STATE OF CALIFORNIA ARNOLD SCHWARZENEGGER, *Governor*

PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

FILED
03-13-09
02:34 PM

March 13, 2009

Agenda ID #8386
Ratesetting

TO PARTIES OF RECORD IN APPLICATION 08-03-015

This is the proposed decision of Administrative Law Judge (ALJ) Maryam Ebke. It will not appear on the Commission's agenda for at least 30 days after the date it is mailed. The Commission may act then, or it may postpone action until later.

When the Commission acts on the proposed decision, it may adopt all or part of it as written, amend or modify it, or set it aside and prepare its own decision. Only when the Commission acts does the decision become binding on the parties.

Parties to the proceeding may file comments on the proposed decision as provided in Article 14 of the Commission's Rules of Practice and Procedure (Rules), accessible on the Commission's website at www.cpuc.ca.gov. Pursuant to Rule 14.3, opening comments shall not exceed 15 pages.

Comments must be filed either electronically pursuant to Resolution ALJ-188 or with the Commission's Docket Office. Comments should be served on parties to this proceeding in accordance with Rules 1.9 and 1.10. Electronic and hard copies of comments should be sent to ALJ Ebke at meb@cpuc.ca.gov and the assigned Commissioner. The current service list for this proceeding is available on the Commission's website at www.cpuc.ca.gov.

/s/ MICHELLE COOKE for
Karen V. Clopton, Chief
Administrative Law Judge

KVC:avs

Attachment

Decision **PROPOSED DECISION OF ALJ EBKE** (Mailed 3/13/2009)

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Application of Southern California Edison Company (U338E) for Authority to Implement and Recover in Rates the Cost of its Proposed Solar Photovoltaic (PV) Program.	Application 08-03-015 (Filed March 27, 2008)

DECISION ADDRESSING A SOLAR PHOTOVOLTAIC PROGRAM FOR SOUTHERN CALIFORNIA EDISON COMPANY

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1. Summary

In this decision we adopt a solar photovoltaic program (SPVP) to install 250 megawatts (MW) of solar photovoltaic (PV) on existing commercial rooftops in the service territory of Southern California Edison Company (SCE). Under the adopted program, SCE will own, install, operate and maintain 160 MW of solar PV projects of one to two MW in size and will seek competitive bids for the ownership, installation, generation, and operation of another 90 MW of solar PV rooftops from independent, non-utility solar providers.

Currently, renewable projects can participate in one of several programs in California. The Renewable Portfolio Standard (RPS) program, established in 2002 under Senate Bill (SB) 1078, Stats. 2002, ch. 516 and accelerated in 2006 under SB 107, Stats. 2006, ch. 464, requires the investor-owned utilities to procure 20% of their electricity sales from renewable sources by 2010. The RPS program has a variety of procurement vehicles, including competitive solicitations and bilateral contracts. In addition, while the statutes provide for 20% by 2010, a goal of attaining 33% by 2020 has been addressed in other ways. For example, as early as October 2005, the California Energy Commission (CEC) and the Commission jointly adopted the Energy Action Plan II (EAP II) identifying as a key action item the implementation of 33% renewables by 2020. On November 17, 2008, Governor Schwarzenegger established an RPS target of 33% by 2020 for all retail sellers of electricity (Executive Order S-14-08.) On December 11, 2008, the California Air Resources Board adopted a Scoping Plan for implementation of California's Greenhouse Gas Law (Assembly Bill 32) which includes implementing 33% renewable resources in the electricity sector by 2020. The California Solar Initiative (CSI) also has established a goal to install 3,000 MW of solar projects by 2016. Together, these programs and initiatives are

expected to advance the state's renewable energy goals and help lower the cost of solar energy. At the same time, we must continue to embrace innovative programs and new policies that will advance the delivery of renewable energy and support our renewable goals. The- adopted SPVP will provide an opportunity for solar projects in the range of one to two MW, which due to the focus of our existing programs have had limited participation in the CSI and the RPS, to contribute to the state's aggressive renewable goals.

Because this is an application of first impression and a new program for utility-owned renewable generation, we will carefully monitor the program's progress, examine ways in which the program can be improved, and fine tune the program when and where appropriate. As discussed in this decision, the evaluation of the adopted SPVP, including whether it restricts competition or growth in the solar industry, will be at issue over the life of the program. The forum for this review shall be the annual Energy Resource Recovery Account reasonableness proceeding, where the entire utility procurement process is reviewed. The information from the competitive solicitation will serve as a benchmark in examination of the SPVP in the future.

We also grant an additional 50 basis points above SCE's adopted rate of return for SCE's portion of this program pursuant to Pub. Util. Code § 454.3.[1] The energy generated from the SPVP projects will be counted towards SCE's RPS goal because the generation will serve SCE's electrical load, but the output of the projects will not count towards the CSI program goals, nor will the SPVP use any

[1] All section references are to the Public Utilities Code unless otherwise indicated.

part of the CSI program budget, because the CSI and the SPVP are fundamentally different in nature.

Finally, we emphasize that this decision only allows a specific utility-owned renewable generation project to go forward because of its unique attributes. The Commission recognizes that SCE's application is the first of its kind for utility-owned renewable distributed generation. As such, the adopted program in today's decision is applicable to SCE only, and is not precedential for how we may review other proposals for utility-owned renewable generation projects in the future. Moreover, while the output of the projects from this program will count towards the RPS goal, the process for RPS solicitation remains unchanged. In other words, solicitation for renewable projects will continue to be through the existing RPS solicitation process.

2. Background

On March 27, 2008, SCE filed this application seeking authorization of its SPVP and associated cost recovery mechanism. In addition, SCE seeks authorization to establish a memorandum account to record the costs associated with the SPVP.

The Division of Ratepayer Advocates (DRA), Recurrent Energy (Recurrent), The Utility Reform Network (TURN), Californians for Renewable Energy (CARE), The California Large Energy Consumers Association (CLECA), Cooperative Community Energy Corporation (CCEnergy), The Solar Alliance and The Vote Solar Initiative (Joint Solar Parties), The Independent Energy Producers Association (IEP), and The California Solar Energy Industries Association (Cal SEIA) filed protests or responses to the application and identified several possible issues for Commission consideration. SCE filed a response on May 8, 2008.

A prehearing conference (PHC) was held on July 10, 2008. The assigned Commissioner and the assigned Administrative law Judge (ALJ) issued a Scoping Memo and Ruling on July 25, 2008 which delineated the scope and the schedule for this application. The following issues were identified:

1. Whether to approve SCE's proposed SPVP and funding either as proposed in the application or with modifications.
   a) Information that may be useful for evaluating the reasonableness of this proposal will be:
      - Whether the cost estimates are reasonable.
      - Whether elements of SCE's plans are reasonable.
      - What is the cost-effectiveness of the proposed plan.
      - What are the benefits to ratepayers.
      - Whether the proposed costs are reasonable in comparison to other RPS projects bidding into SCE's competitive solicitation for renewable energy projects.
      - Whether the proposed costs are reasonable in comparison to other potential utility-owned renewable energy projects.
      - Whether the proposed costs are reasonable in comparison to distributed solar installations under the CSI.
      - How the proposed program complements or conflicts with existing Commission and State policies to promote renewable and distributed generation.
      - Whether the proposed program meets the requirements of Pub. Util. Code § 2775.5.
      - Whether any specific measures or mechanisms should be established to ensure system performance.
2. Whether to approve SCE's proposed cost recovery mechanism and the proposed rate of return.

   Issues not in the proceeding:

- SCE's Advice Letter 2226-E requesting authority for a mechanism to recover start-up costs for SCE's SPVP. This Advice Letter will be examined by the Energy Division, and the Commission will address it through a resolution.

Hearings were conducted on November 3 through November 6, 2008. TURN, The Greenlining Institute (Greenlining), Recurrent, The Solar Alliance, Coalition of California Utility Employees (CCUE), SCE, First Solar, DRA, and CARE filed briefs. DRA, CARE, CCUE, Greenlining, SCE, Solar Alliance, IEP, and City of Victorville and San Joaquin Valley Power Authority filed reply briefs.

