Decision **PROPOSED DECISION OF ALJ EBKE** (Mailed 7/13/2010)

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Application of San Diego Gas & Electric Company for Approval of the SDG&E Solar Energy Project (U902M).	Application 08-07-017 (Filed July 11, 2008)

DECISION ADOPTING A SOLAR PHOTOVOLTAIC PROGRAM FOR SAN DIEGO GAS & ELECTRIC COMPANY

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DECISION ADOPTING A SOLAR PHOTOVOLTAIC PROGRAM FOR SAN DIEGO GAS & ELECTRIC COMPANY

1. Summary

In this decision, we adopt a 100 megawatt (MW) solar photovoltaic (PV) program (the adopted Solar Energy Project) for San Diego Gas & Electric Company (SDG&E) as part of a broader effort to promote renewable generation in California. The adopted Solar Energy Project authorizes 26 MW of utility-owned generation and 74 MW of power purchase agreements (PPAs) with independent power producers. The projects will be primarily 1-2 MW, but projects of up to 5 MW are also allowed with some restrictions. SDG&E is authorized to spend up to $100.1 million for capital costs based on $3.50/W, including a contingency, and up to $25/kW-year for the operations and maintenance costs of utility-owned projects. We adopt a cost cap of $235/MWh for the PPAs executed under the Solar Energy Project.

We do so after examining SDG&E's initial proposal (the Proposed Solar Energy Project), and a settlement agreement (SA) that was reached by SDG&E and several parties (the Joint Parties). We reject both the SA and the proposed Solar Energy Project as written because we find that neither proposal adequately protects ratepayers against excessive risk and unknown costs. We find that SDG&E's proposed Solar Energy Project is not in the interest of ratepayers because it is expensive and does not support our goal of competitive procurement of renewable generation. The SA, too, is not in the public interest, reasonable in light of the whole record, or consistent with the law. As such, it does not fulfill the criteria that the Commission requires for approval of a settlement.

Although we reject the SA, the adopted Solar Energy Project contains some of the key elements of the SA that are based on the evidentiary record and which

fall within the parties' litigated positions. We recognize the value of generation provided by small-scale PV facilities and conclude that a program that supports development of small-scale PV facilities will be beneficial to SDG&E ratepayers and should be adopted. We find that while the state's existing renewable programs, such as the Renewables Portfolio Standard and the California Solar Initiative programs have resulted in development of renewable energy in California, they have not been effective in attracting investments in small-scale PV facilities in the 1-2 MW range, particularly in SDG&E's service territory.

In our view, small-scale PV facilities have many unique characteristics that can help advance our renewable procurement goals and benefit the state and SDG&E ratepayers. Specifically, small-scale PV facilities can be located close to load centers and when located strategically, can reduce the need for transmission infrastructure development. These facilities will increase renewable energy generation to contribute to the state's renewable goals. In addition, they will replace fossil-fuel generation and help fulfill the state's greenhouse gas emission reduction targets. We believe the adopted Solar Energy Project will provide more options and additional flexibility to invest in renewable generation and will enable further development of small-scale PV in SDG&E's service territory.

Several features of the adopted Solar Energy Project are noteworthy. First, the adopted Solar Energy Project is consistent with state's policy to pursue clean and environmentally sound generation, and will complement the state's existing renewable programs. Projects of all PV technologies and mounting configurations are allowed to participate in the program. Second, consistent with Commission's adopted PV programs for Southern California Edison Company and Pacific Gas and Electric Company, the adopted Solar Energy Project will provide an opportunity for development of both utility-owned and privately-owned PV facilities. Allocating some portion of MWs to each category

will provide an opportunity for both forms of renewable generation ownership in SDG&E's service territory. Procurement of the privately-owned PV facilities will be through a competitive solicitation process, which will lead to the selection of the least-cost and highest value projects.

2. Background

On July 11, 2008, San Diego Gas & Electric Company (SDG&E) filed this application seeking approval of a proposed Solar Energy Project.

Utility Consumers Action Network (UCAN), Western Power Trading Forum (WPTF), CAlifornians For Renewable Energy (CARE), Division of Ratepayer Advocates (DRA), The Greenlining Institute (Greenlining), Recurrent Energy (Recurrent), The Independent Energy Producers (IEP), and the Solar Alliance, the Vote Solar Initiative (Vote Solar), and the California Solar Energy Industries Association (CALSEIA) (collectively Joint Solar Parties) filed protests and responses to SDG&E's application. The Commission held a prehearing conference (PHC) on October 7, 2008. Following the PHC, the Assigned Commissioner and Administrative Law Judge (ALJ) issued a Scoping Memo and Ruling (Scoping Memo) on November 11, 2008, which established the scope of issues and the schedule for the proceeding.

Parties served testimony and rebuttal testimony pursuant to the Scoping Memo schedule. On the first day of the hearing scheduled for February 18, 2009, SDG&E requested suspension of the hearings so that it could meet and confer with parties on a joint proposal.

On March 20, 2009, SDG&E, UCAN, WPTF, and CARE (collectively Joint Parties) filed a joint motion seeking approval of a settlement agreement (SA), which they believe resolves the issues set for resolution in this proceeding and requested continued suspension of the procedural schedule.

DRA, IEP, Greenlining, the Solar Alliance and Vote Solar filed timely comments to the motion. DRA and Greenlining oppose the SA and recommend rejecting it. IEP also objects to the SA but would support the SA if it were modified. The Solar Alliance and Vote Solar support the SA. The Joint Parties filed a reply on May 5, 2009.

The Commission held a workshop and a second PHC on July 13, 2009 to discuss the SA and the schedule for the proceeding. Parties were given an opportunity to file post-workshop comments identifying the material disputed facts. Following the second PHC, the Assigned Commissioner and ALJ issued an amended Scoping Memo on August 3, 2009, which revised the scope of issues and the schedule for the proceeding.

Evidentiary hearings were held on October 7 through 9, 2009, on the testimony served concerning SDG&E's application and also on the SA. DRA, IEP, SDG&E, and Joint Parties filed timely opening briefs. DRA, IEP, and Joint Parties filed timely reply briefs.

On October 11, 2009, the Governor signed Senate Bill (SB) 32 (Stats. 2009, ch. 328) and Assembly Bill (AB) 920 (Stats. 2009, ch. 376) into law to take effect January 2010. SB 32 increases the size of generation facilities eligible for California's feed-in tariff program from 1.5 megawatts (MW) to 3 MW, and raises the program's statewide cap from 500 MW to 750 MW. SB 32 also establishes that the price under this program shall be based on the market price referent adjusted to include all current and anticipated environmental compliance costs subject to a ratepayer indifference test. AB 920 allows net energy metering customers with projects of up to 1 MW to sell any excess electricity they produce over the course of a year to their electric utility at a rate to be determined by the Commission.

Below, we briefly describe the proposed Solar Energy Project and the SA before we address the merits of the two proposals and the adopted Solar Energy Project.

3. The Proposed Solar Energy Project

SDG&E's initial proposed Solar Energy Project would authorize SDG&E to build, own, and operate up to 52 MW of direct current (dc)[1] solar photovoltaic (PV) generation facilities in its service territory over a five-year period with a spending cap of $250 million. The facilities will be approximately 1-2 MW, located in open areas and parking lots, such as shopping malls, and would utilize tracking technology. SDG&E notes that each project or set of projects will be submitted to the Commission for approval via a Tier 3 Advice Letter before any funds are expended. SDG&E expects that the proposed Solar Energy Project would also result in an additional 25 MW of capacity under the California Solar Initiative (CSI). SDG&E proposes to use a competitive solicitation for the equipment and installation of the solar projects.

SDG&E claims that its proposed Solar Energy Project supports a number of existing state policies and programs regarding renewable generation.[2] First, the Commission and the California Energy Commission (CEC) have adopted the 2003 Energy Action Plan (EAP) and subsequent EAP updates with emphasis on renewables and solar energy. The Renewables Portfolio Standard (RPS) program, established in 2002 under SB 1078 (Stats. 2002, ch. 516) and accelerated in 2006 under SB 107 (Stats. 2006, ch. 464) also requires 20% of all retail electric sales of all investor-owned utilities (IOUs) to be served by renewable resources

[1] All references to the program MWs are to direct current unless otherwise noted.

[2] Exhibit 6 at I-3, 4.

by 2010. The Governor has also signed legislation establishing the CSI to develop 3,000 MW of rooftop solar PV facilities by 2016. Furthermore, AB 32 requires a reduction in the statewide greenhouse gas (GHG) emission to 1990 levels by 2020.

SDG&E claims that it fully supports other initiatives such the CSI and the RPS programs, and views its proposed Solar Energy Project as an adjunct to these initiatives, not as a substitute.[3] According to SDG&E, its proposed Solar Energy Project fills a gap in the CSI and the RPS and complements both programs. SDG&E asserts that no project between 1-2 MW has been built in SDG&E's load center through SDG&E's RPS request for offers (RFO) process.[4] Further, SDG&E contends that all of the CSI installations located in SDG&E's load center are comprised of only fixed panel installations.

In addition to the request to authorize $250 million for the Solar Energy Project, SDG&E requests funding in the amounts of $214,000 in the first year of the program and $1,662,000 for each program year until SDG&E's 2012 general rate case (GRC) for annual administration and preliminary development costs.

