Decision _____

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Application of Pacific Gas And Electric Company (U 39-E) for Approval of 2008 – 2020 Air Conditioning Direct Load Control Program.	Application 07-04-009 (Filed April 6, 2007)

OPINION GRANTING APPLICATION AS MODIFIED AND APPROVING SETTLEMENT AGREEMENT BETWEEN AND AMONG PACIFIC GAS AND ELECTRIC COMPANY, THE DIVISION OF RATEPAYER ADVOCATES AND THE UTILITY REFORM NETWORK

1. Summary

This decision approves an uncontested settlement agreement between Pacific Gas and Electric Company (PG&E), the Division of Ratepayer Advocates (DRA), and The Utility Reform Network (TURN) authorizing PG&E to install 305 megawatts (MW) of air conditioning direct load control. PG&E estimates that 305 MW equates to about 397,000 devices.

Residential and small commercial customers that choose to participate in this program will receive a monetary incentive and can choose between either an air conditioning switch (Switch) or programmable communicating thermostat (PCT). PG&E would trigger the program in an emergency or in anticipation of an emergency. Furthermore, customers that are on critical peak pricing (CPP) rates can use the air conditioning direct load control to automate their response to critical peak events.

2. Background

On August 9, 2006, President Peevey issued an Assigned Commissioner's Ruling (ACR) in Application (A.) 05-06-006 *et al.* directing PG&E and the other investor-owned utilities to propose enhancements to their demand response portfolios to increase the amount of demand response available for summer 2007. On August 15, 2006, he issued a second ACR directing PG&E and San Diego Gas & Electric to file reports in R.05-02-013 addressing the need to increase Air Conditioning (AC) load reduction capacity for summer 2007.

In response to the ACRs, on August 30, 2006 PG&E proposed a program to install five MW in peak load reduction capability by summer 2007 through direct control of customer AC load (2007 AC Program). On December 8, 2006, PG&E filed Advice Letter (AL) 2946-E seeking approval of the 2007 AC Program. On February 15, 2007, the Commission issued Resolution E-4061 approving the 2007 AC Program and acknowledging that PG&E intended to file an application for approval of AC cycling program (AC Program).

On October 17, 2006 PG&E issued a request for bids on one or more aspects of the AC Program. Items for which bids were requested included supply and installation of the AC direct load control devices and all other services necessary to start up and maintain the AC Program. PG&E received several bids and entered into two supplier agreements for the AC Program contingent upon Commission approval of an application for that program.

On April 6, 2007, PG&E filed A.07-04-009 requesting approval of the AC Program with a requested budget of approximately $367 million through 2020.

PG&E filed concurrent written opening testimony that provided a detailed explanation of the AC Program.

On May 11, 2007, DRA and TURN protested PG&E's A.07-04-009. PG&E replied to the protests on May 21, 2007. No other parties have appeared in the proceeding.

On July 17, 2007, assigned Commissioner Rachelle B. Chong issued an ACR and Scoping Memo which established a schedule for the proceeding and identified the material disputed issues.

On September 17, 2007, TURN and DRA filed written testimony suggesting extensive revisions to PG&E's proposal but not disputing the need for an AC Program in PG&E's service area.

On October 1, 2007, PG&E filed written rebuttal testimony.

On October 10, 2007, PG&E filed errata to its opening testimony.

On October 22, 2007, the Parties filed motions to designate exhibits in the record, which included, among other documents, the Parties' written testimony, extensive PG&E data request responses, and reports regarding the 2007 AC Program.

Prehearing conferences were held on July 10, 2007 and on October 4, 2007. The Parties waived their right to request evidentiary hearings in the proceeding.

A properly-noticed Settlement Conference was held in this proceeding on December 11, 2007, pursuant to Section 12.1 of this Commission's Rules of Practice and Procedure.

On December 18, 2007 PG&E, TURN and DRA entered into a settlement agreement (Settlement Agreement) and simultaneously filed a joint motion for approval of the Settlement Agreement. A copy of the Settlement Agreement is attached to this decision as Exhibit 1.

