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BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Application of Pacific Gas and Electric Company
(U39E) for Approval of Demand Response
Programs, Pilots and Budgets for 2012-2014.

Application 11-03-001
(Filed March 1, 2011)

And Related Matters.

Application 11-03-002
Application 11-03-003

**ADMINISTRATIVE LAW JUDGE'S RULING
PROVIDING FURTHER GUIDANCE FOR PERMANENT LOAD SHIFTING
ACTIVITIES IN THE 2012-2014 DEMAND RESPONSE APPLICATIONS**

1. Summary

Ordering Paragraph 32 of Decision 09-08-027 issued in the 2009-2011 Demand Response (DR) Applications proceeding, (Application (A.) 08-06-001, et al.) required Southern California Edison Company, San Diego Gas & Electric Company and Pacific Gas and Electric Company (jointly, the IOUs) to examine ways of expanding the availability of permanent load shifting (PLS). On November 30, 2010, the IOUs distributed the "Statewide Joint IOU Study of Permanent Load Shifting" (PLS Study).¹

¹ The PLS Study was placed into the formal record of Rulemaking (R.) 07-01-041 by a February 11, 2011 Administrative Law Judge (ALJ) Ruling in that proceeding, and is available at <http://docs.cpuc.ca.gov/efile/RULINGS/130717.pdf>.

This ruling incorporates by reference the PLS Study and its associated comments filed in Rulemaking 07-01-041 into the formal record of this proceeding, (A.11-03-001 et al.). In addition, this ruling provides guidance to the IOUs for revising estimates of the cost effectiveness of proposed PLS activities in their 2012-2014 DR applications filed on March 1, 2011.

IOUs are given 21 days to refile and re-serve the PLS portion of their 2012-2014 DR applications to comply with the requirements of this ruling.

2. Background and Overview

Over the course of the past two years, the Commission has developed an overall framework for demand response (DR) program applications for 2012-2014, including permanent load shifting (PLS) programs. PLS refers to shifting energy usage from one time period to another on a recurring basis. PLS often involves storing electricity produced during off-peak hours and then using the stored energy to support load during peak periods.² Commission Decision (D.) 09-08-027, approving 2009-2011 DR activities and budgets for Southern California Edison Company (SCE), San Diego Gas & Electric Company and Pacific Gas and Electric Company (PG&E), required the investor-owned utilities (IOUs) to file DR program applications (Applications) by January 30, 2011 for approval of DR activities and budgets for 2012-2014. Furthermore, D.09-08-027 directed each IOU to work together with parties to study PLS so as to develop strategies to expand its availability. Ordering Paragraph 32 of D.09-08-027 required each IOU to provide its Statewide Joint IOU Study of Permanent Load

² Examples of PLS technologies include battery storage and thermal energy storage, and altering processes to shift the time of use or order of production activities.

Shifting (PLS Study) to the Director of Energy Division no later than December 1, 2010.

A ruling issued in R.07-01-041 on August 27, 2010, provided policy and design guidance related to DR program development for the three-year program budget cycle (2012-2014) and described the information the IOUs should include in those applications to ensure that the Commission has sufficient information available to evaluate the IOUs' DR activity and budget proposals. The August 27, 2010 Ruling directed the IOUs to include in their 2012-2014 applications "proposals to expand the use of PLS that are informed by the December 2010 study."³

On November 30, 2010, the IOUs distributed the PLS Study, prepared by Energy and Environmental Economics, Inc. and StrateGen Consulting. Subsequently, the Commission adopted D.10-12-024, which provides a consistent method for estimating the cost effectiveness of DR activities. D.10-12-024 also revised the deadline for filing of the IOUs' Applications to no later than March 1, 2011,⁴ and noted that the Commission may issue further guidance on the inclusion of PLS activities in those applications.⁵

The IOUs shall refile the PLS portion of their Applications such that each conforms to the guidelines as follows in this ruling.

³ August 27, 2010 Ruling at 17.

⁴ D.10-12-024, Ordering Paragraph 2.

⁵ D.10-12-024 at 44.

