

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

ENERGY DIVISION

ID #10563  
RESOLUTION E-4414  
August 18, 2011

**R E S O L U T I O N**

Resolution E-4414. Pacific Gas and Electric Company, Southern California Gas Company, and San Diego Gas & Electric Company.

PROPOSED OUTCOME: This resolution implements the Renewable Auction Mechanism for Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas & Electric Company. Specifically, this resolution adopts implementation details, bidding protocols, and standard power purchase agreements for each investor-owned utility.

ESTIMATED COST: Actual costs are unknown at this time.

By Advice Letters PG&E 3809-E, SCE 2557-E, and SDG&E 2232-E filed on February 25, 2011.

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**SUMMARY**

This resolution implements the Renewable Auction Mechanism ("RAM") for the three investor-owned utilities ("IOUs"): Pacific Gas and Electric Company (PG&E), Southern California Electric Company ("SCE"), and San Diego Gas & Electric Company ("SDG&E"). In Decision (D.) 10-12-048 ("the Decision" or "RAM Decision"), the California Public Utilities Commission ("CPUC" or "Commission") adopted a two-year program with the purpose of lowering transaction costs and promoting the development of system-side renewable distributed generation ("DG"), which is defined as projects up to 20 megawatt ("MW") in size. This resolution adopts program implementation details, bidding protocols, and a standard power purchase agreement for each IOU.

## **BACKGROUND**

On December 18, 2010, the CPUC approved a new procurement mechanism called the Renewable Auction Mechanism (“RAM”) in D.10-12-048.<sup>1</sup> The Decision ordered the IOUs to procure up to 1,000 megawatts (“MW”) of system-side renewable distributed generation (projects up to 20 MW in size) through a reverse auction<sup>2</sup> using a standard contract. The Decision ordered the IOUs to hold four auctions over two years. The Decision also ordered many program details and directed the IOUs to submit their bidding protocols and standard contracts through a Tier 3 advice letter in order to implement the program’s requirements. Lastly, the decision recognized that this is a new program and allows staff to modify the decision through a CPUC approved resolution based on evidence that the modification is necessary to improve the RAM program.

Pursuant to D.10-12-048, PG&E filed advice letter (“AL”) 3809-E, SCE filed AL 2557-E, and SDG&E filed AL 2232-E on February 25, 2011.<sup>3</sup> In each advice letter, the IOUs seek approval of their bidding protocols and standard power purchase agreements. The IOUs propose new program details or standard terms and conditions that were not addressed in the Decision. The IOUs also proposed new program details or standard terms and conditions that are different from those specified in the Decision and thus would require modification of the Decision, if adopted.

Twelve parties filed protests or responses to the advice letters<sup>4</sup> by March 17, 2011, and the IOUs replied to the protests on March 30, 2011. Energy Division Staff (“Staff”) reviewed the advice letters, party protests/responses, and IOU replies, using the following, three guiding principles:

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<sup>1</sup> The Decision is available at [http://docs.cpuc.ca.gov/word\\_pdf/FINAL\\_DECISION/128432.pdf](http://docs.cpuc.ca.gov/word_pdf/FINAL_DECISION/128432.pdf).

<sup>2</sup> In a reverse auction, the buyer selects the least costly bids first.

<sup>3</sup> On February 11, 2011, the Executive Director granted PG&E and SDG&E’s advice letter filing extension request. The Executive Director extended the filing date from 60 days to 70 days.

<sup>4</sup> Not all parties protested each IOU’s advice letter. See the section under Protests to see which parties protested which advice letter.

1. **Retain Program Continuity** – if a prior CPUC program already resolved an issue, staff directed the IOUs to amend their bidding protocols or standard contract to conform to a prior CPUC decision or resolution. This guiding principle is especially relevant to the proposed standard contracts because parties have litigated, and the CPUC has approved, standard RPS contracts for programs that are comparable to RAM.
2. **Same Rules for each IOU** – In order to simplify the program, staff strived to maintain the same rules for each IOU. Staff recognizes that each IOU has unique procurement circumstances and supports different rules when facts demonstrate that they are warranted.
3. **Alignment of Procurement with Interconnection**<sup>5</sup> – Sellers participating in RAM need to know their interconnection costs in order to accurately prepare their non-negotiable bid price. The RAM program design must take into account the timing of the interconnection studies to ensure there are a sufficient number of sellers with accurate interconnection information participating in the first and subsequent auctions.

Upon CPUC approval of this Resolution, IOUs are required to file compliance advice letters (“compliance filings”) within 30 days to reflect the changes to the program details, bidding protocols, and standard contracts required herein.

## **NOTICE**

Notice of Advice Letters 3809-E, 2557-E, and 2232-E was made by publication in the Commission’s Daily Calendar. PG&E, SCE, and SDG&E state that copies of their respective Advice Letters were mailed and distributed in accordance with Section IV of General Order 96-B.

