



BEFORE THE PUBLIC UTILITIES COMMISSION OF THE
STATE OF CALIFORNIA

FILED

02-11-11
04:59 PM

Application of Southern California Edison)
Company (U 338-E) for Authority to Implement)
and Recover in Rates the Cost of its Proposed)
Solar Photovoltaic (PV) Program)

Application 08-03-015

**SOUTHERN CALIFORNIA EDISON COMPANY'S (U 338-E) PETITION FOR
MODIFICATION OF DECISION 09-06-049**

PUBLIC VERSION

DOUGLAS K. PORTER
ANGELICA M. MORALES

Attorneys for
SOUTHERN CALIFORNIA EDISON COMPANY

2244 Walnut Grove Avenue
Post Office Box 800
Rosemead, California 91770
Telephone: 626-302-6160
Facsimile: 626-302-6962
E-mail: Angelica.Morales@sce.com

Dated: **February 11, 2011**

**Southern California Edison Company’s (U 338-E) Petition For Modification Of
Decision 09-06-049**

TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>
I.	BACKGROUND AND SUMMARY OF REQUEST	1
II.	THE DECISION SHOULD BE MODIFIED TO REVISE THE SOLAR PV PROGRAM.....	4
A.	A Revised Solar PV Program Will Continue to Advance Solar Generation In Support of the State’s Renewable Energy Goals.....	5
B.	The Program Has Achieved Results That Have Developed and Improved the Market for Solar Installations	6
C.	The Economic Downturn Has Reduced the Rooftop Space Available for Solar PV Installations	8
D.	The Percentage of Ground Mount Installations Should Be Increased in Order to Accommodate SCE’s Existing Obligations as Owner and Administrator of the Program	8
III.	SCE COULD NOT HAVE FILED THIS PETITION WITHIN ONE YEAR OF THE DECISION’S EFFECTIVE DATE.....	9
IV.	SCE SEEKS A DECISION ON THIS PETITION BY JUNE 9, 2011	10
V.	CONCLUSION.....	11
	APPENDIX A PROPOSED CHANGES TO DECISION 09-06-049	A
	APPENDIX B DECLARATION OF MARK NELSON.....	B
	APPENDIX C CONFIDENTIAL – REDACTED DECLARATION OF BENJAMIN HODGES	C

**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE
STATE OF CALIFORNIA**

Application of Southern California Edison)	
Company (U 338-E) for Authority to Implement)	Application 08-03-015
and Recover in Rates the Cost of its Proposed)	
<u>Solar Photovoltaic (PV) Program</u>)	

**SOUTHERN CALIFORNIA EDISON COMPANY’S (U 338-E) PETITION FOR MODIFICATION
OF DECISION 09-06-049**

Pursuant to Rule 16.4 of the California Public Utilities Commission’s (“Commission”) Rules of Practice and Procedure, Southern California Edison Company (“SCE”) respectfully submits this Petition for Modification (“Petition”) of Decision (“D.”) 09-06-049, which approved a 500 megawatt (“MW”)¹ Solar Photovoltaic (“PV”) Program (“Solar PV Program” or “Program”) within SCE’s service territory.

I.

BACKGROUND AND SUMMARY OF REQUEST

In Application 08-03-015, SCE proposed a 250 MW utility-owned Solar PV Program in order to, among other things: (1) advance the development of solar generation to help meet the State’s ambitious renewable energy goals; and, (2) share with the State and energy industry key information about improving the efficiency of solar PV installations and about their interaction with the local distribution system.² In D.09-06-049, the Commission doubled the size of the program, ordering SCE to implement a 500 MW Solar PV Program in SCE’s service territory. A total of 250 MW of the Solar PV Program was designated

¹ Unless otherwise specified, any reference to capacity in this filing follows the common convention within the PV industry, which is to refer to output as PV panel direct current (dc) output.
² See generally, Exhibits SCE-1 and SCE-2 (Application 08-03-015).

for utility-owned generation (“UOG”) and 250 MW of the Solar PV Program was to be owned, installed, operated, and maintained by Independent Power Producers (“IPPs”).³

SCE is the nation’s leader in purchasing renewable energy on behalf of its customers. In fact, in 2009, SCE purchased roughly 80% of all solar power generated in the United States. From this experience, SCE has witnessed firsthand the benefits that can accrue to customers because of greater competition. Therefore, in order to permit greater competition among bidders and thus reduce the overall Solar PV Program costs for SCE’s customers, the instant Petition requests that the Commission restructure SCE’s existing 500 MW Solar PV Program in two ways:

- 1.) Reassign 250 MW to a separate competitive solicitation within the Solar PV Program that will not be subject to the current parameters of the IPP portion (“IPP Revised”);⁴ and,
- 2.) Reduce the current UOG and original IPP portions of the Program respectively to an amount of no more than 125 MW each.

Thus, if the Commission adopts this Petition, the 500 MW⁵ Program will be designated as follows: 1) no more than 125 MW as UOG;⁶ 2) 125 MW for IPPs under the original solicitation process;⁷ and, 3) 250 MW for an IPP Revised solicitation.

Based on the success of the existing Solar PV Program and other procurement mechanisms, SCE believes that the revisions proposed in this Petition will significantly reduce the costs of the Solar PV Program going forward. The Commission has recognized that SCE’s Solar PV Program and its other procurement efforts “suggest[] that the market for smaller scale projects appears robust with a significant number of competing sellers.”⁸ Indeed, in a recent solicitation, outside of the Solar PV Program, SCE

³ D.09-06-049, Ordering Paragraph No. 1, p. 58.

⁴ Among other things, SCE specifically recommends that the Commission designate the IPP Revised portion of the Solar PV Program for distributed solar PV of up to 20 MW, without any limitation on ground-mounted installations.

⁵ 500 MW is an approximate number of projects installed. Final installed MW will depend on the engineering design specifications of projects.

⁶ SCE proposes that the Commission reduce the UOG portion of the Solar PV Program to “no more than” 125 MWs in order to accommodate SCE’s existing obligations. The final UOG build out will depend on project specific engineering design specifications, but will be no more than 125 MW.

⁷ See D.09-06-049 and Resolution E-4299.

⁸ D.10-12-048, p. 17 (decision adopting a Commission-approved procurement process for large investor-owned utilities– the Renewable Auction Mechanism (“RAM”).

procured 259 MW(ac), most of which was solar PV,⁹ at more competitive prices than received for bids in the Solar PV Program.¹⁰ Current renewable energy trends have shown a significant market response for solar PV systems. SCE's entrance into the solar PV market through implementation of the Program has encouraged development of solar generated electric power by, among other things, increasing the options available for installing and operating commercial solar PV. Therefore, due to recent developments in the solar market, including the results achieved through the Solar PV Program, the Commission should modify D.09-06-049 as recommended in this Petition.

The Solar PV Program objectives remain achievable in a reduced-size UOG Program or have already been satisfied. Indeed, SCE's knowledge transfer related to PV technology is well underway and has already resulted in positive industry changes.¹¹ Moreover, solar power procured in the revised Program would be consistent with the State's goal of aggressively expanding the renewable industry in an economically efficient manner. SCE believes it is in its customers' best interests to revise the process whereby it procures solar PV generation through its existing Solar PV Program. SCE's current estimate shows that revising the Solar PV Program as recommended in this Petition could result in a Present Value of Revenue Requirements (PVRR) savings of approximately \$300 million to all of SCE's customers (as compared to the cost of continuing the existing Program). This result is based on the assumption of continued market availability at current price indications.¹² Given that the Commission's objectives have been or appear likely to be met at reduced overall cost through the revised Program, modifying the Decision is reasonable, justified, and in the public interest.¹³ Accordingly, the Commission should grant the Petition and approve the modified Program as set forth in this Petition.