3. Project Description and Objective

3.1. Project Description

The proposed SPVP is a five year program to install up to 250 MW of one to two MW solar PV facilities within SCE's service territory. SCE proposes to lease commercial rooftops for this program and to install, own, operate, and maintain these facilities.

The proposed program cost includes capital costs of initial installation and operations and maintenance (O&M) costs, including roof lease payments, SCE staffing costs, and other O&M costs associated with the solar PV facilities. SCE estimates the capital cost to be $875 million with the average cost of the solar PV facilities at about $3.50/W. SCE also requests a 10% contingency, which would allow it to spend up to $962.5 million in direct capital costs before being subject to reasonableness review.

SCE provides an estimate for roof lease payments of $18,000/MW/year, and contends that "the maximum price paid for the roof leases will be a small

percentage of the value of the electricity produced."[2] SCE estimates the total O&M costs, including roof lease, for a 1 MW solar PV facility to be $28,000 per year and would roughly double for a 2 MW system. The annual staffing costs are estimated at about $1.4 million.

SCE proposes a balancing account (SPVPBA) for rate recovery of the SPVP costs. The proposed SPVPBA would operate between 2009 and 2013 and would end with the inclusion of SPVP O&M and capital revenue requirements in SCE's Test Year 2015 General Rate Case revenue requirement or sooner.[3]

SCE requests that no reasonableness review of the SPVP be conducted if its capital expenditures are below an established range. SCE offers to provide testimony supporting the reasonableness of the SPVP O&M costs during the prior calendar year in its annual Energy Resource Recovery Account (ERRA) reasonableness proceeding if its direct capital expenditure on a $/W average basis exceeds the proposed amount.

SCE also requests an additional 1% over its currently authorized rate of return (ROR) for the SPVP, claiming that according to Decision (D.) 06-05-039, the increased ROR is warranted for utility-owned renewable generation.

Finally, SCE requests that if the CSI goals become mandatory for SCE customers, the capacity under SPVP be credited towards its customers' targets

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[2] SCE's application, pp. 13-14.

[3] Concurrent with its application, SCE filed an advice letter requesting authorization to establish a SPVP memorandum account (SPVPMA) to record the start-up costs associated with the SPVP while this application is pending. SCE proposes to transfer the balance recorded in the SPVPMA to the SPVPBA once SCE's SPVP is approved. SCE's advice letter was approved in Resolution E-4182.

and seeks authority to expand the program to 500 MW if the program is successful.

3.2. Need for Project and Project Objective

SCE states that the SPVP complements the existing CSI and the RPS and will contribute to both program goals.[4] In SCE's view "while the primary purpose of the program is to help meet the State's ambitious Million Solar Rooftops goal, the Solar PV program will also add to SCE's renewable portfolio."[5] With respect to CSI, SCE states that the SPVP has the potential to add over 80,000 rooftop equivalents in five years or 10% to the overall CSI goal of one million solar rooftops.

SCE also notes that while both the CSI and RPS programs target renewable resources, "neither program is well suited to develop medium-scale PV solar installations in the one to two MW range in the near term due to size and transmission limitations."[6] SCE argues that SPVP fills the one to two MW solar gap that the CSI and the RPS programs have left untapped.[7]

Parties agree that there is a gap in the one to two MW segment, but disagree on whether that gap needs to be filled. In particular, they also disagree on whether the proposed SPVP is the best option to fill the gap.

We agree that there is a gap in the development of one to two MW solar projects because of the focus of our existing programs. The CSI is intended for

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[4] SCE Opening Brief at p. 4.

[5] SCE's Opening Brief p. 5.

[6] SCE's application at p. 5.

[7] SCE's Application at p. 5.

projects of up to 5 MW in size, but because only the first MW of the project is eligible for incentives, most CSI projects tend to be 1 MW or less in size. The RPS competitive solicitation approach is generally economical only for larger installations because of the transaction costs. As a result, the RPS tends to be geared toward larger solar installations.

We also agree that the existing gap in the one to two MW segment of the solar industry may be filled by a variety of policy or legislative options. Indeed, as parties have noted, a feed in tariff (FiT) is currently under review at the Legislature and may result in future legislation, particularly affecting the one to two MW market, which is the subject of this application. The Commission is also considering expanding the current FiT for small renewable generation in Rulemaking (R.) 08-08-009. However, nothing precludes us from taking reasonable steps to address this gap while either the Legislature or the Commission pursues other options. We have stated our desire for the California investor-owned utilities (IOUs) to develop renewable generation in California. Renewable generation that is close to load and requires less transmission is a desirable option. Consistent with these principles, we find that the SPVP is one possible solution to encourage development of more renewable resources in the one to two MW range. The SPVP can help advance California's broad goal of developing renewable energy and specifically help make progress toward the state's emphasis on developing rooftop solar PV projects, while other options are being considered. Although we agree with the intent of the SPVP, as discussed below, several modifications to the proposed SPVP are necessary in order to allow more competition consistent with state law and Commission policies. The following sections address these issues.

4. Discussion of the Adopted Plan

4.1. Summary

In order to determine whether to adopt the proposed program or a modified proposal, we consider Commission policies applicable to this application and the relevant statute.

4.2. Governing Law and Applicable Policies

4.2.1 Commission Policy on Procurement and Utility-Owned Generation

We first consider whether the SPVP is consistent with Commission's long-term procurement policies.

4.2.1.1 Parties' Positions

DRA maintains that the SPVP is in conflict with the Commission's policies on long term procurement and on the "competition first" hybrid market structure,[8] because SCE has disregarded the requirements regarding holding a competitive solicitation or a request for offer (RFO) for the entire project. DRA argues that there is no explanation in SCE's application as to why a competitive RFO was not held for turnkey development of the rooftop solar resources.[9] According to DRA, while the approach articulated in D.07-12-052 allows "preferred resources" to be granted an exception from "the competitive markets first" requirement, a showing that the competitive solicitation was infeasible must be made first. DRA argues that SCE has not met this requirement. Moreover, DRA argues that without a competitive solicitation, the Commission is unable to assess whether SCE's proposal is the best deal for the ratepayers.

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[8] DRA Opening Brief at p. 16.

[9] *Id.*, at p. 6.

DRA points to two recent Commission decisions regarding rules for utility-owned generation (UOG). In D.08-11-004, the Commission found that Pacific Gas and Electric Company (PG&E) failed to follow the rules for UOG set forth in D.07-12-052 and dismissed PG&E's application. In D.07-11,046, the Commission approved the San Diego Gas & Electric Company's (SDG&E) El Dorado plant application, finding that the utility was able to demonstrate its UOG was the least cost/best fit after subjecting it to a competitive solicitation. While these applications involved fossil fuel plants, DRA argues that D.07-12-052 makes clear that procedural requirements also apply to preferred resources. DRA urges the Commission to deny SCE's application and direct SCE to solicit market-tested projects, UOG or otherwise, that comply with the Commission's long-term procurement policies.

Solar Alliance and Recurrent also take issue with SCE's proposal with respect to competitive solicitation. Solar Alliance argues that SCE has not shown that holding a competitive solicitation would be infeasible. Recurrent explains that a competitive solicitation can solicit a range of products and services such as equipment, design, construction and installation services, turnkey projects, electricity or a combination of the above. In its view, SCE's argument that it would rely on competitive procurement for "most" procurement activities is insufficient. Recurrent would have SCE rely on competitive power suppliers or independent solar energy producers as well. Recurrent argues that SCE has not demonstrated an "extraordinary circumstances" in its application to justify UOG and has made no showing that a competitive RFO is infeasible or that its needs can only be met with utility-owned PV power. For these reasons, Recurrent urges the Commission to reject SCE's application and allow competitive providers to compete for the same opportunities that SCE seeks for itself.