3. Discussion

3.1 PG&E's Original Proposal

PG&E's application seeks approval of a program of AC direct load control for the period 2008-2020. "Direct load control" means that during emergency or near-emergency situations, PG&E employees can remotely control the air conditioner in a participating customer's residence or office. This control may be exercised in one of two ways: either by a remotely controlled Switch that turns off the customer's air conditioner for a specified period of time or via a PCT that gradually raises the maximum room temperature at the customer's premises. The protocol considered by PG&E for Switches envisions cycling the customer's air conditioner at 30-minute intervals for up to six hours, i.e., switching the AC unit off for 15 out of every 30 minutes for up to six hours a day. The protocol for PCTs envisions gradually increasing the maximum temperature setting on the customer's thermostat by up to four degrees for a maximum of six hours a day. PG&E seeks authority to install, by the end of 2010, direct load control devices—either Switches or PCTs—that will permit up to 305 MW of potential load reduction capability, with installation of supplemental devices[1] as needed through 2020, at an estimated cost of $367 million.

Switches and PCTs are equally capable of reducing demand during heat emergencies. Therefore, PG&E requests authority to let each customer choose whether they would like a PCT or a Switch. PG&E believes that many customers will prefer PCTs due to the additional benefits and functionality that a PCT offers.

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[1] Estimation of 15 MW each year.

PG&E argues that both PCTs and Switches can be readily integrated with the so-called "smart meters" that it is rolling out in place of traditional meters as part of its advanced meter initiative (AMI) approved in D.06-07-027.

PG&E also explains how its proposed AC Program is compatible with the California Independent System Operator's (CAISO) market operations. PG&E notes that a CAISO working group is developing the protocols through which demand response programs can be incorporated into its market. This working group has issued a document called the "CAISO Demand Response Resource User Guide, Guide to Participation in MRTU Release 1" (User Guide). PG&E argues because the AC Program could be called in anticipation of an emergency, PG&E could appropriately notify the CAISO that the program has been called pursuant to the User Guide so that the CAISO avoids procuring unneeded supply-side resources through its Residual Unit Commitment (RUC) process.

The Application proposes to create a voluntary program in which residential customers who elect to participate would receive a small incentive of up to $50 and commercial customers could receive an incentive of up to $100. Initially, PG&E would offer $25 to residential customers and $50 to commercial customers and would only consider raising the incentive level if necessary to reach enrollment goals.

3.2 Issues Raised by the Protests

The Division of Ratepayer Advocates (DRA) and The Utility Reform Network (TURN) filed timely protests to the PG&E application. Although both protestors are in favor of direct load control as part of an overall program of energy conservation, they object to PG&E's application on four grounds. First,

they believe Switches should be preferred to PCTs as the mechanism for effecting demand reduction because Switches are significantly less costly. Second, they dispute PG&E's contention that PCTs can be readily combined with smart meters. Third, they argue against extension of the AC Program to small business customers as well as residential customers. Fourth, they argue that any demand response program initiated by PG&E should be coordinated with programs of the CAISO and the California Energy Commission (CEC). DRA and TURN are concerned that the CAISO will regard the AC Program as a program that can only be called in emergencies, and the CAISO does not intend to incorporate emergency-triggered programs into its whole market. In particular, TURN and DRA argue if the AC Program is not coordinated with the CAISO, PG&E puts ratepayers in danger of paying twice for demand reduction, once for charges imposed by the CAISO and a second time for the PG&E program.

The objections raised by TURN and DRA were addressed in Commissioner Chong's July 17 ACR and Scoping Memo. The July 17 ACR identified four general issues and 16 specific sub-issues. The four general issues were Program Design; Cost and Cost Recovery; Coordination with Other Programs, Initiatives and Resources; and Reporting and Design Changes. The major sub-issues included:

- Is the AC Program cost-effective?
- What events should trigger use of the direct load control devices?
- Should the AC Program count toward meeting the Commission's resource adequacy requirements?
- How does the AC Program relate to PG&E's Advanced Metering Initiative?

- Should AC Program participants also be allowed to take advantage of the Critical Peak Pricing Program and future dynamic pricing tariffs?
- How should PG&E measure and evaluate the efficacy of the AC Program?

3.3 Elements of the Settlement Agreement

The Parties agree in the Settlement Agreement that PG&E's proposal to install approximately 305 MW of AC direct load control devices is reasonable, with several modifications, the most significant of which are discussed below.

