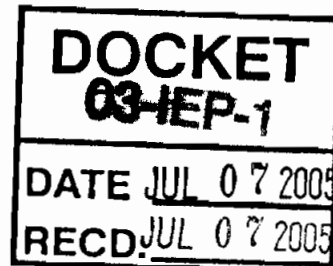


BEFORE THE PUBLIC UTILITIES COMMISSION OF THE
STATE OF CALIFORNIA



04-DIST-GEN-1

Order Instituting Rulemaking Regarding Policies,)
Procedures and Incentives for Distributed)
Generation and Distributed Energy Resources.)

RULEMAKING 04-03-017
(Filed March 16, 2004)

CEC Docket No. 04-DIST-GEN-1
and 03-IEP-1

COMMENTS OF SOUTHERN CALIFORNIA EDISON COMPANY (U 338-E) ON
ASSIGNED COMMISSIONER AND ADMINISTRATIVE LAW JUDGE'S RULING
SEEKING COMMENT ON STAFF SOLAR REPORT

MICHAEL D. MONTOYA
AMBER E. DEAN

Attorneys for
SOUTHERN CALIFORNIA EDISON COMPANY

2244 Walnut Grove Avenue
Post Office Box 800
Rosemead, California 91770
Telephone: (626) 302-6057
Facsimile: (626) 302-7740
E-mail: Mike.Montoya@SCE.com

Dated: July 7, 2005

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Pursuant to the June 14, 2005 Assigned Commissioner and Administrative Law Judge’s Ruling Seeking Comment on Staff Solar Report (the Ruling), Southern California Edison Company (SCE) submits the following comments on the CPUC and CEC Joint Staff Proposal to Implement a California Solar Initiative (the Staff Report).

**I.
SUMMARY**

SCE recognizes that solar energy technologies have the potential to help California meet its energy needs into the future. Consequently, SCE supports the development of solar programs that will benefit ratepayers and the state as a whole. In December of last year, SCE and a number of other stakeholders and interested parties filed comments in response to the Assigned Commissioner’s request for comments on the Governor’s Proposed Solar Roofs Initiative. At that time, SCE noted that the referenced solar roofs proposal did not provide sufficient detail about the proposed program to comment specifically on the feasibility or cost-effectiveness of

any specific proposal. SCE, however, provided a number of specific principles that should guide any expanded solar initiative. These included:

- The program should be cost effective.
- The program should include empirical performance criteria and measurement standards.
- Location and eligibility standards should be implemented to ensure maximum efficiency and output.
- The program should not disproportionately burden any customer class through cost shifting.
- Gross output purchased by load serving entities (LSEs) should count toward Renewable Procurement Standard (RPS) compliance.
- The program should apply statewide, funded by the customers of all LSEs.

Although there is certainly more specificity in this latest incentive proposal, SCE remains concerned that the above principles are not sufficiently incorporated or reflected at a level that will ensure that ratepayers receive the maximum benefit from what is contemplated to be a very costly and long term investment in solar power. This is especially critical because as the Staff Report acknowledges, “[a]fter eight years and close to \$1 billion of subsidies, installed solar costs in California have decreased only slightly, and the industry has made little progress in reaching a self-sustaining market.”¹ In these comments, SCE offers some general observations regarding the Staff’s analysis and some specific comments on the Staff’s six program elements designed to enhance the opportunity for a successful incentive program. These include:

- The Staff should revise its cost-benefit analysis to reflect the multiple perspective cost-benefit framework recommended by SCE and other parties to this rulemaking.

¹ Staff Report, p. 4.

- SCE supports the Staff's recommendation to allocate California Solar Initiative (CSI) incentives based on system performance rather than system capacity.
- The Commission should consider strict eligibility requirements pertaining to the customer site where a solar system would be installed (such as optimum orientation of panels and minimum annual level of available sunshine) to assure maximum benefit to both ratepayers and host customers.
- The Commission should implement a maximum program budget or a cost cap to limit the open-ended cost exposure to ratepayers.
- Incentive funds should be open to all customers and provided to installations that will be the most cost-effective (including centralized solar applications), rather than strictly allocated between residential and commercial customers.
- The Commission should incorporate a mid-term assessment of the program which includes an opportunity to assess the efficacy of the program and provides for either an extension or an early termination of the program.
- The Staff should propose a specific declining rebate schedule and clarify that incentives under the CSI would extend only through 2016, the proposed term of the program.