SCE contends that the Commission decision in D.07-12-052 is irrelevant to the approval of its application. According to SCE's witness, the proposed SPVP is a market transformation program that does not need to clear the extraordinary hurdle set in D.07-12-052.[10]

4.2.1.2. Discussion

The Commission has clearly stated its preference for competitive markets for utility procurement of conventional generation. In D.07-12-052, the Commission noted that it favors a competitive market first approach while acknowledging that certain unique circumstances may warrant some form of utility ownership.[11] The Commission stated in D.07-12-052 that it would consider UOG applications by the IOUs outside of an RFO on a case-by-case basis, but the applications "must fit into a unique circumstance, which are limited to market power mitigation, reliability, preferred resources, expansion of existing facilities, or be a unique opportunity, as described in the decision."[12] Also, in addressing the circumstances for UOG outside the RFO process, the Commission stated that "…all long-term procurement should occur via competitive procurements, rather than through preemptive actions by the IOU, except in truly extraordinary circumstances."[13] In cases where a utility requests a UOG because of a "truly extraordinary circumstance," the Commission required that IOUs make a showing that holding a competitive RFO would be infeasible.[14]

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[10] SCE Opening Brief at pp. 24-25.

[11] D.07-12-052 at p. 209.

[12] *Id.*, Ordering Paragraph 31.

[13] D.07-12-052 at p.202 (emphasis in the original).

[14] *Id.*

However, we note that while D.07-12-052 referred to preferred resources, it also acknowledged that "there are additional factors associated with utility ownership of renewable and other loading order or non-conventional resources that have not been fully vetted in this proceeding."[15] Therefore, we find that the applicability of the policy framework for UOG articulated in D.07-12-052 to renewable resources is unclear.

For the purposes of this application, however, in the absence of a clear policy direction for utility ownership of renewable resources in D.07-12-052, we will apply the general principles articulated in that decision. Here, we find that while SCE has proposed to competitively solicit bids for some aspects of the SPVP, it has not made a showing that it would be infeasible to hold an RFO for complete development of the proposed SPVP projects. SCE's claim that the proposed SPVP will not restrict competition because it will reduce costs and achieve cost efficiencies is not persuasive. Even if the SPVP were to achieve lower costs and economies of scale, that does not justify precluding competitive options that might achieve the same goals at even lower or more attractive prices. Absent a demonstration that it would be infeasible for SCE to procure a portion of the SPVP solar electricity from non-utility providers, and consistent with the Commission's strong desire to develop renewable resources through competitive markets wherever feasible, we modify SCE's proposed SPVP so that 90 MW of the 250 MW total SPVP quantity is owned, installed and operated by non-utility solar energy producers. The adopted SPVP will create opportunities for independent solar energy providers to compete for a portion of the one to

[15] D.07-12-052, footnote 233 at p. 194.

two MW projects of the targeted quantity of rooftop solar projects covered by SCE's application while preserving the economies of scale that are created by a single entity owning a large portion of the project.

4.2.2. Applicability of Pub. Util. Code § 2775.5

Pub. Util. Code § 2775.5 requires electric and gas corporations to obtain the Commission's authorization when they seek to manufacture, lease, sell, or otherwise own or control any solar energy system and seek to recover the costs and expenses from the ratepayers. Specifically, section (e) requires any electric utility proposing to own solar facilities to include an affirmative showing that the program will not restrict competition, or restrict growth in the solar energy industry, or unfairly employ in a manner which would restrict competition in the market for solar energy systems any financial, marketing, distributing, or generating advantage which the corporation may exercise as a result of its authority to operate as a public utility.

Section (b) requires the Commission to deny authorization if it finds that:

> "the proposed program will restrict competition or restrict growth in the solar energy industry or unfairly employ in a manner which would restrict competition in the market for solar energy systems any financial, marketing, distributing, or generating advantage which the corporation may exercise as a result of its authority to operate as a public utility."

The statute also requires that "before granting any such authorization, the commission shall find that the program of solar energy development proposed by the corporation will accelerate the development and use of solar energy systems in this state for the duration of the program."[16]

[16] Section 2775.5(b).

Moreover, the statute requires that:

> "The costs and expenses of implementing a program of solar energy development proposed pursuant to this section shall not be passed through to the ratepayers of an electrical or gas corporation unless the commission finds and determines that it is in the ratepayers' interest to do so."[17]

Finally, the statute mandates the Commission to ensure that the abovementioned criteria are met throughout the length of the program. Specifically, subsection (c) provides that:

> "The commission shall suspend or terminate any authorization granted pursuant to this section whenever it finds and determines that the program of solar energy development no longer qualifies for the authorization under subdivision (b)."

4.2.2.1 Parties' Position

SCE contends that the proposed SPVP will increase, rather than decrease competition, and that it will not harm the competitive market. According to SCE, the proposed SPVP expands the solar industry by increasing short- term supply and is likely to increase long-term supply by increasing labor productivity and improving system design.[18] SCE also argues that installations under the proposed SPVP are a small fraction of the total potential.

First Solar also argues that the proposed SPVP is a small percentage (less than 1%) of the recent increase in the state's RPS goals, and as such will leave "ample room" for others to participate. First Solar supports SCE's SPVP and views it as a means to expand the solar industry. First Solar argues that the

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[17] Section 2775.5(f).

[18] SCE Reply Brief at pp 23-24.

SPVP will encourage competition because SCE will plan to use a competitive bidding process in several aspects of project development.[19]

Recurrent argues that SCE's application does not meet the requirements set forth in Pub. Util. Code § 2775.5(b), (e), and (f). First, Recurrent argues that SCE has failed to make an affirmative showing as required by section (e) that its application would not restrict competition or growth or unfairly employ public utility advantages to restrict competition. Recurrent argues that the Commission should deny SCE's application on that basis alone.

Beyond that, Recurrent argues that SCE's application does not meet the requirements of § 2775.5(b), because SCE will likely become the exclusive lessee of commercial rooftops in its territory, and the SPVP will result in restricting competition in the market for roof leases.

Finally, with respect to the requirement of § 2775.5(f) that the proposal be in the ratepayers' interest, Recurrent argues that SCE's proposal to pass program costs and expenses to its ratepayers is not in the ratepayers' interest because SCE's exclusive role in developing PV projects in its territory would eliminate competition that drives innovation and lowers costs.

Greenlining also believes that SCE's application violates § 2775.5(f). Based on the anticipated output and the estimated costs of the proposed project, Greenlining argues that the proposed project has a "large price tag and so little tangible return"[20] that it cannot be deemed to be in the ratepayers' interest.

Solar Alliance believes that SCE's SPVP is in violation of § 2775.5, because SCE's status as a public utility would restrict growth of and the competition

[19] First Solar Opening Brief at p. 20.

within the rooftop solar PV market. CARE contends that the SPVP is inconsistent with § 2775.5 because it places the utility in direct competition with companies participating in CSI for rooftops and grid access.[21]

4.2.1.2 Discussion

Section 2775.5 provides explicit directions for new solar program applications to both the utility and the Commission with respect to findings concerning restricting competition and growth in the solar industry and the market for solar energy systems. Thus, in order to analyze the proposed SPVP pursuant to Pub. Util. Code § 2775.5, it is necessary to first discuss our view of the solar energy industry and relevant market as they apply to this application.

Because there is no limitation in the statute, we define the "solar energy industry" broadly to encompass the entire value chain from system manufacturing through end use installation and energy production. Further, for the purpose of this application, since SCE is proposing one to two MW PV projects, a relevant market for solar energy systems would be the one to two MW PV projects offered in SCE's service territory. It would be somewhat irrelevant to broaden the analysis beyond SCE's service territory because the nature of SCE's proposal is rooftop installations close to the load.

The statute refers to the "market for solar energy systems." "Solar energy systems" is defined in the statute as equipment which uses solar energy to produce electricity. Therefore, for the purpose of this application, the relevant market would be the market for solar energy systems in SCE's service territory.

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[20] Greenlining's Opening Brief at p. 8.

[21] CARE Opening Brief at p. 12.