The Settlement Agreement includes a significantly reduced budget and period of initial program approval from 2007 through June 1, 2011, instead of through 2020 as PG&E requests in its Application. The initial project installation schedule allows PG&E to install load control devices to obtain approximately 305 MW of load reduction by June 1, 2011, instead of through December 31, 2010 as PG&E proposed in its Application. (Settlement Agreement, Section III.A.)

The Settlement Agreement calls for an initial approved budget of $178.8 million, subject to adjustment by application as warranted in 2009. The budget is a significant reduction from the budget of $367 million PG&E requested in its errata testimony for the period 2007 through 2020. (Settlement Agreement, Section III.A.(1).)

The Settlement Agreement allows PG&E to install both Switches and PCTs. In order to reduce AC Program costs, the Settlement Agreement provides that no more than 40% of the installed load control devices may be PCTs. This is a modification to PG&E's proposed program design, which allowed customers to choose either load control device. (Settlement Agreement, Section III.A.(5).)

PG&E will adjust the number of load control devices that it will install based on measurement and evaluation study results. (Settlement Agreement, Section III.B.(2).)

The Settlement Agreement assumes that program enrollment will be 95% residential customers, and 5% non-residential customers, rather than 85% residential and 15% nonresidential, as PG&E proposed. The Parties agree to reduce this budget assumption as a result of the low level of enrollment of non-residential customers in the 2007 program to date. (Settlement Agreement, Section III.B.(6).)

PG&E agrees to continue to participate in the CAISO Market Redesign and Technical Upgrade (MRTU) working groups to address the integration of the AC Program into the CAISO's RUC process and the real-time unit commitment process. (Settlement Agreement, Section III C.)

PG&E agrees to continue to monitor the AC Program and consider potential design modifications, including the type of PCT it is installing, the integration of the AC Program with the AMI Program, and other design changes that may maximize the cost effectiveness of the AC Program. (Settlement Agreement, Section III.D.)

In addition to the measurement and evaluation discussed in its prepared testimony (Ex. 6, Ch. 5), PG&E agrees to conduct a load impact study in 2008, the results of which will be available in Spring 2009. The load impact study will be conducted with the participation of TURN and DRA. The results of the load impact study will be reported by PG&E in its 2009 application. (Settlement Agreement, Section III.E.)

Other elements of the settlement that address issues identified in the July 17 ACR are discussed below.

3.4 Reasonableness of the Settlement Agreement

Rule 12.1(d) requires us to find that a proposed settlement is reasonable in the light of the whole record, consistent with law, and in the public interest

before approving it. In determining whether that standard has been met by the proposed settlement, we look first at the degree to which the proposed settlement resolves the major issues identified in the Assigned Commissioner's Scoping Memo. Two related issues are not directly dealt with in the proposed agreement. Specifically, the proposed settlement does not address whether the AC Program should count toward the Commission's Resource Adequacy (RA) requirements and whether the program triggers are consistent with the requirements of the CAISO and the CAISO's MRTU.

The counting protocols for demand response programs have been addressed in other decisions including D.05-10-042 and D.07-06-029, and the Commission's existing RA requirements would apply to this program. Therefore, it is not necessary for the settlement to address this issue. However, a related concern, highlighted by TURN and DRA, is that even if the AC Program counts toward the Commission's RA requirement, if it is not coordinated with the CAISO's processes then the CAISO may over-procure generation resources.

According to Schedule E-RSAC and Schedule E-CSAC, PG&E may trigger the program during a CAISO Stage 1 condition or emergency or near-emergency situation. The agreement does not state whether these triggers are consistent with the CAISO's requirements. Any agreement among the parties regarding this issue would be dependent on cooperation with CAISO and, accordingly, it is appropriate to leave the issue for further discussion with CAISO. (Settlement Agreement, Section III C.)

The settlement resolves the other major issues.

3.4.1 Cost Effectiveness

In its prepared testimony, PG&E indicated that it was addressing this question using a Total Resource Cost (TRC) test which evaluates the effectiveness of a demand response program by comparing its expected economic benefits to its expected economic costs from the viewpoint of society as a whole. The expected benefits are the additional energy, generation capacity, and capacity costs that would be incurred in the absence of the demand response program. The expected costs of a demand response program include both the utility's program costs and participant costs. Benefits also include the value of avoiding additional CO_2 emissions that would be produced in the absence of the demand response program. Costs and benefits are estimated for the period 2007-2030 and the present value was calculated using an annual 7.6% discount rate. Using PG&E's program design inputs, the TRC test produces a benefit-cost ratio of approximately 0.69, indicating that the present value of the economic benefits of the AC Program is approximately 69% of the present value of its projected costs. Under an alternate set of assumptions proposed by PG&E, the benefit-cost ratio is 0.79.