⁹ Subsequent to executing contracts from this solicitation, one contract has since terminated. The remaining 20 contracts are for 239 MW(ac) all from solar PV projects.

¹⁰ SCE procured these MW through its voluntary Renewable Standard Contract ("RSC") Program solicitation. SCE is no longer authorized to utilize its RSC Program for procurement of projects up to 20 MW in size. See D.10-12-048, Conclusion of Law No. 5, pp. 86-87 ("The IOUs should be required to use RAM exclusively for the procurement of system-side renewable projects up to 20 MW in size with the *exception of other Commission-approved programs such as the utility solar photovoltaic programs already authorized* by the Commission and annual RPS solicitations; IOUs should not use voluntary programs that target the same market segment or bilateral negotiations.") (Emphasis added.)

¹¹ See Declaration of M. Nelson, ¶¶ 3-14, attached as Appendix B.

¹² See Declaration of B. Hodges at ¶ 6, attached as Appendix C.

¹³ See D.10-10-029, p. 19 and Appendix A to D.10-10-029, p. 1 (granting SCE's Petition for Modification of a power purchase agreement ("PPA") approved in D.08-09-041 on the basis that the requested changes were "reasonable, justified and in the

Continued on the next page

Finally, SCE requests a decision granting this Petition by June 9, 2011 in order to mitigate against the uncertainty in the marketplace that will likely result from the filing of this Petition. Therefore, SCE requests that the Commission review this Petition in accordance with the procedural schedule proposed in Section IV, below.

II.

THE DECISION SHOULD BE MODIFIED TO REVISE THE SOLAR PV PROGRAM

In Application 08-03-015, SCE sought authorization for a five-year utility-owned Solar PV Program of 250 MW. The Commission's Decision on SCE's Application increased the Solar PV Program to 500 MW, with 250 MW designated as UOG and an additional 250 MW for SCE to procure from IPPs. In approving the 500 MW Program, the Commission cited its goal to "embrace innovative programs and new policies that will advance the delivery of renewable energy and support our renewable goals."¹⁴ The Commission nonetheless recognized that it would be necessary to "carefully monitor the program's progress, examine ways in which the program can be improved, and fine tune the program when and where appropriate."¹⁵ Likewise, in its testimony supporting its proposed utility-owned Solar PV Program, SCE stated that in order "[t]o protect our customers and support public policy favoring solar PV, SCE will diligently monitor market conditions and adjust the Solar PV Program, as needed."¹⁶ In the spirit of the Commission's and SCE's own commitment to respond to change, SCE proposes a modification of the Program via the instant Petition.

Continued from the previous page

public interest" because the revised PPA would give SCE a "cost-effective, local area reliable resource, with a lower long-term cost" to customers.)

¹⁴ D.09-06-049, p. 3.

¹⁵ *Id.*, p. 3.

¹⁶ Exhibit SCE-2, p. 11.

A. A Revised Solar PV Program Will Continue to Advance Solar Generation In Support of the State's Renewable Energy Goals

The implementation of a 500 MW Solar PV Program was a direct response to the State's strong policy statements supporting renewable energy through the increased development of PV solar projects.¹⁷ The Commission's objective to advance solar technology with 500 MW of PV solar projects can continue more cost effectively, however, by revising the Program as recommended in this Petition. The proposed revisions would permit SCE to solicit the remaining 250 MW of solar PV by means of a request for offers (RFO) that would:

- accept bids for Solar PV installations up to 20 MW;
- include a startup deadline of 36 months from Commission approval of the project-specific Power Purchase Agreement (PPA); and,
- Conform the PPA provisions to the current annual Renewable Request for Proposals pro forma positions.¹⁸

To determine the financial impacts of the proposed revisions to the existing Solar PV Program, SCE calculated the customer savings of revising the Program to include 250 MW of distributed solar procured at current market prices as reflected by those recently obtained through the RSC Program.¹⁹ The calculation of the current program assumed 250 MW of UOG at a levelized cost of 26 cents/kWh and 250 MW of IPP bids at the levelized cost of the winning bids in the most recent solicitation. RSC prices were well below offers received in the IPP portion of the Solar PV Program.²⁰ While the projects bid in the RSC Program have been primarily larger scale ground-mount, rather than rooftop installations, the robust solar market that has developed in California makes the rooftop market less critical to fill. Therefore, the instant Petition

¹⁷ See D.09-06-049, pp. 2-3 (describing State's renewable energy goals); See also, *Id.*, Conclusion of Law No. 1, p. 56 ("The SPVP is one possible solution ... to help advance renewable development.")

¹⁸ See <http://www.sce.com/EnergyProcurement/renewables/renewable-alternative-power.htm>.

¹⁹ Declaration of B. Hodges, ¶ 6, attached as Appendix C.

²⁰ For simplicity, the calculation assumed four-year build out at the associated levelized costs (25% per year). See Declaration of B. Hodges, ¶ 4, attached as Appendix C.

recommends that the Revised IPP portion of the Solar PV Program be designated as distributed solar PV, without any limitation on the number of ground mount installations.

The calculation of the proposed program assumed replacing 50% of the UOG and IPP Program costs with costs reflecting the average cost of the incremental 250 MW in bids from the 2010 RSC solicitation.²¹ The resulting estimated PVRR of customer savings for moving to the restructured program as recommended in this Petition is approximately \$300 million.²²

Based on SCE's experience in recent market solicitations, SCE believes that it is in its customers' best interests to procure 250 MW of solar under the Program through a Revised IPP solicitation process that would result in a net benefit to SCE's customers. The Commission should grant this Petition and fortify the State's solar path through a more competitive solicitation for the Solar PV Program. Given that the Commission's objectives have been or can be met at a reduced cost through the revised Solar PV Program, the granting of SCE's Petition is reasonable, justified, and in the public interest.²³

B. The Program Has Achieved Results That Have Developed and Improved the Market for Solar Installations

A revised Solar PV Program of approximately 500 MW over five years,²⁴ with 125 MW designated as UOG, 125 MW designated to IPPs by means of the original solicitation process, and 250 MW through the Revised IPP process, will allow the knowledge transfer benefits that are already occurring to fully materialize to the benefit of the marketplace.

SCE has successfully initiated the UOG portion of the Solar PV Program, with eleven sites in operation (26 MW installed) and an additional five sites in construction (expected output of 22 MW). SCE's existing contractual obligations and commitments with site owners and landlords total approximately 125 MW of UOG solar PV projects through 2013, including approximately 25 MW of ground-mounted

²¹ The potential cancellation charges associated with purchase obligations with SCE's solar panel supplier were added to the PVRR of the proposed program. *See* Declaration of B. Hodges, ¶ 6, attached as Appendix C.

²² *See* Declaration of B. Hodges, ¶ 6, attached as Appendix C.

²³ *See, infra*, footnote 13, *citing* Commission standard utilized in approving a prior Petition for Modification.

²⁴ SCE expects the five-year timeframe to remain the same and thus be based on the original date of the Decision issued in 2009.

installations (6.7 MW completed 18.3 MW in the queue). For the IPP portion of the Program, SCE's administration of the 2010 Solar PV Program RFO has resulted in 29 contracts amounting to 50.8 MW, with 22.4 MW in ground mount installations. SCE expects to launch the second RFO under the existing Program during the second half of 2011.