As discussed in the above section, the program we adopt today is different from SCE's proposed SPVP in that it requires SCE to procure 35% of the SPVP's capacity from non-utility, independent solar energy producers. Because we do not adopt SCE's proposed SPVP we need not make a determination here whether it meets the statute. Rather, in the following sections we discuss only how the adopted SPVP complies with Pub. Util. Code § 2775.5.

We find that under the above definitions, the adopted SPVP complies with all sections of Pub. Util. Code § 2775.5. Below, we will first discus the requirements of § 2775.5(b) and then address the remainder of the statute.

Section 2775.5(b) requires the Commission to consider whether the SPVP restricts competition. As explained above, the one to two MW solar energy market has not been developed yet under our current policies. As Solar Alliance has stated, "SCE's program will be the only viable market option for rooftop solar PV systems in the one to two MW range."[22] Because the adopted SPVP will allow for significant competition throughout the solar energy industry value chain, including competition for ownership and operation of the solar generating facilities, it will not restrict competition in solar energy industry. Thus, the adopted SPVP meets the requirement of Pub. Util. Code § 2775.5 with respect to competition.

Section 2775.5(b) also requires the Commission to consider whether the SPVP restricts growth. Considering the novel nature of the adopted SPVP program, its impact on the growth of the solar energy industry is speculative at

[22] Solar Alliance's Opening Brief at p. 26.

this time. Therefore, the adopted SPVP complies with Pub. Util. Code § 2775.5(b) with respect to growth.

Another requirement of Pub. Util. Code § 2775.5(b) is to consider whether the SPVP unfairly employs in a manner which would restrict competition in the market for solar energy systems any financial, marketing, distributing, or generating advantage which the corporation may exercise as a result of its authority to operate as a public utility. We find that the adopted SPVP does not use advantages afforded to SCE as a public utility to restrict competition in the solar energy systems market. The adopted SPVP will solicit competitive bids from solar equipment manufacturers that are active in the market for solar energy systems in SCE's territory and will only enhance the market for solar energy systems of one to two MW by creating a new market opportunity that currently does not exist. Therefore, the adopted SPVP is in compliance with this portion of the statute.

The next requirement in Pub. Util. Code § 2775.5(b) is to determine if the SPVP will accelerate the development and use of solar energy systems in the state for the duration of the program. Parties who argue that the proposed SPVP does not comply with this part of the statute mainly argue that the SPVP will not accelerate the development and use of solar in California because of the lack of competition for ownership of solar generation facilities. Recurrent contends that "competitive solar providers are more than capable of accelerating California's solar development to meet its renewable goals."[23] It states that "competitive markets drive developers to seek new technologies, to negotiate better prices, to

[23] Recurrent's Opening Brief at p. 18.

find highest value sites, and/or to accept lower return to gain market shares,"[24] which will accelerate the development and use of solar in California.

The statute requires that we find whether the proposed program of solar energy development will accelerate the development and *use of solar energy systems* in the state for the duration of the program. Whether other programs are capable of delivering the same result is irrelevant and does not become a factor in this determination. Here, we need to focus only on the SPVP to determine whether it meets the requirement of Pub. Util. Code § 2775.5. We find that because the adopted SPVP proposes to introduce 250 MW of new solar PV rooftop systems, the influx of the new installations will contribute to the development and use of solar PV systems in the range of one to two MW in the state. Moreover, the wide deployment of these rooftops is likely to spur the development of rooftop PV system parts and related equipment. As such, the adopted SPVP is consistent with this requirement of Pub. Util. Code § 2775.5(b).

Finally, Pub. Util. Code § 2775.5(f) requires that before the Commission passes the costs and expenses of implementing a solar program to the ratepayers, it finds and determines that it is in the ratepayers' interest to do so. We find that the adopted SPVP is in the interest of ratepayers because it would help promote the development of additional renewable projects on existing rooftops. It would also help expand the one to two MW solar market which under current policies has been effectively under-developed. Moreover, the economies of scale and installation efficiencies resulting from deploying large MWs and multi-year projects will provide benefits to the ratepayers. The Commission has also

[24] *Ibid.*

acknowledged the benefits of renewable UOG and the role that it can play in meeting the objectives of the RPS and driving down the costs of renewable generating technologies. In D.08-02-008, the Commission stated, "First, there may be a unique and important role for utility-owned RPS generation. Utility-owned generation from renewable energy resources, for example, can put downward pressure on what are otherwise increasing renewable energy prices." This is further enhanced in the adopted SPVP where a portion of the power will be procured using competitive solicitation to ensure the best possible price to ratepayers.

We discus the requirements of Pub. Util. Code § 2775.5(c) in Section 6.2 below.

4.3. Comparison of the SPVP with CSI and RPS

The scoping ruling identified as within the scope of this proceeding the issue of whether SCE's proposed cost estimates are reasonable compared with projects participating in the CSI program and projects bidding into SCE's competitive solicitation under the RPS program.

4.3.1. Comparison with Projects Participating in California Solar Initiative

SCE argues that the SPVP is less expensive both from the ratepayer perspective and the societal perspective. From the societal perspective, SCE compares the $3.50/W cost target of the SPVP with the $6.78/W historic CSI average installed cost for projects of comparable size and arrives at the conclusion that the SPVP provides a 48% savings over CSI projects. For comparing costs from the ratepayer perspective, SCE uses TURN's calculations of the CSI direct subsidy payment and Net Energy Metering (NEM) subsidy, and arrives at CSI subsidy payment of $2.38/W and a NEM subsidy of $2.45/W.

Subtracting the CSI and NEM subsidies from the total installed cost of $6.78/W for a typical large CSI projects, SCE arrives at a total customer cost of $1.95/W. Subtracting this customer cost from the societal savings of $3.28/W, SCE states that SPVP saves ratepayers $1.33/W compared with the CSI program.[25]

CCUE agrees with SCE that the proposed SPVP would install rooftop solar PV projects at a lower cost than the CSI program, $3.54/W for SCE (including O&M) versus $6.56-8.07/W for CSI. CCUE rejects the argument that CSI is less expensive from the ratepayer's perspective. In its view, ratepayers pay for more than just the CSI rebates. CCUE argues that the cost of private investment made by CSI customers and net metering should also be considered as ratepayer costs and that "the net-metering costs more than offset the apparent non-participating ratepayer benefit of only having to pay for part of the cost of PV installed under the CSI program."[26]

DRA disputes SCE's contention that the SPVP will cost less to ratepayers than installations under the CSI. In DRA's view, SCE's comparison is flawed for several reasons. First, DRA argues that the appropriate point of comparison between the SPVP and the CSI program should be the costs to the ratepayers and not the total installed cost of projects. DRA argues that SCE ratepayers are not burdened with the entire cost of CSI installation. Rather, they pay only for roughly 24% of the installed costs or $1.55/W. Since SCE's ratepayers pay only 24% of the total installed cost of a CSI project, DRA argues that the cost of the SPVP should be compared with 24% of the average cost of comparable size CSI projects.

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[25] SCE Rebuttal Testimony at pp. 20-22.

DRA further notes that the ratepayer-funded portion of CSI installed costs is set to decline over time. In addition, DRA argues that larger CSI projects are paid only for the actual system output, while the SPVP is not. Finally, DRA argues that the $3.76/W cost of the SPVP does not include O&M costs, including project management, rooftop lease and inverter replacement – costs that are included in the CSI costs.[27]

Likewise, TURN argues that when comparing the CSI cost to the SPVP, "the appropriate comparison is between the cost of SCE's project and the ratepayer subsidy to privately owned solar installations." TURN uses 35% as the portion of CSI installations funded by ratepayers, translating into an installed cost subsidy of $2.38/W for large commercial systems. TURN also notes that the CSI program includes a ratepayer subsidy for net energy metering, which TURN estimates to be 36% of the installed cost of the system.[28]

While Greenlining agrees with this statement, it believes the argument goes beyond this simple comparison. Greenlining argues that because the SPVP is not a replacement for CSI, it makes little difference to ratepayers that the SPVP may be less costly than CSI.

