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and
Alternate Agenda ID #9261
Ratesetting

TO PARTIES OF RECORD IN APPLICATION 09-02-013 AND APPLICATION 09-04-018

Enclosed are the proposed decision of Administrative Law Judge (ALJ) Dorothy Duda previously designated as the presiding officer in this proceeding and the alternate proposed decision of Commissioner Michael R. Peevey. The proposed decision and the alternate proposed decision will not appear on the Commission's agenda sooner than 30 days from the date they are mailed.

Pub. Util. Code § 311(e) requires that the alternate item be accompanied by a digest that clearly explains the substantive revisions to the proposed decision. The digest of the alternate proposed decision is attached.

This matter was categorized as ratesetting and is subject to Pub. Util. Code § 1701.3(c). Upon the request of any Commissioner, a Ratesetting Deliberative Meeting (RDM) may be held. If that occurs, the Commission will prepare and publish an agenda for the RDM 10 days beforehand. When an RDM is held, there is a related ex parte communications prohibition period. (See Rule 8.2(c)(4).)

When the Commission acts on these agenda items, it may adopt all or part of the decision as written, amend or modify them, or set them aside and prepare its own decision. Only when the Commission acts does the decision become binding on the parties.

Parties to the proceeding may file comments on the proposed decision and alternate proposed decision as provided in Pub. Util. Code §§ 311(d) and 311(e) and in Article 14 of the Commission's Rules of Practice and Procedure (Rules), accessible on the Commission's website at www.cpuc.ca.gov. Pursuant to Rule 14.3, opening comments shall not exceed 15 pages.

Comments must be filed either electronically pursuant to Resolution ALJ-188 or with the Commission's Docket Office. Comments should be served on parties to this proceeding in accordance with Rules 1.9 and 1.10. Electronic and hard copies of comments should be sent to ALJ Duda at dot@cpuc.ca.gov and Commissioner Peevey's advisor Andrew Schwartz at as2@cpuc.ca.gov. The current service list for this proceeding is available on the Commission's website at www.cpuc.ca.gov.

/s/ MICHELLE COOKE for
Karen V. Clopton, Chief
Administrative Law Judge

KVC:lil

Attachment

ATTACHMENT

The proposed decision of Administrative Law Judge Duda rejects the applications by Pacific Gas and Electric Company (PG&E) and Southern California Edison Company (SCE) for each utility's Fuel Cell Project to install utility-owned fuel cell generating facilities on several University of California and California State University campuses. The proposed decision concludes the project costs are unreasonable given the 28 to 30.4 cents per kilowatt hour weighted average levelized cost of energy for these non-renewable generating facilities compared to the price paid to renewable generation. The Commission should continue support of fuel cells through the Self-Generation Incentive Program (SGIP) and Combined Heat and Power Feed-In tariffs, rather than these proposed projects.

The alternate decision of President Peevey approves the applications of PG&E and SCE, with modifications. PG&E and SCE must reduce their Fuel Cell Project capital costs to reflect a lower contingency factor. Capital costs for PG&E are reduced to $20.3 million and capital costs for SCE are reduced to $19.1 million. PG&E must reduce its non-fuel operations and maintenance costs to $4.71 million for the first for years of plant operation to remove education and outreach labor costs and its proposed contingency factor. SCE's suggested treatment of Fuel Cell Project stranded costs is rejected and SCE's request to use excess SGIP funds for the Project is denied. Finally, the alternate decision finds that both applications comply with Commission guidance for competitive solicitation of utility-owned generation.

(END OF ATTACHMENT)

Decision **PROPOSED DECISION OF ALJ DUDA** (Mailed 3/2/2010)

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Application of Pacific Gas and Electric Company for Approval and Recovery of Costs Associated with its Fuel Cell Project. (U39E)	Application 09-02-013 (Filed February 20, 2009)
Application of Southern California Edison Company for Authority to Implement and Recover in Rates the Cost of its Proposed Fuel Cell Installation Program for State Universities.	Application 09-04-018 (Filed April 27, 2009)

DECISION REJECTING FUEL CELL PROJECTS

1. Summary

This decision rejects the applications of Pacific Gas and Electric Company and Southern California Edison Company for approval of each utility's Fuel Cell Project to install utility-owned fuel cells on several University of California and California State University college campuses. The decision finds that given the 28 to 30.4 cents per kilowatt-hour weighted average levelized cost of energy of these projects, it is unreasonable to spend three times the price paid to renewable generation for the proposed Fuel Cell Projects, which are non-renewable and fueled by natural gas. In addition, the applications do not satisfactorily address how full ratepayer funding of utility-owned fuel cell generation would enhance private market investment and market transformation of the fuel cell industry. Rather than utility ownership of the proposed fuel cells, the Commission concludes that ratepayer funds should support fuel cells through the

Commission's current Self-Generation Incentive Program and Combined Heat and Power Feed-in tariffs.