As explained in the Declaration of Mark Nelson, SCE has and will continue to share the results of its experience with installation and operation of the Solar PV Program, including information about technology improvements and innovations in system design and architecture of solar PV systems, and its means and methods for better constructability and interconnection of solar PV projects.²⁵ SCE also has and will continue to provide information about training and availability of the skilled workforce for installation and maintenance of PV facilities as it completes installations under the Program.²⁶ Although still in its early stages, the Solar PV Program has already highlighted areas for improvement in the Small Generator Interconnection Application process, which has spurred reforms that will provide interconnection advantages to future solar and other distributed generation projects.²⁷

Indeed, SCE has structured the Solar PV Program so that it can facilitate increasing levels of solar generation across its electric system. SCE's programmatic efforts to observe, document, and analyze installations have already resulted in the sharing of information and improvements in solar PV technology, workforce, and installation processes that have caused industry-wide changes. As explained in Mr. Nelson's declaration, SCE has shared and will continue to share key information about improving the efficiency of solar PV installations notwithstanding the reduced size of the UOG portion of the Solar PV Program, through participation in industry studies, PV seminars, and the publication of articles in industry periodicals.²⁸ This will not only benefit solar installations occurring in the restructured Solar PV Program, but will benefit solar projects across the State.

²⁵ See Declaration of M. Nelson, ¶¶ 9-14, attached as Appendix B.

²⁶ See *Id.*, ¶¶ 5-7, attached as Appendix B.

²⁷ See *Id.*, ¶ 11, attached as Appendix B.

²⁸ See *Id.*, ¶ 3, attached as Appendix B.

C. The Economic Downturn Has Reduced the Rooftop Space Available for Solar PV Installations

The Southern California economy has changed significantly since SCE first proposed a 250 MW UOG Program. Among other things, the economic downturn has reduced the amount of new large commercial and industrial rooftop space available for solar PV installations. Newer roofs have a greater chance of being structurally and economically suitable for coverage by solar panels. During this challenging economic period, the lack of new commercial and industrial building construction limits the opportunity for future project sites. Moreover, the additional competition for rooftops created by the Commission’s requirement to double the Program from 250 MW to 500 MW, has also limited the availability of existing vacant and suitable rooftop space. Moreover, older roofs do not offer a cost effective path to solar installation because often, additional structural and/or roofing work is required to make an older roof appropriately reliable for the placement of solar panels. In its Application, SCE made clear that “[t]he success of the Solar PV Program is in large part dependent upon securing appropriate lease agreements with building owners/developers.”²⁹ The economy has significantly slowed and competition for rooftops has increased due to the increased size of the Program. Both of these factors diminish the availability of suitable rooftop space, thus warranting a revision to the program requirements of future installations under the Solar PV Program.

D. The Percentage of Ground Mount Installations Should Be Increased in Order to Accommodate SCE’s Existing Obligations as Owner and Administrator of the Program

As a primarily rooftop Program, the Commission imposed a 10% limitation on ground mounted installations, for a total capacity of 25 MW each in both the UOG and IPP portions of the full-scale 500 MW Solar PV Program.³⁰ Through this Petition, SCE requests that the Commission increase the percentage of allowed ground mounted installations to no more than 50 MW (or 20%), with a quantity limitation of up to 25 MW each in both the UOG and the existing IPP portions. SCE has already made

²⁹ Exhibit SCE-2, p. 38.

³⁰ The Commission stated that it “expect[s] the bulk of the SPVP projects to be in the range of one to two MW and also on rooftops with some limited exception for ground-mounted projects. However, in no event should ground-mounted projects be more than 10% of the overall program capacity.” D.09-06-049, p. 40, fn. 48.

commitments for approximately 25 MW of ground mount in its UOG Program because it assumed 250 MW of UOG solar, rather than 125 MW.³¹ In addition, SCE has already signed PPAs for 22.4 MW of ground mount in the IPP portion of the Program, again presuming a full-scale Program. Under the Revised IPP portion of the Program, no such limit would apply.

III.

SCE COULD NOT HAVE FILED THIS PETITION WITHIN ONE YEAR OF THE DECISION'S EFFECTIVE DATE

Pursuant to Rule 16.4(d) of the Commission's Rules of Practice and Procedure, a Petition for Modification must be filed and served within one year of the decision's effective date or provide justification for why the Petition was not filed earlier.

In the instant proceeding, the Decision's effective date is June 18, 2009. SCE could not have filed this Petition within one year because the information identified in the sections above has been the result of the Program's implementation over time. The development of the PV market has taken time to reveal itself following the rollout out of the Commission's increased 500 MW Program.

On a purely logistical basis, Resolution E-4299 approved, with modifications, the process and criteria for evaluating offers and the standard PPA for the competitive solicitation portion of the Program in January 2010. SCE then filed an Advice Letter in February 2010, which incorporated the Resolution's changes to both IPP Program documents. The first Request for Offers occurred on March 18, 2010, shortly following regulatory approval of the Advice Letter, and SCE executed contracts with IPPs on July 26, 2010. In addition, the results of cost analyses of the UOG and IPP portions of the Program and the striking comparison of those costs to the price of solar in SCE's 2010 RSC solicitation has necessarily taken place

³¹ SCE hereby puts the Commission on notice that one impact of the granting of this Petition could be that SCE may not be able to meet the cost target and reasonableness threshold set in D.09-06-049. The cost benchmarks set by the Commission for the UOG portion of the Program are based upon a 250 MW Program, not the reduced-size "not to exceed" 125 MW UOG Program requested in this Petition. The impact of lost volume and lost economies of scale may have an impact on project costs. Moreover, given the reduction in the size of SCE's commitments, SCE is subject to contractual obligations for decreasing its build-out commitments. Costs associated with these obligations are unaccounted for in the underlying cost benchmarks.

just recently.³² The Commission clearly recognized that monitoring the Program would take place over time when it stated that it would “carefully monitor the program’s progress, examine ways in which the program can be improved, and fine tune the program when and where appropriate.”³³ Consistent with its obligations to the Commission and its customers, SCE has diligently monitored market conditions and proposed the adjustments recommended in this Petition that are consistent with its findings.

IV.

SCE SEEKS A DECISION ON THIS PETITION BY JUNE 9, 2011

SCE requests a decision on this Petition by June 9, 2011, in order to minimize any adverse obligations associated with revising the Solar PV Program. As part of its plans for the original 250 MW of UOG, SCE has numerous contractual obligations in place that are associated with the full-sized Program. SCE’s obligations include, but are not limited to, the scheduling of projects, hiring of contractors, and the purchase of solar panels and other equipment anticipated with a 250 MW build.³⁴ In addition, the filing of this Petition necessarily creates marketplace uncertainty in both the existing IPP and UOG portions of the Solar PV Program, as well as for the Revised IPP portion proposed herein. Therefore, SCE proposes the following schedule, which will enable the Commission to approve this Petition at its June 9, 2011 meeting:

PROPOSED PROCEDURAL SCHEDULE FOR REVIEW OF PETITION	
SCE files Petition	February 11, 2011
Responses to Petition	March 14, 2011
Reply to Responses	March 24, 2011
ALJ issues PD	April 26, 2011
Comments to the PD	May 16, 2011
Reply Comments to the PD	May 24, 2011
Commission Meeting	June 9, 2011

³² SCE executed standard contracts with IPPs on November 15, 2010.

³³ D.09-06-049, p. 3.

³⁴ Declaration of B. Hodges, ¶¶ 6-7, attached as Appendix C.

V.

CONCLUSION

For the reasons stated above, the Commission should modify D.09-06-049 as set forth in Appendix A.