4.3.2. Comparison with Projects Bidding into the Renewables Portfolio Standard

While TURN offers argument for cost comparisons between the SPVP and CSI installations above, it believes that the most relevant comparison of SCE's project costs is to the price of power procured from renewable projects under the

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[26] CCUE Direct Testimony at pp. 10-11.

[27] DRA Direct Testimony at p. 8.

[28] TURN Direct Testimony at p. 14.

RPS program.[29] TURN argues that SCE's project is "far more expensive than most of the projects selected through the RPS process." TURN points out that although price information on specific RPS projects is confidential, most of the projects selected through the RPS solicitations are priced at or below the Market Price Referent (MPR)."[30] TURN also rejects SCE's argument that RPS projects may incur additional transmission costs. In TURN's view, transmission upgrade costs are already incorporated into RPS bids and utilities' evaluations of the bids.

DRA also argues that the SPVP is not competitive when compared with the cost of projects bidding into the RPS program, noting that projects approved via the RPS program have been near or below the MPR. DRA states that "even with the MPR adjusted up to reflect time of delivery (TOD) adjustment at $0.135/kilowatt -hour, SCE's program is still twice as expensive as RPS projects."[31]

CCUE sees the SPVP as a way to achieve the goal of 33% RPS by 2020. It argues that "the 33% RPS requires that a large range and volume of new renewable generation be built."[32]

SCE argues that comparison to the RPS program is inappropriate.[33] SCE agrees with DRA that the SPVP is not competitive with projects bidding into the RPS solicitation, but believes that RPS procurement is not the point of the SPVP. Therefore, according to SCE, the SPVP should not be compared with RPS

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[29] *Id.,* at p. 10.

[30] TURN Direct Testimony, pp. 10-11.

[31] DRA Opening Brief, p. 9.

[32] CCUE Opening Brief at p. 6.

[33] SCE Rebuttal Testimony, October 3, 2008.

projects since the two programs are designed to achieve different goals. SCE contends that it does not evaluate projects aimed at meeting the CSI goals against projects submitted in the RPS solicitation process, as they are entirely separate goals in California.

4.3.3 Discussion

We appreciate the parties' effort to respond to our inquiry, and their analysis on the cost comparison between the CSI and RPS projects. Parties provided a variety of analyses on how to compare the cost of SPVP with the cost of RPS and CSI projects and what components to consider when comparing CSI costs to the SPVP. The stark disagreement among the parties on the cost comparison however, suggests that because of the difference in the project size and the accompanying cost components, it is difficult to make a reasonable comparison of the SPVP with CSI and RPS. We find that neither the CSI nor the RPS provides a proper benchmark for determining whether the cost of the SPVP is reasonable.

Although price information for specific RPS projects is confidential, parties have presented testimony that RPS projects are generally less expensive than the SPVP. The Levelized Cost of Electricity (LCOE) of the SPVP is at $270/MWh. Comparing the LCOE with the MPR, the benchmark for the RPS program, indicates that energy from the SPVP is twice as expensive as the MPR, adjusted for time of delivery. However, we note that simply comparing the costs of the SPVP with RPS is not a proper exercise, because RPS projects are generally much larger than distributed rooftop solar projects in the SPVP and economies of scale are likely to be different for those projects. None of the presented analyses has taken this factor into account.

Likewise, comparing the cost of the SPVP with the CSI projects does not provide an appropriate benchmark. CSI costs include several components that the SPVP does not. We agree with TURN and DRA that SCE's estimate of the per-watt installed cost for the SPVP excludes many cost categories we would want to consider before making a comparison with other projects, such as taxes, O&M, and SCE's return on rate base. We also reject SCE's comparison of the estimated per-watt installed cost of the SPVP with average historical costs of large CSI-funded projects. The comparison relies only on historical CSI data. CSI program costs are projected to decline in the future in accordance with the CSI decisions related to declining CSI incentives. SCE's comparison does not reflect this projection. Finally, CSI-funded projects and SPVP projects are in different project size categories and will therefore have different economies of scale. Therefore, we determine that comparing SPVP with RPS and CSI with a reasonable level of certainty or accuracy is not possible here due to differences in project size and cost components of CSI and RPS. The modified SPVP allows for independent solar competitors to participate in the program and will provide more program data and cost data for our future program review.

4.4. Proposed Alternatives of Other Parties

Several parties have proposed alternative proposals to SCE's SPVP. Some aspects of the proposals are more thoroughly addressed in other parts of this decision, but below, we provide a summary of the proposed alternatives.

4.4.1. TURN's Proposal

TURN would have the Commission deny SCE's application or in the alternative limit the SPVP to two years with total installation of 50 MW. TURN recommends that the Commission authorize SCE to install 10 MW per year for five years, for a total of 50 MW of solar installations. In TURN's view a smaller

project may be "better to promote engineering design efficiencies and to train installation contractors without overheating the market."[34] TURN acknowledges that the installed cost for a smaller project may be slightly higher due to lower volume discounts, but believes the lower total cost justifies the small premium on a unit basis. TURN also recommends a cost-sharing mechanism to protect against cost over-runs. TURN recommends that any capital cost between $3.85/W and $4.62/W be shared between the ratepayers and shareholders 80/20 without the requirement for a reasonableness review. Likewise, TURN recommends that any cost savings in capital costs below $3.50/W be shared 80/20 between ratepayers and shareholders. Under TURN's proposal, recovery of costs above $4.62/W would require a reasonableness review. TURN recommends that we authorize SCE to combine the costs over the lifetime of the program for cost sharing purposes.

4.4.2. DRA's Proposal

DRA recommends denying SCE's application and addressing the one to two MW solar "gap" instead through Commission and legislative initiatives. DRA proposes that if the Commission approves SCE's proposal, it should only allow single or small groups of projects to proceed at a time, and should also consider each via an advice letter process. DRA also recommends several program modifications to validate estimated costs of the SPVP projects installations and rooftop leases with actual cost data. Additionally, to avoid conflict with CSI, DRA recommends that we require all SPVP projects verify that the entire on-site load is too small to take full advantage of CSI and NEM.

[34] TURN Opening Brief at p. 3.

4.4.3. Solar Alliance' Proposal

Solar Alliance advocates dividing the SPVP between SCE and independent solar companies. Under the Solar Alliance's proposal, SCE would develop and own 125 MWs and the independent solar industry would develop and own the other 125 MWs of the SPVP. The power from independently-owned projects would be sold to SCE under wholesale power purchase agreements and the projects would receive payments only for power actually produced. The operational performance of projects developed under pay-for-performance terms will then be compared to those developed by the utility. Solar Alliance contends that its proposal would provide important additional comparative information to the Commission and the industry that would not be generated if SCE is allowed to own all the SPVP projects.

4.4.4 Recurrent's Proposal

Recurrent proposes that we deny the Application and establish a FiT for rooftop solar PV that would be based on the MPR but include adders for factors such as time of day, location, reduced emissions, etc. SCE would be free to participate in the FiT but would be required to provide information on its distribution system to other parties.

4.4.5. CARE's Proposal

CARE recommends a ratemaking proposal that is addressed in Section 6.1 of this decision. CARE urges the Commission to encourage SCE to add solar power plants to the existing power plants sites within its service area subject to a cost sharing proposal.[35]

[35] CARE Opening Brief at p. 9.

4.4.6. Greenlining's Proposal

Greenlining recommends denying the application, but if approved, Greenlining requests linking the reasonableness review of the program to supplier diversity and low-income issues. Specifically, Greenlining requests that if the Commission approves SCE's application, it would require SCE to demonstrate improvements in the outreach and enrollments of its low-income programs. Greenlining also recommends that the Commission consider measures of cost-efficiency and cost-effectiveness in the annual reasonableness review of SCE's SPVP.

4.5. The Adopted SPVP

Parties who oppose the proposed SPVP generally argue against the SPVP's costs and the inconsistency of the program with Commission policy and the § 2775.5. Certainly, cost is an important issue in this application. Another important issue is that California has set aggressive goals to develop more renewable energy and pursuing the lowest cost renewable energy is an important goal. At the same time, we recognize that in achieving our renewable goals, we must look beyond the limited resources and, as much as possible, continue to seek out and exploit opportunities for innovative programs and new policies that will advance the delivery of renewable energy and support our renewable goals.

