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PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

ENERGY DIVISION

RESOLUTION E-4061
February 15, 2007

R E S O L U T I O N

Resolution E-4061. Pacific Gas and Electric Company (PG&E) is authorized to shift $4.68 million from other Demand Response program budgets to install 5,000 AC Cycling devices by July 2007, providing PG&E an additional 5 MW of Demand Response. PG&E's proposal to disallow Critical Peak Pricing (CPP) customers to participate in the AC Cycling program is denied.

By Advice Letter 2946-E Filed on December 8, 2006.

SUMMARY

This Resolution approves PG&E's request to shift $4.68 million from other Demand Response program budgets to install 5,000 AC Cycling devices by July 2007, providing PG&E an additional 5 MW of Demand Response for Summer 2007. The $4.68 million will cover the cost of the devices, the installation costs, and the device operational costs for 2007 and 2008. Customers have an option to choose either a switch device or a Programmable Controllable Thermostat (PCT). PG&E is required to install approximately 150 – 200 of each device for monitoring and evaluation purposes. The Demand Response Measurement and Evaluation (DR M&E) Committee[1] is directed to conduct an Evaluation, Measurement and Verification (EM&V) study for PG&E AC Cycling program with funds of $0.46 million. CPP customers with advanced meters are allowed to participate in the AC Cycling program. PG&E intends to market the program as a "social good", emphasizing cleaner air and improve service reliability. Customers would have the ability to override a particular event through a dedicated telephone line or a website, except during a Stage 3 event. A one-time incentive payment of up to $50 for residential customer and up to $100 for commercial customers will be provided and there is no bill credit.

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[1] Representatives from each of the IOUs, the CEC and the CPUC staff per D.06-11-049.

The Energy Division concludes that authorizing PG&E to include an override option, instead of a bill credit, may be an effective way to maintain customer participation, and keep costs low. Given that PG&E's proposal is relatively small (~5MW), Energy Division believes this a good opportunity to test PG&E's concept of providing an override option without a bill credit.

This Resolution also orders PG&E to:

a) include a 12-month requirement for customers to participate in the AC Cycling program,
b) provide to the Commission a monthly data report that (1) tracks the number of times customers utilize the override option; (2) measures and tracks load response from switches and PCTs; and (3) tracks the load reduction from dual-participation customers (in both CPP and AC Cycling program) when an AC Cycling event is triggered during a CPP day.
c) provide the Commission a monthly update on customer selection of the devices offered.

BACKGROUND

Commissioner Peevey's August 9, 2006 Assigned Commissioner's Ruling (ACR) directed PG&E and other utilities to propose augmentation and improvements to their demand response programs for 2007 and 2008. On August 15, 2006, Commissioner Peevey issued another ACR in R.05-12-013 and R.06-02-013 directing PG&E to submit a report that would address the need of air conditioning cycling program for summer 2007. In response to the ACRs, PG&E submitted a filing for enhancements to its demand response programs on August 30, 2006. Part of the filing includes a proposal to implement a full-scale AC cycling program beginning in 2007 to replace the small pilot AC cycling program approved by the Commission in Decision (D.)06-03-024. **On November 30, 2006, the Commission issued D.06-11-049 approving in concept PG&E's proposal to install 5,000 switches in 2007 using the existing demand response budget and subject to advice letter review.** PG&E was ordered to file an advice letter within 20 days to implement an AC Cycling program for 2007 and detail budget information including the costs of switch installation, incentives, and any other costs associated with the program. PG&E was also allowed to move forward with its proposed Request for Proposal (RFP) for competitive bids for the program.

In response to D.06-11-049, **PG&E filed AL 2946-E on December 8, 2006 for approval to install 5,000 devices by June 2007, giving PG&E up to 5 MW of AC Cycling.** Based on research and analysis, PG&E recommends offering both residential and small commercial customers an option of choosing either a switch or a Programmable Controllable Thermostat (PCT).

The switch feature will allow PG&E to cycle the AC unit remotely, by turning the unit on and off during an event. Customers participating in the switch option would be cycled (AC unit turned off) at a 50% rate[2] for residential customers and a 30% rate[3] for commercial customers. PG&E proposes a lower cycling percentage for commercial customers because commercial customers have less flexibility compared to residential customers. AC switches have a long record of providing firm demand reductions and have lower installation costs. However they also have higher long-term maintenance costs than PCTs. An AC switch does not adjust the building temperature and requires ongoing education of Heating, Ventilation, and Air Conditioning (HVAC) contractors.