2. Background

2.1. Pacific Gas and Electric Company's Application

In its February 20, 2009 application, Pacific Gas and Electric Company (PG&E) seeks approval of its proposed Fuel Cell Project, which consists of the installation and operation of three utility-owned fuel cell generating facilities with a total capacity of 3.0 megawatts (MW) at two California State University (CSU) campuses – CSU East Bay and San Francisco State University (SF State). Two of the facilities would be located at SF State, namely a 1.4 MW molten carbonate fuel cell and a 200 kilowatt (kW) electric-only solid oxide fuel cell. CSU East Bay would host a 1.4 MW molten carbonate fuel cell. The molten carbonate fuel cells would be designed to output waste heat to the universities to serve campus thermal load, such as heating the Olympic-sized swimming pool at CSU East Bay, as well as water for landscape irrigation. The 200 kW electric-only fuel cell would discharge water for landscape irrigation. The fuel cell plants have an estimated useful life of 10 years.

PG&E claims its Fuel Cell Project will advance acceptance of fuel cell technologies in California, provide electricity to the grid, and provide fuel cell by-products to the host campuses, namely waste heat to serve campus thermal load and discharged water for landscape irrigation. After selecting sites for the fuel cells, PG&E issued a Request for Proposals (RFP) to select an engineering, procurement and construction contractor for each site. PG&E plans to coordinate with the two universities to implement educational outreach programs to maximize the educational benefits of the fuel cell facilities. For

example, PG&E would install an educational kiosk at each campus, coordinate signage and educational material, help develop class curriculum, host tours of the facilities, and facilitate educational and community outreach. The application describes how CSU East Bay plans to develop multi-disciplinary curriculum and research-based learning opportunities utilizing the fuel cell system, while SF State intends to use the fuel cell project on its campus to enhance its graduate and undergraduate business, engineering, and environmental studies programs in sustainability.

PG&E requests the Commission authorize recovery of $21.5 million in capital costs for the project, as well as recovery of actual operations and maintenance (O&M) costs and fuel costs.[1] According to PG&E, the $21.5 million in capital costs includes a confidential contingency factor in the event of scope modifications during the development and engineering of the Fuel Cell Project.[2] If actual capital costs exceed $21.5 million, PG&E proposes it be allowed to begin recovery of the approved $21.5 million once the Fuel Cell Project becomes operational. PG&E would then file an application for recovery of amounts in excess of $21.5 million, allowing the Commission to determine the reasonableness of those excess costs. If total capital costs are below $21.5 million,

[1] PG&E's original application requested $21.3 million in capital costs for 2.9 MW in fuel cell generating capacity. PG&E revised its project to 3.0 MW and $21.5 million in capital costs in its Supplemental Testimony of August 10, 2009 (Exhibit 2).

[2] Both PG&E and Southern California Edison Company (SCE) requested confidential treatment of the contingency percentages in their applications, noting that public release of the contingency rate could compromise utility negotiations with fuel cell vendors. Confidentiality was granted by ruling of February 22, 2010.

PG&E will only recover the actual amount of capital costs, and ratepayers will receive the benefit of the lower cost.

Regarding O&M costs, PG&E proposes it be allowed recovery of an estimated $6.2 million in non-fuel O&M for the initial four years of the fuel cells' operation. PG&E proposes that this total initial revenue requirement be recorded in its Utility Generation Balancing Account and remain in effect until superseded by rates to be established in a general rate case following commercial operation of the facilities. (Exh. 2, PG&E Supplemental Testimony at 5-2.) PG&E would establish a memorandum account to track actual O&M expenses and file an Advice Letter each year of operation to collect actual O&M expenses.

The fuel cell facilities will need natural gas as fuel. PG&E proposes fuel costs be recovered through the Energy Resource Recovery Account (ERRA) mechanism following commercial operation of the fuel cells. PG&E's application does not estimate fuel costs for the Fuel Cell Project, but during hearings, PG&E's attorney estimated these costs at $1.34 million per year. (Hearing Tr., 12/10/09 at 204:6.)

PG&E proposes that revenues for the fuel cell facilities will be collected in generation rates, and that PG&E would recover any stranded costs associated with the Fuel Cell Project through a non-bypassable charge for a 10-year period following commercial operation of the fuel cells, consistent with Commission determinations regarding which customers must pay such costs in Decision (D.) 04-12-048, D.06-06-035, and D.06-11-048.

Protests to PG&E's application were filed by the Commission's Division of Ratepayer Advocates (DRA), The Utility Reform Network (TURN), and jointly by the Western Power Trading Forum and Alliance for Retail Energy Markets (WPTF/AReM). Responses to the application on the issue of stranded cost

recovery were filed by the California Clean DG Coalition and jointly by the Merced Irrigation District and Modesto Irrigation District. The Energy Producers and Users Coalition was granted party status so that it could file a brief on the topic of stranded cost recovery. A prehearing conference (PHC) on the PG&E application was held on April 27, 2009.