As we noted above, the matter of how the SPVP costs compare to the cost of the CSI and RPS program cannot be reasonably resolved at this time. We thus look to other characteristics that can help us determine the reasonableness of the proposal. We find that the potential for building renewable projects on existing structures, thus minimizing environmental impacts, avoiding transmission upgrades, short-term cost reductions, program design that encourages

technological improvements and the potential to deliver on-peak energy close to load are characteristics that set rooftop solar PV apart from other renewable technologies and make it unique. Other favorable attributes of the program include the use of resources that would otherwise remain idle and economies of scale and installation efficiencies that would result from deploying large MWs and multi-year projects.

However, as discussed above, to allow a greater number of solar industry competitors to participate in this segment of the solar PV market, we modify the proposed SPVP to allow a portion of the solar generation to be subject to competition among industry participants. One of the stated goals of the SPVP is market transformation, yet as proposed, the SPVP is unlikely to achieve that. Market transformation would be more likely achieved if there is access to the market and significant competition exists between multiple project developers.

Therefore, as stated above, we allow participation of independent solar providers in a portion of the program capacity. SCE will own, develop, install, maintain and operate up to 160 MW of solar PV rooftops and will purchase the output from the remaining 90 MW of one to two MW solar rooftop projects developed by independent solar energy producers through a competitive RFO process. The SPVP remains as a five year program. We allocate a higher share to SCE than Solar Alliance has proposed to influence the likelihood that SCE will achieve its cost targets, while allowing competition to provide a portion of the MW capacity. Further, while there are varying risks and rewards for non-utility and UOG projects, one particular benefit of UOG is that it is dedicated to the ratepayers throughout the useful life of the facility. As we move toward reducing greenhouse gas emissions in the energy sector, renewable UOG will continue to play an important role in meeting California's energy needs with

alternative clean energy. We also agree with Solar Alliance that "competition will provide both SCE and independent project developers with a strong incentive to offer the best possible price to ratepayers and to operate their respective projects as efficiently as possible."[36]

For the 90 MW of the SPVP that will be developed by the independent solar energy producers, SCE shall procure this generation consistent with the objectives, parameters and timeframe established for the UOG projects of the SPVP and specifically the following:

- SCE shall identify locations where distributed solar PV will be desirable, thereby optimizing the locational value of the project sites, and make this information available to potential bidders. SCE may lease all the required roof space if it determines that this will maximize opportunity to negotiate lower overall roof space leases.
- SCE shall issue competitive RFOs at least once per year. The RFOs shall seek to procure approximately 20% of the 90 MW each year.

Within 30 days of the effective date of this decision, SCE shall file an Advice Letter with the Energy Division delineating the criteria for evaluating offers received and a draft standard 20-year power purchase agreement (PPA) contract for use in the RFO.

We authorize SCE to procure the 160 MW at the target cost of $3.50/W. We find that the reasonableness review threshold of $3.85/W is reasonable for the reduced program size, because SCE already has been able to achieve costs that are close to its cost projections for the entire program with only a two MW pilot installation.

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[36] Solar Alliance Opening Brief at p. 25.

SCE contends that both TURN and Solar Alliance's proposals would eliminate SCE's ability to achieve its estimated costs. According to SCE, Solar Alliance's proposal would result in a 40% increase in installed cost for the SPVP (based on worldwide elasticity of demand) or possibly a 90% increase in the installed cost for the SPVP. SCE also argues that TURN's proposal would make it impossible for SCE to meet its cost target of $3.50/W. SCE alleges that cutting the program in half would almost double the cost from $3.5/W to $6.49/W.[37] We disagree with how SCE has quantified the impact of a reduced program size and reject SCE's argument that a "reduction of the program is unlikely to achieve SCE's costs."

A critical assumption in SCE's estimate is a market supply curve and a linear interpolation of the proposed SPVP cost of $3.50/W and the CSI cost of $6.61/W. As discussed above, however, these costs represent different components and are not comparable. The SPVP costs include only misplaced installation cost while CSI costs account for costs other than installation such as return on investment and taxes. Because of this discrepancy between the two costs, SCE's cost estimate, which relies on these two different sets of data, is flawed. As DRA has noted, a more relevant price point for the interpolation would be the price of SCE's 2MW PV pilot facility, Fontana, with the reported installed cost of $4.30/W. Using this reference point instead of the CSI cost in the linear interpolation results in a much smaller price impact than what SCE alleges.

SCE's argument that it cannot meet its cost target if the program is reduced is also without merit. SCE has almost reached its 5-year cost projection in the

[37] SCE Opening Brief at pp. 22-23.

first year with only a 2 MW installation. This has been achieved absent the benefits of a long-term or annual commitment and a more experienced workforce. SCE anticipates that it will meet the cost goal of $3.85/W in 2009. While there may be minimal loss of economies of scale if the program is reduced in size, the $3.85/W is still a reasonable cost target given the first year installation results and the projection for 2009.

However, reducing the project to only 50 MW as TURN has proposed would likely have a more significant impact on the project costs and may result in less solar PV installation. Therefore, we reject TURN's proposal to limit the scope of the SPVP to 50 MW.

We also reject DRA's proposal to allow only a single or a small group of projects to proceed at a time via advice letter. Approving small groups of projects would reduce SCE's purchasing power and could drive up the per-watt cost of the SPVP.

We decline to make any determination regarding a FiT here and reject Recurrent's proposal to establish a FiT instead of the SPVP. The Legislature and the Commission are considering FiT outside this proceeding.

We also reject SCE's proposal that it be allowed to count the output of SPVP towards any CSI goals in the future. CSI and the SPVP are fundamentally different programs. CSI is a self-generation program, designed to promote on-site use of solar systems. CSI systems are behind the customers' meters and serve onsite load, and they are not net exporters to the electrical grid. The scope of the CSI is limited to small-scale residential and commercial solar PV applications. The SPVP, on the other hand, is designed for solar PVs installations of one to two MW on sites with large roof spaces, but relatively small loads, and with the specific purpose of feeding the generated electricity to the grid. Unlike

the SPVP, CSI energy generated that is beyond customer's load can only be fed into the grid under the net metering program, and while projects in NEM tariffs can export energy during certain times of the day or year, they are prohibited from being net energy exporters on an annual basis. In addition, utility ownership is not included in CSI and IOUs are ineligible to receive CSI incentives. Because of all these differences, the SPVP will not be counted towards the CSI target.

Furthermore, to ensure there is no conflict between the CSI and the SPVP, we adopt DRA's proposal and direct SCE to target project sites for the SPVP that do not have sufficient on-site load to participate in the CSI program.

We also decline to adopt Greenlining's proposal to require information on supplier diversity and low-income enrollment as part of the adopted SPVP. The Commission has separate processes for monitoring and examining utility supplier diversity and also ensuring that the utilities comply with low-income utility service requirements. The adopted SPVP is not the appropriate vehicle for such review.

5. Cost Recovery

SCE expects to incur approximately $41.31 million (2008$) in O&M and $875.0 million (2008$) in direct capital expenditures over the 2008 through 2014 program period, and requests that the Commission find reasonable up to $962.5 million (2008$)in direct capital expenditures during the 2008 through 2014 program period.[38] SCE has also requested authority to establish the Solar PV Program Balancing Account (SPVPBA) to record the difference between: (1) the

[38] The $962.5 million includes a 10% adder.

actual incremental O&M and capital-related revenue requirement and; (2) the recorded Solar PV Program-related revenue.

The requested cost is based on SCE's proposal for SCE to develop and own all of the 250 MW in the SPVP. As discussed above, SCE is authorized to develop only 160 MW of the 250 MW of the SPVP. SCE's cost shall therefore be reduced by the same percentage.