4. The Settlement Agreement

The SA consists of two phases as described below:

4.1. Phase 1: Utility-Owned Projects

Phase 1 would focus on utility-owned generation (UOG), with the following components:

[3] Exhibit 10-at 2.

[4] Exhibit 6 at I-5.

4.1.1. Phase 1a: Utility-Owned Turnkey Projects

- SDG&E will install, own and operate up to 26 MW of PV facilities on SDG&E-owned property.
- SDG&E will solicit bids for turnkey[5] projects, on permitted sites, that use commercially viable PV technologies.
- Bids will be evaluated using upfront agreed upon criteria that focus on cost of annual energy delivered and capacity benefits.
- Cost cap of $125 million.
- Cost cap of $6,000/kilowatt (kW) measured against CSI installations subject to changes in CSI experience.

4.1.2. Phase 1b: Utility-Owned Turnkey Projects/Power Purchase Agreement Competition

- SDG&E would obtain site control and complete environmental permitting necessary for 8 to 12 MW of PV in the Borrego Springs area. SDG&E would hold a solicitation for power purchase agreements (PPAs) to compare the cost of the PPAs with a utility-owned turnkey project for the Borrego Springs project.
- If the turnkey project wins out, then these MW will be attributed to the $125 million in Phase 1. If the PPA wins, then the MW will be attributed to Phase 2.

4.1.3. Phase 1c: Utility-Owned Innovative Applications Project

- Would establish a set aside of up to 4 MW for SDG&E to develop innovative technologies in eastern San Diego that may include one or more of the following: charging stations for plug-in hybrids, battery backup, battery storage, different emerging PV technologies, and support for "cool zones" augmented with conventional rooftop PV as may be appropriate.

[5] A turnkey project is typically constructed by a developer and turned over to the utility upon commercial operation.

4.2. Phase 2: PPAs with Independent Power Producers

Phase 2 would proceed after the completion of Phase 1. SDG&E would solicit PPAs from independent power producers for PV projects in SDG&E's service territory subject to the following requirements:

- Projects could be as small as 1 MW, but they would have to be aggregated into minimum of 5 MW PPAs.
- A cost cap in $/kW will be established based upon the cost of Phase 1 projects. However, no program MW cap exists.

4.3. Standard of Review and Commission Policy Regarding Review of Settlements

Rule 12.1(d) of the Commission's Rules of Practice and Procedure (Rules) provides that:

> The Commission will not approve settlements, whether contested or uncontested, unless the settlement is reasonable in light of whole record, consistent with the law, and in the public interest.

Rule 12.4 states that the Commission may reject a proposed settlement whenever it determines that the settlement is not in the public interest. In reviewing a settlement, the Commission considers "individual elements of the settlement in order to determine whether the settlement generally balances the various interests at stake as well as to assure that each element is consistent with our policy objectives and the law."[6]

5. A Solar PV Program Can Serve the State in Achieving the RPS and GHG Emission Reduction Goals

The proponents of both the proposed Solar Energy Project and the SA request that we adopt a new program to develop small-scale solar PV facilities to help achieve RPS and GHG emission reduction goals.

[6] Decision (D.) 94-04-088 at 8.

We are well aware of the IOUs' obligations to meet renewable and GHG emission reduction goals and recognize that a program that creates more opportunity for renewable generation development will facilitate achieving these goals. However, we will only approve a program if we find that the program is reasonable and provides benefits to ratepayers.

DRA, WPTF, UCAN, and CARE all oppose the proposed Solar Energy Project and recommend rejecting it. The major argument against adopting the proposed Solar Energy Project is that it is unnecessary, it is costly, and it conflicts with CSI and RPS programs. DRA questions the need for a new program arguing that a new program would be duplicative and unwarranted given the success of existing programs such as the CSI that provides funding for solar installations, and support for the development of renewable generation.[7] DRA also expresses concern that the proposed new program conflicts with the CSI and RPS. WPTF concurs with DRA further arguing that other existing programs such as the feed-in tariff program[8] (FIT) support small-scale renewable development and the proposal fails to demonstrate that it will deliver on the promise of providing a better deal for consumers than competitive RPS solicitations. WPTF states additional reasons for recommending rejecting the proposal, including the argument that the proposal is unclear on how the requested funds will provide an incentive for the co-construction of additional 25 MW and whether any of the $250 million that SDG&E is requesting will be used directly to fund the expected additional 25 MW.

[7] Exhibit 200 at 6.

[8] *See* Pub.Util. Code § 399.20 and D.07-07-027.

Given the parties' arguments that SDG&E's proposed program is unnecessary, the Commission must first address the threshold question of whether there is a need for a new program designed to support the development of small PV facilities before considering the merits of the two proposals.

One way to determine that a new program is needed is to demonstrate that the proposed program may be able to remedy a specific problem or that specific benefits will be forgone if the program is not implemented. Below, we discuss some of the notable attributes of small-scale PV and then address the benefits of a program that targets small-scale PV development.

Small-scale PV facilities can be located close to load centers and when strategically located, they may defer or avoid the need for network transmission infrastructure development. In addition, projects installed under this program will contribute to the state's renewable goals and help fulfill GHG emission reduction targets. Furthermore, because these facilities interconnect at the distribution level and do not require, on an individual project basis, large amount of land, they are likely to avoid many of the transmission and permitting challenges that larger scale projects may face. As a result, we anticipate these facilities to come online with a greater degree of speed and certainty than larger scale projects.

Unfortunately, while in general, investment in renewable generation has been increasing under the CSI and the RPS programs, these programs have not resulted in significant investment in projects of 1-2 MW that are targeted by the Solar Energy Project. A brief description of the CSI incentives and RPS solicitations provides a useful explanation for this occurrence.

The CSI program offers incentives to eligible PV facilities that are installed by a utility customer, but the 1 MW incentive cap and the eligibility for net metering effectively limit the participation in the CSI to PV facilities of 1 MW or

less. Additionally, the CSI operates under a "behind-the meter" paradigm that specifically targets installations that are intended to offset onsite load. This approach limits the installation of PV facilities to locations where there is onsite energy consumption. However, there are likely to be many locations that have excellent solar generating characteristics but are unable to participate in the CSI because of the lack of onsite load. PV facilities deployed at these locations could make meaningful contributions to the state's renewable energy objectives at reasonable cost under a separate program that would create a market opportunity for the development of these types of solar facilities.

The RPS program provides contracting opportunities to qualifying renewable projects of all sizes, but as SDG&E's testimony states, since the start of the RPS program in 2002, "no renewable projects within the market segment addressed by SDG&E's Solar Energy Project (1-2 MW) have been built as a result of the SDG&E's RPS RFOs."[9] The fact that, despite the eligibility to participate in the RPS, no small-scale PV project has been completed as a result of SDG&E's RPS solicitation supports a conclusion that existing programs have not worked well in encouraging the development of 1-2 MW renewable projects. As a result, there is a gap for this range of renewable projects in the existing programs. It is unlikely that this gap will be filled under the current structure of the CSI and RPS programs.

DRA argues that the lack of market incentives to encourage this portion of the solar market does not necessitate the creation of additional incentives. We disagree. While the existence of a gap, in and of itself, is not a reason to create a program targeting that gap, without a program that focuses on promoting the

[9] Exhibit 3 at II-9.

development of 1-2 MW PV facilities, we forgo the benefits identified above that these facilities would otherwise provide. Furthermore, the California Air Resources Board's adopted scoping plan specifically identifies a target of 33% renewables by 2020 as a key strategy for GHG emission reduction. As SDG&E notes, development of "52 MW of new solar capacity, that would offset fossil-fueled generation has the potential to reduce annual GHG emissions by up to 34,480 metric tons."[10] Thus, development of small-scale PV facilities as proposed by SDG&E provides a valuable approach to increasing the amount of renewable generation in California and realizing the renewable energy goals of the state.

WPTF and DRA argue that there are better options than SDG&E's proposed Solar Energy Project. These parties' main objection to the proposed Solar Energy Project is that less expensive alternatives exist through the RPS program. Achieving the state's aggressive RPS and GHG emission reduction goals will require a diverse portfolio of technologies with varying costs. While in general, lower-cost renewables may be procured through the RPS, SDG&E has shown that no 1-2 MW solar PV projects have been developed under its RPS procurement activities. Additionally, as noted above, the smaller scale projects targeted by this program appear likely to come online with greater certainty than larger scale projects on which DRA's and WPTF's arguments are premised.

Parties also suggest the gap for small-scale solar PV can be remedied through other means, including legislative or policy options. We note that this Commission is considering expanding the existing FIT in Rulemaking (R).08-08-009. However, in the absence of a specific timeframe for such a program, it is reasonable to proceed now with a new program to encourage

[10] Exhibit 6 at I-9.

development of small-scale PV facilities provided that ratepayers are not placed at risk, and there is no conflict with existing programs and policies. Because small-scale PV facilities can be located close to load and minimize the need for new transmission, the adopted Solar Energy Project can help advance California's goal of developing renewable energy consistent with our legislative mandates and administrative goals while other options are being pursued. We agree with SDG&E that a program such as the Solar Energy Project is one possible solution to help address the existing gap in the 1-2 MW solar market and will supplement, not supplant or conflict, with other procurement strategies.