At the direction of the assigned ALJ, on January 10, 2008, PG&E supplemented the motion for acceptance of the settlement agreement with an exhibit calculating the cost-benefit ratio of the settlement using the same TRC test as was used to calculate the original cost-benefit ratio.[2] The exhibit indicates that the present value of the AC Program as modified by the Settlement Agreement is

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[2] Supplemental Testimony of Bruce Perlstein in Support of Motion of Pacific Gas and Electric Company, the Division of Ratepayer Advocates and The Utility Reform Network for Approval of Settlement Agreement. (Perlstein Supplemental Testimony.) We admit this Supplemental Testimony as PG&E Exhibit S-1.

approximately 91% of the present value of its projected costs under the original set of assumptions and 136% under PG&E's alternate assumptions.

3.4.2 Relationship to AMI Program

The settlement directs PG&E to continue reviewing the AC program design to determine whether design changes are warranted during the Budget term.

3.4.3 Cost Recovery

The settlement provides that PG&E shall recover its 2008 AC Program expenses from electric distribution customers via its Demand Response Revenue Balancing Account (DRRBA), effective March 1, 2008. DRRBA shall be increased for (1) the balance of PG&E's Air Conditioning Tracking Memorandum Account (ACTMA) as of March 1, 2008 and (2) the authorized 2008 AC Program expenses not included in ACTMA. PG&E's authorized AC Program expenses for 2009-2011 shall be adjusted and collected via DRRBA in the Annual Electric True-up filing. PG&E shall create an AC Expense Balancing Account (ACEBA), a one-way balancing account that compares actual and authorized AC Program expenses. At the end of the AC Program cycle, the balance of ACEBA will be transferred to DRRBA if actual expenses were less than authorized expenses or to shareholders if actual expenses exceeded authorized expenses.

3.4.4 Critical Peak Pricing

The settlement provides that AC Program participants can also take advantage of CPP. (Settlement Agreement, Section III H.)

3.4.5 Monitoring and Reporting

The settlement provides an annual report for measuring, monitoring, reporting on and modifying the program in response to information discovered in the evaluation process. PG&E agrees to undertake a load impact study for the

program year 2008, to be completed in spring, 2009, on the persistence and level of DR from PCTs as compared to Switches. The study will also address the effects of CPP on participation levels by device; and will identify the age of the customer's building and its climate zone. (Settlement Agreement, Section III E.)

PG&E will provide the Commission's Energy Division, DRA, and TURN an annual report on the AC Program in December 2008, 2009, and 2010. The report will address the program's performance, potential design modifications, enrollment, and current budget estimates. (Settlement Agreement, Section III I.)

The settlement also addresses other issues raised by the protests but not listed above including the need for PG&E to submit a 2009 application for further funding of AC control programs based on the experience with the initial roll-out (Settlement Agreement, Section III A (2)).

In light of the whole record, this is a reasonable resolution.

Overall, the uncontested proposed settlement creates a cost-effective program that reduces the need for new electric generation capacity in a manner that is acceptable to customers and fair to ratepayers and is therefore consistent with law and in the public interest.

PG&E's 305 MW AC Program will be a significant new addition to PG&E's demand response in the state. PG&E will be able to use the program to reduce load in order to avoid system emergencies. Furthermore, customers that participate in the AC Program and have new advanced meters will have an opportunity to participate in dynamic pricing rates such as critical peak pricing and automate their air conditioning load reductions. Thus the program furthers the Commission's goals as laid out in the Energy Action Plan II.

The settlement is also consistent with other related demand response initiatives in the state that are supported by the Commission.

First, the settlement requires that PG&E continue to participate in the CAISO's working groups that are focused on integrated demand response into the wholesale market. The Commission is supportive of the CAISO's efforts in this regard. If PG&E determines that the program needs to be modified to better integrate with the wholesale market then PG&E should propose any necessary modifications.