Respectfully submitted,

DOUGLAS K. PORTER
ANGELICA M. MORALES

/s/ Angelica M. Morales

By: Angelica M. Morales

Attorneys for
SOUTHERN CALIFORNIA EDISON COMPANY

2244 Walnut Grove Avenue
Post Office Box 800
Rosemead, California 91770
Telephone: 626-302-6160
Facsimile: 626-302-6962
E-mail:Angelica.Morales@sce.com

February 11, 2011

Appendix A

Proposed Changes to Decision 09-06-049

APPENDIX A

Conclusions of Law

3. SCE should own, develop, install, operate, and maintain up to ~~125~~ 250 MW of the SPVP projects and procure ~~125~~ 250 MW of one to two MW projects from independent solar energy producers pursuant to the parameters set forth in this Decision and in Resolution E-4299. An additional 250 MW will be procured from independent solar energy producers as set forth in Ordering Paragraph No. 1.

4. SCE should procure the ~~125~~ 250 MW of rooftop solar generation from independent solar energy producers consistent with the objectives, parameters and timeframe established for the UOG projects of the SPVP.

Ordering Paragraph No. 1

1. Southern California Edison Company's solar photovoltaic program is modified as follows:

- ~~125~~ 250 megawatt of utility-owned distributed generation (~~about 50 megawatt annually~~). Southern California Edison Company to own, install, operate and maintain distributed solar photovoltaic projects primarily in the one to two megawatts, located in Southern California Edison Company's service territory on existing commercial rooftops. Projects cost target at \$3.50/Watt with a 10% contingency.
- ~~125~~ 250 megawatt of distributed generation owned by independent power producers (~~about 50 megawatt annually~~) to be solicited at least once per year. Bids capped at Southern California Edison Company's estimated levelized costs of electricity. An Independent Evaluator should be secured to oversee the solicitation for the first two years of the program and thereafter if a utility affiliate participates in that process. Contracts will be based on standard 20 year power purchase agreement contracts.
- **250 megawatt of distributed generation owned by independent power producers to be solicited over the course of the five-year program. Bids will be accepted for solar PV installations up to 20 MW without any restriction on ground-mounted installations. The solicitation will include a startup deadline of 36 months from Commission approval of the project-specific power purchase agreement. The terms of the power purchase agreement will conform to SCE's annual Renewable Request for Proposals pro forma positions.**
- A five-year program.
- Cost of service treatment for utility-owned generation portion of the program.
- No increase in authorized rate of return.
- Costs in excess of \$3.85 per watt subject to a reasonableness review.

Appendix B

Declaration of Mark Nelson

**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE
STATE OF CALIFORNIA**

Application of Southern California Edison)	
Company (U 338-E) for Authority to Implement)	Application 08-03-015
and Recover in Rates the Cost of its Proposed)	
<u>Solar Photovoltaic (PV) Program</u>)	

DECLARATION OF MARK E. NELSON

I, Mark E. Nelson, declare and state:

1. This declaration is being made in support of Southern California Edison Company's ("SCE") Petition for Modification of Decision 09-06-049 ("Petition").

2. I am the Director of Generation Planning and Strategy of the Generation Business Unit at SCE. As such, I have responsibility for overseeing the development of SCE's Solar Photovoltaic ("PV") Program ("Program"). I have personal knowledge of the facts and representations herein and, if called upon to testify, could and would do so, except for those facts expressly stated to be based upon information and belief, and as to those matters, I believe them to be true.

3. SCE is strongly committed to the systematic development of PV generation via the knowledge transfer of lessons learned in its implementation of the utility-owned generation ("UOG") portion of the Solar PV Program. In a reduced-size UOG Program of not to exceed 125 megawatts ("MW"), SCE can and will continue with its knowledge transfer activities.

4. I am informed and believe that the installation of solar PV systems is increasingly cost competitive. SCE's entrance into the solar PV market through implementation of the Program and other developments in the solar PV market have prompted installation efficiencies that have likely caused solar PV installation prices to decrease. Specifically, the California Solar Initiative ("CSI") prices for non-residential and residential systems have decreased in price since SCE's Solar PV Program application was filed in March 2008. While the CSI price was \$8.30/W in the third quarter of 2008, it had decreased to \$6.06/W by the third quarter of 2010,¹ and current indications show that the price is expected to keep falling.

5. As part of its efforts to develop a skilled in-state PV installation work force, SCE has a Project Labor Agreement ("PLA") with the International Brotherhood of Electrical Workers ("IBEW") for work on the UOG portion of the Solar PV Program. SCE believes that hiring from state-certified apprenticeship programs ensure adequate training, which is integral to the success of the Program. Through implementation of the Program thus far and the eventual build-out of up to 125 MW of UOG if the concurrently-filed Petition is granted, an in-state installation workforce has and will continue to be developed. SCE has also increased installation efficiency, and improved installation methods for PV systems through development of a trained labor pool and several qualified contractors.

6. In addition, through the UOG portion of the Solar PV Program, IBEW has already gained experience through construction of nine rooftop installations and one ground-mounted project. To date, approximately 500 installation jobs have been created. As part of its efforts to educate the installation workforce, SCE has conducted training with local area general contractors and IBEW electricians on proper installation techniques for various configurations and types of racks and solar panels. SCE also created a

¹ California Solar Initiative prices from www.californiasolarstatistics.ca.gov. Pricing is non-residential commercial systems greater than 10 kw in the service territories of each major California utility.

training video on installation of Sunlink racking systems. In addition, SCE has provided opportunities for small disadvantaged business enterprise-contractors to participate on installation activities.

7. As part of SCE's efforts to provide information about the training and availability of a skilled workforce for installation and maintenance of solar PV generating facilities, SCE co-hosted a webinar with Prologis (rooftop owner, manager and developer of distribution facilities) detailing experience gained with installing PV on rooftops through the Program.

8. SCE personnel have spoken at numerous solar conferences and webinars, including five different presentations over the last three years at the annual Solar Power International Trade Show (with over 25,000 attendees each year), Solar Power Associations webinars, Solar Praxis conferences, Utility Scale PV Conference, and numerous other events. SCE will continue to document and share its lessons learned if the Program size is reduced.

9. In order to increase reliability and improve solar PV system pricing, SCE has collaborated with various manufacturers to modify solar PV installation techniques and implement technology and design changes to equipment. For example, the following changes were implemented as a result of incorporating lessons learned during installation of the Program:

- Use of aluminum cabling, rather than copper (associated with conventional power) to reduce costs and reduce weight, which is a concern on rooftop installations;
- Cable trays specified instead of conduit in order to reduce cost and make systems easier to install by the contractors. This design also reduces effects of rooftop temperature on cable insulation;
- Pad-mounted oil filled transformers used rather than air cooled dry transformers, which decreases costs and increases reliability. These transformers are the same types as used in the remainder of the electrical distribution system which makes for easier operation and maintenance, and provides easier access to spare parts;
- Panel racking specified at a 5 degree tilt or greater, which decreases soiling, costs of cleaning, operations and maintenance, and also increases panel electricity production;
- Use of 12 kV interconnection switchgear, rather than 480 volt switchgear in order to enable lower voltage drops and smaller power losses and to decrease installation costs;