In light of the above, we believe the adopted Solar Energy Project is complementary to both the CSI and the RPS programs. This Commission reached the same conclusion in recent decisions adopting similar programs for Southern California Edison Company (SCE) and Pacific Gas and Electric Company (PG&E) to promote the development of small-scale solar in their respective service territories.[11]

Development of small-scale PV is also consistent with the state's commitment to develop renewable distributed generation as a priority resource for the state. The EAP I, adopted by the Commission in 2003, states "the state is promoting and encouraging clean and renewable customer and utility owned distributed generation as key component of its energy system."[12] Also, the EAP II, which was adopted in 2005[13] established a loading order with clean

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[11] *See* D.09-06-049 and D.10-04-052.

[12] Energy Action Plan I at 8.

[13] The Energy Action Plan II was adopted by this Commission in October 2005, and is a joint policy plan by this Commission and the CEC. See http://www.energy.ca.gov/energy_action_plan/2005-09-21_EAP2_FINAL.DOC.

distributed generation as a key alternative that will contribute to California's aggressive renewable generation and GHG emission reduction goals.

In the following sections we discuss why despite our support for establishing a program that focuses on small-scale PV facilities in SDG&E's service territory, we do not adopt the Solar Energy Project or the SA as proposed.

6. Review of the Settlement Agreement

The Commission has expressed a strong preference favoring settlement of disputes if they are reasonable in light of the whole record, consistent with the law and in the public interest.[14] DRA recommends rejecting the SA on a number of grounds, including that it is vague, complicated and too expensive. In the event the Commission does not reject the settlement, DRA recommends several changes to the SA to protect ratepayers against excessive financial risk.

We reject the SA, because, as discussed below, we do not believe it meets the required criteria for settlements identified in Section 4.3 of this decision.

The SA is a consensus reached by a few parties using a set of guiding principles that they claim were "developed from filed testimony in this proceeding and set out in the SA as their roadmap."[15] The SA is not an all-party settlement and is contested by DRA and IEP.

One factor in measuring public interest is how the affected parties react to the settlement and whether they support it. This becomes especially important when the settlement is not an all-party settlement as is this case. When the settlement is not sponsored by all parties, we rely on parties' self interest to help

[14] We developed a complete evidentiary record (as well as full briefing) on all issues, including the original application and the SA. Although this decision rejects the SA, the adopted Solar Energy Project is based on the entire evidentiary record.

[15] Joint Motion of the Joint Parties at 6.

scrutinize the settlement and point out issues that would concern their constituents. Here, while the SA is supported by a diverse range of interest groups such as UCAN and CARE who represent utility customers, and WPTF who is a trade association comprised mostly of independent energy developers, it does not have the support of IEP or DRA, who represents a broad base of developers and utility ratepayers, respectively.

Moreover, the non-settling parties oppose several key elements of the SA. For example, the total program cost is a major concern. DRA contested the $250 million cost cap for the Solar Energy Project, arguing that it would expose the ratepayers to exorbitant and unreasonable costs. Although the SA reduces the $250 million cost cap by reducing the UOG program size, it introduces new program components at additional costs that are not capped, thus potentially resulting in an overall increase in the cost of the program. Further, we agree that the SA lacks significant details that remain to be developed. Lack of detail in the program cost exposes ratepayers to an unknown costs and additional risk. The Joint Parties' claim that the SA is in the interest of customers is not supported by the record and is undercut by the lack of support from DRA.

Other aspects of the settlement are also problematic. The SA requires developers to aggregate their projects into a single 5 MW PPA and submit a single bid. Although evaluating fewer bids may reduce SDG&E's administrative costs, requiring developers of small projects to consult with their competitors on mutually acceptable terms and conditions and bid price is impractical and raises several concerns. We agree with IEP that this requirement may raise concerns

about antitrust issues.[16] Further, as CARE notes in the reply comments on the PD, there is extensive proprietary information that is closely held by the individual companies. To require such companies to work together on common 5 MW proposals would necessitate sharing of information among companies which could compromise these companies' competitive positions on future projects and discourage their participation in the program.[17]

In addition, requiring bidders to aggregate their bids in 5 MW projects could impose additional cost and create barriers for participation of smaller projects. Our goal in adopting a Solar Energy Project is to encourage investment in the installation of new small-scale PV projects by making it easier for developers to pursue such projects. Requiring small projects to aggregate their bids places unnecessary burden on developers and may discourage program participation. This could result in fewer eligible installations in the program and as IEP notes, could drive the prices higher. For these reasons, we find that the program proposed in the SA is not in the public interest.

We also find that the SA is not reasonable in light of the record. The guiding principals that were used in the SA do not represent a reasonable resolution of the contested issues. For example, DRA and UCAN contested the basis for the cost estimate and specifically the $7,000/kW cap that was originally in SDG&E's application for single axis tracking facilities. UCAN presented data that the cost basis is outdated.[18] It recommended that the cost cap should be

[16] IEP Opening Brief at 6.

[17] CARE Reply Comments on the PD at 2-3.

[18] Exhibit 500 at 11.

unique to system size, type and panel technology.[19] DRA also argued that the project cost cap should be different from the original estimate since alternatives other than single axis tracking PV systems are used. As part of the settlement, SDG&E withdrew its proposal to use single axis tracking PV systems in favor of other PV technologies and reduced the cost cap to $6,000/kW, but provided no data to support the new estimate. There is no basis in the record for the Commission to determine if the 15% reduction in cost is reasonable for non-tracking PV systems proposed in the SA.

The SA also is not consistent with the law, because one element of the settlement does not meet the requirements of Pub. Util. Code § 454.3. Section 454.3 provides that the Commission may, after a hearing, approve an increase of from one-half of 1 percent to 1 percent in the rate of return otherwise allowed an electrical corporation on its electric plant for investment by the corporation in certain types of facilities. One such facility is an "experimental" facility which is "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 cost of the electricity generated."

SDG&E originally proposed a 100 basis points adder to its rate of return, claiming that the SA was experimental under § 454.3(c). DRA argued that the proposed Solar Energy project is not experimental because the technology used in the projects has been in existence for decades and is readily deployed. Although the Joint Parties acknowledge DRA's point with respect to the technology, they still propose a 50 basis points adder, claiming that the SA will

[19] Exhibit 501 at 55.

contribute to SDG&E's "understanding and evaluating [of] the resource intermittency of notable installed solar PV on individual distribution circuits."[20]

Gaining engineering experience with integrating intermittent solar resources into distribution system by itself is not sufficient justification for a project to be considered experimental. There is nothing in the SA that meets the "experimental" requirement of § 454.3(c) in order to warrant any additional rate of return. Therefore, the SA as well as the adopted Solar Energy Project do not meet the requirements of § 454.3 and as such are inconsistent with the statute.

In addition, the Joint Parties' claim that there is precedent in D.06-09-021 for the SA's proposed approach for debt equivalence is misplaced. D.06-09-021 concerned FIN 46(R), not debt equivalence. FIN 46 (R) is an accounting standard which is triggered when there is a requirement to consolidate financial statements of entities. In D.06-09-021, the Commission found that FIN 46 (R) was applicable, because that decision involved an option to purchase a facility and a requirement for consolidation of the financial statement of that facility with SDG&E's statement. No such transaction is envisioned here for projects under the Solar Energy Project to justify similar treatment. Thus, the SA's proposal conflicts with existing precedent and contradicts the Commission's treatment of similar requests for debt equivalence.

Rule 12.4 of the Commission's Rules of Practice and Procedure states that the Commission may reject a proposed settlement whenever it determines that the settlement is not in the public interest, and sets forth the steps the Commission may take in rejecting a settlement. Given the existing complete

[20] Joint Parties' Opening Brief at 8.

evidentiary record in this proceeding for both the original application and the SA, and the fact that all the issues have been fully briefed, we adopt changes to the proposed Solar Energy Project based on the evidentiary record. The following sections describe the adopted Solar Energy Project.

7. The Adopted Solar Energy Project

As stated earlier, we believe the proposal to support smaller scale wholesale distributed solar generation, at its core, does have merit and is in the interest of ratepayers. Therefore, we modify the proposed Solar Energy Project and incorporate additional safeguards that limit ratepayer exposure to encourage the development of small-scale PV facilities while ensuring that ratepayers are protected against unreasonable or uncontrollable costs. Below, we discuss the various components of the adopted Solar Energy Project.

7.1. Program Structure: Utility Ownership and Private Investment through Competitive Procurement

A major criticism of the proposed Solar Energy Project is that it does not provide for competitive solicitation of projects. DRA provides a comparison of solicited projects under the RPS program with SDG&E's proposed project and contends that SDG&E's proposal is not cost effective when compared to such alternatives. UCAN also questions utility ownership of projects and asserts that SDG&E should demonstrate that utility ownership is a better choice for customers than ownership, operation and maintenance by hosts or third-party investors.[21] WPTF concurs with UCAN and further contends "competition results in greater options, lower prices and more innovative services."[22]

[21] Exhibit 501 at 8.

[22] Exhibit 600 at 5.

Therefore, WPTF recommends that the Commission mandate a competitive RFO and compare the results to SDG&E's proposal.

The Commission has articulated its interest in supporting utility-owned clean and renewable distributed generation and has repeatedly encouraged utilities to consider development of renewable generation to meet RPS goals.[23] The Commission has also established a general policy that favors market competition for the procurement of energy resources.

