintainability, and constructability; water treatment; acid gas removal; CAISO interconnection; value engineering; and process design package.[9] Prior to beginning Phase II:

> "SCE and HEI intend to negotiate and execute agreements related to the development of HECA including, but not limited to, the purchase of hydrogen through a fuel supply agreement (FSA), the purchase of electricity through a PPA, and/or a development agreement for HECA. If SCE and HEI determine to enter into agreement on the terms of either an FSA or PPA, including whether to apply for a Certificate of Public Convenience and Necessity (CPCN), a) SCE will require additional co-applicants, and b) HEI will require reasonable commercial certainty regarding HECA implementation contracts and commercial structures."[10]

SCE and HEI are not obligated to commence Phase II, and may choose not to do so, based on the results of Phase I and the availability of adequate funding assurance. Phase II will consist of Front End Engineering Design reports.[11] SCE's Phase I payments would total $17 million and SCE's Phase II payments would be $13 million less SCE's incremental costs of applying for Commission approval of a CPCN, FSA, or PPA.[12]
SCE should keep detailed records of all expenditures recorded in the HECAMA so that the Commission may easily determine the extent of

[9] AL 2274-E, Attachment C, pgs 10 & 13
[10] AL 2274-E, pg 10
[11] AL 2274-E, pg 10
[12] AL 2274-E, pg 11

project development costs if SCE should become the owner of the IGCC facility.

SCE claims that it "is pursuing a course of action consistent with Decision (D.)08-04-038."[13] That decision approved a similar feasibility study for a Clean Hydrogen Power Generation (CHPG) plant. Relevant findings of that decision include:

- CCS and EOR will reduce GHG emissions;
- carbon sequestration is an immature technology;
- a study of gasification and sequestration may advance these technologies;
- the process of approving studies on new technologies to reduce GHG emissions needs more coordination;
- due to the unique nature of IGCC and CCS technologies, the CHPG study must consider specific technology, location, and fuel source;
- in the case of the CHPG study, property and commodity options, Front End Engineering Design study and permitting assessment are not project development costs;
- these same costs may have benefits beyond California;
- SCE affiliates are unlikely to gain competitive advantage if study results are public; and
- Affiliate Transaction Rules provide sufficient restrictions on information sharing and employee transfer.[14]

Further, the Commission concluded that the requirements in D.07-01-039[15] for carbon sequestration do not apply to the CHPG feasibility study because the application did not request authorization to construct a plant and that "SCE should seek opportunities to leverage the research authorized."[16] The Commission authorized SCE to create certain memorandum and balancing accounts, authorized recovery of some of the funding requested, and directed SCE to "publicly disclose all detailed study information and results" or to identify specific information to be

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[13] AL 2274-E, pg 3
[14] D.08-04-038, pgs 31-33
[15] Decision (D.)07-01-039 implements SB 1368 and sets requirements for load serving entities (LSEs) requesting the compliance approach applied to research units under the Emissions Performance Standard for a new power plant with CCS. Such LSEs must demonstrate a reasonable and feasible plan for sequestration.
[16] D.08-04-038, pgs 33-34

kept confidential and to apply to reopen A.07-05-020, the proceeding that developed D.08-04-038.[17]

SCE referenced D. 08-04-038 both as support for its advice letter filing and as a blueprint for SCE 's participation in the HECA Study. SCE is seeking ways to leverage the funding to expand the research possibilities and authorization to create a memorandum account. In addition, SCE agrees to treat project development costs and the sharing of the study results consistent with the order in D. 08-04-038. SCE agrees to make study results publicly available as appropriate.

NOTICE

In accordance with Section III, Paragraph G, of General Order (GO) No. 96-A, SCE served copies of this advice letter filing to the interested parties on the GO 96-B and A.07-05-020 service lists.

PROTESTS

Advice Letter (AL) 2274-E was protested by The Utilities Reform Network (TURN), Division of Ratepayer Advocates (DRA), Independent Energy Producers Association (IEP), and Western Power Trading Forum (WPTF) on October 20, 2008. Protests generally included both procedural and substantive concerns.

Protestants assert that the issues raised in AL 2274-E are inappropriate for an advice letter.