II.

DISCUSSION

A. General Observations

Although SCE appreciates the Staff's desire to implement a CSI program, the fact remains that the specific details of a CSI have not yet been articulated by the Legislature. As noted in a June 27, 2005 Los Angeles Times article, the precise bill language and the fate of Senate Bill (SB) 1 itself remain in flux. So, it seems somewhat premature for the Commission to pursue the implementation of an incentive plan that has not yet been signed into law. Even more critical to this effort is the fact that the Commission has yet to complete a cost-benefit evaluation

of solar distributed generation. The Commission just recently completed hearings in this proceeding to identify an appropriate cost-benefit methodology for evaluation of programs like the proposed CSI. Since a cost-benefit methodology has not yet been adopted, SCE finds it difficult to comprehend how the Staff has already concluded that the proposed CSI will provide an estimated \$1.02 billion in benefits to ratepayers for each year the program operates.²

SCE has a number of other concerns with the Staff's analysis and recommends that it be revised to reflect the multiple perspective cost-benefit framework recommended by SCE and numerous other parties in this rulemaking. The most notable problem with the analysis presented in the Staff's Benefit Table (page 12 of the Staff Report) is that it only presents avoided cost savings, and does not include any costs associated with the installation of solar energy technologies. At \$8.67/watt, which is about the cost of solar energy systems installed as part of the Self-Generation Incentive Program (SGIP), the annual installation of 300 MW of solar energy systems would cost approximately \$2.6 billion, which exceeds the benefits the Staff calculates by about \$1.6 billion. Without a decline in installation costs over the ten years the program would operate, this would result in net costs to California of \$16 billion.

There also appear to be a number of other questionable assumptions used in deriving the \$1.02 billion of avoided cost savings. For the purpose of the Renewable Portfolio Standard, the Commission recently published market price referent (MPR) values of \$60.5/MWh (baseload) and \$114/MWh (peaker).³ The avoided cost value used in the Staff's analysis is apparently even higher than the peaker MPR, despite the fact that a solar energy system operates for more hours than a peaker and thus produces proportionately more energy at less valuable times. In addition, the assumption for the number of summer peak and partial-peak hours used in the analysis appears overstated. SCE's summer on-peak period is about 500 hours (six hours each weekday

² SCE acknowledges that the Report indicates that the scenarios contained in the report will be adjusted to reflect the solar valuation methodology adopted by the Commission. However, the Report fails to explain the specific assumptions utilized in the current analysis.

³ Assigned Commissioner's Ruling Issuing Revised 2004 Market Price Referents For The Renewables Portfolio Standard Program, Ruling 04-04-026, February 11, 2005.

over a four-month summer⁴). The Staff's analysis assumes 1,325 summer peak hours. In addition, the Staff assumes 1,960 summer partial-peak hours. This implies that 37.5% of the hours in a year are summer peak and partial-peak. Even assuming a six-month summer, this exceeds the number of daylight hours.

B. Consolidation of Solar Incentive Programs

SCE generally supports consolidation of current residential and commercial solar incentive programs into one program that would be administered by Pacific Gas & Electric (PG&E), SCE, Southern California Gas Company (SoCalGas), and the San Diego Regional Energy Office.⁵ SCE agrees that it makes sense to leverage the experience of the existing SGIP administrative infrastructure and the statewide working group to facilitate the administration of a consolidated solar incentive program. SCE does note, however, that the Staff's proposal to consolidate incentive programs under presumably the auspices of the CPUC does not appear to comport with the current language in SB 1 that vests the CEC with the responsibility to administer the solar incentive program contemplated under that bill. SCE is concerned as to how the Staff intends to reconcile its proposals with SB 1, if that bill is signed into law in its current form. Moreover, notwithstanding SCE's support for consolidation, SCE continues to believe that because claimed peak energy cost avoidance benefits and environmental benefits resulting from a solar incentive program will be enjoyed by all citizens of the State, a statewide solar incentive program should be funded by all electric ratepayers, including customers served by the publicly owned utilities.

C. Adopt Performance-Based Incentives

SCE strongly concurs with the Staff's recommendation that incentives be allocated based on the solar system's performance and not simply system capacity. As reflected in the Itron 4th

⁴ SCE's tariffs reflect a four month summer season.

⁵ SCE continues to advocate an administrative role for San Diego Gas & Electric.

