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PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

I.D.# 6452

ENERGY DIVISION **RESOLUTION E-4074**

April 12, 2007

R E S O L U T I O N

Resolution E-4074. Pacific Gas & Electric (PG&E), Southern California Edison (SCE), and San Diego Gas & Electric (SDG&E) implementation plans for 2007 Automated Demand Response.

By Advice Letter (AL) 2963-E Filed on January 2, 2007 by PG&E, AL 2083-E Filed on December 29, 2006 by SCE, and AL 1860-E Filed on January 2, 2007 by SDG&E.

SUMMARY

This Resolution approves PG&E's and SCE's AutoDR implementations plans on the condition that the PG&E and SCE provide some additional clarification to Energy Division on specific details. This resolution also rejects SDG&E's AutoDR implementation plan, and directs SDG&E's to re-submit its plan with additional information.

BACKGROUND

Automated Demand Response (Auto DR) for commercial and industrial facilities can be defined as fully automated demand response initiated by a signal from a utility or other appropriate entity. It consists of open, interoperable industry standard control and communications technologies designed to work with both common energy management control systems and individual end-use devices.

The Demand Response Research Center (DRRC)[1] has been developing Auto DR as part of its Public Interest Energy Research (PIER) and utility-funded research efforts and has been testing both the technologies and load shedding strategies

[1] The DRRC is a part of the California Energy Commission's Public Interest Energy Research (PIER) program.

they have developed as part of a pilot program in the PG&E service territory. The use of this technology is integrated with various existing utility demand response programs, such as the critical peak pricing program.

Commissioner Peevey's August 9, 2006 Assigned Commissioner's Ruling (ACR) directed the utilities to propose augmentations and improvements to their demand response programs for 2007 and 2008. On August 22, 2006 Commissioner Peevey issued another ruling[2] which directed the utilities to make proposals using Auto DR as part of their augmentation efforts for 2007. In response to these ACRs, the utilities proposed several changes to their demand response programs, which included an AutoDR program, and a workshop was held on September 6, 2006 to discuss all of the utility proposals.

On November 30, 2006, the Commission issued D.06-11-049. This Decision ordered PG&E, SCE, and SDG&E (the Utilities) to, among other things, file plans for implementing Auto DR programs for 2007.

D. 06-11-049 ordered that:

- In their detailed implementation plans, each utility should describe in detail how they plan to work with the DRRC to take advantage of the knowledge they have gained in developing and pilot testing shed strategies and automated communications.
- The utilities should each describe how they intend to train and monitor the third-party contractors implementing the program for quality control and customer satisfaction.
- The utilities should describe how the TA/TI funds will be used for Auto DR.
- The plans should include proposals for measurement and evaluation that provide real-time feedback to the program implementers as well as documentation of program impact and collection of information that will inform development of a long term commercialization strategy.
- The implementation plans should provide detailed budgets identifying administrative, evaluation, and incentive costs.

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[2] This ruling has an attachment with more details about AutoDR and the results of a pilot program operated by the DRRC.
http://www.cpuc.ca.gov/EFILE/RULINGS/59082.pdf

In response, PG&E filed AL 2963-E on January 2, 2007, SCE filed AL 2083-E on December 29, 2006, and SDG&E filed AL 1860-E on January 2, 2007.

In AL 2963-E, PG&E proposes to enlarge their existing pilot program, which has 13 customers, to a 15 MW program with approximately 200 customers by June 2007. Working with the DRRC and Global Energy Partners LLC (GEP), the current primary contractor for the pilot program, PG&E plans to train recruiters and technical coordinators to market the program and work with customers to develop and implement effective and reliable load shedding strategies that minimize customer costs to support customer participation in Demand Response programs. PG&E proposes to spend approximately $3.5 million for customer incentives through the TA/TI program and $2 million for program development.

In AL 2083-E, SCE proposes a pilot program with the goal of 10 MW by summer 2008. SCE proposes to recruit 10 to 20 facilities to participate by focusing on customers currently enrolled in its CPP program. SCE plans to recruit a contractor to implement the program, and a variety of subcontractors to perform various aspects of the work. SCE expects that some of these subcontractors will include service providers currently involved with PG&E's pilot Auto DR program. SCE estimates the cost of their Auto DR program, including incentives paid to customers, as $1.79 million.