2.2. SCE's Application

SCE's application, filed on April 27, 2009, bears great similarity to the PG&E application in that SCE requests Commission approval to install, own, and operate three fuel cell units with a combined capacity of up to 3.0 MW on three separate CSU campuses. Specifically, SCE proposes two systems of 1 to 1.4 MW each, located at CSU San Bernardino and CSU Long Beach and one 200 kW solid oxide fuel cell at UC Santa Barbara. The two larger systems would demonstrate combined heat and power (CHP, or cogeneration) applications and the smaller, 200 kW system at UC Santa Barbara would demonstrate an electricity-only high efficiency fuel cell where the waste heat is used in the generation process. Similar to the PG&E application, SCE seeks recovery of approximately $21.6 million in capital costs and $8.9 million in non-fuel O&M costs over the 10-year life of the fuel cells. In contrast to PG&E's application, SCE requests authorization to use $10.8 million in unspent and uncommitted Self-Generation Incentive Program (SGIP) funds to pay for 50 percent of the Fuel Cell Project's capital costs.

SCE's proposed fuel cells would interconnect and operate in parallel with SCE's distribution system. The connection would be on the customer side of the meter so SCE can verify the reliability of the fuel cell operation and examine load characteristics such as local power quality and voltage stability.

SCE proposes to issue a competitive solicitation for engineering, procurement and construction bids to install the fuel cell facilities to be owned by SCE. SCE notes that D.07-12-052 provides for very limited circumstances where utilities can pursue utility-owned generation outside of a competitive process. SCE contends that the fuel cells it proposes qualify as preferred resources as they are both distributed generation (DG) and clean fossil fuel generation because the natural gas used to fuel the fuel cells will produce a small amount of carbon dioxide, and there will be only minimal greenhouse gas (GHG) emissions from the fuel cells. Thus, SCE believes that its application falls within the limited circumstances allowed by D.07-12-052 for utility generation outside of a competitive process.

With regard to ratemaking for the project, SCE's requests authorization of $21.6 million in estimated capital costs. As in the PG&E application, SCE's capital cost estimate includes a confidential contingency factor in case of scope modifications during the development and engineering of the program and unique site characteristics that could cause unforeseen costs. Regarding O&M costs, SCE estimates total 10-year non-fuel O&M costs of $8.9 million.[3] In addition, SCE explains that on-going costs for the mechanical systems that use waste heat, including back-up thermal systems for use during fuel cell outages, will be borne by the host campuses in exchange for use of the waste heat from the two CHP fuel cell systems.

Also similar to PG&E, SCE proposes a reasonableness review if capital costs or O&M expenses are higher than its estimates. Specifically, if capital costs

[3] SCE's application does not provide an estimate for fuel costs for the project.

or O&M expenses are in excess of its estimates in this application, SCE shall file testimony in the annual ERRA reasonableness proceeding to seek recovery of any excess amounts. If capital costs and O&M expenses are less than estimated, SCE shall only recover actual recorded costs from its ratepayers.

A unique feature of SCE's application is its proposal to use a portion of existing uncommitted SGIP funds to "buy-down" 50 percent of the estimated capital costs, or $10.8 million, to reduce initial project costs to a level that approaches market prices. SCE contends its proposal to use SGIP funds, although not expressly allowed by the Commission in D.01-03-073 that established SGIP, is appropriate because of lack of progress in fuel cell development in California.

Another unique feature of SCE's application is its request to diverge from the non-bypassable charge guidance set by the Commission in prior decisions. SCE proposes that the above-market costs of its Fuel Cell Project be the responsibility of all of SCE's customers, including Direct Access, Departing Load, and Community Choice Aggregation customers. The estimated above-market costs of the annual Fuel Cell Project revenue requirements would be included in the calculation of the vintaged Cost Responsibility Surcharge applicable to Direct Access, Departing Load, and Community Choice Aggregation customers.

SCE's application was protested by the California Energy Storage Alliance, Debenham Energy, DRA, TURN, and WPTF/AReM. The California Municipal Utilities Association filed a response to the application to provide information and clarify SCE statements in its application regarding cost recovery for the project from certain "departing load" customers.

2.3. Procedural History and Consolidation

Following a motion for consolidation by DRA, the applications of PG&E and SCE were consolidated by the Administrative Law Judge (ALJ) at a PHC on June 22, 2009. A scoping memo for the consolidated cases was issued on June 25, 2009.

The scoping memo set forth six issues to be examined in the consolidating proceedings as follows:

- Are the applications by PG&E and SCE reasonable from a ratepayer perspective and should the Commission approve the Fuel Cell Projects proposed by PG&E and SCE, as well as each utility's proposed ratemaking for its respective project, either as presented in the applications or with modifications?
- Do the applications meet the Commission's criteria for utility-owned generation as set forth in D.07-12-052 and other relevant Commission orders?
- Did PG&E and SCE perform competitive solicitation for the Fuel Cell Project according to applicable Commission guidance?
- Should the Commission grant requests by PG&E and SCE for recovery of any stranded costs associated with each utility's Fuel Cell Project through a non-bypassable charge for a 10-year period following commercial operation? Should municipal departing load and distributed generation customers be exempt from such stranded costs as set forth in D.08-09-012?
- Should SCE be allowed to use uncommitted SGIP funds to pay for a portion of the Fuel Cell Project?
- The Commission has or is currently developing a number of programs that ostensibly support development of fuel cells. These include the SGIP, as well as a feed-in tariff for CHP plants in Rulemaking 08-06-024. Given this policy context, what additional benefits do ratepayers receive from the

installation and utility ownership of fuel cells as proposed by PG&E and SCE when compared to these other programs?