We note that the primary goal of the Solar Energy Project is to promote the installation of new small-scale PV facilities to help the state achieve its RPS and GHG emission reduction goals. Whether those facilities are owned by the utility or another party is irrelevant to achieving this goal. Consistent with this principle, and given the Commission's preference for programs that rely on competitive options, and parties' recommendations to embrace market competition, we modify the Solar Energy Project to include both a UOG and a competitive, non-UOG component. We direct SDG&E to solicit PPAs with third party solar developers. The use of a competitive bidding process to procure renewable energy from third party solar developers will enable SDG&E to take advantage of least-cost procurement options to the benefit of ratepayers. Further, allowing independent developers to participate in the Solar Energy Project will encourage additional sources of investment in PV facilities, which could play an important role in supporting the development of solar PV in general. We clarify that turn-key projects are a variety of UOG and will be counted as part of the UOG portion of the Solar Energy Project.

[23] See D.07-02-011 at 25 and D.08-02-088 at 32.

Consistent with PG&E's and SCE's programs, to assure that a potential project location has a high probability of achieving a successful interconnection to the SDG&E system, we require SDG&E to provide information to potential bidders in the solicitation indicating preferred locations to interconnect. This information could assist project developers to secure suitable locations to minimize the risk of facing unforeseen interconnection costs. In providing this information, SDG&E should identify preferred locations on the grid where the deployment of DG could help address anticipated peak load growth or help congestion in addition to the available capacity at these preferred locations to the extent feasible.

UCAN favors phasing in projects based on property ownership starting with UOG turnkey projects. UCAN proposes a $50 million cap on UOG projects and believes this will allow SDG&E to gain experience and information about PV project costs and technology before any PPA is executed.

Although in rebuttal SDG&E agrees with the approach to initially focus on utility-owned projects, it contends a cap is unnecessary since each project will be submitted to the Commission for approval on an individual basis.

We decline to adopt UCAN's proposal. We want to encourage investments and create viable opportunities for independent power producers to pursue PV development. UCAN's proposal would essentially delay development of PV facilities by third party developers. Precluding PPAs from participating in the Solar Energy Project until the UOG component has been completed would only discourage third party development of PV facilities. Furthermore, implementing a multi-phase program may be complex and administratively difficult. We prefer a program that is simple and easy to implement. Accordingly, similar to the adopted programs for SCE and PG&E,

SDG&E should solicit bids for PPAs at the same time it pursues UOG development.

We also do not adopt UCAN's proposal to examine PV projects utilizing storage systems as a source of emergency power or on-grid peaking power to mitigate fire risks outages. These types of innovative applications would be more appropriately addressed in a separate application. The principal purpose of this program is to facilitate the expeditious deployment of solar resources to help meet the state's renewable obligation. These other goals are tangential to the core intent of this program. In the followings sections we describe the individual elements of the UOG and PPA portions of the Solar Energy Project. We direct SDG&E to submit, within 60 days of the effective date of this decision, a Tier 2 advice letter specifying the implementation and administration details of the UOG portion of the Solar Energy Project as set forth in Appendix A, and as described in more details in Section 7.10.

We also direct SDG&E to submit, within 60 days of the effective date of this decision, a Tier 3 advice letter specifying the implementation and administration details of the PPA portion of the Solar Energy Project as set forth in Appendix A, and as described in Section 7.10.

7.2. Program Capacity

SDG&E proposes to develop 52 MW of PV projects under the proposed Solar Energy Project. One of DRA's recommendations, if we were to adopt the proposed Solar Energy Project, is to reduce the scale of the program by implementing a 1-2 year pilot program and imposing a cost cap of $25 million. UCAN also advocates a smaller program focusing initially only on projects on utility-owned property and imposing a cost cap of $50 million.

As discussed above, we have modified the proposed Solar Energy Project to include UOG and private investments through PPAs. In the PD, we required the entire program capacity be capped at 52 MW with each of the UOG and the PPA portion of the program limited to 26 MW. In comments on the PD, SDG&E, UCAN and The Solar Alliance recommend we increase the program size. SDG&E requests that the PPA portion be increased to 90 MW to make the Solar Energy Program proportional to PG&E's and SCE's programs relative to load. UCAN also recommends we increase the PPA portion to 74 MW, so that in terms of revenues and customer numbers, the Solar Energy Program is proportional to PG&E's and SCE's solar programs. The Solar Alliance argues that the program size should be increased to 300 MW (150 MW of UOG and 150 MW of PPAs) in order to achieve the average cost target of $3.50/watt. If the program size is not increased, the Solar Alliance recommends the PPA part of the program be shortened to three years. DRA recommends against increasing the size of the program. DRA argues that several other viable options such as the RPS solicitation, the Feed-in Tariff programs, utility standards contracts and the CSI for commercial installations are available for solar projects that cannot participate in the Solar Energy Program.

While we agree that the Commission is considering expanding the opportunities for contracting options for similar projects in the future, we are generally convinced that the program size should be increased to provide equity between the three utilities' solar programs and make it proportional to PG&E's and SCE's solar programs. SDG&E and UCAN propose two different methodologies to achieve this, but neither provides a reasonable explanation for their proposal. Nonetheless, the two methodologies result in very little difference. We adopt UCAN's methodology for this purpose as it results in a total program size that is approximately proportionate to SCE's based on the

utilities' retail sale, and consistent with the method to calculate utilities' RPS requirement. Accordingly, the PPA portion of the Solar Energy Program is increased to 74 MW.

7.3. Individual Project Size

The proposed Solar Energy Project proposes to develop projects between 1-2 MW. CARE argues the 1-2 MW tracking projects are expensive. CARE recommends SDG&E focuses on larger wholesale PV projects, comparable to the 10 MW First Solar project for Sempra Energy in Nevada.[24] Although SDG&E states that it intends to evaluate opportunities for larger scale PV projects, it argues that its proposal is designed for projects of 1-2 MW to complement the existing CSI and large-sized RPS projects.[25]

We believe that the scope of the Solar Energy Project should not include PV projects that can effectively participate in the RPS solicitation. While as a technical matter, projects larger than 2 MW can participate in RPS solicitation, as a practical matter, the boundary for projects that can effectively compete in RPS may be beyond 2 MW. We hope and expect the program will result in multiple installations rather than a few larger projects. The program may be subject to substantial risk if a small number of large projects subscribe to most of the program MW capacity, but fail to materialize. However, we are persuaded by comments on the PD that we should allow some flexibility in project size so that we do not unnecessarily restrict opportunities or economies of scale. In D.09-06-049, we allowed some flexibility in project size and required SCE to procure primarily 1-2 MW projects, but also allowed SCE to pursue installations

[24] Exhibit 300 at 10-11.

[25] Exhibit 10-a at 5.

larger than 2 MW.[26] A similar provision is warranted here. We also concur with SDG&E that the upper bound of individual project size should be a function of the ability of existing distribution system to absorb new capacity without requiring significant upgrades. However, for reasons stated below we decline to adopt SDG&E's proposal of 10 MW as the upper limit for project size. Instead, we adopt 5 MW as the upper limit for projects under the Solar Energy Project. First, the record does not support a limit higher than 5 MW. SDG&E's testimony indicates 5 MW as the upper limit for interconnection to the distribution system without notable upgrades.[27] Second, given the capacity of the Solar Energy Project, a 5 MW limit offers greater economies of scale while allowing opportunities for development of multiple smaller projects. Therefore, we authorize SDG&E to procure projects primarily in the 1-2 MW, but projects of up to 5 MW are also allowed as long as those projects do not require major distribution modifications or upgrades.

SDG&E further states that it foresees building UOG projects of less than 1 MW on its land and requests that we allow such projects to participate in Solar Energy Project similar to what we adopted for PG&E in D.10-04-052.[28] In D.10-04-052, we allowed the construction of projects of less than 1 MW but such projects should constitute less than 5% of the total capacity of PG&E's solar PV UOG program. Because SDG&E is not eligible for CSI subsidies, smaller than 1 MW UOG projects constructed under the Solar Energy Project will not conflict

[26] D.09-06-049 at 32.

[27] Exhibit 11 at 2.

[28] SDG&E's comments on the PD at 8.

with the CSI. Therefore, it is reasonable to allow SDG&E to construct projects smaller than 1 MW.

7.4. Project Technology

SDG&E proposes to use single-axis tracking technology for projects that will be located in open areas and parking lots, such as shopping malls.[29] Parties generally are opposed to limiting the Solar Energy Project to tracking technology because of its cost. UCAN contends that "tracking PV is a fully commercial and expensive form of PV technology" and building a limited number of 1-2 MW tracking PV facilities will not advance PV technology.[30] In addition to the higher cost, UCAN argues that tracking PV requires more complex strategy and spacing than fixed thin film systems. UCAN recommends allowing thin film fixed PV as well as tracking systems to ensure the most cost effective alternatives.[31]

The difference in technology between fixed and tracking systems is that in fixed installations, panels have a constant orientation and do not track the sun, while tracking installations follow the path of the sun and can be either single or dual axis. Furthermore, as parties have noted, non-tracking systems may be less costly. We agree with UCAN that tracking systems may not be appropriate for all projects, especially given the costs. Each project should be evaluated for the specific site and matched with the appropriate technology for optimum benefits. Thus, depending on the project location and the surroundings, non-tracking technology may be a preferable option.