In AL 1860-E, SDG&E proposes to add an Auto DR component to its existing TA/TI program and build on an existing Auto DR demonstration project to attract more TA/TI customers to consider Auto DR equipment. SDG&E expects applicants to come primarily from energy service companies or Aggregators, and will market the Auto DR program through the already-established outreach activities of the TA/TI program. SDG&E proposes to pay customer incentives of up to $300/kW to customers who install the Client Logic Integrated Relay (CLIR) box developed by Lawrence Berkeley National Laboratory (LBNL), and up to $250/kW to customers installing other Auto DR technologies. SDG&E estimates a cost of $1.9 million for 2007 and $2.6 million for 2008, with projected program impacts of 6 MW for 2007 and 8 MW for 2008.

NOTICE

Notice of AL 2963-E (PG&E), AL 2083-E (SCE) and AL 1860-E (SDG&E) was made by publication in the Commission's Daily Calendar. The utilities states that a copy of the Advice Letter was mailed and distributed in accordance with

Section III-G of General Order 96-A , and that the service list of A.05-06-006 et al. was notified by email.

PROTESTS

PG&E's Advice Letter AL 2963-E was timely protested by the Division of Ratepayer Advocates (DRA) on January 22, 2007.

PG&E responded to the protests of DRA on January 29, 2007.

SDG&E's Advice Letter AL 1860-E was timely protested by the Division of Ratepayer Advocates (DRA) on January 22, 2007.

SDG&E responded to the protests of DRA on January 29, 2007.

DISCUSSION

DRA protests the high cost of PG&E 's program, as compared to SCE's. PG&E has budgeted $3.5 million for customer incentives and $2 million for program development for its 15 MW Auto DR program, whereas SCE's program budget estimates $375,000 for customer incentives and $1.1 million in program costs. DRA points out that PG&E's Auto DR program will cost more than twice as much as SCE's program on a "total cost per kW" basis. DRA argues that because SCE's program requires modification of some of the technology used in PG&E's pilot program, that one would expect SCE's program to be the more costly. However, SCE's program will cost approximately $150/kW whereas PG&E's will cost $365/kW.

PG&E responds that this comparison is misleading, as PG&E intends to provide 15 MW by summer 2007, whereas SCE will not achieve their goal of 10 MW until 2008. In addition, as part of their effort to commercialize Auto DR technology, PG&E will target smaller commercial facilities and intends to recruit an additional 200 customers, whereas SCE is targeting 10 to 20 larger facilities, some of which are existing CPP customers.

Energy Division concludes that the PG&E and SCE programs are not directly comparable. Energy Division also concludes that the rationale provided by PG&E for its higher budget is reasonable and therefore recommends that the Commission approve its proposed budget for 2007.

DRA also protests the high cost of SDG&E's proposed incentives payments. DRA points out that SDG&E has budgeted the maximum amount of $300/kW for TI payments, whereas the other utilities estimate a cost per kW that is lower than $300. DRA recommends that SDG&E limit its TI payments to the actual cost of installation. SDG&E responds that it does intend to pay customers only the actual cost of installation, and that its budget was intended to reflect only a maximum potential cost. **Energy Division agrees with DRA and recommends that SDG&E (as well as PG&E and SCE) should pay Auto DR customer incentives which reflect *only* the actual costs of audits, equipment, installation and other allowable costs[3], *up to* $100/kW for TA and $300/kW for Auto DR TI**.

DRA protests SDG&E's decision to offer different customer incentives for different technologies. As noted above, SDG&E proposes to offer TA incentives of up to $300/kW to customers using LBNL's CLIR boxes and $250/kW to customers using other Auto DR technologies. DRA argues that offering a smaller incentive for non-LBNL technology would have the effect of discouraging the development of new technologies, rather than creating a more robust market as SDG&E claims it would. SDG&E replies that they relied on TA/TI discussion in D.06-11-049[4], which sets TI levels at $300 for Auto DR technology and $250 for other DR technologies, and also on the Auto DR discussion in D.06-11-049[5], which denies PG&E's request to increase their Auto DR incentive to $300/kW. SDG&E interprets this discrepancy as an intention by the Commission that the higher incentive should apply only to LBNL's technology. However, this is a misinterpretation by SDG&E. D.07-01-26[6] corrected specific parts of D.06-11-049, and clarified that the Commission has adopted a TI incentive level of $300/kW for Auto DR technologies and a $250/kW incentive level for other DR technologies. Hence, **Energy Division recommends that SDG&E be directed to offer a TA incentive of up to $300/kW for Auto DR implementations that**

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[3] "Allowable costs" should include customer labor and site assessment support and the use of multiple technical and systems integration contractors, in addition to the contractor costs.

[4] D.06-11-049, p. 45

[5] D.06-11-049, p. 47

[6] D.07-01-026, *Order Correcting Errors in D.06-11-049*, p. 2

include communications technologies which allow those systems to "listen" for and respond to the Auto DR signals. SDG&E, in its reply comments to DRA, has already expressed a willingness to do so if directed by the Commission.