Hearings on the consolidated applications were held on December 9, 2009 and December 10, 2009. Opening briefs were filed on December 30, 2009 and the case was submitted with the filing of reply briefs on January 13, 2010.

3. Reasonableness of the Proposed Projects

As set forth in the Scoping Memo, a threshold issue is whether the SCE and PG&E projects are reasonable from a ratepayer perspective, and whether the Commission should approve the two Fuel Cell Projects, including their proposed ratemaking, as proposed or with modifications. A secondary issue, as indicated by the scoping memo, pertains to what additional ratepayer benefits, if any, result from utility ownership of fuel cells compared to private investment in fuel cells through the SGIP and feed-in tariffs for CHP plants.

3.1. Parties' Positions

PG&E and SCE claim their projects will advance acceptance of fuel cell technologies in California, provide clean, reliable, low emission electricity to the grid, and provide fuel cell by-products to the host campuses, namely waste heat to serve campus thermal load and discharged water for landscape irrigation. According to both utilities, fuel cells generate electricity through an electrochemical process rather than through combustion, and therefore, the fuel cell power plants emit low amounts of pollutants such as nitrogen oxides and sulfur oxides, as well as fewer emissions of GHGs than conventional power plants.

SCE maintains the project is reasonable because it has the full endorsement of the Governor's Office and is consistent with the Governor's Green Building Action Plan, which directs the Commission to facilitate ratepayer supported

efficiency programs for commercial and industrial buildings, and Assembly Bill (AB) 32, which calls for reductions in GHG emissions. Moreover, SCE states that the universities are not in a financial position to pay any premium over their otherwise applicable tariff to locate the fuel cell facilities on their premises. Thus, the universities have indicated they will only participate in the project if SCE owns and operates the fuel cells as utility assets, allowing the state to incur no additional costs. (Exh. 100 at 6.) PG&E provides a similar statement that the State has indicated its preference that PG&E own and operate the fuel cell facilities, and therefore it was infeasible for PG&E to conduct a competitive Request for Offer (RFO) for the project. (Exh. 2 at 1-6.)

Both utilities argue that their projects will advance fuel cell technologies by contributing to a better understanding of fuel cell operations and processes, and by sharing the benefits of fuel cell technology through community outreach and education. SCE alleges that fuel cell installations have lagged behind other forms of clean technologies due, in part, to lack of understanding by the general public of this advanced technology. PG&E plans to monitor fuel cell performance in comparison to performance of conventional power plants and to evaluate the use of fuel cell by-products by the universities. Through the community outreach that PG&E will coordinate at the universities, PG&E believes the project will enhance the university sustainable instructional programs in business, engineering, and environmental studies. Likewise, SCE asserts that a key benefit of the project is that the universities will be able to incorporate the fuel cell applications into their educational curriculum, "offering visual demonstrations of the technology to students and the public, and making available, as permitted, the operating and performance characteristics of the fuel cell systems for public knowledge." (Exh. 102, SCE Rebuttal Testimony at 5.)

In addition, PG&E and SCE claim their projects do not conflict with other Commission programs supporting fuel cells and will advance fuel cells in addition to efforts in SGIP and the feed-in tariff program. PG&E notes that although the SGIP provides financial incentives to fuel cells, fuel cells have not significantly penetrated the market. SCE claims that while over 1300 projects have been installed under SGIP since its inception in 2001, only 20 projects and 12 MW of capacity are fuel cell based. (SCE Brief, 12/30/09 at 17.) PG&E maintains that only 11 fuel cell projects, comprising 6.1 MW have been installed in PG&E's service area under SGIP since 2001. (PG&E Brief 12/30/09 at 7.) Moreover, PG&E claims even though the Commission has implemented a CHP Feed-in Tariff in R.08-06-024, in accordance with AB 1613,[4] it is unclear whether the feed-in tariff will accelerate the installation of fuel cells since the price paid under the AB 1613 contract appears to be lower than the expected levelized cost of energy from PG&E's proposed fuel cell projects.

DRA and TURN oppose the PG&E and SCE Fuel Cell Projects, arguing that the capital costs of both projects are unreasonable, the projects have questionable educational benefits, and the Commission should instead focus on other renewable generation and DG programs.

Regarding project costs, TURN contends SCE's forecasted capital costs of $7.20 per watt and PG&E's forecasted capital costs of $7.35 per watt[5] are unreasonable for a project that cannot be classified as renewable generation.