TURN, WPTF and DRA all state that AL 2274-E does not fall within the appropriate scope of an AL as stated in General Order (GO) 96-B. Each of these protests refers to Section 5.1 of GO 96-B, which states:

> "The advice letter process provides a quick and simplified review of the types of utility requests that are expected neither to be controversial nor to raise important policy questions. The advice letter process does not provide for an evidentiary hearing; a matter

[17] D.08-04-038, pgs 35-36

> that requires an evidentiary hearing may be considered only in a formal proceeding."[18]

Protestants state that AL 2274-E is controversial and raises important policy questions. DRA further argues that:

> "AL 2274-E relies completely on conjecture and hearsay that raise questions and issues the Commission cannot explain, verify or otherwise justify without evidentiary hearing."[19]

TURN, WPTF, and DRA also refer to Section 5.2 of GO 96-B, which states that "a utility must file an application," if:

> "The utility seeks Commission approval of a proposed action that the utility has not been authorized, by statute, by this General Order, or by other Commission order, to seek by advice letter;"[20]

Protestants claim that SCE's request in AL 2274-E is inappropriate for an Advice Letter filing.

Protestants assert the study proposed in AL 2274-E should not be funded by ratepayers.

Protestants note that D.08-04-038 and AL 2274-E are closely related, but describe separate feasibility studies. DRA observes that D.08-04-038 did not authorize AL 2274-E[21] and TURN contends that SCE's assertion that AL 2274-E is consistent with the "leveraging" discussed in D.08-04-038[22] is unreasonable.[23] WPTF quotes relevant language from D.08-04-038[24] and adds that D.08-04-038 "clearly directed SCE to seek other sources of funding <u>for CHPG Plant Feasibility work"</u>[25] (emphasis in original).

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[18] GO 96-B, pg 8
[19] DRA protest, pg 3
[20] GO 96-B, pg 8
[21] DRA protest, pgs 5-6
[22] At pg 34
[23] TURN protest, pg 4
[24] At pg 21
[25] WPTF protest, pg 2

Protestants note that AL 2274-E does not describe direct benefits to SCE ratepayers from the HECA study.[26]

TURN notes that the AL does not include a detailed budget on which the Commission can determine the reasonableness of a $30 million contribution from SCE ratepayers.[27]

TURN argues that the HECA study includes project development costs that D.06-05-016 states should not be recovered in rates.

TURN argues that the HECA study includes project development costs and that SCE's request to recover costs from its participation in the HECA study would require changes to previous Commission decisions. TURN, noting that D.08-04-038 determined that the CHPG study is not "project development" and confirmed that D.06-05-016 forbids rate recovery of project development costs, states:

> "TURN submits that the role of HEI in pursuing this plant at this particular site, and the fact that HEI has filed an Application for Certification with the California Energy Commission of this project, warrant the opposite conclusion – this clearly is "project development" within the ambit of D.06-05-016, such that SCE should be prohibited from recovering in rates any associated costs."[28]

IEP and WPTF argue that AL 2274-E conflicts with the Commission's long-term procurement policies.

IEP and WPTF argue that the Commission's long-term procurement policies require a competitive solicitation, which is not described in AL 2274-E. These parties note that the contract structure that would be used if SCE and HEI decide to go forward with Phase II is not defined in the AL, but utility-owned generation is indicated as a possibility.[29] In particular, IEP suggests that D.07-12-052[30] prohibits SCE from taking an equity stake in a HECA plant without either a competitive solicitation or a

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[26] TURN protest, pg 6
[27] TURN protest, pg 3
[28] TURN protest, pg 5
[29] See WPTF protest, pg 3, referencing AL 2274-E, pg 10.
[30] D.07-12-052 was issued by the 2006 long-term procurement plan rulemaking, R.06-02-013. D.07-12-052 adopts, with modifications, the procurement plans of the three IOUs.

demonstration of "truly extraordinary circumstances."[31] WPTF suggests more generally, that SCE, "has secured a preferential right (or obligation) to own or purchase the output of the project without any demonstration that such agreement is consistent with" Commission long-term procurement policies.[32] Moreover, WPTF believes that the Commission set a precedent in D.08-04-038, which required a competitive solicitation for a "similar utility feasibility study."[33]

DRA requests hearings.