2.1. Relevance of the PLS Study to the PLS Portion of the Applications Filed on March 1, 2011

On February 11, 2011, ALJ Hecht issued a ruling⁶ distributing the PLS Study in R.07-01-041 and allowing parties an opportunity to comment on the report. In the February 11, 2011 Ruling, parties were directed to “discuss the relevance to and the usefulness of the [PLS Study] in the review of any permanent load shifting proposals”⁷ in the March 1, 2011 Applications. In opening comments to the February 11, 2011 Ruling, PG&E stated that “PG&E’s proposed program requirements are consistent with the program recommendations in the Joint IOU Study.”⁸ However, PG&E, along with the California Energy Storage Alliance (CESA) and Ice Energy, Inc. also noted the need for further clarification or guidance from the Commission. Specifically, CESA and PG&E discussed the need for the Commission to clarify how the Demand Response Reporting Template is to be used to analyze the cost effectiveness of PLS. Furthermore, CESA and PG&E note that the PLS Study and the 2010 DR Protocols differ in handling of avoided generation capacity costs, avoided transmission and distribution costs and avoided renewable portfolio standard costs. In SCE’s opening comments to the February 11, 2011 Ruling, SCE “welcomes the Commission’s further guidance on the applicability of the Report’s conclusions to the IOUs’ [demand response] applications.”

On March 1, 2011, the IOUs filed their 2012-2014 Applications, which included proposals to expand the use of PLS, as previously directed by the

⁶ <http://docs.cpuc.ca.gov/efile/RULINGS/130717.pdf>.

⁷ February 11, 2011 Ruling at 2.

Commission. In order to move forward with the analysis of the IOUs' Applications, this ruling places the PLS Study into the formal record of this proceeding (A.11-03-001 et al.), along with the comments⁹ and reply comments¹⁰ solicited through the ALJ Ruling in R.07-01-041,¹¹ and provides further guidance

⁸ Opening Comments of PG&E on Statewide Report on Permanent Load Shifting, March 7, 2011 at 4.

⁹ Comments of Pacific Gas and Electric Company on Statewide Report on Permanent Load Shifting, March 7, 2011, <http://docs.cpuc.ca.gov/efile/CM/131889.pdf>;
Opening Comments of Ice Energy, Inc. on Permanent Load Shifting Study, March 7, 2011, <http://docs.cpuc.ca.gov/efile/CM/132133.pdf>;
Comments of Transphase Company In Response to Administrative Law Judge's Ruling dated February 11, 2011 Requesting Comments on Permanent Load Shifting Report and Utilities PLS Proposals, March 7, 2011, <http://docs.cpuc.ca.gov/efile/CM/132033.pdf>;
Opening Comments of Southern California Edison Company on the Statewide Joint IOU Study of Permanent Load Shifting, March 7, 2011, <http://docs.cpuc.ca.gov/efile/CM/131901.pdf>;
Opening Comments of the California Energy Storage Alliance on Permanent Load Shifting Study, March 7, 2011, <http://docs.cpuc.ca.gov/efile/CM/131904.pdf>; and
Comments of the Division of Ratepayer Advocates on the Joint Investor-Owned Utility Study of Permanent Load Shifting, March 7, 2011, <http://docs.cpuc.ca.gov/efile/CM/131903.pdf>.

¹⁰ Reply Comments of Pacific Gas and Electric Company on Statewide Report on Permanent Load Shifting, March 18, 2011, <http://docs.cpuc.ca.gov/efile/CM/132406.pdf>;
Reply Comments of Ice Energy, Inc. on Permanent Load Shifting Study, March 18, 2011, <http://docs.cpuc.ca.gov/efile/CM/132405.pdf>;
Reply Comments of Southern California Edison Company on the Statewide Joint IOU Study on Permanent Load Shifting, March 18, 2011, <http://docs.cpuc.ca.gov/efile/CM/132404.pdf>;
Reply Comments of the California Energy Storage Alliance on Permanent Load Shifting Study, March 18, 2011, <http://docs.cpuc.ca.gov/efile/CM/132410.pdf>;
Reply Comments of the Division of Ratepayer Advocates on the Joint Investor-Owned Utility Study of Permanent Load Shifting, March 18, 2011, <http://docs.cpuc.ca.gov/efile/CM/132439.pdf>.