6. Scope and Timing of Reasonableness Review

6.1. Parties' Positions

Greenlining argues that "the SPVP is a more costly and less certain means of achieving progress toward the Million Solar Roofs goal, as compared to CSI, and will not result in savings to Edison's ratepayers."[39] Greenlining is concerned that in contrast to the CSI, where the ratepayers only fund incentives given to productive installations, there are no performance incentives in the SPVP to protect the ratepayers from the risk that the SPVP might not produce the energy it promised. For that reason, Greenlining recommends that should the Commission choose to approve the application, it should hold SCE to performance standards as part of the annual reasonableness review, so that SCE's ratepayers are not required to pay for installations that are less productive than CSI installations.

TURN recommends that if the Commission authorizes SCE's project as proposed, it would also require some risk-sharing of cost overruns. TURN argues that if SCE cannot deliver the estimated lower capital costs, then it should

[39] Greenlining Opening Brief at p. 7.

share the capital cost overruns of up to 20% with its shareholders.[40] Likewise, TURN recommends that any cost savings in capital costs below $3.50/W be shared 80/20 between ratepayers and shareholders.

CARE also recommends that we adopt a cost sharing mechanism between the ratepayers and the shareholders. CARE advocates that we use here the ratemaking mechanism that was adopted in D.94-05-020.

SCE explains that the review of SPVP will take place in SCE's annual ERRA reasonableness proceedings, where SCE must prove that all its plant operations were reasonable. SCE contends that in the ERRA reasonableness proceedings, the Commission, "after-the-fact," determines if SCE has effectively managed its generating units in order to achieve appropriate system performance based on what it knew or should have known at the time.[41] SCE argues that if as part of this review, the Commission finds that the SPVP did not operate in a prudent manner, the Commission could disallow recovery of the replacement power costs (*i.e.,* the replacement power costs would be borne by SCE's shareholders rather than customers). SCE argues that no form of cost sharing or additional incentives are necessary because the review process in ERRA will create adequate incentives for prudent system performance.[42]

6.2. Discussion

SCE's claimed primary potential benefit of the SPVP is that this project would provide additional MWs of renewable energy. However, as proposed,

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[40] TURN recommends that because costs may vary annually, the utility be authorized to combine the costs over the lifetime of the program for purposes of calculating the sharing requirement. (*See* TURN's Opening Brief, at p. 23.)

[41] SCE Opening Brief at p. 29.

[42] SCE Opening Brief at p. 29.

there is no guarantee that any of the projected power will be actually delivered. Parties are therefore concerned that the ratepayers will be paying for an investment that may never produce the expected benefits, and they encourage us to consider some protection in case the expected benefits from the investments paid by ratepayers are never realized.

We too are concerned about the lack of a performance guarantee in the proposed SPVP and agree that ratepayers should not pay for any investments without some assurance that such investments are reliable. Because the nature of SCE's proposal is also different from other SCE-owned generation projects that are generally subject to an "after the fact" reasonableness review, we believe a performance guarantee mechanism is appropriate here.

Requiring the SPVP to be paid based on output performance is also consistent with the policy established for CSI and RPS projects. Payments for both the RPS projects and the larger CSI solar projects are made on the basis of electrical output rather than the installed capacity of the systems. The rationale for this policy is that the output from solar energy systems can vary greatly depending on the technology chosen and the way the systems are installed. Paying for electrical output instead of the rated capacity of a system promotes effective system design and installation and proper maintenance and operation of solar projects. That rationale is similarly applicable here.

Furthermore, the 90 MW of the solar PV in this program that will be generated by non-utility producers would only receive payments for the actual energy generated and delivered to SCE. It would be reasonable to apply the same requirements to SCE-owned portion of the program and adopt a "performance-guarantee" concept to protect ratepayers against non-or under-

performance of the SPVP. This will ensure that SCE properly sizes, installs, maintains and operates the SPVP.

The mechanism for ensuring that ratepayers only pay for the actual electrical output from the SPVP will be the annual ERRA proceeding. SCE estimates that every MW of installed AC in the SPVP will produce 1,752 MWhs of AC electrical output per year. SCE's estimate of electrical output from the SPVP is based on system losses and conversion factors that are disputed. We hold SCE to the predictions of electrical output made in its application and accompanying work papers and will use that estimate in the annual ERRA proceeding. If the SPVP produces less than this estimated amount in a given year, it may be subject to reduced rate recovery in the ERRA proceeding.

We also adopt TURN's framework for sharing cost overruns between ratepayers and shareholders to protect ratepayers against cost overruns and provide an incentive to SCE to reduce costs. We adopt a 90/10 sharing of costs between $3.85/W and $4.62/W, consistent with the recent Commission authorized cost sharing mechanisms for several utility capital projects. We believe a sharing mechanism will motivate SCE to focus on superior performance of its SPVP projects. Similarly, we adopt a 90/10 sharing mechanism between ratepayers and shareholders for any cost savings below $3.50/W. Finally, we require that a reasonableness review be conducted if SCE's costs exceed $4.62/W.

Section 2775.5(c) requires that the Commission ensures the solar program does not restrict competition throughout the life of the program. As part of this review, we will examine, among other measures, the result of the competitive solicitation and the number of market participants competing for access to the one to two MW market. This will also provide a context for a broader

comparison between utility owned renewable generation and generation projects that result from the competitive solicitation. We envision this review to occur in the second year of the program to allow adequate time to collect appropriate data. We direct SCE to provide a report in the ERRA to initiate this review.

Resolution E-4182 authorized SCE to establish a memorandum account to record the incremental O&M and capital-related revenue requirement associated with the first $25 million of direct capital expenditures in the SPVP (SPVPMA). Ordering Paragraph 4 states that the Commission will address rate recovery of the amounts recorded in the SPVPMA when it acts on SCE's SPVP application. Southern California Edison shall transfer the balance in the SPVPMA to the SPVPBA for future rate recovery after the Commission reviews the balance in the ERRA proceeding.

7. Rate of Return Issues

7.1. Parties' Positions

SCE requests that its investment earn 100 basis points above its authorized rate of return (ROR). SCE claims that D.06-05-039 allows the Commission to authorize this increase for utility-owned renewable generation.[43] SCE first made its request as follows:

> "As authorized in D.06-05-039, SCE calculated the rate of return on rate base using SCE's current authorized rate of return of 8.75%, plus 1%, since this new plant will be utility-owned renewable generation."[44]

[43] Exhibit SCE-1 at p. 55.

[44] *Id* at p. 54.

SCE later in its rebuttal testimony noted that its proposal meets the requirements of § 454.3(c), because it will develop a segment of the market that currently lacks production.[45]

DRA and TURN oppose SCE's request on the basis that it does not meet any one of the requirements of § 454.3, although TURN in its opening brief notes that the minimum 50 basis points could be justified, albeit "under the most expansive reading of the statute."[46] DRA argues that "the rooftop solar systems that SCE proposes in this application are not experimental in nature, but rather the same basic technology as the other 280 MW of grid-connected solar PV already installed in California."[47]

7.2. Discussion

Pub. Util. Code § 454.3 in relevant parts provides that:

> The Commission may, after a hearing, approve an increase of from one-half of 1percent to 1percent in the rate of return otherwise allowed an electrical corporation on its electric plant for investment by the corporation in facilities meeting the following requirements: …
>
> (c) …The facility is experimental and is, in the determination of the commission, reasonably designed to improve or perfect technology for the generation of electricity from renewable resources or to more efficiently utilize other resources in a manner which will decrease environmental pollution from and lower the costs of the electricity generated.

[45] Exhibit SCE-2 at p. 20.

[46] TURN Opening Brief at p. 26.

[47] Exhibit 404.

SCE argues that its SPVP investment should earn 100 basis points above its authorized ROR because D.06-05-039 authorized the increased ROR. We disagree.

In D.06-05-039, the Commission acknowledged § 454.3 and stated that:

> "a utility may build a renewable resource and, and under appropriate circumstances, earn between 0.5% and 1.0% increased rate of return on the investment. That is, the Legislature has authorized an increased incentive for utility ownership of renewable generation. We think IOUs should consider taking advantage of this law and, where reasonable and appropriate, we will authorize the increased rate of return."