Second, the settlement requires PG&E to analyze how to fully integrate the AC Program with its AMI. Integrating the AC Program with AMI will likely increase the value of both programs and expand opportunities for customers to engage in demand response. Therefore, 90 days after the Commission acts on PG&E's pending AMI application (A.07-12-009), PG&E should provide a report to Energy Division, DRA and TURN explaining how PG&E intends to integrate the AC Program with AMI.

Third, the settlement requires PG&E to analyze inclusion of the PCTs that are being considered as part of the CEC's Title 24 Building Standards update. The CPUC and CEC have worked closely in the area of demand response, and, thus, we welcome PG&E's commitment to incorporate Title 24-compliant PCTs into its project.

One element of the settlement that will need special consideration as the project is implemented is the cap that prevents the number of PCTs installed from exceeding 40% of the total number of installations. Pursuant to the settlement, DRA and TURN would have to agree to a higher cap before PG&E would propose raising the cap. (Settlement Agreement, Section III. B.5.) The cap appears reasonable given PG&E's current cost projections. However, technology in this area has been advancing rapidly with the deployment of large-scale AMI projects in California and elsewhere in the country. Costs of PCTs may well decline over the period of this deployment. Furthermore, PG&E's measurement

and evaluation studies will shed light on customer preferences and the reliability of demand reductions from PCTs as opposed to Switches. If the cost of PCTs decline and/or the benefits increase from PCT use, we expect PG&E to come to the Commission promptly and propose changes to the AC Program that would relax the 40% cap on PCT installations. We hope that DRA and TURN would support such changes. PG&E should monitor PCT cost trends and report on those trends in the annual reports. If PCT costs drop by 20%, PG&E should file an advice letter that proposes relaxing the cap while maintaining the authorized budget.

4. Categorization and Need for Hearings

In Resolution ALJ 176-3190, dated April 12, 2007, the Commission preliminarily categorized this application as ratesetting, and preliminarily determined that hearings were necessary. The Ratesetting categorization is affirmed. As noted above, the parties agreed in October 2007 to waive their rights to evidentiary hearings. The protests originally filed by DRA and TURN were withdrawn as part of the settlement and there are no other protestors. Given this status, public hearings are not necessary, and the preliminary determination made in Resolution ALJ 176-3190 is changed to a determination that hearings are not necessary.

5. Waiver of Comment Period

This is an uncontested matter in which the decision grants the relief requested. Accordingly, pursuant to Section 311(g)(2) of the Public Utilities Code and Rule 14.6(c)(2) of the Commission's Rules of Practice and Procedure, the otherwise applicable 30-day period for public review and comment is being waived.

6. Assignment of Proceeding

Rachelle B. Chong is the assigned Commissioner and Karl Bemesderfer is the assigned Administrative Law Judge in this proceeding.

Findings of Fact

1. Electricity load reduction during peak periods can be achieved through direct utility control of customer premises AC.
2. Either Switches or PCTs may be used to directly control customer load.
3. PCTs are significantly more expensive than Switches.
4. The alternative to reducing electricity demand through direct control of customer load during periods of peak demand is to bring additional generation capacity on line.
5. Pursuant to the Settlement Agreement, no more than 40% of the direct load control devices initially installed by PG&E will be PCTs.
6. The Settlement Agreement is estimated to achieve 305 MW of demand reduction capacity by June 2011.
7. The Settlement Agreement is estimated to cost $178.8 million by June 2011.
8. PG&E estimates that the cost-benefit ratio of the Settlement Agreement is 91% under one set of assumptions and 136% under alternate assumptions.

Conclusions of Law

1. The Settlement Agreement is reasonable in light of the whole record.
2. The Settlement Agreement is consistent with law.
3. The Settlement Agreement is in the public interest.

O R D E R

IT IS ORDERED that:

1. The application of Pacific Gas and Electric Company (PG&E) for approval of its 2008-2020 Air Conditioning direct load control program, as modified by the Settlement Agreement between and among PG&E, the Division of Ratepayer Advocates and The Utility Reform Network, attached hereto as Exhibit 1, is approved.

2. This proceeding is categorized as Ratesetting and hearings are not necessary.

3. The Supplemental Testimony of Bruce Perlstein is admitted in the record as PG&E Exhibit S-1.

4. Application 07-04-009 is closed.

This order is effective today.

Dated _____, at San Francisco, California.

Bemesderfer Exhibit 1