Energy Division has analyzed each utility's plan with respect to the explicit criteria stated in D. 06-11-049.

In their detailed implementation plans, each utility should describe in detail how they plan to work with the DRRC to take advantage of the knowledge they have gained in developing and pilot testing shed strategies and automated communications.

- PG&E states that they have been working with the DRRC on Auto DR for two years and intend to continue to do so – DRRC will remain under contract with PG&E for 2007 to provide guidance and develop program enhancements.

- SCE proposes to implement a plan similar to PG&E's pilot program and has already met several times with the DRRC. SCE and DRRC are currently in negotiations to establish a service contract.

- SDG&E does not state how they will work with the DRRC.

The utilities should each describe how they intend to train and monitor the third-party contractors implementing the program for quality control and customer satisfaction.

- PG&E will work with DRRC and GEP to find recruiters and technical coordinators, and provide up to 6 training sessions on Auto DR equipment and technical interfaces. PG&E will create demand response "packages" which technical coordinators can use to help customers with all aspects of demand response program participation. The DRRC will be extensively involved in the creation of training materials. GEP will provide bi-monthly status reports to PG&E on program performance.

- SCE proposes to contract with an Engineering/Software Services Company (ESSC) who will implement their Auto DR program. SCE will work with the California Energy Commission (CEC) in determining vendor qualifications. The ESSC will subcontract recruiters and technical coordinators, and SCE will provide 4-6 training sessions on Auto DR equipment and interface needs.

SCE will focus on developing demand reduction "packages" which can easily be used by multiple customers.

However, SCE has not completely explained how they will insure that the technical coordinators will develop customized demand response strategies for customers. One of the advantages of the DRRC-PG&E approach is the "customization" of customer shed strategies that will maximize load reductions while minimizing impacts on customer operations and comfort. Energy Division believes that it is imperative for the success of the Auto DR program that third-party contractors (who are working directly with customers) are able to not only offer customers the appropriate package of demand response measures and actions, but work with the customers to ensure that these packages are appropriate and viable for the particular customer, and that the demand response installation continue to function over time. **Energy Division recommends that the Commission order SCE to more fully explain how they will work with the DRRC to develop this aspect of their program.**

- SDG&E does not propose to train third-party contractors to implement their Auto DR program. Instead, SDG&E proposes to market the program through existing outreach activities associated with their TA/TI program, and expects this will result in applications, mostly from customers of aggregators or other energy service companies. Energy Division concludes that SDG&E's proposed approach for this component of the program is unacceptable because the training of third-party contractors is integral to the success of the program.

The utilities should describe how the TA/TI funds will be used for Auto DR.

- PG&E intends to fund customer incentives through the normal activities of the TA/TI program, such as customer audits, new equipment, equipment upgrades and enhancement, infrastructure improvements to support Auto DR equipment, customer labor and site assessment support and the use of multiple technical and systems integration contractors, in addition to the contractor costs, etc. TA/TI incentives as determined in D. 06-11-049 will be paid to customers through GEP.

- SCE intends to fund the administration, implementation and customer incentives by shifting existing TA/TI funding. Customer incentives are determined by the TA/TI incentives approved in D. 06-11-049.

- SDG&E will provide incentives to Auto DR customers through its TA/TI program, and proposes to pay customer incentives of up to $300/kW to customers who install the Client Logic Integrated Relay (CLIR) box developed by Lawrence Berkeley National Laboratory (LBNL), and up to $250/kW to customers installing other Auto DR technologies. SDG&E will pay the first 25% of the incentive payment upon submittal and approval of the customer's application, the second 25% upon installation and completion of a load shed test, and the remainder upon enrollment in a demand response program. (As noted previously, Energy Division recommends that SDG&E's proposed incentive structure should be amended.

The plans should include proposals for measurement and evaluation that provide real-time feedback to the program implementers as well as documentation of program impact and collection of information that will inform development of a long term commercialization strategy.

- PG&E will develop a program plan which includes metrics, evaluating criteria and reporting schedules to be used to monitor and evaluate the program during the course of the year. PG&E will solicit and record information from customers to generate an overall picture of customer satisfaction at the end of the program.

- SCE will use existing TA/TI site verification and load shed measurement procedures for its Auto DR program, and has budgeted $100,000 for measurement and evaluation of Auto DR at the end of 2008.

- SDG&E proposes to perform a process evaluation of their Auto DR program, and coordinate with other utilities to perform a state-wide evaluation if advisable. SDG&E does not propose a time frame for these evaluations.