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[4] AB 1613 charges the Commission with requiring electrical corporations to purchase excess electricity from certain new highly efficient CHP systems. The Commission's Rulemaking (R.) 08-06-024 establishes rules for these purchases in D.09-12-042.

According to TURN, the funds proposed to support the Fuel Cell Projects could be used more effectively to advance renewable generation or used to promote private installation of fuel cells through SGIP. TURN argues that although the proposed fuel cells may be considered clean generation, they are, nevertheless, fossil fuel based because they use natural gas as the hydrogen source. Thus, scarce ratepayer funds should not be spent on expensive non-renewable generation sources that do not advance the State's Renewable Portfolio Standard (RPS) goals.

Similarly, DRA notes that fuel cells are an extremely expensive way to produce non-renewable electricity, at a levelized cost of over 30 cents/kilowatt-hour (kWh), when the average cost of energy in the state is 7 cents/kWh. DRA notes this levelized costs is more than three times the current Market Price Referent (MPR) rate of 10 cent/kWh that the Commission uses for renewable energy solicitations under its RPS program. DRA contends that costs of this magnitude should be examined in the context of alternatives to accomplish the same goals.

TURN and DRA object to the contingency rates built into the utilities' capital cost estimates. TURN contends the proposed contingency rates are significantly higher than overall project rates, generally in the 5% to 8% range, previously approved by the Commission. (TURN Opening Brief, 12/30/09, at 14, citing D.06-11-048 at 21, footnote 12.) TURN also objects to applying a contingency to total capital costs, suggesting there is little need for a contingency on fuel cell equipment. TURN asserts a fuel cell equipment contingency should

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[5] TURN provides these per-watt cost estimates in its protests of March 27, 2009 and May 29, 2009.

be at most 5% for fuel cell equipment costs, similar to the 5% contingency the Commission approved in D.06-11-048 for PG&E's Humboldt power plant and in D.03-12-059 for SCE's Mountain View Power Project. (I*bid*.) It also proposes the Commission adopt PG&E's proposed contingency, which is lower than SCE's proposed rate, and apply this lower rate to only the installation component of capital costs. DRA suggests no contingency allowance for equipment costs, and at most a 10% contingency on remaining capital costs.

Both DRA and TURN question the educational value of the projects and whether they will result in advancement of fuel cell technologies. DRA claims that the educational value of the projects is speculative because applicants provide little evidence how the fuel cells will be used to further class work. DRA contends it would be more economical to transport students to visit an installed fuel cell at another site, which does not need to be on a college campus. TURN claims that the high cost of fuel cells is the primary barrier to their market penetration and that utility ownership of fuel cells, although it could provide educational value and raise public awareness, will do little to affect this cost barrier and achieve "market transformation" in the fuel cell industry.

In response to utility claims that the projects enhance state policy to promote fuel cell development, TURN maintains that although the Legislature has created ratepayer subsidy programs such as SGIP to promote private installations of fuel cells facilities, this does not translate into a state policy to provide 100 percent ratepayer support for utility-owned fuel cells. DRA claims the projects are unnecessary given that the SGIP encourages investment in fuel cells. In addition, DRA questions the need for the Fuel Cell Projects given the Commission's implementation of a CHP Feed-in Tariff in R.08-06-024.

3.2. Discussion

The question of reasonableness of the proposed Fuel Cell projects comes down to a comparison of the cost for these two projects with the benefits that might be achieved from the projects. The parties do not dispute the levelized costs of the projects, but PG&E and SCE claim the costs are warranted based on alleged educational and market transformational benefits, while DRA and TURN assert the costs are unreasonable given the speculative nature of those benefits.

We agree with DRA and TURN that the projects are not a reasonable use of ratepayer funds and should not be approved for several reasons. First, we agree that it is not reasonable to spend approximately three times the current MPR price paid to renewable generation for these fuel cells which are non-renewable generation fueled by natural gas. Although the utilities are correct that the fuel cells will emit less GHGs than conventional power plants, the actual reduction depends on the characteristics of the waste heat utilization.[6] Both utilities include electric-only fuel cells in their Fuel Cell Projects which do not provide any waste heat utilization benefits. For these electric-only fuel cells, the GHG emission reductions, if any, come at a particularly high cost. Overall, the weighted average levelized cost of electricity (LCOE) for SCE's total project is 28 cents/kWh and for PG&E's total project is 30.4 cents/kWh.[7] Given these

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[6] SCE estimates fuel cell emissions of 900 to 1000 pounds of carbon dioxide (CO2) per MWh for fuel cells compared to the maximum allowed 1100 pounds of CO2 per MWh for all new combined cycle gas turbines. However, depending on waste heat utilization from fuel cells, net emissions could be as low as 500 pounds per MWh, or about half the amount for combined cycle gas turbine plants. (TR at 212:11-28 and 213: 1-14.)