DRA highlights several instances of similar text and ideas in this AL and in A.07-05-020 and concludes that much of the feasibility study proposed in the AL may be unnecessarily duplicative of the CHPG study.[34] DRA also notes that Edison Mission Group, an SCE affiliate, has previously announced a joint effort with BP for a project very similar to HECA.[35] DRA suggests that discovery is necessary to evaluate the possibility of affiliate transactions.[36] Finally, DRA suggests that hearings are appropriate to evaluate evidence presented in the attachments to AL 2274-E.[37]

SUSPENSION

Advice Letter (AL) 2274-E was suspended on November 10, 2008 on the grounds that the AL required staff review.
Alternate Draft Resolution

In response to SCE's advice letter and the protests received, Energy Division (ED) prepared a Draft Resolution and President Peevey issued an Alternate Draft Resolution. In summary, the Alternative Draft Resolution authorized SCE to fund the Phase I HECA Study, create a memorandum account to record costs, and granted recovery for the Phase I costs up to $17 million. In response to comments and reply comments, the Alternate

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[31] IEP protest, pg 2. D.07-12-052 describes the appropriate role of utility owned generation in Section 4.1.
[32] WPTF protest, pg 3
[33] WPTF protest, pg 3, referencing D.08-04-038 at pg 24.
[34] DRA protest, pgs 6-8
[35] DRA protest, Attachment 1
[36] DRA protest, pg 8
[37] DRA protest, pg 6

Draft Resolution has been changed to delete the authorization for recovery of the Phase I costs via the advice letter process. SCE is now directed to fund the Phase I HECA Study, record the costs, and those from Phase II, if it is appropriate to undertake that part of the study, but recovery of the costs must be through an application filed by SCE.

DISCUSSION

The request to establish a memorandum account to record costs for the HECA project is reasonable and should be approved.

SCE has shown that it is necessary to provide a signal that there is sufficient interest in the project for HEI to proceed, therefore, SCE's participation in Phase I of the study is warranted. This resolution directs SCE to fund Phase I of the HECA study and authorizes SCE to record, in HECAMA, up to $30 million in costs resulting from its participation in the HECA study with HEI.

Authorization to establish a memorandum account and to track expenses in a memorandum account does not automatically approve the recovery of those expenses. Approval of the proposed HECAMA and associated tariff sheets will allow SCE to record its HECA costs for possible future recovery, without prejudging Commission disposition of any subsequent application related to AL 2274-E. The tariff sheets included in Attachment A are approved and SCE is authorized to create the HECAMA.

The request to recover up to $30 million for participation in the HECA feasibility study is denied without prejudice.

Protestants state that the request made in AL 2274-E is controversial and raises important policy issues, and therefore requires a formal proceeding as described in GO 96-B. AL 2274-E cites "urgent mitigating circumstances" that, SCE argues, warrant this request using the AL format. Further, SCE did not expect its request to be controversial since, as the AL contends, the request is "consistent with Commission and State policy on GHG reduction" and is thus consistent with GO 96-B.[38] In reply to protests that argued that the request was controversial, SCE claims that while "protestors seek to create controversy here," there is no significant

[38] AL 2274-E, pg 14

controversy because of the consistency of this request with existing policies.[39]

While we agree that this request is generally consistent with existing policy and we recognize the value of encouraging HEI to rapidly commence the HECA study, an advice letter request is not the appropriate procedural process to commit ratepayer funds. Since certain components of SCE's request may still be controversial, we find that SCE should seek cost recovery through the application process to allow all stakeholders the opportunity for a full vetting of the issues.