- Siting of inverter/transformer locations to be closer to the center of the PV module array, resulting in lower voltage drops and increased production of the inverters;
- Combiner boxes redesigned to add disconnect switches so that the circuit can be isolated to allow maintenance work on the system to provide increased safety for the operations and maintenance personnel;
- Combiner boxes redesigned to add blown fuse indicators so that operations and maintenance personnel can quickly determine the location of the circuit interruption and increase safety and efficiency;
- Combiner boxes redesigned with a UV resistant clear section of the faceplate so that operations and maintenance personnel can perform a visual inspection of the fuses without opening each box, thus increasing safety and efficiency;
- Transformer connections redesigned to serial configuration, rather than radial in order decrease the number of connections and thereby reduce the cost of installation;
- Wire harnesses made in a factory setting with quality controls in place, rather than made at the job site, to reduce costs and increase the quality of the product;
- Type RHW cable is used, rather than Type THHN (used at the three demonstration locations) because it provides better insulating properties and performs better in the heat on rooftop installations. First Solar has now made this change in the cable specifications of their owner-operated installations;
- Designation of standardized nomenclature for plans, equipment and labels, which provides increased safety for operations and maintenance of rooftop solar installations;
- Bolted fuses rather than spring type fuse clips are used in order to provide more reliable connections that will last longer and can better handle a variable daily load cycle;
- Long barrel crimp type cable lugs were used rather than the mechanical screw lugs to provide more reliable high current connection with the cycling loads;
- The inverter transformers are arranged so that the 12 kV primary loop through each is in a configuration similar to a typical distribution circuit rather than a radial feed for each inverter; and,
- Master fuse boxes were redesigned to allow for Home Run switches. This feature provides safer maintenance, allows isolation of roof circuit, and permits fuse changes without the entire inverter shut down.

10. Data collection requirements have also been refined. For example, the Data Processing

Gateway (DPG) and Remote Telemetry Unit (RTU) requirements for distributed generation solar have been

improved. Previously, there was one DPG/RTU per site, now there is one DPG for every 25 sites, with one RTU for each DPG. Cost savings achieved from this change amounts to over \$200,000 per site.

11. In addition, the Solar PV Program helped highlight inefficiencies in the Small Generator Interconnection Application (“SGIA”) process. This contributed to SCE’s Transmission and Distribution group’s involvement in a stakeholder effort to reform the SGIA process. SGIA reforms consist of a series of stakeholder meetings that were initiated in August 2010. The reform efforts will provide interconnection advantages such as comprehensive study processes that provide a generator with a first look at financial responsibility within 5.5 months (Phase I study) and a final look within 16 months (Phase II study) after the queue window closes. These changes result in consistent study processes, reliable timeframes, more equitable methods of cost allocation, and deliverability assessment for <20 MW generation to qualify for Resource Adequacy. Those that qualify are afforded an independent study process. Moreover, generation under 2 MW retain “fast-track” status and go directly to an interconnection agreement if the nine screening criteria are met. As part of SCE’s efforts to provide information about forecasting and scheduling of 1 to 2 MW solar PV generating facilities disbursed throughout SCE’s inland service territory, the rollout of the Solar PV Program has changed the weather station requirements for forecasting solar generation to more accurately represent the requirements for rooftop solar. For example, two weather stations for each site were required by CAISO prior to implementation of the Program. Now, one weather station every ten miles is sufficient.

12. Additionally, SCE is in the midst of its effort to provide information about how solar PV systems of 1 to 2 MW interact with its distribution system. In particular, SCE along with the National Renewable Energy Laboratory (“NREL”) have formed a research collaboration to perform an analysis of high-penetration levels of PV into the distribution grid using data from the Solar PV Program generating plants. The study focuses on accelerating the placement of high levels of PV penetration into the existing

distribution circuits and identifying new circuit configurations that will help increase penetration levels of PV. The team will conduct modeling and simulation, laboratory testing, and field demonstrations of the effect of high penetrations of PV on electrical distribution systems. The results of these studies will be made public and shared with the solar industry. The project will receive up to \$1.6 M in CSI grant funding for research, development and demonstration and contribute \$2 M in matching funding. There is also an additional \$3.6M in funding for the research from the United States Department of Energy.

13. SCE has also contributed to articles describing Solar PV Program attributes in nationally published Transmission & Distribution and Renewable Energy Magazines, such as Transmission and Distribution World article published January, 2010, National Geographic Solar article published September, 2009, IEEE Power and Energy Magazine Issue on Solar Energy Integration (May/June 2009), and InterPV Magazine article, due for publication in March, 2011.

Executed on February 11, 2011 at Rosemead, California.

/s/ Mark E. Nelson
Mark E. Nelson

Appendix C

Confidential – Redacted Declaration of Benjamin Hodges

**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE
STATE OF CALIFORNIA**

Application of Southern California Edison)	
Company (U 338-E) for Authority to Implement)	Application 08-03-015
and Recover in Rates the Cost of its Proposed)	
<u>Solar Photovoltaic (PV) Program</u>)	

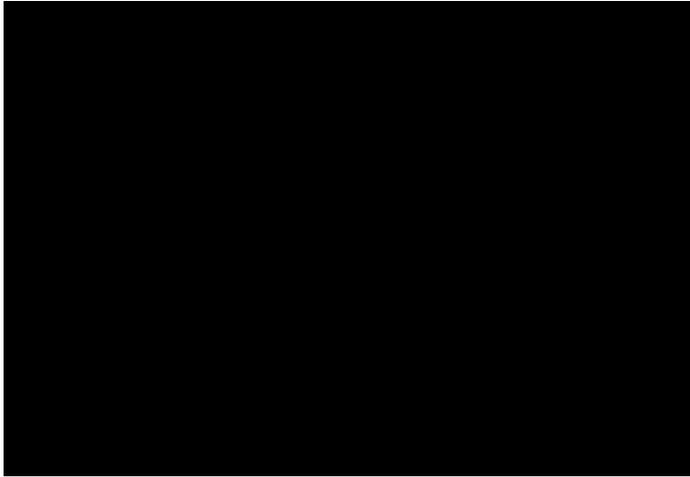
DECLARATION OF BENJAMIN HODGES

I, Benjamin Hodges, declare and state:

14. This declaration is being made in support of Southern California Edison Company's ("SCE") Petition for Modification of Decision 09-06-049 ("Petition").

15. I am the Manager of Financial Analysis at SCE. As such, I have responsibility for performing the financial analysis on large capital projects and the associated customer impacts. I have personal knowledge of the facts and representations herein and, if called upon to testify, could and would do so, except for those facts expressly stated to be based upon information and belief, and as to those matters, I believe them to be true.

16. SCE has received bids in both the SPVP solicitation and the recent renewable standard contract (RSC) solicitation. The RSC bids came in significantly lower than both the SPVP bids and the 26 cents/kWH cost assumed for the UOG program. The summaries of prices are in the table below.



17. To estimate the financial benefits of the proposed modifications to the Solar PV Program in this Petition, SCE used the RSC bids as a proxy for solar pricing in the proposed separate competitive solicitation and performed a simplified analysis in order to translate the levelized price differentials into approximate customer present value revenue requirement (PVRR) savings from moving from a 500 MW Solar PV Program to a 250 MW Solar PV Program and procurement of 250 MW of solar in the separate solicitation. For the analysis, the calculation assumed a four-year ratable build out at the associated levelized costs identified in the table above.

18. The calculation of the current program assumed 250 MW of UOG at a levelized cost of 26 cents/kWh and 250 MW of Independent Power producer (“IPP”) bids at the levelized cost of the winning bids in the most recent solicitation. 



19. The calculation of the proposed program assumed replacing 50% of both the UOG and IPP Solar PV Program costs with RSC Program costs at the average cost of the incremental 250 MW in bids from the 2010 RSC solicitation. Potential financial obligations associated with SCE’s solar panel supplier agreement were added to the PVRR of the proposed program. , and

would yield approximately \$300 million in customer savings by moving to the proposed program as recommended in this Petition.¹



20. This calculation is an approximation of customer benefits and includes a number of key assumptions. The customer savings calculated here could be impacted by actual construction schedules and online dates, whether or not the cancellation charge is realized, changes in costs associated with a decreased program size, and changes in the assumed levelized cost of each of the options.