[7] See Exhibit 108 (for SCE cost) and Exhibit 304-C (for PG&E cost). The SCE weighted average LCOE assumes no use of SGIP funds and no investment tax credit for the projects.

levelized costs, we find it more appropriate to use ratepayer funds to focus on renewable generation, which will produce the same or greater reductions in GHG emissions, possibly at a lower cost.

Second, we agree with TURN and DRA that it would be better to use ratepayer funds in support of fuel cells through the existing SGIP, which provides a partial subsidy and thereby encourages and enhances private investment, rather than utility investment, in fuel cell technology. We agree with TURN and DRA that a focus on private investment leverages ratepayer funding with private funding sources, thereby installing more MWs of fuel cells for the same amount of ratepayer investment. In our view, the Commission can spur market transformation through market penetration and adoption of fuel cells by helping private investors choose to install fuel cells, rather than through the utilities installing them with ratepayer funds. It is unclear how full ratepayer funding for utility-owned generation will enhance private market investment and assist in market transformation. As TURN points out, it is unclear how full ratepayer support of utility-owned fuel cells will address the cost barrier which inhibits private investment in fuel cells and impedes market transformation. The applications imply that the students at these five campuses who become familiar with these fuel cells through their coursework will make or impact investment decisions regarding fuel cells for private entities in the future, thereby transforming the fuel cell market. We find this reasoning too speculative and, at an LCOE between 28 and 34 cents/kWh for this experiment, too costly.

On the other hand, our existing SGIP is designed to promote private fuel cell investment right now. Our feed-in tariffs for CHP plants, as adopted in D.09-12-042, are another avenue to promote private investment in fuel cells and install them today. We are currently considering modifications to SGIP, given

new legislative direction in Senate Bill 412 that authorizes the Commission to determine eligible SGIP technologies based on the GHG reductions they achieve. We prefer to focus our efforts on promoting fuel cells through SGIP and our CHP feed-in tariffs rather than through utility-owned generation.

Although SCE proposes using $10.8 million in SGIP funds for its Fuel Cell Project, this ratemaking approach still involves 100 percent ratepayer support for the project, although it uses funds already collected and directs them to this project rather than SGIP. SCE's proposal ignores that the "S" in SGIP stands for "self"-generation. It is inappropriate to use money intended for customer-owned self-generation projects for rate-based utility-owned assets. Moreover, SCE's proposal does not change the ratepayer economics of the project and we find the project is still too costly for what it will, perhaps, achieve. Again, we prefer to keep that $10.8 million within the SGIP budget and use it for private investment in both renewable and non-renewable DG technologies, including fuel cells.

In defense of their proposed Fuel Cell Projects, PG&E and SCE argue that increased incentives for solar through the California Solar Initiative (CSI) helped increase demand for solar, and that solar costs are now declining. We agree with DRA that it is inappropriate to compare our programs supporting private investment in renewable solar technologies to these proposals for utility-owned non-renewable fuel cells because it is unclear whether utility ownership will produce the same market transformative effects.

Third, while we agree that utility ownership and operation of fuel cells on California university campuses might allow students easy access to fuel cell equipment for educational purposes and allow campus visitors to view kiosks about the plants, we find it unreasonable to require ratepayers to pay for these

educational benefits. The combined capital costs of the two projects are $43.1 million. With the addition of annual O&M of approximately $9 to $10 million over the estimated plant life and fuel costs for 10 years estimated at $13 million, the total project cost over the 10-year life of the plants approaches $88 million.[8] Plus, SCE and PG&E have estimated the weighted average LCOE for their projects between 28 and 30.4 cents/kWh, which is three times the current MPR. On this basis, we find the educational benefits are not justified by the Fuel Cell Project costs.

While we agree with the utilities that several hundred, or perhaps a few thousand students will have the opportunity to view a fuel cell firsthand over the 10 years they are in operation, we conclude these two projects are not a reasonable use of ratepayer funds. Together, the projects would require ratepayers to pay approximately $88 million for educational support to the campuses in the hopes it will one day result in market-transforming investment decisions. This is not reasonable when other options exist to promote private fuel cell installation in California. Moreover, it is not clear how much public information will be available from the projects, given SCE's less than reassuring statement that project operating and performance information will be made available "as permitted." (Exhibit 102 at 5.) If the chosen fuel cell vendors prohibit release of proprietary information regarding their fuel cells operational characteristics, the educational benefits of the project could quickly evaporate.

[8] Estimated total project cost for SCE is $43.5 million ($21.6 in capital cost, plus $8.9 million in O&M, and $13 million for fuel). Total project cost for PG&E is estimated at $44 million ($21.5 in capital cost, $10 million in O&M, and $13 million for fuel).

As DRA points out, fuel cells are not really that new or novel since they have been around since the 1960's and students have other opportunities to learn about them or visit them. DRA suggests that:

> To any observer, a fuel cell itself is little more than a collection of boxes with various pipes and wires running between them. There are no moving parts to observe . . . . It is also highly unlikely that a commercial product under service contract and [warranty] will tolerate any adjustment or reconfiguration for classroom purposes . . . . There is nothing that a student can learn from repeated visits to a fuel cell, any more than students could learn about transmission from viewing a power line." (DRA Opening Brief, 12/30/09, at 6.)