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[29] Although in rebuttal, SDG&E clarifies that it will not preclude other tracking and non-tracking technologies from participating in the Solar Energy Project, single axis technology appears to be the main technology for the proposed program.

[30] Exhibit 500 at 2.

[31] Exhibit 501 at 8.

It would make no sense to confine projects to tracking systems only, where other options may provide more benefits per unit of cost.[32] As UCAN notes, competitive solicitations may reveal which technology is more cost-effective, but there is no basis for favoring one technology or mounting configuration, or excluding qualified and viable technologies from participating in the Solar Energy Project as long as a specific project meets the requirement of the competitive procurement process, including commercial viability. Furthermore, allowing all viable PV technologies to compete will increase the number of competitors and bids, and maximize program participation. We therefore allow all commercially viable PV technologies to participate in the Solar Energy Project.

7.5. Program Cost

SDG&E seeks Commission authorization to spend up to $250 million to build, own, maintain, and operate up to 52 MW of utility-owned solar PV facilities of approximately 1-2 MW. SDG&E states that it is not asking for immediate funding of $250 million for Solar Energy Project. Rather, the $250 million represents a cap on costs for the Solar Energy Project.[33] SDG&E states that it will seek Commission approval for each solar PV project through a Tier 3 advice letter.

The $250 million estimate includes capital cost for developing all 52 MW solar PV facilities at $ 7,000/kW, although SDG&E estimates the installed capital cost of projects will be in the range of $4,000/kW to $7,000/kW.[34] The

[32] Exhibit 501 at 47.

[33] SDG&E brief at 2.

[34] According to SDG&E's testimony, the $4000/kW is based on the SCE's Solar Photovoltaic Program (SPVP) and the $7000/kW is based on CSI installations.

$250 million estimate also includes incremental labor and non-labor costs, but not lease payments, operations and maintenance (O&M) costs, and post installation costs such as inverter replacement costs. SDG&E estimates system O&M to be about $25/kW-year and program administration and preliminary development cost to be about $8.5 million for the duration of the program.

Parties generally argue that the proposed Solar Energy Project is too expensive. UCAN and CARE specifically express concerns over the staffing, program development and administration costs.

CARE argues that SDG&E's administrative cost could be reduced if SDG&E employs outside services instead of full time employees to perform tasks, such as cleaning PV panels that are needed occasionally.

UCAN questions the salaries for the seven full-time employees (FTEs) and the reasonableness of SDG&E's assumption that all seven positions receive the same compensation. In addition, UCAN points out that it is not clear how staffing level is reduced from seven to two at the end of the program. In UCAN's view, the lack of specificity in the estimated salaries for the seven FTEs represents unrealistic assumptions on program administration costs.[35]

We are persuaded by the above arguments that the estimated staffing and administrative costs of the proposed Solar Energy Project have not been fully analyzed by SDG&E and lack sufficient detail to determine if they are reasonable. First, we agree it is not realistic to assume the same salaries for all positions, including administrative support, technical support and project management. Further, we agree with UCAN that SDG&E has not sufficiently justified the need for the number of requested positions. SDG&E claims that the

[35] Exhibit 501 at 59.

requested number of employees is "reflective" of the effort needed to implement and manage the Solar Energy Project, and in response to the criticism to its staffing plan, it states that "at its next GRC, it commits to review the staffing needs and modify as needed..."[36] It is not clear whether the current staffing level is insufficient to fulfill the anticipated responsibilities.[37] Accordingly, we reject SDG&E's request for seven FTEs, but allow for one position (5 FTE–yrs) to staff program development and management of the new program. In comments on the PD, SDG&E recommends we increase the program funding to allow for activities related to permitting and engineering interconnection, and the UOG and PPA procurement. SDG&E recommends 16 FTE-yrs and $725,000 for consultant expenses for the UOG and PPA procurement function and 4 FTE-yrs and $3 million for permitting and interconnection engineering functions. SDG&E states that the consultant would serve as a technical advisor, and review and validate the solicitation process and the bids. These functions appear to be the same as those proposed in the SA for a Solar Evaluation Engineer. However, during hearings SDG&E clarified that a Solar Evaluation Engineer would not be needed if the IE has the appropriate qualifications and thus able to perform the same functions.[38] In Section 7.7 we authorize the use of an IE with specific knowledge and skills in PV technology to oversee bid design and evaluation. Therefore, it would be duplicative and unreasonable to authorize a consultant to

[36] Exhibit 10 a at 20.

[37] Exhibit 501 at 57. SDG&E's response to UCAN's question regarding whether the seven FTES would be new hires or existing indicates that "SDG&E has not contemplated the origination of the new FTEs."

[38] Reporter's Transcripts at 51.

perform the same functions. We deny SDG&E's funding request for a consultant.

We also reject SDG&E's request for $3 million of upfront funding to secure necessary permits and initiate interconnection engineering for its existing PV eligible properties prior to bid solicitation. Costs associated with securing permits for UOG projects should not be funded separately because such costs are part of the capital cost of the entire program. To the extent the program cost, which is calculated by dividing the capital cost of the entire program over the installed capacity, is below the adopted cost cap, then all capital costs, including permitting and environmental review costs are recoverable under the program. Likewise, permitting costs for PPAs is reflected in the PPA bid cost cap and must be assumed by the developers for individual projects. Ratepayers should not have to assume these costs.

We agree with DRA that given SDG&E currently receives and evaluates bids as part of the RPS solicitation, SDG&E's requested level of staffing to solicit bids for Solar Energy Project is excessive. Furthermore, some of the functions referred by SDG&E to be part of the UOG and PPA procurement were originally identified by SDG&E as part of SDG&E's existing operations. Nonetheless, it is reasonable to assume that implementation of the Solar Energy Project would require additional staffing for engineering and interconnection-related activities. We revise the PD to allow for two additional FTEs for these functions. We also clarify that the adopted O&M covers 2 FTE (10 FTE-yrs).[39] These new FTEs will enable SDG&E to implement the Solar Energy Project and support other renewable development and procurement activities.

[39] Exhibit 4 at III-2.

With respect to the capital cost, we adopt a different estimate than proposed by SDG&E. The original estimates were based on using tracking technology. As noted by parties, tracking technology and non-tracking technology can have significantly different costs. Because the adopted program allows for technologies other than tracking systems to participate, we believe the original estimates no longer represent a meaningful cap for the types of projects under the adopted Solar Energy Project. However, the Solar Energy Project, and the adopted PV programs for SCE and PG&E serve similar policy objectives using the same core technology. Given this, we find it reasonable to assume the costs for the Solar Energy Project not to be significantly different from estimates used in the context of SCE's and PG&E's PV programs. It is also reasonable to assume that the cost for the Solar Energy Project would be closer to SCE's PV program, because SCE's program targets the same size PV projects. Therefore, as adopted in D.09-06-049, we adopt $3.50/W as the cost cap for the UOG portion of the adopted Solar Energy Project with a 10% contingency.

For the PPA portion of the Solar Energy Project, consistent with D.09-06-049 and in order to ensure price protection for ratepayers, we apply the levelized cost of energy (LCOE) derived from UOG projects calculated at $235/MWh as the cap for the PPA solicitation.[40] In comments on the PD, SDG&E recommends a different cost cap. SDG&E claims the cost cap adopted for PG&E's solar program ($3.92/watt) is more appropriate as a starting point for Solar Energy Project, because both programs target ground-mounted projects. SDG&E further asserts that the PD's proposed price cap is too low for tracking

[40] The adopted cost cap was calculated assuming the following inputs: Capital Cost of $3.50/watt; a dc to ac conversion factor of 90%; O&M costs of $25/kW-year; no additional rate of return. This cap reflects a time-of-delivery (TOD) adjusted price.

technologies and is concerned that tracking projects will not be able to compete in the solicitation of the UOG projects at that cost cap. Therefore, SDG&E proposes the cost cap for fixed tilt systems be increased by 25% to reflect the incremental energy of tracking systems. Additionally, SDG&E seeks a $0.31/watt adder to account for the incremental capacity value of tracking systems. Thus, SDG&E requests for a total UOG cost cap of $5.21/watt for tracking systems. Similarly, SDG&E recommends we adopt a cost cap of $262/MWh and $5.21/MWh for tracking and non-tracking PPAs.

DRA also recommends a different cost cap. DRA proposes we base the UOG cost cap on the weighted average cost of SCE's and PG&E's completed UOG solar PV projects, because they represent a more accurate estimate of the cost of 1-2 MW UOG solar PV facility.[41] Similarly, DRA recommends the PPA cost cap be based on the LCOE of the operating UOG projects.

Although DRA's proposal represents a reasonable approach for estimating the cost of future facilities, we believe information from only three existing projects does not provide adequate data for developing an accurate estimate for a range of potential projects.

We are also not convinced by SDG&E's argument that different cost caps should be adopted for fixed and tracking systems. First, SDG&E's claim that the cost cap should be adjusted to reflect system capacity value for tracking systems is flawed. While there may be capacity benefits from tracking systems, projects eligible under this program (1-5 MW) generally do not count towards a utility's resource adequacy requirement according to the California Independent System

[41] DRA comments on the PD at 3.