The implementation plans should provide detailed budgets identifying administrative, evaluation, and incentive costs.

- PG&E estimates a cost of $3.5 million for customer incentives and $2 million for program development, budgeted by 14 discrete tasks.

- SCE's implementation plan provides a detailed budget of the cost of each of the 14 tasks SCE has identified in the development of its Auto DR program. SCE proposes to spend $1,503,000 in 2007, which includes an estimated $375,000 for customer incentives.

- For 2007, SDG&E proposes to spend $114, 290 on program administration, $11,174 on measurement and evaluation, and $1.8 million on incentives, for a total of $1,925,464. For 2008, the proposed budget is $2,676,125.

D. 06-11-049 also states a concern that customers receiving Auto DR incentives "be obligated to provide demand response during critical events." SCE states that customers in the Auto DR program will participate in SCE's CPP program. SDG&E states that customers will be paid the full incentive payment only upon enrollment in a demand response program. It is assumed that PG&E will continue to require customers receiving TA incentives to participate in its CPP program, but this should be clearly stated. **Energy Division recommends that the Commission order the utilities to more fully explain which demand response program(s) customers will be eligible to participate in and how customers' participation will be enforced.**

Based on the analysis above, Energy Division has concluded that PG&E and SCE have provided detailed Auto DR implementation plans which express a commitment to achieving the overall goals expressed in D. 06-11-049. On the other hand, Energy Division also concludes that SDG&E's proposed Auto DR plans are insufficient in a number of areas. **Energy Division recommends that the Commission find SDG&E's Auto DR proposal as insufficient and order SDG&E to re-file an Auto DR implementation plan for 2007.** Energy Division recommends that SDG&E follow the format used by PG&E, which details the ways in which they will implement each of the five requirements set out in D. 06-11-049, and also provide a detailed task list and itemized budget that both PG&E and SCE included in their proposals.

Also based on the analysis above, Energy Division recommends that the Commission approve PG&E and SCE's Auto DR implementation plans. However, Energy Division recommends that SCE and PG&E provide clarification of certain matters, specifically:

- SCE states a goal of 10 MW of Auto DR by summer 2008, but does not report how much, if any, can achieve be achieved by 2007, as required by D.06-11-049.
- PG&E and SCE should more fully explain which demand response program(s) customers will be eligible to participate in and how customers' participation will be enforced..
- SCE should state their plans for a process evaluation in 2007 of their Auto DR program.
- SCE should explain, in detail, how they will work with the DRRC to insure that the technical coordinators will develop customized demand response strategies for customers.

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.

The 30-day comment period for the draft of this resolution was neither waived nor reduced. Accordingly, this draft resolution was mailed to parties for comments, and will be placed on the Commission's agenda no earlier than 30 days from today.

FINDINGS

1. D. 06-11-049 directed PG&E, SCE and SDG&E to file Advice Letters containing plans for implementing Auto DR programs for 2007.
2. In response to D.06-11-049, PG&E filed AL 2963-E on January 2, 2007, SCE filed AL 2083-E on December 29, 2006, and SDG&E filed AL 1860-E on January 2, 2007.
3. PG&E's AL 2963-E and SDG&E's AL 1860-E were timely protested by the Division of Ratepayer Advocates (DRA) on January 22, 2007, and both PG&E and SDG&E responded to DRA's protest on January 29, 2007.
4. The rationale provided by PG&E for its 2007 AutoDR budget is reasonable and should be approved.

5. SDG&E, PG&E and SCE should pay customer incentives which reflect *only* the actual costs of audits, equipment, installation and other allowable costs[7], *up to* $100/kW for TA and $300/kW for Auto DR TI.
6. SDG&E should offer a TA incentive of up to $300/kW for Auto DR implementations that include communications technologies which allow those systems to "listen" for and respond to the Auto DR signals.
7. SDG&E's proposed plan does not state how they will work with the DRRC.
8. SCE should clarify how many MWs can be achieved by its AutoDR program by 2007, as required by D.06-11-049.
9. SCE should fully explain how they will work with the DRRC to insure that the technical coordinators will develop customized demand response strategies for customers.
10. SCE should state their plans for a process evaluation in 2007 of their Auto DR program.
11. SDG&E does not propose to train third-party contractors to implement their Auto DR program.
12. PG&E, SCE and SDG&E should fully explain which demand response program(s) customers will be eligible to participate in and how customers' participation will be enforced.
13. SDG&E's AutoDR implementation plan is insufficient and SDG&E should re-file a plan that addresses the five requirements set out in D.06-11-049, and provides a detailed task list and itemized budget.
14. PG&E and SCE's Auto DR implementation plans should be approved on the condition that both utilities provide written clarification to Energy Division on the items identified in these Findings.