We agree with DRA that it is far less costly for students to take a field trip to a nearby fuel cell installation.

While we have already provided our reasons for rejecting the fuel cell projects, we provide our views on a secondary issue raised by the applications. We agree with TURN and DRA that the capital cost contingencies requested by PG&E and SCE, which are more than double the 5% to 8 % contingencies approved for recent utility generation, are unreasonable. SCE claims the contingency is necessary to cover scope modifications required during the final development and engineering phase of the project, and to accommodate site-specific construction and design requirements. PG&E claims the contingency factor is within normal levels for construction projects where the final scope of the project is not yet defined, and it received a similar contingency for its Diablo Canyon Steam Generator Replacement Project. We agree with TURN that approval of such large contingencies for capital costs sends an improper incentive to the utilities and vendors that they can enhance the project scope within the limits of the contingencies. A large contingency also suggests that the

project scope should be further defined before approval is granted. Therefore, although we reject the project for other reasons, we express our concern with the utilities' large contingency percentages and note that we would reduce them if we had found the Projects reasonable.

TURN provides a good summation of why the Projects are not reasonable from a ratepayer perspective. As TURN points out, both utilities are clear that these projects are not needed to meet demand forecasts, but are proposed for demonstration and educational purposes. According to TURN, this is a novel and somewhat strange proposition because, as TURN states:

> The utilities get free land to rate base generation. The participating campuses get free waste heat. The fuel cell industry gets a big boost in sales. And ratepayers get electricity at an average price of about 25 to 30 cents per kilowatthour . . . . The electricity costs more than solar generation and produces carbon dioxide. TURN suggests that the public policy goals that support providing subsidies for private installations of fuel cells do not support having ratepayers pay the full cost for fuel cell generation. (TURN Opening Brief, 12/30/09 at 1.)

TURN equates the projects with a ratepayer subsidy to the fuel cell industry, particularly the handful of vendors that have won the engineering, procurement and construction contracts through the utilities' RFPs. We agree with TURN that the most obvious benefits of the proposed Fuel Cell Projects accrue to the handful of successful fuel cell industry participants as well as to the campuses in the form of free thermal energy from waste heat. It is not reasonable for ratepayers to foot virtually the entire bill for the educational and

thermal benefits that the campuses will receive from the project.[9] It is more reasonable from a ratepayer perspective for the campuses to employ our current SGIP incentives to defray fuel cell project costs, while still enjoying the educational and thermal benefits of the project. DRA notes that if the University of California (UC) campuses applied through the SGIP for funding for the proposed fuel cell sites, they could receive approximately $12 million toward estimated capital costs of $43.1 million.

We realize it is a difficult time for the UC and California State campuses, given the state's current budget crisis, and it is enticing for the campuses to offer land for the project in exchange for educational opportunities and waste heat with no capital outlay and minimal annual O&M. However, it is a difficult time for California electric ratepayers too, and project costs for these non-renewable generation projects are unreasonable given the level and speculative nature of the ratepayer benefits. Therefore, we will reject the applications by PG&E and SCE.

4. Other Issues

In addition to the reasonableness of the proposed Fuel Cell Projects, the scoping memo identified issues raised by the parties in their protests and responses to the application, including 1) whether the applications complied with criteria for utility-owned generation, 2) should the Commission grant recovery of stranded costs through a non-bypassable charge, and 3) should SCE

[9] We acknowledge that the campuses are providing free land for siting the projects, and will be responsible for their own O&M costs to ensure the thermal benefits of the fuel cells. Nevertheless, other than the land and O&M costs to ensure waste heat connection, the campuses will receive all of the thermal and educational benefits without any capital investment.

be allowed to use uncommitted SGIP funds to pay for a portion of its Fuel Cell Project.

Given that this decision rejects both applications, these issues are moot and we do not need to discuss or make findings on these issues. In addition, we do not need to discuss proposals by DRA and TURN to modify the applications in various ways, such as to reduce capital cost contingency adders, obtain credit for GHG reductions for ratepayers, or remove the electricity-only fuel cell plants from the applications.

5. Compliance with Notice Requirements

DRA contends PG&E's application should be dismissed because it was not properly noticed, as required by Rule 3.2. According to DRA, while Rule 3.2 requires notice of the application to be published within 10 days of the filing of the application, PG&E's notice was not published within the 10-day timeframe. In addition, DRA claims the notice did not include the statement that the application and related exhibits could be examined at any Commission or PG&E office, the notice did not provide the address of the Commission's Los Angeles office or PG&E offices, and it failed to give a Commission e-mail address and the mailing address for PG&E where customers could obtain further information on the application. Finally, DRA maintains PG&E's filing lacks all pertinent information needed to verify proper notice was given.