The PCT feature would allow PG&E to remotely adjust participant's thermostat up to a maximum of four degrees during an event. A PCT increases a building's temperature during a curtailment event and it can provide notice to customers when an event occurs. A PCT is generally more compatible with price response programs than a switch because it can be programmed to respond to price signals. However a PCT costs more than a switch and requires a schedule appointment for installation. Benchmark and focus group data submitted by PG&E indicate that some commercial customers prefer a PCT over a switch. Based on customer research submitted by PG&E, residential customers who currently have a PCT may not be interested in a replacement.

Participation in either device would be limited to 100 hours per year. The program would be triggered during a Stage 2 emergency or near-Stage 2 emergency situations, a local emergency, or during limited program testing. Each event would be limited to six consecutive hours.

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[2] AC unit off for 15 out of every 30 minutes.

[3] AC unit off for 10 out of every 30 minutes.

Participates would have the ability to override a particular event through a dedicated telephone line or a website, except during a Stage 3 event. PG&E believes the override option would give customers some flexibility, thus encouraging further participation. The estimated average kW reduction has been adjusted to reflect the override impact.

To encourage participation of either the switch or PCT technology, PG&E recommends giving customer a one-time incentive payment of up to $50 for residential customers and up to $100 for commercial customers. PG&E's market research and feedback received from vendors indicated that seasonal payments (i.e. bill credits) offer very little incentive for customers to participate. Instead of a bill credit, PG&E believes that marketing the program as a "social good" that will result in cleaner air and improved service reliability is enough to encourage participation. Marketing plans would include direct mailing campaign, website notice and targeted media support.

PG&E is currently reviewing bids from vendors in response to PG&E's October 2006 AC Cycling RFP. Additional program details will be determined in the bidder negotiations.

A fund shift of $4.68 million from other DR programs[4] would be used to cover the cost for installation and operation of 5,000 devices in 2007 and 2008. The $4.68 million is budget for approximately 3,000 PCTs and 2,000 switches. PG&E intends to file a multi-year AC Cycling program application sometime in January 2007 and in that filing PG&E will request an additional $1.75 million to cover the operation of 5,000 devices for years 2009-2017. Thus the total cost for a ten-year budget of 5,000 devices would be $6.43 million[5].

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[4] $1 million of the $4.68 million will come from an AC Cycling pilot program approved in D.06-03-024.

[5] Includes $0.46 million cost for Evaluation, Measurement and Verification (EM&V).

TEN-YEAR BUDGET FOR 5,000 DEVICE		
Fund shifting	$4.68 million	2007-2008
Additional funding request in upcoming application	$1.75 million	2009-2017
Total cost	$6.43 million	2007-2017

PG&E will record the 2007 and 2008 cost in the Demand Response Expenditures Balancing Account. If PG&E's multi-year program application is rejected, PG&E would file a demand response budget application in the future to recover the future operational costs associated with the 5,000 devices.

Concurrent with the filing of the multi-year program application, PG&E will file an advice letter seeking permission to create a memorandum account to record costs associated with the 10,000 additional devices proposed in its multi-year program applications. The cost for the 10,000 additional devices will be incurred after the 5,000 devices are installed. PG&E anticipates it would start installing the 10,000 additional devices during the summer of 2007 until the Commission rules on its multi-year program application. PG&E believes it is necessary to continue installing the devices in order to maximize summer 2007 participation and maintain program momentum.

NOTICE

Notice of AL 2946-E was made by publication in the Commission's Daily Calendar. PG&E states that a copy of the Advice Letter was mailed and distributed in accordance with Section III-G of General Order 96-A as well to the parties in A.05-06-006.

PROTESTS

PG&E's Advice Letter 2946-E was timely protested by the Division of Ratepayer Advocates (DRA) on December 28, 2006. Responses to DRA's protest were filed by The Utility Reform Network (TURN) on January 3, 2007 and by PG&E on January 5, 2007.