Project Development Costs, D. 06-05-016

As TURN discusses in its protest, D.06-05-016, SCE's most recent general rate case decision, discusses project development costs. In that application, SCE requested a ratepayer funded Project Development Division (PDD). This PDD would: identify sites with the potential for new utility-owned generation projects; conduct financial and commercial evaluation of development options; oversee preliminary project engineering, permitting and negotiations; manage regulatory approval processes; develop plans to advance projects from development to construction and operation; and provide ongoing support for development-related issues during construction and operation.[40] D.06-05-016 excluded the PDD from rates and allowed SCE to track "supportive" project development costs which are not associated with specific projects in a memorandum account. Further, the Commission stated, "we feel it is important that the project development costs for proposed new projects should not be specifically included in rates."[41]

We do not find that Phase I of SCE's request constitutes project development and therefore the costs associated with Phase I are not in conflict with the provisions of D.06-05-016. As SCE states in its filing: "Phase I will produce approximately 28 reports and documents on a variety of subjects: technology appraisal; feedstock and water; process and system configuration; EOR and carbon sequestration; environmental safety and health; operations, maintainability, and constructability; water

[39] SCE reply to protests, pg 3
[40] D.06-05-016, pgs 45-46
[41] D.06-05-016, pgs 52-53 and pg 376

treatment; acid gas removal; CAISO interconnection; value engineering; and process design package.[42] We do not consider the scope of Phase I to constitute project development. However, consistent with D. 06-05-016, no project development costs may be recorded as part of Phase I, and any project development costs that are nevertheless recorded as Phase I costs will not be allowed.

Confidential Treatment of Study Results, D. 08-04-038

In addition, D. 08-04-038 addressed a similar feasibility study for a Clean Hydrogen Power Generation Plant and set forth guiding principles for the treatment of confidential treatment of information obtained in those studies. Consistent with the findings in D. 08-04-038, all information developed in Phase I and the detailed results of the study should be made publicly available to the greatest extent possible (with the limited exception of the intellectual property of the persons or entities hired to perform the studies). Such public disclosure is both desirable and necessary in order to advance development of this technology.

Competitive Solicitations, D. 07-12-052

By directing SCE to fund Phase I of the HECA feasibility Study we are not authorizing SCE to own, operate, or construct a generation facility. SCE has demonstrated that it is partnering with HEI to study the feasibility of a particular generation technology not to construct, own or contract with such a facility. Therefore, Phase I of the HECA study neither modifies nor violates D.08-04-038, or D.07-12-052. If SCE wishes to pursue the IGCC as utility-owned generation, SCE must comply with all Commission rules and regulations, including competitive solicitations as applicable.

We are persuaded that SCE's participation and funding of Phase I of the HECA Study is warranted for the following reasons:

- The request is consistent with stated Commission and State policies recognizing the necessity to explore all feasible means of meeting long-term GHG reduction goals;

[42] AL 2274-E, Attachment C, pgs 10 & 13

- These aforementioned policies and the substantial scientific evidence in support of those policies suggest that prompt and decisive action on GHG emissions, such as this feasibility study, is justified;
- The feasibility study is supported by Governor Schwarzenegger;
- The feasibility study will facilitate and support HEI's request for private and government funding;
- A prompt signal of support from the Commission may be needed for the private capital to support the feasibility study; and

Evidentiary Hearings
In its protest, DRA contends that evidentiary hearings are appropriate to evaluate the recovery of costs for the HECA study. SCE responds that the issues raised in protests have been vetted in other proceedings. As we are requiring SCE to file an application in order to recover the HECA study costs from ratepayers, if there are disputed issues of material fact relevant to SCE's request, it will be possible to conduct an evidentiary hearing, if determined necessary.
The Commission denies, without prejudice, authorization for all relief not explicitly granted herein. To obtain authorization for further relief requested in AL 2274-E, SCE may file an application.

Any application for further relief for the HECA study shall meet certain conditions.

D.08-04-038, referring to applications for feasibility studies of technologies to reduce GHG emissions, states that, "we expect the utilities to include in future applications an explanation of how their proposal fits into their overall procurement strategy and publicize their research to the greatest extent possible in order to reduce duplication of effort."[43] The HECA study is similar to the CHPG study, and application to recover the costs of the HECA study should include the aforementioned explanations.

To recover costs for the HECA study, conclusions drawn in D.06-05-016 and D.07-12-052 could be implicated and may potentially need to be modified. Under P.U. Code Section 1708, parties on the service lists for the proceedings that developed those decisions are entitled to notification before these decisions can be modified. If SCE files an application to recover costs associated with the HECA study, the application must be

[43] D.08-04-038, pgs 12 and 35

served on the parties to those decisions, in addition to the parties to AL 2274-E.