In response, PG&E contends the notices were given consistent with long-standing Commission practice and were approved by the Commission's Public Advisor. PG&E asserts the notice adequately informed customers that the proposed facilities would increase electric revenue by $44.5 million over 10 years and would result in an increase that is less than one percent of PG&E's revenues. According to PG&E, DRA quibbles with details of the notice, such as mailing and

e-mail addresses, or a delay of one or two days in the notices' publication, and such details are not grounds for the Commission to dismiss the application.

We agree with PG&E that any defects with the notice are not material. We will not dismiss the application solely because of the minor defects in PG&E's notice and there was ample time in this proceeding for interested customers to comment on the applications after notice appeared. PG&E should correct these defects in future applications, ensuring that notice is timely given and that the notice provides all required information, including e-mail and mailing addresses and locations where the application may be viewed by the public. We appreciate DRA's diligence in ensuring that notice under Rule 3.2 is fulfilled, and its attention to this matter should improve the timeliness and completeness of future notices by PG&E.

6. Comments on Proposed Decision

The proposed decision of ALJ Duda in this matter was mailed to the parties in accordance with Section 311 and comments were allowed under Rule 14.3 of the Commission's Rules of Practice and Procedure. Comments were filed on_____ by _____ and reply comments were filed on _____by _____.

7. Assignment of Proceeding

Michael R. Peevey is the assigned Commissioner and Dorothy J. Duda is the assigned ALJ in this proceeding.

Findings of Fact

1. Fuel cells generate electricity through an electrochemical process that emits lower amounts of pollutants, such as nitrogen, sulfur oxides, and, depending on waste heat utilization, less GHGs than conventional power plants.

2. The actual reduction in pollutants from the Fuel Cell Projects would depend on the characteristics of the waste heat utilization.

3. The Fuel Cell Projects proposed by PG&E and SCE are non-renewable because they use natural gas as the hydrogen source and are estimated to produce electricity at a weighted average levelized cost of 28 to 30.4 cents per kWh, which is three times the current MPR rate for renewable energy solicitations.

4. The universities have indicated they will only participate in the Fuel Cell Projects if PG&E and SCE own and operate the fuel cells.

5. Fuel cell installations have lagged behind other forms of clean technologies and have not significantly penetrated the market.

6. The combined capital costs of the Fuel Cell projects are $43.1 million

7. The Commission approved at 5% contingency rate for PG&E's Humboldt power plant in D.06-11-048 and for SCE's Mountain View Power project in D.03-12-059.

8. The Fuel Cell Projects contain contingency rates for capital costs that are significantly higher than the contingency rates recently approved by the Commission for power plant projects.

9. The Commission has implemented a CHP feed-in tariff in D.09-12-042.

10. SCE's proposal to use $10.8 million in carryover SGIP funds for its Fuel Cell Project does not alter the fact that the project would receive 100 percent ratepayer funding.

11. PG&E's notice of its application was not published within the 10-day timeframe required by Rule 3.2 and excluded certain information such as mailing and e-mail addresses for the Commission and PG&E.

Conclusions of Law

1. It is not reasonable to spend three times the current MPR price paid to renewable generation for the proposed Fuel Cell Projects which are non-renewable and fueled by natural gas.

2. Ratepayer funds should support fuel cells through the current SGIP and the CHP Feed-in tariff program rather than through utility ownership of the proposed fuel cells.

3. It is unclear how full ratepayer funding of utility-owned fuel cell generation will enhance private market investment and market transformation of the fuel cell industry.

4. The educational benefits of the Fuel Cell Projects are not justified by the capital costs of the project and the weighted average levelized costs of 28 to 30.4 cents per kWh.

5. The large capital cost contingencies requested by PG&E and SCE send an improper signal to utilities and vendors to enhance the project scope and costs up to the level of the contingencies.

6. PG&E should correct notice defects in future applications and ensure notice is timely given and provides all information required by Rule 3.2.

O R D E R

IT IS ORDERED that:

1. Application 09-02-013 filed by Pacific Gas and Electric Company for approval and recovery of costs associated with its Fuel Cell Project is denied.

2. Application 09-04-018 filed by Southern California Edison Company for authority to implement and recover in rates the costs of its proposed Fuel Cell Installation Program is denied.

3. Application (A.) 09-02-013 and A.09-04-018 are closed.

This order is effective today.

Dated _____, at San Francisco, California.

INFORMATION REGARDING SERVICE

I have provided notification of filing to the electronic mail addresses on the attached service list.

Upon confirmation of this document's acceptance for filing, I will cause a Notice of Availability of the filed document to be served upon the service list to this proceeding by U.S. mail. The service list I will use to serve the Notice of Availability of the filed document is current as of today's date.

Dated March 2, 2010, at San Francisco, California.

/s/ LILLIAN LI
Lillian Li

N O T I C E

Parties should notify the Process Office, Public Utilities Commission, 505 Van Ness Avenue, Room 2000, San Francisco, CA 94102, of any change of address to ensure that they continue to receive documents. You must indicate the proceeding number on the service list on which your name appears.

* *

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