Executed on February 11, 2011 at Rosemead, California.

/s/ Benjamin Hodges
Benjamin Hodges

¹ The analysis does not include the impact of increasing the existing utility-owned generation and independent power producer portions of the Solar PV Program to 20% ground mount as requested in the concurrently filed Petition for Modification, which is anticipated to result in additional savings to customers.

CERTIFICATE OF SERVICE

I hereby certify that, pursuant to the Commissioner's Rules of Practice and Procedure, I have this day served a true copy of SOUTHERN CALIFORNIA EDISON COMPANY'S (U 338-E) PETITION FOR MODIFICATION OF DECISION 09-06-049 on all parties identified in the attached service list(s).

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.

Executed this **11th** day of **February**, **2011**, at Rosemead, California.

/s/ Meraj Rizvi _____

Meraj Rizvi

Project Analyst

SOUTHERN CALIFORNIA EDISON COMPANY

2244 Walnut Grove Ave.
Post Office Box 800
Rosemead, California 91770



California Public
Utilities Commission

CPUC Home

CALIFORNIA PUBLIC UTILITIES COMMISSION Service Lists

PROCEEDING: A0803015 - EDISON - TO IMPLEMEN
FILER: SOUTHERN CALIFORNIA EDISON COMPANY
LIST NAME: LIST
LAST CHANGED: JANUARY 6, 2011

[DOWNLOAD THE COMMA-DELIMITED FILE](#)
[ABOUT COMMA-DELIMITED FILES](#)

[Back to Service Lists Index](#)

Parties

STEPHANIE C. CHEN
 THE GREENLINING INSTITUTE
 EMAIL ONLY
 EMAIL ONLY, CA 00000
 FOR: GREENLINING INSTITUTE

JOHN NIMMONS
 JOHN NIMMONS & ASSOCIATES, INC.
 EMAIL ONLY
 EMAIL ONLY, CA 00000-0000
 FOR: RECURRENT ENERGY

MARTIN HOMEC
 EMAIL ONLY
 EMAIL ONLY, CA 00000-0000
 FOR: CALIFORNIANS FOR RENEWABLE ENERGY

JORDAN A. WHITE
 SR. ATTORNEY
 PACIFICORP
 1407 W. NORTH TEMPLE, SUITE 320
 SALT LAKE CITY, UT 84116
 FOR: PACIFICORP

ANGELICA M. MORALES
 SOUTHERN CALIFORNIA EDISON COMPANY
 2244 WALNUT GROVE AVE., PO BOX 800
 ROSEMEAD, CA 91770
 FOR: SOUTHERN CALIFORNIA EDISON COMPANY

CAROL SCHMID-FRAZEE
 ATTORNEY AT LAW
 SOUTHERN CALIFORNIA EDISON
 2244 WALNUT GROVE AVE.
 ROSEMEAD, CA 91770
 FOR: SOUTHERN CALIFORNIA EDISON COMPANY

MARC D. JOSEPH
 ATTORNEY AT LAW
 ADAMS BROADWELL JOSEPH & CARDOZO
 601 GATEWAY BLVD. STE 1000
 SOUTH SAN FRANCISCO, CA 94080
 FOR: COALITION OF CA UTILITY EMPLOYEES

PAUL F. FOLEY
 ADAMS BROADWELL JOSEPH & CARDOZO
 601 GATEWAY BOULEVARD, STE 1000
 SO. SAN FRANCISCO, CA 94080
 FOR: COALITION OF CALIFORNIA UTILITY
 EMPLOYEES

CHRISTOPHER CLAY
 CALIF PUBLIC UTILITIES COMMISSION
 LEGAL DIVISION
 ROOM 4300

MARCEL HAWIGER
 ENERGY ATTY
 THE UTILITY REFORM NETWORK
 115 SANSOME STREET, SUITE 900

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3214
FOR: DRA

SAN FRANCISCO, CA 94104
FOR: THE UTILITY REFORM NETWORK

ARNO HARRIS
RECURRENT ENERGY, INC.
300 CALIFORNIA ST., 8TH FL.
SAN FRANCISCO, CA 94104-1416
FOR: RECURRENT ENERGY

NORA SHERIFF
ALCANTAR & KAHL, LLP
33 NEW MONTGOMERY STREET, SUITE 1850
SAN FRANCISCO, CA 94105
FOR: FIRST SOLAR

BRIAN T. CRAGG
GOODIN, MACBRIDE, SQUERI, DAY & LAMPREY
505 SANSOME STREET, SUITE 900
SAN FRANCISCO, CA 94111
FOR: INDEPENDENT ENERGY PRODUCERS ASSOC.

MICHAEL B. DAY
GOODIN MACBRIDE SQUERI DAY & LAMPREY LLP
505 SANSOME STREET, SUITE 900
SAN FRANCISCO, CA 94111
FOR: FOR: SOLAR ALLIANCE

EVELYN C. LEE
PACIFIC GAS AND ELECTRIC COMPANY
PO BOX 7442, MC-B30A
SAN FRANCISCO, CA 94120-7442
FOR: PACIFIC GAS AND ELECTRIC

WILLIAM H. BOOTH
LAW OFFICES OF WILLIAM H. BOOTH
67 CARR DRIVE
MORAGA, CA 94556
FOR: LAW OFFICE OF WILLIAM H. BOOTH

SUE KATELEY
EXECUTIVE DIRECTOR
CALIF. SOLAR ENERGY INDUSTRIES ASSN.
PO BOX 782
RIO VISTA, CA 94571
FOR: CALIFORNIA SOLAR ENERGY INDUSTRIES
ASSOCIATION

DANIEL M. PELLEGRINI
COOPERATIVE COMMUNITY ENERGY CORP.
534 FOURTH STREET, STE C
SAN RAFAEL, CA 94901
FOR: COOPERATIVE COMMUNITY ENERGY CORP.

MICHAEL E. BOYD
PRESIDENT
CALIFORNIANS FOR RENEWABLE ENERGY, INC.
5439 SOQUEL DRIVE
SOQUEL, CA 95073-2659
FOR: CALIFORNIANS FOR RENEWABLE ENERGY,
INC. (CARE)

JUSTIN C. WYNNE
ATTORNEY AT LAW
BRAUN BLAISING MCLAUGHLIN, P.C.
915 L STREET, SUITE 1270
SACRAMENTO, CA 95814
FOR: SAN JOAQUIN VALLEY POWER AUTHORITY

SCOTT BLAISING
BRAUN BLAISING MCLAUGHLIN P.C.
915 L STREET, STE. 1270
SACRAMENTO, CA 95814
FOR: CITY OF VICTORVILLE/SAN JOAQUIN
VALLEY POWER AUTHORITY

Information Only

DONALD C. LIDDELL
DOUGLASS & LIDDELL
EMAIL ONLY
EMAIL ONLY, CA 00000

HUGH YAO
SOUTHERN CALIFORNIA GAS COMPANY
EMAIL ONLY
EMAIL ONLY, CA 00000

KAREN NORENE MILLS
ATTORNEY AT LAW
CALIFORNIA FARM BUREAU FEDERATION
EMAIL ONLY
EMAIL ONLY, CA 00000

MATT MILLER
DEVELOPMENT ANALYST
RECURRENT ENERGY
EMAIL ONLY
EMAIL ONLY, CA 00000

TODD JOHANSEN
DEVELOPMENT ANALYST
RECURRENT ENERGY
EMAIL ONLY
EMAIL ONLY, CA 00000

MRW & ASSOCIATES, LLC
EMAIL ONLY
EMAIL ONLY, CA 00000

MARK STOUT
 MERIDIAN ENERGY USA, INC
 EMAIL ONLY
 EMAIL ONLY, CA 00000-0000

MARTIN HOMEC
 CALIFORNIANS FOR RENEWABLE ENERGY, INC.
 EMAIL ONLY
 EMAIL ONLY, CA 00000-0000
 FOR: CALIFORNIANS FOR RENEWABLE ENERGY,
 INC. (CARE)