Protests suggest that this request should include a detailed budget that the Commission and parties can use to evaluate the reasonableness of SCE's proposed funding contribution from ratepayers. If SCE files an application for further relief, the application shall include a detailed budget for the HECA study.

COMMENTS

This draft alternate resolution was mailed to the parties for comment. Comments were received from DRA, TURN/WPTF, IEP and HEI. Reply comments were received from SCE, HEI and TURN/WPTF. Following a thorough review and analysis of the comments, the alternative resolution was modified. The alternative resolution signals the Commission's support for the HECA project by directing SCE to fund Phase I of the HECA feasibility study, to record the study costs in the HECAMA, and to seek recovery of all costs through the application process. No recovery of funds is authorized in this resolution.

FINDINGS

1. SCE filed AL 2274-E on October 10, 2008 to establish the Hydrogen Energy California Memorandum Account (HECAMA) and to request authorization to recover up to $30 million in costs stemming from SCE's participation in the HECA feasibility study.
2. SCE states that a study of this type is consistent with a variety of state policies including Assembly Bill (AB) 32, Senate Bill (SB) 1368, AB 1925, Energy Action Plan II, Executive Order (EO) S-3-05, and EO S-7-04. Further, SCE quotes a letter from Governor Schwarzenegger to the president of this Commission in support of in-state CCS projects.
3. Phase I of the HECA Study does not include project development costs as discussed in D.06-05-016.
4. Directing SCE to fund Phase I of the HECA study does not require modification to either D.06-05-016 or D.07-12-052.
5. Authorization to recover the costs of the HECA study is controversial and raises important policy questions.

6. SCE reasonably expected AL 2274-E to neither be controversial nor raise important policy questions because the request is consistent with several State and Commission policies.
7. Authorization to create the HECAMA is not controversial and does not conflict with prior Commission decisions or raise important policy questions.
8. Authorization to create the HECAMA as described in the tariff pages attached to AL 2274-E is reasonable and should be approved.
9. AL 2274-E seeks approval of an action not previously authorized by statute or prior Commission order.
10. In any future application for approval of costs related to the HECA study, SCE should include an explanation of how its proposal fits into its overall procurement strategy, as directed by D.08-04-038. Further, SCE should include, in such an application, a plan to publicize detailed study results to the greatest extent possible.
11. In any future application for approval of costs related to the HECA study, SCE should provide notice to all parties to D.06-05-016 and D.07-12-052 any other relevant decisions or proceedings.
12. In any future application for approval of costs related to the HECA study, SCE should include a detailed budget for the HECA study.

THEREFORE IT IS ORDERED THAT:

1. Southern California Edison Company (SCE) is authorized to modify its tariffs, Preliminary Statement, Part N, Memorandum Accounts to include the Hydrogen Energy California Memorandum Account (HECAMA). Up to $30 million in costs resulting from SCE's participation in the Hydrogen Energy California (HECA) study may be recorded in the HECAMA.
2. SCE is directed to fund up to $17 million for Phase I of the HECA Study and to record those expenditures in the HECAMA.
3. Revised tariff sheets 44296-E, 44297-E, and 44298-E, as included in Attachment A to AL 2274-E, are approved.
4. To obtain authority to recover from ratepayers costs recorded or to be recorded in the HECAMA associated with the HECA study, SCE shall file an application. Such an application shall meet the requirements described in Findings Nos. 10 through 12 above.

5. To the extent not approved by this resolution, SCE's AL 2274-E is denied, without prejudice. SCE may obtain authority for the remaining relief via an application.

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 February 20, 2009; the following Commissioners voting favorably thereon:

/s/ Paul Clanon
Paul Clanon
Executive Director

MICHAEL R. PEEVEY
PRESIDENT
JOHN A. BOHN
Commissioner

I reserve the right to file a concurrence.

/s/ DIAN M. GRUENEICH

I reserve the right to file a concurrence.

/s/ RACHELLE B. CHONG

I reserve the right to file a concurrence.