DISCUSSION

The Energy Division concludes that authorizing PG&E to include an override option, instead of a bill credit, may be a cost-effective way to maintain customer participation. Based on its market research, PG&E believes that it can successfully enroll customers by emphasizing the social good of participation and thus keep financial incentives relatively modest (the one-time sign up payment of $50 to $100). In addition, PG&E also offers customers the ability to override events (except for Stage 3 events) thereby enabling customers to have flexibility on maintaining their personal comfort which is another incentive to stay on the program. The alternative is to direct PG&E to offer monthly bill credits as a means of getting enrollment, which results in a higher budget for the program. Given that PG&E's program is relatively small (~5MW), Energy Division believes it is worth exploring PG&E's approach to enroll customers without a bill credit. Energy Division recognizes that the override option could cause the program to be unreliable if a majority of participants regularly override events[6]. Thus Energy Division recommends that at the end of each summer month, PG&E shall report the number of times participants utilize the override option and provide this data to the Commission. Keeping track of this information could help mitigate system reliability concerns for the CAISO and enable the Commission to further evaluate PG&E's approach for this program, in particular if PG&E proposes a similar approach in its multi-year application.

PG&E is directed to modify its schedule to include a 12-month requirement for customers to participate in this AC Cycling program. The Energy Division is concerned that some customers may enroll in the program with the intention of opting-out after receiving the incentive payment. To ensure that the cost of the device, the installation cost, and the incentive payment is used effectively,

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[6] In response to an Energy Division inquiry about the override option, PG&E stated that it believes customers are unlikely to regularly override events because of the "hassle factor" involved (requires a phone call by the customer). Energy Division agrees that there is a 'hassle factor" that could deter overrides, but a customer's decision to override is also dependent on other factors such as the number of consecutive days an event is called. Allowing PG&E to pursue its approach will provide more data on this issue.

Energy Division recommends that it is necessary for customers to make a 12-month commitment to participate in the AC Cycling program.

DRA recommends 100% cycling option be offered with an increase incentive for customers similar to SCE and SDG&E. DRA believes that the 100% cycling option would have higher value to CAISO compared to the 50% option. PG&E argues that its initial AC cycling program is intended to be uncomplicated and non-intrusive in order to roll out the program quickly for 2007 and to maintain customer participation. PG&E argues that the 100% cycling option would increase the customer's discomfort for an extended period of time, and may discourage customers from participating in the program altogether. PG&E believes customers are unlikely to choose the 100% cycling option unless PG&E offers a much higher incentive. And if PG&E was to offer a higher incentive, such as up to $200 per summer similar to SCE program, the program would be less cost effective. In addition, PG&E believes that the 100% cycling option would not add to a significant load relief for summer 2007. PG&E believes that DRA's proposal to include a 100% cycling option should be addressed in its upcoming multi-year program application. **The Energy Division agrees with PG&E and believes that a 100% cycling option, without a bill credit, may discourage customer participation and therefore does not support DRA's recommendation.**

The issue of whether to prohibit PG&E from offering PCTs in its upcoming multi-year application is outside the scope of this resolution. In its protest, DRA argues that PG&E should not be permitted to offer PCTs in its multi-year program until an evaluation of the effectiveness of PCTs compared to the performance of switches is complete. TURN supported DRA's opposition. In response, PG&E argues that DRA's request is premature and should be addressed in its upcoming multi-year program application. The Energy Division agrees with PG&E that is premature to prohibit the inclusion of PCTs in its multi-year application, and that the issue of comparing the effectiveness of the two devices could be addressed when the application is filed.

To ensure that the Commission has enough data to do a comparison of the two devices, Energy Division recommends that PG&E be directed to install approximately 150 - 200 PCT devices and approximately 150 - 200 switch devices, the remaining devices to be determined by whatever customers choose. Energy Division also recommends that PG&E be directed to measure and track load response from switches and PCTs. The Energy Division recommends that

the Demand Response Measurement and Evaluation (DR M&E) Committee be directed to conduct an Evaluation, Measurement and Verification (EM&V) study for PG&E AC Cycling program with funds of $0.46 million. Further, Energy Division recommends that PG&E be directed to provide monthly updates on customer selection of the AC cycling devices once it begins rollout of the program.

The issue of whether to prohibit PG&E from entering into a long-term contract for additional 10,000 devices while the multi-year application is pending is outside the scope of this resolution. DRA recommends that PG&E be prohibited from entering into any long-term contract for the 10,000 additional devices before the Commission rules on its multi-year program application. TURN supports DRA's recommendation. In its response, PG&E believes that it is prudent to continue installing up to 10,000 devices after the installation of the first 5,000 in order to continue the momentum, especially when summer is the optimal time to enroll customers. In this advice letter filing, PG&E mentions that they intend to file another advice letter for permission to create a memorandum account to tract the cost of 10,000 additional devices. Since PG&E has not requested permission to enter into a long-term contract for the additional 10,000 devices in this advice letter filing, the Energy Division defers this issue until PG&E seeks formal permission to install the 10,000 devices. The Commission will address the 10,000 devices at that time. Should PG&E enter into a contract that presumes a future approval, its shareholders will bear that risk.