KEVIN PORTER
 SENIOR ANALYST
 EXETER ASSOCIATES, INC.
 10480 LITTLE PATUXENT PARKWAY, SUITE 300
 COLUMBIA, MD 21044

RASHA PRINCE
 SAN DIEGO GAS & ELECTRIC COMPANY
 555 WEST 5TH STREET, GT14D6
 LOS ANGELES, CA 90013

STEVEN D. PATRICK
 SAN DIEGO GAS AND ELECTRIC COMPANY
 555 WEST FIFTH STREET, SUITE 1400
 LOS ANGELES, CA 90013-1011

EDRIC GUISE
 NATIONAL ENERGY SOLUTIONS, LLC
 100 W. BROADWAY, SUITE 220
 LONG BEACH, CA 90802

FREEMAN S. HALL
 SOLAR ELECTRIC SOLUTIONS, LLC
 5353 TOPANGA CANYON BLVD, STE 300
 WOODLAND HILLS, CA 91364
 FOR: SOLAR ELECTRIC SOLUTIONS, LLC

MATTHEW M. GORMAN
 ALVAREZ-GLASMAN & COLVIN
 13181 CROSSROADS PKWY., NORTH, SUITE 400
 CITY OF INDUSTRY, CA 91746

CASE ADMINISTRATION
 SOUTHERN CALIFORNIA EDISON COMPANY
 LAW DEPARTMENT, ROOM 370
 2244 WALNUT GROVE AVENUE, ROOM 370
 ROSEMEAD, CA 91770
 FOR: SOUTHERN CALIFORNIA EDISON COMPANY

ROBERT J. GILLESKIE
 LIGHTPOINT CONSULTING SERVICES
 2570 PINWOOD STREET
 DEL MAR, CA 92014

MARY C. HOFFMAN
 PRESIDENT
 SOLUTIONS FOR UTILITIES, INC.
 1192 SUNSET DRIVE
 VISTA, CA 92081

BRIAN COWAN
 KYOCERA SOLAR INC
 8611 BALBOA AVE
 SAN DIEGO, CA 92123

SAN DIEGO GAS & ELECTRIC COMPANY
 8330 CENTURY PARK COURT
 SAN DIEGO, CA 92123

DESPINA NIEHAUS
 SAN DIEGO GAS AND ELECTRIC COMPANY
 8330 CENTURY PARK COURT, CP32D
 SAN DIEGO, CA 92123-1530
 FOR: SDG&E

HOWARD GREEN
 SUN EDISON
 1130 CALLE CORDILLERA
 SAN CLEMENTE, CA 92673
 FOR: SUN EDISON

MICHAEL WILLIAM LATHAM
 COMMERCIAL SOLAR SOLUTIONS, LLC
 5707 ROCKING HORSE WAY
 ORANGE, CA 92869

DAVID SAUL
 PACIFIC VALLEY LLC
 115 WEST CANON PERDIDO STREET
 SANTA BARBARA, CA 93101

COMMUNITY RENEWABLE SOLUTIONS LLC
 124 W. ALAMAR AVENUE, NO. 3
 SANTA BARBARA, CA 93105

EVELYN KAHL
 ALCANTAR & KAHL, LLP
 33 NEW MONTGOMERY STREET, SUITE 1850
 SAN FRANCISCO, CA 94015
 FOR: FIRST SOLAR

ELIZABETH KLEBANER
 ATTORNEY AT LAW
 ADAMS BROADWELL JOSEPH & CARDOZO
 601 GATEWAY BOULEVARD, SUITE 1000
 SOUTH SAN FRANCISCO, CA 94080

BRUCE FOSTER
 SOUTHERN CALIFORNIA EDISON COMPANY
 601 VAN NESS AVENUE, STE. 2040

ANDRE DEVILBISS
 ASSOCIATE, DEVELOPMENT
 RECURRENT ENERGY

SAN FRANCISCO, CA 94102

300 CALIFORNIA STREET, 8TH FLOOR
SAN FRANCISCO, CA 94104

DAVID KENNY
FOTOWATIO RENEWABLE VENTURES, INC.
44 MONTGOMERY STREET, SUITE 2200
SAN FRANCISCO, CA 94104

JIM HOWELL
RECURRENT ENERGY
300 CALIFORNIA ST., 8TH FLOOR
SAN FRANCISCO, CA 94104

LUKE DUNNINGTON
ASSOCIATE, DEVELOPMENT
RECURRENT ENERGY
300 CALIFORNIA STREET, 8TH FL
SAN FRANCISCO, CA 94104

RECURRENT ENERGY
300 CALIFORNIA ST., 8TH FLOOR
SAN FRANCISCO, CA 94104-1416

MICHAEL E. CARBOY
SIGNAL HILL CAPITAL LLC
343 SANSOME STREET, SUITE 425
SAN FRANCISCO, CA 94104-5619

EILEEN COTRONEO
PACIFIC GAS AND ELECTRIC COMPANY
77 BEALE STREET, MC B9A
SAN FRANCISCO, CA 94105

JOMO THORNE
PACIFIC GAS AND ELECTRIC COMPANY
77 BEALE STREET, ROOM 956
SAN FRANCISCO, CA 94105

KAREN TERRANOVA
ALCANTAR & KAHL, LLP
33 NEW MONTGOMERY STREET, SUITE 1850
SAN FRANCISCO, CA 94105

RANDY LITTENEKER
PACIFIC GAS AND ELECTRIC COMPANY
PO BOX 7442
77 BEALE STREET, MC B30A
SAN FRANCISCO, CA 94105

STACY W. WALTER
PACIFIC GAS AND ELECTRIC COMPANY
77 BEALE STREET, MC B30A
SAN FRANCISCO, CA 94105

TIM LINDL
ALCANTAR & KAHL
33 NEW MONTGOMERY ST., STE. 1850
SAN FRANCISCO, CA 94105

VALERIE WINN
PROJECT MANAGER
PACIFIC GAS & ELECTRIC
245 MARKET STREET, MC N12G
SAN FRANCISCO, CA 94105

ADAM BROWNING
THE VOTE SOLAR INITIATIVE
300 BRANNAN STREET, SUITE 609
SAN FRANCISCO, CA 94107
FOR: SOLAR ALLIANCE

JEANNE B. ARMSTRONG
GOODIN MACBRIDE SQUERI DAY & LAMPREY LLP
505 SANSOME STREET, SUITE 900
SAN FRANCISCO, CA 94111

RAFI HASSAN
SUSQUEHANNA FINANCIAL GROUP, LLLP
101 CALIFORNIA STREET, SUITE 3250
SAN FRANCISCO, CA 94111

RICHARD MRLIK
INTERTIE
2130 FILLMORE STREET, 211
SAN FRANCISCO, CA 94115

DIANE I. FELLMAN
NRG WEST
73 DOWNEY STREET
SAN FRANCISCO, CA 94117
FOR: FPL ENERGY PROJECT MANAGEMENT, INC.