Operator's (CAISO) small generator interconnection procedures.[42] Therefore, ratepayers do not receive any quantifiable benefits purported by SDG&E. Second, the adopted cost cap is an average value that assumes declining costs over the five-year program, which allows SDG&E the flexibility to consider projects that may be above the cap in the initial program years. Finally, SDG&E's witness stated that single access tracking technology is not necessarily more expensive than fixed systems; rather, the cost is site specific.[43] For the reasons explained above, we believe the cost cap proposed in the PD affords SDG&E reasonable flexibility to consider projects of different size and technology and should not be adjusted.

With respect to O&M costs, we adopt SDG&E's estimate of $25/kW-yr as a cap for individual projects. This estimate is for a 1 MW, single axis PV facility[44] and is a reasonable estimate for the projects under the UOG portion of the Solar Energy Project. SDG&E is authorized to recover actual O&M costs for projects under the Solar Energy Project up to the adopted $25/kW-yr. As noted later in the decision, the O&M costs will be reviewed in SDG&E's GRC. SDG&E has proposed a 3% escalation factor for the O&M cost cap. While we agree that the O&M cost cap should be adjusted to account for inflation, there is no justification in the record for the proposed escalation factor. We prefer to adopt the index for all urban consumers in the west, specifically the consumer price index (CPI)

[42] The CAISO tariff concerning small generator interconnection procedures is available at: http://www.caiso.com/27af/27afe14d36650.pdf.

[43] Recorder's Transcripts at 26.

[44] Exhibit 3 at II-25, footnote 39.

published by the U.S. Bureau of Labor Statistics with the series ID CUUR0400SA0 for this purpose.[45]

7.6. Performance and Reporting Requirement

The performance of SDG&E's facilities is an important consideration in our review of the O&M costs. We believe SDG&E is already well-motivated to maximize system performance because of the contribution UOG facilities are expected to make to SDG&E's RPS goals. Under the RPS, compliance is assessed on the basis of energy deliveries. Thus, the value of these facilities in helping SDG&E meet its RPS goal is directly related to these facilities' output. We will, however, consider additional performance review to ensure these facilities perform as expected. SDG&E shall provide the expected output for each facility in the advice letter it files. This data should be verified by the independent evaluator as discussed in Section 7.7. Should SDG&E's facilities on average produce less than 80% of their expected generation on an annual basis, a reasonableness review will be considered to determine the level of disallowance or refund to ratepayers that may be justified. To enable a thorough evaluation of these costs, we require SDG&E in each advice letter filed seeking approval of a UOG project to provide the expected generation for each project, and in its GRC filing to separately identify the capital and O&M costs associated with this program. SDG&E should provide sufficiently granular information for parties to understand the nature of the O&M expenses incurred by activity area (e.g., costs associated with panel cleaning, maintenance, vegetation management, security costs, etc.).

[45] http://data.bls.gov/cgi-bin/srgate.

SDG&E shall also file annual compliance reports with the Energy Division to report on the progress of the UOG and the PPA portions of the Solar Energy Project. The first compliance report is due twelve months after the start date of the Solar Energy Project. SDG&E shall consult with Energy Division to develop the format and content of the report. The annual report prepared by SDG&E shall include, at a minimum, the following information:

Reporting on the PPA portion of the Solar Energy Project

- Documentation of all solicitations issued for PPA projects;
- A description of all bids received from the PPA solicitations, including the name of bidder, location of project, bid price, and description of proposed facility (generating capacity, type of technology, annual average expected generation, interconnection point), and identification of winning bids;
- The total electrical output for all systems under PPAs that are currently selling electricity to SDG&E, for each month of the previous year; and
- A description of the project specific distribution and network upgrades, including their costs needed to facilitate the PPA portion of Solar Energy Project.

Reporting on the UOG portion of the PV Program

- Documentation of all solicitations issued for UOG projects, including the criteria SDG&E established to evaluate bids; a description of the short list of bids, including name of the bidder and final price in the agreement, a description of offer/facility (generating capacity, type of technology, annual average expected generation, interconnection point), and identification of winning bids;
- A description of all UOG facilities for which work has been initiated or completed in the previous year, including: capital costs, and operations and maintenance expenses, generating capacity, type of technology, annual average expected generation, description of the site (existing SDG&E-owned land or newly acquired/leased, land/lease cost, proximity to substation), and progress toward completion;

- Quantification of the UOG capacity that came online in each program year;
- A calculation of the LCOE for each UOG facility that is completed and interconnected to the grid. This calculation shall include work papers showing actual amounts for all cost and electrical output entries used to calculate the LCOE;
- Electrical output by month for the previous year for each SDG&E-owned UOG facility that is completed and interconnected to the grid; and
- A description of the project specific distribution and network upgrades and distribution and network upgrades generally needed to facilitate the PV PPA Program; the known or projected costs of those upgrades, associated with interconnecting each UOG facility, including all distribution and network upgrades; a listing of the UOG projects identified as triggering the need for network upgrades; and identification of the UOG projects implemented notwithstanding the need for network upgrades, and the cost of those network upgrades.

7.7. Use of an Independent Evaluator

Although SDG&E's proposed Solar Energy Project does not include hiring an independent evaluator (IE), in order to ensure that the competitive solicitations are administered properly, and to verify the expected performance data of the individual projects, SDG&E shall use an IE consistent with and pursuant to the requirements established in D.07-12-052, as modified by D.08-11-008.

D.07-12-052 ordered the IOUs to develop a pool of at least three IEs to use for all long-term solicitations that involve affiliate transactions or utility-owned or utility-turnkey bids, and for all competitive RFOs. D.08-11-008 modified the circumstances under which an IOU must retain the services of an IE.

Consistent with the directives of D.07-12-0452, the Commission in D.10-04-052 required an IE to oversee the UOG solicitations and RFO process for

PG&E's solar PV program and provide a report on the result of PG&E's solicitation. We believe this requirement is sufficient to ensure a fair and transparent of solicitation process for both the UOG and the PPA portions of the Solar Energy Project program and direct SDG&E to hire an IE for the adopted Solar Energy Project. IE expenses shall be recorded in SDG&E's Independent Evaluator Memorandum Account (IEMA) consistent with the treatment of IE expenses related to other renewable procurement activities. SDG&E shall provide the IE's reports regarding project solicitations in its annual program compliance report to the Commission.

In addition, we require SDG&E to submit the expected performance data for each UOG project to the IE for verification and include the IE's evaluation of the data in the advice letter for each UOG project.

7.8. Projects with CSI Addition

SDG&E asserts that the proposed Solar Energy Project will create opportunities for customers to co-construct up to 26 MW of CSI eligible solar facilities. DRA takes this idea one step further and recommends limiting the Solar Energy Project only to projects that provide two-thirds UOG and one-third CSI.

Although SDG&E believes that DRA's approach may not be the most cost efficient way of delivering projects, it proposes to give projects that offer a CSI addition preferential consideration.[46]

While aspects of DRA's proposal are appealing, requiring all UOG projects to be combined with a CSI project could unnecessarily limit the program. Such a requirement may exclude projects that do not have on-site load but otherwise

[46] Exhibit 10-a at 16.

could participate in the Solar Energy Project. Additionally, to the extent co-locating with CSI projects offers any economic advantage, that should be reflected in the bid prices submitted for turn-key UOG projects or PPAs.

7.9. Project Operational Deadline

In order to avoid unnecessary delay of project development, a deadline for the time between when an executed contract receives Commission approval and the date the project becomes operational should be required, or else the success of the program may be jeopardized. Accordingly, we require that all PPA projects achieve commercial operation within 18 months of Commission approval. MW capacity associated with any PPA projects that do not achieve commercial operation within the required 18 months shall be added to the next PPA solicitation. This approach is consistent with PG&E's PV program and will ensure timely deployment of all projects developed under the Solar Energy Project.[47]

7.10. Approval Process for Individual Projects and Cost Recovery

SDG&E states that it will bring each solar PV project for Commission approval through a Tier 3 advice letter. Each advice letter, among other things, will seek authorization for project cost, site, technology, and revenue requirement. DRA supports the advice letter process and recommends SDG&E submit individual projects or small groups of projects for Commission approval through a Tier 3 advice letter before committing ratepayer funds.[48]

[47] See D.10-04-052.

[48] Exhibit 200 at 16.

SDG&E proposes to recover the revenue requirement associated with the administration and preliminary development expenses, as well as revenue requirement for approved Solar Energy Project facilities through rates in its Non-fuel Generation Balancing Account (NGBA). In addition, SDG&E proposes to establish a new balancing account, the Solar Energy Project Balancing Account (SEPBA), to record the difference between the authorized Solar Energy Project revenue requirement and the actual O&M and capital related expenses for solar PV facilities. Finally, upon Commission approval of a specific solar PV facility, SDG&E proposes that all capital costs associated with that facility and O&M expenses will be recorded in SEPBA.