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<sup>5</sup> At the same time that the CPUC was deliberating the Decision, the California Independent System Operator was reforming the Small Generator Interconnection Procedures (“SGIP”). On December 18, 2011, the Federal Energy Regulatory Commission (“FERC”) approved the CAISO’s proposal to study small generators (up to 20 MW) interconnecting to the transmission system in a cluster study process instead of a serial study process. In May of 2011, the FERC approved PG&E and SCE’s request to study generators interconnecting to the distribution system through a cluster study process instead of a serial study process.

## **PROTESTS**

By March 17, 2011, the Commission received the following timely protests or responses:

**PG&E AL 3809-E:** Independent Energy Producers (“IEP”), Recurrent, Foristar Methane Group (“Foristar Methane”), Clean Coalition, Silverado, Solar Alliance, SunEdison, Oakland Waste, Matthew DeAngelis, and Winona Azure;

**SCE AL 2557-E:** IEP, Recurrent, Division of Ratepayer Advocates (DRA), Clean Coalition, Silverado, Solar Alliance, and SunEdison;

**SDG&E AL 2232-E:** IEP, Constellation Energy Projects and Services Group (“Constellation Energy”), Foristar Methane Group, DRA, Silverado, Solar Alliance, and SunEdison.

PG&E, SCE, and SDG&E replied in a timely manner to parties’ protests and responses on March 30, 2011.<sup>6</sup>

## **DISCUSSION**

Parties both supported and protested aspects of each utility’s filings. The following discussion summarizes the protested issues and based on party comments, this resolution either accepts, rejects, or modifies the utility advice letters on these implementation details.

### **Auction Implementation Details**

#### *Auction Frequency*

The Decision directs the IOUs to hold two auctions per calendar year over a two-year period.<sup>7</sup> In its advice letter, SCE requests to change the Decision’s requirement of holding two auctions per year to only one auction per year.

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<sup>6</sup> On March 24, 2011, the Executive Director of the CPUC granted the IOUs a 6-day extension to file their reply comments on March 30, 2011 instead of March 24, 2011.

<sup>7</sup> See Ordering Paragraph 1.c. of the RAM Decision.

Silverado supports this request while Solar Alliance, Clean Coalition, and Recurrent oppose it. Solar Alliance suggests that the IOUs hold an additional auction every six months after the last regularly scheduled auction to compensate for any program dropouts.

In its reply, PG&E supports SCE's request and states that holding one auction per year will allow adequate time to hold the required program forums, to meaningfully evaluate whether program modifications are needed, and to allow time for any modifications to be proposed and incorporated into the next RAM auction.

SCE and PG&E's request to hold one auction per year should be denied. While PG&E's assertion is correct that 6 months between auctions does not provide enough time to hold the program forum, submit an advice letter requesting changes, and obtain CPUC-approval, the CPUC and IOUs have had enough experience with reverse auctions to use the rules adopted in this resolution for the first and second auctions.<sup>8</sup> Lessons learned from the first auction can be incorporated into the third and fourth auctions. Staff recommends the following language for adoption:

The IOUs shall hold an auction every six months. The first auction shall close no later than November 15, 2011, and the second auction shall close no later than May 31, 2012.

The Solar Alliance's suggestion to hold additional auctions after the last scheduled auction in order to compensate for any program dropouts should be denied because D.10-12-048 created this initial 1,000 MW phase of RAM to be a pilot program with the ability to modify any program elements as needed through a CPUC resolution, including authorizing additional auctions beyond the four required in the Decision. Thus, there already is a mechanism in place to authorize additional auctions if needed.

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<sup>8</sup> SCE held the solar photovoltaic program reverse auction in the second quarter of 2010 and the renewables standard contract program reverse auction in third quarter of 2010. PG&E held its solar photovoltaic program reverse auction in the first quarter of 2011.

*Auction Schedule*

The Decision requires the IOUs to hold simultaneous auctions in order to maximize competition. The IOUs submitted auction schedules that were neither identical nor did they reflect coordination. Furthermore, SCE proposed that the IOUs hold staggered instead of simultaneous auctions. Both SunEdison and Recurrent protested the IOU RAM schedules because they were not coordinated per the requirement in D.10-12-048. SCE's proposal for staggered auctions should be denied because this issue has been thoroughly litigated in R.08-08-009 and SCE has not provided any new information to warrant a change. Thus, in the RAM compliance filings, the IOUs must submit an auction schedule that reflects simultaneous auctions.