CALIFORNIA ENERGY MARKETS
425 DIVISADERO ST., SUITE 303
SAN FRANCISCO, CA 94117
FOR: CALIFORNIA ENERGY MARKETS

HILARY CORRIGAN
CALIFORNIA ENERGY MARKETS
425 DIVISADERO ST. SUITE 303
SAN FRANCISCO, CA 94117-2242
FOR: CALIFORNIA ENERGY MARKETS

SARA STECK MYERS
ATTORNEY AT LAW
122 28TH AVE.
SAN FRANCISCO, CA 94121

ARTHUR O'DONNELL
CENTER FOR RESOURCE SOLUTIONS
1012 TORNEY STREET, 2ND FLOOR
SAN FRANCISCO, CA 94129

CASE COORDINATION
PACIFIC GAS AND ELECTRIC COMPANY
PO BOX 770000; MC B9A
SAN FRANCISCO, CA 94177

PETER MATHEWS
 SOLYNDRA
 47700 KATO ROAD
 FREMONT, CA 94538

JOE HENRI
 DIR. WEST COAST REG AFFAIRS
 SUN EDISON
 31 MIRAMONTE RD.
 WALNUT CREEK, CA 94597
 FOR: SUNEDISON

JODY S. LONDON
 JODY LONDON CONSULTING
 PO BOX 3629
 OAKLAND, CA 94609

KEVIN T. FOX
 KEYES & FOX LLP
 436 14TH STREET, SUITE 1305
 OAKLAND, CA 94612

DOCKET COORDINATOR
 5727 KEITH ST.
 OAKLAND, CA 94618

DAVID MARCUS
 ADAMS BROADWELL & JOSEPH
 PO BOX 1287
 BERKELEY, CA 94701

SAMUEL KANG
 MANAGING ATTORNEY
 THE GREENLINING INSTITUTE
 1918 UNIVERSITY AVE., 2ND FLOOR
 BERKELEY, CA 94704
 FOR: THE GREENLINING INSTITUTE

PATRICK G. MCGUIRE
 CROSSBORDER ENERGY
 2560 NINTH STREET, NO. 213A
 BERKELEY, CA 94710

SARA BIRMINGHAM
 DIRECTOR, WESTERN POLICY
 SOLAR ALLIANCE
 11 LYNN COURT
 SAN RAFAEL, CA 94901

JULIETTE ANTHONY
 CALIFORNIANS FOR RENEWABLE ENERGY
 678 BLACKBERRY LANE
 SAN RAFAEL, CA 94903

PHILLIP MULLER
 SCD ENERGY SOLUTIONS
 436 NOVA ALBION WAY
 SAN RAFAEL, CA 94903

GENEVIEVE NOWICKI
 SOLAR POWER PARTNERS, INC.
 100 SHORELINE HIGHWAY SUITE 210 BLDG B
 MILL VALLEY, CA 94941

SOLAR POWER PARTNERS, INC.
 100 SHORELINE HIGHWAY SUITE 210 BLDG B
 MILL VALLEY, CA 94941

JOELENE MONASTIER
 SPG SOLAR, INC.
 20 LEVERONI COURT
 NOVATO, CA 94949

BARBARA R. BARKOVICH
 BARKOVICH & YAP, INC.
 44810 ROSEWOOD TERRACE
 MENDOCINO, CA 95460

JAMES WEIL
 DIRECTOR
 AGLET CONSUMER ALLIANCE
 PO BOX 1916
 SEBASTOPOL, CA 95473

DOUGLAS M. GRANDY, P.E.
 CALIFORNIA ONSITE GENERATION
 DG TECHNOLOGIES
 1220 MACAULAY CIRCLE
 CARMICHAEL, CA 95608

EMILIO E. VARANINI, III
 GREENBERG TRAUIG, LLP
 1201 K STREET, SUITE 1100
 SACRAMENTO, CA 95814

RYAN BERNARDO
 BRAUN BLAISING MCLAUGHLIN, P.C.
 915 L STREET, SUITE 1270
 SACRAMENTO, CA 95814

STEVEN KELLY
 INDEPENDENT ENERGY PRODUCERS ASSN
 1215 K STREET, SUITE 900
 SACRAMENTO, CA 95814-3947

ANDREW B. BROWN
 ATTORNEY AT LAW
 ELLISON SCHNEIDER & HARRIS, LLP (1359)
 2600 CAPITAL AVENUE, SUITE 400
 SACRAMENTO, CA 95816-5905

CHRISTOPHER T. ELLISON
 ATTORNEY AT LAW
 ELLISON, SCHNEIDER & HARRIS, LLP
 2600 CAPITOL AVENUE, SUITE 400
 SACRAMENTO, CA 95816-5905

LYNN HAUG
ATTORNEY AT LAW
ELLISON, SCHNEIDER & HARRIS, LLP
2600 CAPITOL AVENUE, SUITE 400
SACRAMENTO, CA 95816-5905

ANNIE STANGE
ALCANTAR & KAHL LLP
1300 SW FIFTH AVE., SUITE 1750
PORTLAND, OR 97201

MARK W. BACHMAN
SENIOR EQUITY ANALYST
PACIFIC CREST SECURITIES
111 SW FIFTH AVENUE, 42ND FL
PORTLAND, OR 97204

CATHIE ALLEN
DIR., REGULATORY AFFAIRS
PACIFICORP
825 NE MULTNOMAH STREET, SUITE 2000
PORTLAND, OR 97232

State Service

AMY C. BAKER
CALIF PUBLIC UTILITIES COMMISSION
ENERGY DIVISION
AREA 4-A
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3214

BURTON MATTSON
CALIF PUBLIC UTILITIES COMMISSION
DIVISION OF ADMINISTRATIVE LAW JUDGES
ROOM 5104
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3214

DAMON A. FRANZ
CALIF PUBLIC UTILITIES COMMISSION
ENERGY DIVISION
AREA 4-A
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3214

DAVID PECK
CALIF PUBLIC UTILITIES COMMISSION
ELECTRICITY PLANNING & POLICY BRANCH
ROOM 4103
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3214
FOR: DIVISION OF RATEPAYER ADVOCATES

ELIZABETH STOLTZFUS
CALIF PUBLIC UTILITIES COMMISSION
ENERGY DIVISION
AREA 4-A
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3214

JACLYN MARKS
CALIF PUBLIC UTILITIES COMMISSION
ENERGY DIVISION
AREA 4-A
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3214

MARYAM EBKE
CALIF PUBLIC UTILITIES COMMISSION
DIVISION OF ADMINISTRATIVE LAW JUDGES
ROOM 5101
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3214

MERIDETH STERKEL
CALIF PUBLIC UTILITIES COMMISSION
ENERGY DIVISION
AREA 4-A
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3214

MICHAEL COLVIN
CALIF PUBLIC UTILITIES COMMISSION
POLICY & PLANNING DIVISION
ROOM 5119
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3214

RAHMON MOMOH
CALIF PUBLIC UTILITIES COMMISSION
ELECTRICITY PLANNING & POLICY BRANCH
ROOM 4102
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3214

SARAH R. THOMAS
CALIF PUBLIC UTILITIES COMMISSION
LEGAL DIVISION
ROOM 5033
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3214

SEAN A. SIMON
CALIF PUBLIC UTILITIES COMMISSION
ENERGY DIVISION
AREA 4-A
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3214

KELLIE SMITH
SENATE ENERGY/UTILITIES & COMMUNICATION
STATE CAPITOL, ROOM 2195
SACRAMENTO, CA 95814

[TOP OF PAGE](#)
[BACK TO INDEX OF SERVICE LISTS](#)