DRA argues that Critical Peak Pricing (CPP) customers be allowed to participate in the AC Cycling program. In its response, TURN is concerned that customers participating in both programs will be over-subsidized with the free installation of the AC cycling device, one-time incentive, and the benefit of the CPP rate. TURN believes it would be premature to allow CPP customers to participate in the AC Cycling program because PG&E cannot implement the residential CPP unit until the AMI system is in place. PG&E states that its AMI deployment has just begun and the number of customers eligible in both the AC cycling program and the CPP rate ("SmartRate") will be low for summer 2007. In its upcoming multi-year application, PG&E will provide CPP or "SmartRate" tariff option for AC Cycling participants. PG&E anticipates these rates will be available in 2008. **The Energy Division agrees with DRA and believes that CPP customers with advanced meters be allowed to participate in the AC Cycling program, even if the numbers are small as PG&E claims. Energy Division recommends that PG&E market both the SmartRate and the AC Cycling**

program to customers with advanced meters. Energy Division agrees with TURN's comment and recommends that PG&E be directed to track the load reduction from dual-participation customers (in both CPP and AC Cycling program) when an AC Cycling event is triggered during a CPP day (see comments section).

COMMENTS

Public Utilities Code section 311(g)(1) provides that this resolution must be served on all parties and subject to at least 30 days public review and comment prior to a vote of the Commission. Section 311(g)(2) provides that this 30-day period may be reduced or waived upon the stipulation of all parties in the proceeding.

All parties in the proceeding have stipulated to reduce the 30-day waiting period required by PU Code section 311(g)(1) to 28 days. Accordingly, this matter will be placed on the first Commission's agenda twenty-eight days following the mailing of this draft resolution.

On January 19, 2007, the draft resolution was served on the Service List for PG&E Advice Letter 2946-E and A.05-06-006, released for public comment, and placed on the Commission's agenda for February 15, 2007. PG&E and TURN filed comments on February 2, 2007. TURN filed reply comment on February 7, 2007 and correction to its reply comment on February 8, 2007.

In its comments, TURN recommends PG&E to separately measure and track load response from switches and PCTs to ensure enough data to conduct a comparison of the two devices. Energy Division agrees with TURN's comment and recommends that PG&E be directed to measure and track load response from switches and PCTs.

In its comments, TURN reiterate its concern that customers participating in both CPP and AC Cycling programs will be over-subsidized with the free installation of the AC cycling device, one-time incentive, and the benefit of the CPP rate. Energy Division disagrees with TURN's concern and believes that for the time being a one-time incentive for the installation of the AC Cycling device with the CPP rate is appropriate and would make both programs more attractive to customers.

In its comments, PG&E requests that dual-participation customers (in both the CPP program and the AC Cycling program) not be allowed to have their air conditioner remotely operated during a CPP-only event. However during an AC Cycling event, dual-participation customers would be allowed to have their air conditioner remotely operated. Since there would be a small number of customers participating in both programs by summer 2007, PG&E believes that integrating the two programs at this time would add unnecessary complexity. PG&E states it will propose to integrate the two programs so that CPP customers are allowed to use its AC Cycling during a CPP event in its upcoming multi-year application. In its correction to its reply comments, TURN has no opposition to PG&E's proposal. However, if an AC Cycling event is triggered during a CPP day, TURN recommends that PG&E track the load reduction from dual-participation customers in order to determine whether the load drop is due to a direct load control or due to a price response. **Energy Division agrees with TURN on this point and recommends that PG&E be directed to track the load reduction from dual-participation customers when an AC Cycling event is triggered during a CPP day.**

The Energy Division disagrees with PG&E and believes that dual-participation customers at this time should be allowed to use its AC Cycling during a CPP event or an AC Cycling event. PG&E claims that allowing dual-participation customers to use its AC Cycling during a CPP event would add complexity, but not during an AC Cycling event. Energy Division is not convinced by PG&E's argument. Energy Division believes that integrating the two programs at this time would be a good opportunity to test the two programs for any unforeseeable problems that may arise.