Year Impact Report (the Impact Report) on the SGIP, the weighted average annual capacity factor for Level 1 (solar) was 16%.⁶ The weighted average contribution to demand impact during the hour of the CAISO system peak demand in 2004 was 0.39 kW per 1.00 kW of solar system capacity based on rebated size.⁷ Moreover, the Impact Report reflects that the actual production from solar units participating in the SGIP program was highly variable. A system's output is heavily influenced by the specific photovoltaic (PV) module technology, orientation and tilt of the panels, local weather conditions (hours of sun) and maintenance practices. For example, the Impact Report notes that the PV system that produced the highest output during each of the hours from 8 a.m. to 12 p.m. also had its production plummet 76% from just one hour to the next due to weather conditions.⁸ The Impact Report further points to the problem of "soiling" as one factor that explains the rate of demand impact yielded by SGIP PV systems. According to the Impact Report, PV studies typically estimate soiling losses to be in the range of five to ten percent of annual energy output. However, some reports from SGIP PV participants suggest that under certain circumstances PV soiling losses may be much higher.⁹

The point is that with PV, the size of the unit is not an accurate predictor of system output sufficient to assure ratepayers that they will receive an adequate return on their incentive investment. A performance-based incentive will ensure that the incentive a system receives is commensurate with the benefit that it provides. Moreover, the Commission should consider strict eligibility requirements pertaining to the customer site where a solar system would be installed, including items such as the optimum orientation of panels, minimum annual level of available sunshine, and no excessive shading, all of which will result in both the maximum benefit to ratepayers and the maximum incentive for the host customer.

⁶ Itron 4th Year Impact Report, p. 1-4, Table 1-2.

⁷ *Id.*, p. 10-10.

⁸ *Id.*, p. 8-6.

⁹ *Id.*, Appendix A.

1. **Program Funding**

Although the Report estimates a total program cost of \$1.1 to \$1.8 billion, the Report gives no information as to how those numbers were arrived at or the assumptions utilized to determine that such a budget would achieve the proposed 3,000 MW goal. Simple arithmetic shows that an incentive program starting at a level of \$3.00 per watt and declining to zero over 10 years, if paid to 300 MW per year for 10 years, would cost ratepayers nearly \$5 billion for incentive payments. Given the difference in these numbers, SCE is interested in better understanding the Staff's plan to achieve the 3,000 MW goal while also phasing out incentives in a manner that makes efficient use of ratepayer funds.

The Report itself acknowledges that total program funding is dependent on a number of variables that can change over a ten-year period. Given this uncertainty and the potential open-ended cost exposure to ratepayers, SCE recommends a **maximum** program budget or a cost cap.

2. **There is No Reason to Allocate Funding Between Commercial and Residential Customers.**

The Report, without any explanation, notes that the CSI budget will begin with a simple fund allocation, divided equally between residential (under 10 kW) and commercial (over 10 kW) projects. Given the stated purposes behind the incentive program (GHG and peak-load reduction), SCE does not understand the rationale for any specific allocation of incentive funds. SCE maintains that solar incentives should be open to all customers and provided to installations that will be the most effective. In this context, there is no distinction between the benefits of a kW reduced by a commercial customer and a kW reduced by a residential customer. Moreover, commercial customer installations may offer economies of scale which allow greater PV deployment per incentive dollar.

On a similar point, the Report appears to focus almost entirely on distributed photovoltaic systems as the vehicle to reach the 3000 MW goal. Again, given the stated goals, the Commission should not foreclose the state from meeting its goal through more cost-effective

centralized solar applications if it can be established that large-scale centralized solar applications can be installed at a fraction of the cost of small PV installations on a \$/kW basis.¹⁰

3. The Final Plan Should Provide for a Mid-Term Assessment and an Opportunity for a Midcourse Correction.

The justification for the proposed \$1.1 to \$1.8 billion ratepayer investment in PV relies in large part on assumptions as to both the costs and performance of PV systems over a ten-year period. As noted above, initial reports on the performance of PV installations under the SGIP program raise serious questions as to the cost of investing in PV to reduce peak demand. Similarly, history suggests that there are questions as to whether the installed costs of solar power in California will decline sufficiently in response to an artificially-induced increase in demand for solar panels to a point that the industry can sustain itself without an incentive. Given these questions, it is only prudent to provide for a mid-term assessment of the program after five years with an opportunity to reassess the efficacy of the program, along with the opportunity for either extension or early termination.