¹¹ <http://docs.cpuc.ca.gov/efile/RULINGS/130716.pdf>.

to the IOUs. Information contained in the PLS Study and related opening and reply comments may be referred to in future discussions of this proceeding.

3. Guidance for Revising PLS Information in the 2012-2014 Applications

Within 21 days of the date of this ruling, the IOUs shall refile and re-serve the permanent load shifting portions of the Applications such that they conform to the guidelines contained in this ruling.

3.1. Estimating the Cost Effectiveness of PLS Activities

On December 16, 2010, the Commission adopted protocols for estimating the cost effectiveness of DR activities.¹² The decision noted that the protocols could require some modification for use with PLS activities. The PLS Study recommended a similar set of protocols for estimating the cost effectiveness of PLS activities. In order to provide consistency between calculations of cost effectiveness for DR and PLS activities, this ruling requires IOUs to use the cost effectiveness method recommended in the PLS Study with the following modifications:

1. Develop and use a consistent framework, based on the Demand Response Reporting Template, for calculating the cost effectiveness of permanent load shifting activities;
2. Prepare sensitivity analyses similar to those included in the demand response cost effectiveness protocols; and
3. Use long-run avoided capacity costs consistent with those used in the demand response cost effectiveness protocols.

¹² Commission D.10-12-024.

These modifications are discussed in further detail below. The IOUs shall provide the required modifications as part of their revisions to the PLS portions of their Applications.

3.1.1. Consistent Framework for Cost Effectiveness Calculations

In order to ensure consistent results when measuring cost effectiveness, the IOUs shall jointly adapt the DR Reporting Template adopted in D.10-12-024 to apply to PLS activities. The IOUs shall then use this common framework to revise estimates of the cost effectiveness of existing and proposed PLS activities included in the Applications. Adjustments to the framework shall include, but may not be limited to, replacement of the value for period of amortization of capital costs with an appropriate project lifetime. IOUs shall agree on consensus values for project lifetime for different technologies, and the value for each technology shall be used consistently across IOUs. The IOUs shall also agree on consensus values for the total cost of installing a PLS storage device for each type of PLS technology being considered in the Applications. If the IOUs are unable to reach consensus on the values, they are to identify the differences and provide a comparison exhibit of the differences. The comparison exhibit shall also explain the differences.

3.1.2. Required Sensitivity Analyses

The DR protocols adopted in D.10-12-024 require IOUs to conduct sensitivity analyses on six variables. The intention of this requirement is to provide a sense of the effect of any error in the calculation of the major inputs driving the final results. Given the uncertainties inherent in many of the estimated values included in any cost-effectiveness analyses of PLS and DR activities, sensitivity analyses will provide a snapshot of the range of circumstances in which programs would be cost effective.

Similarly, I require IOUs to conduct sensitivity analyses on four variables relevant to PLS. Two of these variables are also required by the DR protocols; these are avoided generated capacity costs and avoided transmission and distribution costs. The ranges used in the PLS sensitivity analyses shall be the same as those used in the existing DR Reporting Template.

In addition, I require the IOUs to conduct two other sensitivity analyses on variables also relevant to PLS activities: the project lifetime of PLS activities and the total cost to install a PLS storage device. As discussed above, IOUs shall choose consistent values for both the project lifetime and the installation cost to use in the base calculation for each type of PLS technology. IOUs shall do a sensitivity analysis using values 50 percent above and below this base number for these two variables.

3.1.3. Use of Long-run Avoided Costs

The cost effectiveness estimation protocols recommended in the PLS Study depart from the adopted protocols for DR activities in that they require the use of short-run costs rather than long-run costs for the avoided capacity cost benefit. Because the purpose here is to remain consistent with the DR protocols, I require the IOUs to use the long-run avoided cost capacity cost numbers calculated using the Avoided Cost Calculator.

4. Relationship of PLS to Other Proceedings

I recognize the need for consistency between any proposals that may be adopted in this proceeding and electric storage policies set in the Commission's Electric Storage Proceeding, R.10-12-007. While specific PLS proposals may be considered in this proceeding, overall policy for electric storage will be set in that rulemaking.