In its comments, PG&E requests the requirement of at least 2,000 of each device (switch or PCT) installation be removed. PG&E believes the requirement creates needless confusion and unnecessary tracking requirements. In a phone conversation, PG&E informed the Energy Division that their current EM&V study is budgeted for sample size ranging approximately from 150-200 of each device. Given the budget for the sample size, Energy Division will modify the language to approximately 150 - 200 of each device.

In its comments, PG&E states it may need more time to install the 5,000 devices in June 2007, depending on customer response. The Energy Division understands the situation and agrees to change the date to July 2007.

FINDINGS

1. PG&E's proposal to install 5,000 devices by July 2007 will provide approximately 5 MW of AC Cycling.
2. A fund shift of $4.68 million from other Demand Response programs would be used to cover the cost for installation, and operation of 5,000 devices in 2007 and 2008.
3. A one-time incentive payment without bill credit will save on program costs.
4. Customers would have the ability to override a particular event through a dedicated telephone line or a website, except during a Stage 3 event.
5. An override option during an event (except for Stage 3 emergency) could make the program less reliable, but it would help keep customers on the program.
6. The hassle factor for customer overriding each event is unknown.
7. Keeping track of customer overrides could help mitigate system reliability concerns for the CAISO and enable the Commission to further evaluate PG&E's approach for this program, in particular if PG&E proposes a similar approach in its multi-year application.
8. The program would be triggered during Stage 2 emergency or near-Stage 2 emergency situations, a local emergency, or during limited program testing.
9. To ensure that the cost of the device, the installation cost, and the incentive payment is used effectively, Energy Division recommends that it is necessary for customers to make a 12-month commitment to participate in the AC Cycling program.
10. Without a bill credit, 100% cycling option may discourage customer participation.
11. The issue of whether to prohibit PG&E from offering PCTs in its upcoming multi-year application is outside the scope of this resolution.
12. Approximately 150 - 200 PCT devices and approximately 150 - 200 switch devices are needed to ensure that data is available for a comparison study of the two devices.
13. Measuring and tracking load response from switches and PCTs are needed to ensure enough data to conduct a comparison of the two devices.
14. PG&E should be directed to provide monthly updates on customer selection of the AC cycling devices once it begins rollout of the program.
15. The DR M&E Committee should be directed to conduct an EM&V study for the AC Cycling program.

16. The issue of whether to prohibit PG&E from entering into a long-term contract for additional 10,000 devices while the multi-year application is pending is outside the scope of this resolution.
17. CPP customers with advanced meters should be allowed to participate in the AC Cycling program.
18. Keeping a separate track of the load reduction from dual-participation customers when an AC Cycling event is triggered during a CPP day would determine whether load drop is due to a direct load control or due to a price response.

THEREFORE IT IS ORDERED THAT:

1. The request of Pacific Gas and Electric Company to install 5,000 devices by July 2007 with fund shifting of $4.68 million from existing Demand Response program funds is approved.

2. Commencing July 1, 2007, Pacific Gas and Electric Company shall provide a monthly data report that tracks the number of times customers utilize the override option to the CPUC on the 1st of each summer month (through October 2007).

3. Pacific Gas and Electric Company shall require that participants in the AC Cycling program must remain on the program for 12 months.

4. Pacific Gas and Electric Company shall install approximately 150 - 200 switch devices and approximately 150 - 200 PCTs of the 5,000 device population.

5. Commencing July 1, 2007, Pacific Gas and Electric Company shall provide a monthly data report that measure and track load response from switches and PCTs on the 1st of each summer month (through October 2007).

6. Pacific Gas and Electric Company shall modify its Schedule to allow CPP customers to participate in the AC Cycling program.

7. Commencing July 1, 2007, Pacific Gas and Electric Company shall provide a monthly data report that track the load reduction from dual-participation customers when an AC Cycling event is triggered during a CPP day to the CPUC on the 1st of each summer month (through October 2007).

8. Commencing April 1, 2007, Pacific Gas and Electric Company shall provide a monthly data report to Energy Division that details which AC Cycling device customers are selecting.

9. Pacific Gas and Electric Company shall file revised tariffs in compliance with this Resolution within 5 business days of this effective date of this Resolution.

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 15, 2007; the following Commissioners voting favorably thereon:

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STEVE LARSON
Executive Director

MICHAEL R. PEEVEY
PRESIDENT
DIAN M. GRUENEICH
JOHN A. BOHN
RACHELLE B. CHONG
Commissioners