Although the individual advice letter filings will provide an opportunity for the Commission to evaluate each project or set of projects based on the specific information for that project, we agree with UCAN that such a process could create a potential for contested filings and burden Commission's limited resources.[49] Instead, we prefer to have pre-established and measurable criteria to facilitate and simplify the review process of UOG projects. Accordingly, we direct SDG&E to submit a Tier 2 advice letter within 60 days of the effective date of this decision proposing criteria for the solicitation and selection of UOG projects including:

- Solicitation process and protocols, eligibility, and timeline for projects bidding into the UOG solicitations;
- Criteria for evaluating conforming bids in the UOG solicitations; and
- Process for identifying preferred locations of UOG project development to optimize the locational value of project sites.

[49] Exhibit 501 at 43.

- Methodologies for calculating the expected generation output of individual utility-owned facilities.

Once the advice letter is approved, SDG&E shall use the adopted criteria and guidelines to solicit and select individual UOG projects. Upon selection of a UOG project, SDG&E shall submit a Tier 2 advice letter to obtain Commission approval of the executed contracts for selected projects and the corresponding revenue requirement recorded in appropriate accounts as adopted in this decision. This advice letter shall include information regarding the expected generation for each project and the independent evaluator's verification of that information. We note that in pursuing the individual solar projects authorized in this decision, SDG&E must adhere to all relevant permitting requirements including any review required under the California Environmental Quality Act.

Additionally, within 60 days of the effective date of this decision, SDG&E shall file a Tier 3 advice letter specifying the Solar Energy Project implementation and administration details needed to implement the PPA portion of the program as set forth in Appendix A, including:

- 20-year standard power purchase agreement contract;
- Competitive solicitation process and protocols, eligibility, and timeline for the power purchase solicitations;
- Criteria for evaluating conforming bids;
- Process for identifying preferred locations for project development to optimize the locational value of project sites as well as the provision of information regarding the available capacity at these preferred locations;
- Generation system interconnection application process and protocols; and
- Confidentiality protocols to ensure that information given by developers to SDG&E through the interconnection or bidding process is not shared with SDG&E's staff working on the UOG portion of the Solar Energy Project.

7.11. Treatment of Debt Equivalence for PPAs

UCAN suggests that SDG&E's interpretation of the application of debt equivalence may have resulted in SDG&E ignoring PPAs as an alternative to UOG.[50] In UCAN's view, "If bids for customer-owned or municipal-owned sites are exclusively PPAs, debt equivalence adders can be recognized in the bid evaluation process."[51] Thus, UCAN recommends considering debt equivalence if PPAs are considered as part of the Solar Energy Project.

The SA also raised the issue of debt equivalence and Financial Accounting Standards Board Interpretation Number FIN 46(R), as discussed above. The SA requests to allow "recovery of additional incremental revenues necessary to cover equity re-balancing of the capital structure associated with the recognition of debt-equivalence or consolidation requirement per Financial Accounting Standards Board Interpretation Number FIN 46(R) resulting from delivery under PPAs."[52]

Although we are not adopting the SA, we wish to address both issues here.

In some cases, the Commission has allowed consideration of debt equivalence adder in solicitations. Specifically, Ordering Paragraph 1 of D.08-11-008 authorizes IOUs to recognize the effects of debt equivalence when comparing PPAs against PPAs in their bid evaluation. However, as stated in D.08-11-008, the Commission considers the potential impacts of debt equivalence associated with the PPAs on IOUs' credit ratings in the IOUs' cost of capital

[50] Exhibit 501 at 31.

[51] *Id.*

[52] Exhibit 14 at 5.

proceeding. Thus, there is an established process for treatment of debt equivalence. While SDG&E is authorized to recognize the effect of debt equivalence in its bid evaluation process per D.07-12-052, as modified by D.08-11-008, allowing recovery of debt equivalence as part of the PPA solicitation process would be inappropriate and inconsistent with Commission policy with respect to treatment of debt equivalence. Further, as SDG&E's witness testified, no RPS project has ever received such a treatment.[53]

The FIN 46 (R) approach also conflicts with existing precedent and contradicts the Commission's treatment of similar requests. D.06-09-021 involved an option for SDG&E to purchase a facility with the requirement for consolidation of the financial statement of that facility with SDG&E's. Under that circumstance, D.06-09-021 allowed consideration of FIN 46 (R). No such transaction is envisioned here for projects under the adopted Solar Energy Project to justify similar treatment.

8. Comments on Proposed Decision

The proposed decision of Administrative Law Judge (ALJ) Maryam Ebke 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 August 2, 2010, by DRA, SDG&E, UCAN, IEP, and the Solar Alliance and reply comments were filed on August 9, 2010, by SDG&E, DRA, and CARE. We have considered parties' comments and have revised the proposed decision. Changes in response to parties' comments are reflected in the decision.

9. Assignment of Proceeding

[53] Reporter's Transcripts, Volume 2 at 43.

President Michael R. Peevey is the assigned Commissioner and ALJ Maryam Ebke is the assigned ALJ in this proceeding.

Findings of Fact

1. California has a number of existing programs that support the development of renewable generation, including the RPS program and the CSI.
2. EAP I, adopted in 2003, specifically identified the promotion of customer and utility owned clean and renewable distributed generation as a key component of achieving the state's overarching energy objectives.
3. No 1-2 MW solar PV projects have been built as a result of SDG&E's RPS solicitations.
4. The existing programs which encourage development of solar energy facilities have left a gap in the development of 1-2 MW renewable projects.
5. Without a program that focuses on promoting the development of 1-2 MW PV facilities, projects of this size range may not be developed
6. Small-scale PV can be located close to load centers, developed relatively quickly and may reduce the need for transmission infrastructure development.
7. A variety of legislative or policy options may fill the gap in the 1-2 MW solar PV energy market.
8. Development of small-scale PV facilities provides a valuable approach to increasing the amount of renewable generation in California and realizing the renewable energy goals of the state.
9. Small-scale PV can serve the state in achieving its RPS and GHG emission reduction goals.
10. The Solar Energy Project can supplement the Commission's RPS and CSI efforts to advance development of renewables facilities in California.
11. The adopted Solar Energy Project is one possible solution to help address the existing gap in the 1-2 MW solar PV energy market.

12. Development of small-scale PV is consistent with the state's commitment to develop renewable distributed generation as a priority resource for the state.

13. A program to develop small-scale PV will supplement, not supplant or conflict with other procurement mechanisms or strategies.

14. The SA does not meet the requirement of Rule 12.1(d) of the Commission's Rules of Practice and Procedure.

15. The Solar Energy Project as modified is reasonable.

16. The proposed cost in the SA for non-tracking systems is not reasonable.

17. The request for an increase in SDG&E's rate of return is not consistent with the law, because it does not meet the requirements of Pub. Util. Code § 454.3.

18. The SA's proposed approach for debt equivalence is inconsistent with Commission decisions and policies.

19. The Commission has established a general policy that favors market competition for the procurement of energy resources.

20. The adopted Solar Energy Project and the adopted PV programs for SCE and PG&E serve similar policy objectives.

21. The adopted Solar Energy Project will create opportunities for independent solar energy producers to compete for part of the projects covered by the adopted Solar Energy Project.

22. The adopted Solar Energy Project is in the ratepayers' interest.

23. Tracking systems may not be suitable for all projects.

24. The proposed capital cost is not reasonable, because it was based on tracking technology.

25. SDG&E's estimated program development and administrative costs lacks sufficient details.

26. SDG&E's estimated O&M cost cap of $25/kW-yr is reasonable.

27. There is no justification in the record for the proposed 3% O&M escalation factor.

28. The Commission has required the use of an independent evaluator in all long-term utility solicitations.

29. Requiring all UOG projects to be combined with a CSI project could unnecessarily limit the program.

30. It is reasonable to require PPA projects to achieve commercial operation within 18 months of Commission approval of the project.

31. It is reasonable to conduct a reasonableness review if UOG facilities do not perform as expected.

32. There is no requirement for consolidation of financial statements of PPA projects with SDG&E's financial statement.

33. Debt-equivalence or consolidation requirement per Financial Accounting Standards Board Interpretation Number FIN 46(R) are not applicable under the adopted Solar Energy Project.

Conclusions of Law

1. The Commission should support the development of small-scale PV projects through the Solar Energy Project because the CSI and RPS programs have not resulted in significant investments in small-scale solar PV projects.

2. All commercially viable technologies and mounting configurations should be allowed to participate in the Solar Energy Project.

3. Projects of up to 5 MW should be allowed to participate in the Solar Energy Project as long as they do not require major distribution upgrades.

4. The SA should not be adopted because it is not consistent with the law and does not meet the requirements ion Rule 12.1(d) of the Commission's Rules of Practice and Procedure.

5. The Solar Energy Project should allow private investment through competitive procurement.

6. The Commission should adopt upfront criteria to be used in selection of individual UOG PV projects.

7. The Commission should review UOG capital and O&M costs in SDG&E's GRC.

8. The Commission should conduct a reasonableness review of the O&M costs of UOG facilities if on average a facility produces less than 80% of its expected generation.

9. The Solar Energy Project does not meet the criteria of Pub.Util. Code § 454.3 for an increase of basis points.

10. SDG&E should use an independent evaluator in all solicitations conducted pursuant to this program.

11. SDG&E should file annual compliance reports as described in Appendix A. The first compliance report is due at the end of the first year of the program.