THEREFORE IT IS ORDERED THAT:

1. The request of PG&E to implement an Auto DR program for 2007 as requested in Advice Letter 2963-E is approved, with the contingency that within 15 days PG&E clarify in writing to Energy Division which demand

[7] "Allowable costs" should include customer labor and site assessment support and the use of multiple technical and systems integration contractors, in addition to the contractor costs.

response program(s) Auto DR customers will be eligible to participate in and how customers' participation will be enforced.

2. The request of SCE to implement an Auto DR program for 2007 as requested in Advice Letter 2083-E is approved, with the contingency that SCE shall submit the following information to the Energy Division within 15 days of the effective date of this Resolution:
   - SCE states a goal of 10 MW of Auto DR by summer 2008, but does not report how much, if any, can be achieved by 2007, as required by D.06-11-049.
   - SCE should more fully explain which demand response program(s) customers will be eligible to participate in and how customers' participation will be enforced.
   - SCE should state their plans for a process evaluation in 2007 of their Auto DR program.
   - SCE should explain, in detail, how they will work with the DRRC to insure that the technical coordinators will develop customized demand response strategies for customers.
3. The request of SDG&E to implement an Auto DR program for 2007 as requested in Advice Letter 1860-E is denied. Within 15 days of the effective date of this Resolution, SDG&E shall re-submit, via supplemental advice letter, its plans to implement an Auto DR program for 2007 including details on how it will implement each of the five requirements set out in D. 06-11-049, as well as a detailed task list and itemized budget. The issues of clarification that PG&E and SCE are directed to address should also be addressed in SDG&E's supplemental filing.

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 April 12, 2007; the following Commissioners voting favorably thereon:

STEVE LARSON
Executive Director

STATE OF CALIFORNIA ARNOLD SCHWARZENEGGER, *Gove*

PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
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I. D. #6452
March 8, 2007 RESOLUTION E-4074
April 12, 2007

TO: PARTIES TO SCE ADVICE LETTER 2083-E, PG&E ADVICE LETTER 2963-E, and SDG&E ADVICE LETTER 1860-E;

Enclosed is draft Resolution Number E-4074 of the Energy Division. It is in response to SCE AL 2083-E, PG&E AL 2963-E, and SDG&E AL 1860-E and will appear on the agenda at the next Commission meeting held 35 days after the date of this letter. The Commission may vote on this Resolution at that time or it may postpone a vote until a later meeting. When the Commission votes on a draft Resolution, it may adopt all or part of it as written, amend, modify or set it aside and prepare a different Resolution. Only when the Commission acts does the Resolution become binding on the parties.

All comments on the draft Resolution are due by **March 29, 2007**. Comments shall be served on parties, as outlined below.

1) An original and two copies, along with a certificate of service to:

Honesto Gatchalian
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505 Van Ness Avenue
San Francisco, CA 94102
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2) Parties described above (attached).

3) Bruce Kaneshiro
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Comments shall be limited to five pages in length plus a subject index listing the recommended changes to the draft Resolution, a table of authorities and an appendix setting forth the proposed findings and ordering paragraphs.

Comments shall focus on factual, legal or technical errors in the proposed draft Resolution.

Replies to comments on the draft resolution may be filed (i.e., received by the Energy Division) on **April 5, 2007**, and shall be limited to identifying misrepresentations of law or fact contained in the comments of other parties. Replies shall not exceed five pages in length, and shall be filed and served as set forth above for comments.

Late submitted comments or replies will not be considered.

An accompanying declaration under penalty of perjury shall be submitted setting forth all the reasons for the late submission.

Please contact me at 415-703-1187, if you have questions or need assistance.

Sincerely,

Bruce Kaneshiro
Supervisor, Demand Response Section
Energy Division

Enclosure: Service List
Certificate of Service

CERTIFICATE OF SERVICE

I certify that I have by electronic mail this day served a true copy of Draft Resolution E-4074 on all parties on the service list for SCE AL 2083-E, PG&E AL 2963-E, and SDG&E AL 1860-E or their attorneys as shown on the attached list.

Dated March 8, 2007 at San Francisco, California.

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Bruce Kaneshiro

NOTICE

Parties should notify the Energy Division, Public Utilities Commission, 505 Van Ness Avenue, Room 4002 San Francisco, CA 94102, of any change of address to insure that they continue to receive documents. You must indicate the Resolution number on the service list on which your name appears.

Parties to SCE AL 2083-E, PG&E AL 2863-E, and SDG&E AL 1860-E:

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