D. Adopt a Declining Incentive Schedule

SCE fully supports a declining incentive schedule. The Staff Report, however, does not propose a specific declining incentive schedule that would work in conjunction with its proposed performance-based incentive program. In contrast, the Report does note that any capacity-based residential rebate would decline by \$0.28/watt per year, while incentives for commercial customers would decline by \$0.20- \$0.28/watt per year. Since the proposal is to continue capacity-based incentives only until the CSI transitions to performance-based incentives, the

¹⁰ The California Energy Commission's August 2003 report on the "Comparative Cost of California Central Station Electricity Technologies" lists Solar PV as the most expensive generating technology. Several other solar technologies are far less expensive, including solar thermal technologies. The report reflects that the least cost solar technologies are parabolic troughs and Sterling Dish systems. These technologies produce electricity at a fraction of the cost of PV systems (2 to 3 time less) and are able to deliver more reliable reductions in GHG emissions and peak load.

Staff will need to develop a specific declining incentive plan to phase out a performance-based incentive by the end of its term.

With regard to the proposed program term, there is some confusion in the Staff Report as to when the incentive program is intended to end. The Ruling and parts of the Staff Report indicate that the program “would be funded through 2016.” Yet, the description of the performance-based model at page 15 notes that “the incentive payments would be implemented by January 7, 2007 for a term of 20 years, based on the completion date of the system.” Does this mean that a system which begins operations in December 2016 is eligible for incentives through 2026 or 2036? SCE recommends that incentives payments under a CSI only extend through the term of the program, 2016 as proposed. SCE requests clarification as to the term for incentive payments under the proposed performance-based program.

E. Provide Higher Incentives for Affordable Housing

SCE has no specific comment on the Staff Report’s proposal to pay enhanced incentives to qualified affordable housing. SCE supports a thorough investigation into the specific structure of the affordable housing market to identify and better understand the effects of a PV incentive program on the affordable housing market.

F. Develop a Predictable Automatic Trigger-Mechanism to Optimize Ratepayer Funds Spent On Solar Systems

SCE generally supports the Staff’s proposal to utilize an automatic market-based trigger mechanism under which the incentive level for a sector will be reduced ahead of schedule if reservation requests for the level exceed 50% of annual funding in the first quarter for either the residential or commercial category. As noted, this will help to align funding with program participation. A similar rationale underscores SCE’s proposal above for a mid-term assessment of the efficacy of the CSI and a reassessment of funding levels and the CSI budget if appropriate.

III.

CONCLUSION

SCE appreciates the opportunity to comment on the Staff Report and respectfully requests that the Staff and the Commission incorporate SCE's recommendations in the proposed CSI consistent with these comments.

Respectfully submitted,

MICHAEL D. MONTOYA
AMBER E. DEAN

By: Michael D. Montoya

Attorneys for
SOUTHERN CALIFORNIA EDISON COMPANY

2244 Walnut Grove Avenue
Post Office Box 800
Rosemead, California 91770
Telephone: (626) 302-6057
Facsimile: (626) 302-7740
E-mail: Mike.Montoya@SCE.com

July 7, 2005

CERTIFICATE OF SERVICE

I hereby certify that, pursuant to the Commission's Rules of Practice and Procedure, I have this day served a true copy of **COMMENTS OF SOUTHERN CALIFORNIA EDISON COMPANY (U 338-E) ON ASSIGNED COMMISSIONER AND ADMINISTRATIVE LAW JUDGE'S RULING SEEKING COMMENT ON STAFF SOLAR REPORT** on all parties identified on the attached service list(s). Service was effected by one or more means indicated below:

- ☒ Transmitting the copies via e-mail to all parties who have provided an e-mail address. First class mail will be used if electronic service cannot be effectuated.
- ☒ Placing the copies in sealed envelopes and causing such envelopes to be delivered by hand or by overnight courier to the offices of the Commission or other addressee(s).
- ☐ Placing copies in properly addressed sealed envelopes and depositing such copies in the United States mail with first-class postage prepaid to all parties.
- ☒ Directing Prographics to place the copies in properly addressed sealed envelopes and to deposit such envelopes in the United States mail with first-class postage prepaid to all parties.

Executed this **7th day of July, 2005**, at Rosemead, California.

Vicki Carr-Donerson
Case Analyst
SOUTHERN CALIFORNIA EDISON COMPANY

2244 Walnut Grove Avenue
Post Office Box 800
Rosemead, California 91770