12. The independent evaluator's report should be included in the annual compliance report.

O R D E R

IT IS ORDERED that:

1. The adopted Solar Energy Project set forth in Appendix A to this decision is approved.

2. San Diego Gas & Electric Company shall implement the adopted Solar Energy Project as set forth in Appendix A.

3. In pursuing the individual solar projects authorized in this decision, San Diego Gas & Electric Company must adhere to all relevant permitting

requirements including any review required under the California Environmental Quality Act.

4. Within 60 days of the effective date of this decision, San Diego Gas & Electric Company shall file a Tier 3 advice letter with the Energy Division specifying the Solar Energy Project implementation and administration details needed to implement the Power Purchase Agreement portion of the program as set forth in Appendix A, including:

- 20-year Standard power purchase agreement contract;
- Competitive solicitation process and protocols, eligibility, and timeline for the power purchase solicitations;
- Criteria for evaluating conforming bids;
- Process for identifying preferred locations for project development to optimize the locational value of project sites as well as the provision of information regarding the available capacity at these preferred locations;
- Generation system interconnection application process and protocols; and
- Confidentiality protocols to ensure that information given by developers to San Diego Gas & Electric Company through the interconnection or bidding process is not shared with San Diego Gas & Electric Company's staff working on the utility-owned generation of the Solar Energy Project.

5. Within 60 days of the effective date of this decision, San Diego Gas & Electric Company shall file a Tier 2 advice letter with the Energy Division specifying the Solar Energy Project implementation and administration details needed to implement the utility-owned portion of the program as set forth in Appendix A, including:

- Solicitation process and protocols, eligibility, and timeline for projects bidding into the utility-owned generation solicitations;

- Criteria for evaluating conforming bids in the utility-owned generation turn-key solicitations;
- Process for identifying preferred locations of utility-owned generation project development to optimize the locational value of project sites; and
- Methodologies for calculating the expected generation output of individual utility-owned facilities.

6. Upon selection of a Utility-owned Generation project, San Diego Gas & Electric Company shall submit a Tier 2 advice letter to obtain Commission approval of the executed contract for the selected project and the corresponding revenue requirement recorded in appropriate accounts as adopted in this decision.

7. San Diego Gas & Electric Company shall enlist the services of an independent evaluator for the following:

- To oversee the solicitation process and provide an assessment of the fairness and robustness of each of the solicitations it conducts pursuant to this program, for both utility-owned generation projects and power purchase agreement projects, and the degree to which these solicitations conform to the solicitation protocols.
- To provide verification of the expected generation of each utility-owned project.

8. Within 60 days of the closing date of each solicitation for power purchase agreements, San Diego Gas & Electric Company shall convene a program forum to identify program solicitation components that may need refinement. Based on the feedback received through these program forums, and in consultation with the Energy Division, San Diego Gas & Electric Company may file a Tier 3 advice letter seeking modifications to the solicitation component of the Solar Energy Project adopted by this decision.

9. San Diego Gas & Electric Company (SDG&E) shall file annual reports, which shall include the independent evaluator's reports regarding all

solicitations conducted pursuant to this program over the reporting period and, at a minimum, the following:

Reporting on the Power Purchase Agreement (PPA) portion of the Solar Energy Project

- Documentation of all solicitations issued for PPA projects;
- A description of all bids received from the PPA solicitations, including the name of bidder, location of project, bid price, and description of proposed facility (generating capacity, type of technology, annual average expected generation, interconnection point), and identification of winning bids;
- The total electrical output for all systems under PPAs that are currently selling electricity to SDG&E, for each month of the previous year;
- A description of the project specific distribution and network upgrades, including their costs generally needed to facilitate the PPA portion of Solar Energy Project.

Reporting on the Utility-owned Generation (UOG) portion of the Photovoltaic (PV) Program

- Documentation of all solicitations issued for UOG projects, including the criteria SDG&E established to evaluate bids; a description of the short list of bids, including name of the bidder and final price in the agreement, a description of offer/facility (generating capacity, type of technology, annual average expected generation, interconnection point), and identification of winning bids;
- A description of all UOG facilities for which work has been initiated or completed in the previous year, including: capital costs, and operations and maintenance expenses, generating capacity, type of technology, annual average expected generation, description of the site (existing SDG&E-owned land or newly acquired/leased, land/lease cost, proximity to substation), and progress toward completion;
- Quantification of the UOG capacity that achieved commercial operation in each program year;

- A calculation of the levelized cost of energy (LCOE) for each UOG facility that is completed and interconnected to the grid. This calculation shall include work papers showing actual amounts for all cost and electrical output entries used to calculate the LCOE;
- Electrical output by month for the previous year for each SDG&E-owned UOG facility that is completed and interconnected to the grid; and
- A description of the project specific distribution and network upgrades needed to facilitate the PV PPA Program. The known or projected costs of those upgrades, associated with interconnecting each UOG facility, including all distribution and network upgrades, a listing of the UOG projects identified as triggering the need for network upgrades, and identification of the UOG projects implemented notwithstanding the need for network upgrades, and the cost of those network upgrades.

SDG&E shall file these annual reports with the Commission and serve them on the service list of this application. The first annual report shall be due 12 months from the start of the program.

10. The first year of the Solar Energy Project shall begin upon Commission approval of the advice letter San Diego Gas & Electric is required to file pursuant to Ordering Paragraph 5 of this decision.

11. Application 08-07-017 is closed.

This order is effective today.

Dated _____, at San Francisco, California.

APPENDIX A
The Solar Energy Project
A Solar Photovoltaic Program for
San Diego Gas & Electric Company
Adopted 2010

General Overview:

The Solar Energy Project (Solar Energy Project) is a five-year program (starting from the date the Commission approves SDG&E's advice letter) to develop up to 100 megawatts (MW) of solar photovoltaic (PV) facilities in the range of one to two MW in San Diego Gas & Electric's (SDG&E) service territory. An independent evaluator (IE) shall oversee all solicitations conducted pursuant to the Solar Energy Project. IE expenses shall be recorded in SDG&E's Independent Evaluator Memorandum Account (IEMA).

Total Size of the Solar Energy Project:

100 MW

Utility-owned Generation (UOG) Portion of the Solar Energy Project:

Size: 26 MW

Cost caps: $3.50/W with a 10% contingency for capital cost. $25/kW-yr for operation and maintenance costs escalated at the index for all urban consumers in the west, specifically the CPI published by the U.S. Bureau of Labor Statistics with the series ID CUUR0400SA0 (http://data.bls.gov/cgi-bin/srgate).

Project Size/Type: Primarily one to two MW PV facilities of all technologies and mounting configurations, but projects of up to 5 MW are also allowed as long as no major distribution upgrade is required.

Power Purchase Agreement (PPA) Portion of the Solar Energy Project:

Size: 74 MW

Project Size/Type: Primarily one to two MW PV facilities of all technologies and mounting configurations, but projects of up to 5 MW are also allowed as long as no major distribution upgrade is required.

Project development timeline: 18 months from Commission approval, MWs associated with projects that do not achieve commercial operation within in 18 months after Commercial approval shall be added to the next solicitation.

Location: In SDG&E's service territory.

Price: SDG&E shall hold a competitive solicitation at least once per year to select winning projects.

Cost cap: at SDG&E's time-of-delivery adjusted levelized cost of energy (LCOE) of $235/MWh based on $3.50/W.

Reporting Requirements:
SDG&E shall file annual compliance reports in this proceeding. The first report is due 12 months after the start of the Solar Energy Project. The report shall include the independent evaluator's reports regarding all solicitations conducted pursuant to this program over the reporting period and, at a minimum, the following:

Reporting on the PPA portion of the Solar Energy Project

- Documentation of all solicitations issued for PPA projects;
- A description of all bids received from the PPA solicitations, including the name of bidder, location of project, bid price, and description of proposed facility (generating capacity, type of technology, annual average expected generation, interconnection point), and identification of winning bids;
- The total electrical output for all systems under PPAs that are currently selling electricity to SDG&E, for each month of the previous year;
- A description of the project specific distribution and network upgrades, including their costs needed to facilitate the PPA portion of the Solar Energy Project.

Reporting on the UOG portion of the PV Program

- Documentation of all solicitations issued for UOG projects, including the criteria SDG&E established to evaluate bids; a description of the short list of bids, including name of the bidder and final price in the agreement, a description of offer/facility (generating capacity, type of technology, annual average expected generation, interconnection point), and identification of winning bids;
- A description of all UOG facilities for which work has been initiated or completed in the previous year, including: capital costs, and operations and maintenance expenses, generating capacity, type of technology, annual average expected generation, description of the site (existing SDG&E-owned land or newly acquired/leased, land/lease cost, proximity to substation), and progress toward completion;

- Quantification of the UOG capacity that achieved commercial operation in each program year;
- A calculation of the levelized cost of energy (LCOE) for each UOG facility that is completed and interconnected to the grid. This calculation shall include work papers showing actual amounts for all cost and electrical output entries used to calculate the LCOE;
- Electrical output by month for the previous year for each SDG&E-owned UOG facility that is completed and interconnected to the grid; and
- A description of the project specific distribution and network upgrades needed to facilitate the PV PPA Program; the known or projected costs of those upgrades, associated with interconnecting each UOG facility, including all distribution and network

  Upgrades; a listing of the UOG projects identified as triggering the need for network upgrades; and identification of the UOG projects implemented notwithstanding the need for network upgrades, and the cost of those network upgrades.

(END OF APPENDIX A)