The sole purpose of the above statement was to signal to the utilities the availability of incentives for the utility-owned renewable generation under circumstances authorized by § 454.3. The decision did not automatically authorize an increased ROR for SCE's renewable projects. Moreover, § 454.3 requires the Commission to hold hearings before granting an increase in a utility's ROR. No such hearings were conducted prior to our issuing D.06-05-039. Thus, the Commission did not authorize the increase to SCE's ROR in D.06-05-039, and that issue should be decided here. We proceed to determine if SPVP qualifies for an increased ROR under § 454.3 and if so, the amount of such increase.

Section 454.3 provides three categories under which projects would be eligible for additional return. The first and the second categories are irrelevant here. We therefore consider whether the SPVP meets the requirement of § 454.3(c), quoted above.

Section 454.3(c) does not define the criteria for assessing whether a facility is experimental. Absent a clear definition, we are left to determine what types of

projects might fit this criteria. In this case, the SPVP meets the criteria of § 454.3(c). The SPVP offers a unique opportunity to expand the use of renewable resources, specifically the development of distributed generation in such a way that it creates opportunities for deployment of a technology that is not currently widely used. Although the facilities themselves may not be viewed as experimental due to utilization of existing system components, the application of these facilities is an innovative and unique approach to delivery of renewable energy. Because the proposal facilitates a new approach, it can be construed as experimental and innovative, thus warranting an additional return on investment under § 454.3(c).

Section 454.3(c) prescribes a range between 50 to 100 basis points for such projects that fit the statute's criteria. We adopt TURN's recommendation and grant a 50 basis points increase. We disagree with SCE that "the Commission should authorize the full 100 basis point increase to maximize SCE's incentive to complete the full scope of SCE's SPVP and any similar projects that may be eligible for this incentive."[48] SCE has not shown that a greater than the 50 basis points increase is warranted. Absent that justification, the lower end of that range is reasonable.

We note that the authorized additional rate of return shall only apply to SPVP investments made under the SPVP. If, at any time, the SPVP is halted, SCE shall no longer receive the additional 50 basis points on those investments. The ROR for those investments will revert to SCE's then- authorized ROR (subject to verification that the investments are still used and useful).

[48] Exhibit SCE-2 at p. 30.

8. Comments on Proposed Decision

The proposed decision of the Administrative Law Judge in this matter was mailed to the parties in accordance with Section 311 of the Public Utilities Code and comments were allowed under Rule 14.3 of the Commission's Rules of Practice and Procedure. Comments were filed on _____, and reply comments were filed on _____ by _____.

9. Assignment of Proceeding

Michael R. Peevey is the assigned Commissioner and Maryam Ebke is the assigned Administrative Law Judge in this proceeding.

Findings of Fact

1. The programs which encourage development of solar energy facilities have left a gap in the one to two MW solar energy market.

2. A variety of legislative or policy options may fill the gap in the one to two MW solar energy market.

3. The SPVP is one possible solution to address the existing gap in the one to two MW solar energy market.

4. The SPVP can help advance California's broad goal of developing renewable energy and specifically help make progress toward developing rooftop solar projects, while other options are being pursued.

5. D.07-12-052 referred to preferred resources, but also acknowledged that there are additional factors associated with utility ownership of renewable and other loading order or non-conventional resources that have not been fully vetted in this proceeding.

6. The applicability of the policy framework for UOG articulated in D.07-12-052 to renewable resources is unclear.

7. For the purposes of this application, and in the absence of a clear policy direction for utility ownership of renewable resources in D.07-12-052, it is reasonable to apply the general principles articulated in that decision.

8. Applying the principles articulated for UOG in D.07-12-052, SCE has not made a showing that it would be infeasible to hold an RFO for the development of the SPVP projects.

9. The adopted SPVP will create opportunities for independent solar energy producers to compete for a portion of the one to two MW rooftop solar projects covered by SCE's application.

10. The adopted SPVP will not restrict competition or growth in the solar energy industry.

11. The adopted SPVP meets the requirements of Pub. Util. Code § 2775.5.

12. The adopted SPVP is in the ratepayers' interest.

13. Neither the CSI nor the RPS provides a proper benchmark for determining whether the cost of the SPVP is reasonable.

14. The adopted SPVP has many favorable attributes.

15. Allocating a higher share of the SPVP's quantity to SCE will influence the likelihood that SCE will achieve its cost target.

16. The $3.85/W is a reasonable cost target for the reduced program size.

17. Reducing the program to 50 MW would likely have a more significant impact on the project cost.

18. The CSI and the SPVP are fundamentally different programs.

19. A performance guarantee mechanism protects ratepayers against non-or under-performance of the SPVP.

20. TURN's proposal to adopt a sharing mechanism for cost overruns and cost savings is reasonable.

21. A 90/10 sharing is consistent with previously authorized mechanisms.

22. The adopted SPVP can be construed innovative and experimental.

23. SCE has not shown that a rate greater than a 50 basis points is warranted.

Conclusions of Law

1. The SPVP is one possible solution to address the existing gap in the one to two MW solar energy market and help advance renewable development and should be adopted while the Legislature or the Commission may examine other options.

2. The adopted SPVP meets the requirements of Pub. Util. Code § 2775.5 and should be adopted.

3. SCE should own, develop, install, operate, and maintain up to 160 MW of the SPVP and procure 90 MW of one to two MW projects from independent solar energy producers.

4. SCE should procure the 90 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.

5. $3.85/W is a reasonable cost target for the reduced program size and should be adopted.

6. SCE should target project sites for the SPVP that do not have sufficient on-site load to participate in the CSI program.

7. The output of the SPVP projects should not be counted toward the CSI goal.

8. The energy generated from the SPVP projects should be counted toward SCE's RPS goal.

9. A 90/10 ratepayer and shareholder sharing of costs between $3.85 and $4.62/W should be adopted.

10. A 90/10 sharing mechanism between ratepayers and shareholders for cost savings below $3.50/W should be adopted.

11. Costs above $4.62/W should be subject to a reasonableness review.

12. SCE should be authorized to establish a balancing account to record the difference between the SPVP's actual and recorded expenses and revenues.

13. A performance guarantee mechanism should be adopted.

14. The Commission should ensure the adopted SPVP does not restrict competition throughout the life of the program.

15. A review of the SPVP should occur in the Energy Resource Recovery Account reasonableness proceeding. At the end of the second year of the SPVP, SCE shall file a report in the Energy Resource Recovery Account Section to show how the SPVP meets the requirement of 2775.5(c). The report shall contain information necessary for comparing UOG SPVP projects to non-utility projects, including cost data, number of bids, the result of the bids, contract prices, and the levelized cost of electricity for UOG projects.

16. The adopted SPVP meets the criteria of Pub. Util. Code § 454.3 for an increase of 50 basis points.

17. SCE should be authorized to earn an additional 50 basis point above its authorized rate of return on its investments in the SPVP consistent with Pub. Util. Code § 454.3.

O R D E R

IT IS ORDERED that:

1. Southern California Edison Company (SCE) shall implement the adopted solar photovoltaic program (SPVP) as described herein.

2. Within 30 days of the effective date of this decision, SCE shall file an Advice Letter with the Energy Division delineating the criteria and process for evaluating offers received and a draft standard 20-year power purchase agreement contract for use in the request for offer.

3. SCE shall transfer the balance in the Solar Photovoltaic Program Memorandum Account to the Solar Photovoltaic Program Balancing Account for future rate recovery after Commission's review of the balance in the energy resource recovery account reasonableness proceeding.

4. Application 08-03-015 is closed.

This order is effective today.

Dated _____, at San Francisco, California.

INFORMATION REGARDING SERVICE

I have provided notification of filing to the electronic mail addresses on the attached service list.

Upon confirmation of this document's acceptance for filing, I will cause a Notice of Availability of the filed document to be served upon the service list to this proceeding by U.S. mail. The service list I will use to serve the Notice of Availability of the filed document is current as of today's date.

Dated March 13, 2009, at San Francisco, California.

/s/ TERESITA C. GALLARDO
Teresita C. Gallardo