/s/ TIMOTHY ALAN SIMON

Resolution E-4227-A

COMMISSIONER DIAN M. GRUENEICH, CONCURRING:

I have voted for the Alternate Resolution today because Southern California Edison (SCE) is required to use its own money to fund Phase I of the proposed Hydrogen Energy California (HECA) project, pending an impartial determination by this Commission that it is appropriate to require ratepayers to pay for this project through their electricity bills.

As my colleagues pointed out in their oral comments today, the technologies that will be tested in this project are very important tools in the development of clean energy sources. However, the question to be resolved by this Commission when SCE files its application for cost recovery is a different one. The question the Commission will face in reviewing the application is not whether these technologies have merit, but whether ratepayers will receive a direct benefit from the HECA project such that it would be just and reasonable to raise consumers' electricity rates to fund SCE's participation in HECA. Three billion-dollar multinational companies are partners in HECA and the Federal

government will make a massive investment in development of Integrated Gasification Combined Cycle (IGCC) and carbon sequestration technologies over the next few years, as will many others outside of California and the United States. As my colleagues also noted in their comments, there is a potential for a huge financial payoff for the companies involved in the project.

Whether further public funding of this particular project by ratepayers, including many individual and businesses struggling to pay their electricity and other bills in SCE's service territory struggling to pay their electricity and other bills is warranted or necessary must be resolved through our regular application process. The Resolution approved today does not make any comment on this limited, but very important, question.

I concur.

Dated February 20, 2009, at San Francisco, California.

/s/ DIAN M. GRUENEICH
Dian M. Grueneich
Commissioner

From: Chan, Jovita
Sent: Wednesday, March 04, 2009 11:44 AM

Subject: RE: Concurrence on Res. E-4227A

No Comr Chong's concurrence as per Comr Chong's Senior Energy Advisor, Andrew Campbell (agc@cpuc.ca.gov or 3-2501).

Jovita A. Chan
Commissioner Rachelle B. Chong's Office
California Public Utilities Commission
San Francisco, CA 94102
Phone: 415-703-2593
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Copy

Resolution E-4227-A

Concurrence of Commissioner Timothy Simon to Item 55a [8217]
February 20, 2009 Commission Meeting Agenda

I support the Alternate Resolution, which approves in part, and denies in part, Southern California Edison's request to establish a memorandum account for the recovery of up to $30 million in costs for a California Integrated Gasification Combined Cycle (IGCC) Study. The Alternate Resolution grants an initial $17 million to fund studies for hydrogen energy production through gasification of coal and petroleum coke, a byproduct of the petroleum refinery process. However, I do have concerns regarding the use of the Advice Letter process for approving such large requests. For the purpose of this concurrence, I discourage and oppose this practice in any future proceedings.

Historically, California has been a global leader in energy policy. It is fitting with this tradition that California should explore Carbon Sequestration and Storage (CSS) and promote hydrogen energy development as another tool in our arsenal for reducing Greenhouse Gas emissions, and increasing resource diversity and reliability. If we are going to meet our aggressive Assembly Bill 32 (AB 32) goals, we must look to cost-effective hydrogen production and carbon capture and sequestration as integral parts of our portfolio of low carbon solutions. Furthermore, hydrogen energy development is promoted by Governor Schwarzenegger[1] and is consistent with the of the long term energy independence goals of the Obama Administration and the U.S. Department of Energy.[2]

As with other emerging energy resources, IGCC technologies require investment for research and development for maturation. However, what sets this particular project apart from other emerging resources is the potentially abundant funding at the federal level for hydrogen energy development, particularly for California.

California should investigate the cost-effectiveness of exploiting hydrogen energy resources through California's petroleum coke byproduct derived from its significant refinery processes. Gasification of petroleum coke converts it into carbon monoxide and hydrogen. This synthesis gas mixture is then reacted with steam to produce carbon dioxide and hydrogen. The carbon dioxide is captured

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[1] Governor Schwarzenegger signed Executive Order S-7-04 on April 20, 2004, which promotes hydrogen energy and transportation initiatives in California.
[2] *See* http://www.hydrogen.energy.gov/.