Lastly, Recurrent protested SCE's request to have between 60 to 90 days to submit its RAM contracts through a Tier 2 advice letter after contract execution. PG&E requests 8 weeks (56 days) and SDG&E requests 30 days. The Decision was silent on this issue. In its reply, SCE states that absent a revised and more streamlined advice letter submittal process, 60 days will not be enough time for SCE to complete the required Tier 2 advice letter filing because advice letters require a significant amount of information. Staff agrees that 60 to 90 days is excessive and recommends the IOUs submit the executed RAM contracts to the CPUC through a Tier 2 advice letter within 45 days of contract execution. The IOUs should work with staff in order to standardize, streamline, and simplify the Tier 2 advice letter filing. Staff recommends the Commission adopt the following language:

The IOUs must hold simultaneous auctions and submit executed RAM contracts as Tier 2 Advice Letters to the CPUC within 45 days of contract execution.

*Eligibility – New versus Existing Projects*

The Decision does not indicate whether RAM should be open to both new and existing projects, or restricted to only new projects. PG&E and SDG&E's proposed RAM programs restrict bids to new projects, while SCE's RAM program allows both new and existing projects to participate in a RAM auction. PG&E states that in its view, this limitation is implied in the structure of the Decision and that focusing on new projects is appropriate given the CPUC's efforts to bring new renewable resources online in California. Lastly, PG&E states that existing projects may crowd out new projects in the RAM competitive bidding process. Foristar Methane protested this aspect of PG&E's advice letter

and recommends allowing existing projects to participate in PG&E's auction because, according to Foristar Methane, existing projects should be able to provide a lower cost to ratepayers. Staff agrees with Foristar Methane that existing projects may be able to provide a lower cost to ratepayers and that the IOUs should allow both existing and new projects to participate in RAM. Staff recommends the Commission adopt the following language:

The IOUs shall amend their bidding protocols to allow for existing projects to participate in the RAM auction.

*Eligibility – Minimum Project Size*

The Decision did not adopt a minimum project size that is eligible to participate in the RAM auction. PG&E proposes a minimum contract size of 1 MW, but allows smaller projects to aggregate if they meet the following criteria:

1. Each aggregated facility has a capacity of no less than 500 kW
2. The project comprised of the aggregated facilities interconnects within a single p-node<sup>9</sup>
3. All aggregated facilities comprising a project are owned by a single participant
4. No more than ten facilities are aggregated into one project
5. An offer involving aggregated facilities includes a contract capacity of no more than 5 MW

SDG&E proposes a minimum project size of 1 MW and does not address the issue of aggregation. Constellation Energy protested SDG&E's minimum size of 1 MW and states that SDG&E should permit the aggregation of smaller projects across multiple sites into a single bid if those sites are owned or controlled by the same entity. The Solar Alliance protested both PG&E and SDG&E's advice letters on this issue. Solar Alliance suggests that PG&E and SDG&E should allow projects of any size to aggregate as long as the minimum contract size is 1 MW.

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<sup>9</sup> A "p-node" is a single network Node or subset of network Nodes where a physical injection or withdrawal is modeled and for which a Locational Market Price is calculated and used for financial settlements. See, e.g., <http://www.caiso.com/2457/2457e07768380.pdf>

Both PG&E and SDG&E state that allowing very small facilities to aggregate into RAM bids will increase the complexity of the program and make it difficult to administer. In Resolution E-4368, which approved the implementation details of PG&E's solar photovoltaic ("PV") program, the Commission stated: "Allowing projects less than one MW in size to aggregate provides reasonable flexibility for small projects to participate in PG&E's PPA [power purchase agreement] Program. Consequently, PG&E shall revise its protocols so that a single project may be comprised of the aggregation of multiple sites to meet or exceed the one MW program eligibility threshold, provided that each system has a minimum 500 kW Gross Power Rating." Since the CPUC already litigated this issue within the context of PG&E's solar PV program, staff agrees with PG&E's requirements, which are identical to PG&E's solar PV program. SDG&E should be directed to adopt the same requirements. Staff recommends the Commission adopt the following language:

The IOUs shall amend the bidding protocol to allow a minimum contract size of 1 MW and for a minimum project size of 500 kW to aggregate to meet the minimum contract size limit. Project aggregation shall not exceed a 5 MW contract cap.

## **Product Categories and Capacity Allocation**

### *Authorization of Proposed Product Categories and Procurement within each Category*

The Decision authorized the IOUs to procure from three product categories: baseload, peaking as-available, and non-peaking as-available. The Decision also ordered the IOUs to state the amount of capacity they will procure in each auction.

SCE proposes the following product categories and allocations per auction: 30-65 MW peaking as-available and up to 35 MW each of non-peaking as-available and baseload. SCE will ultimately determine how much capacity to procure from each product category based on the value of the offers submitted in each auction.

PG&E proposes to solicit approximately 35 MW from each product category: peaking as-available; non-peaking as-available; and baseload.

SDG&E proposes to solicit four product categories, all of which SDG&E states must include local resource adequacy value: peaking local, peaking non-local,

other local, and other non-local. SDG&E defines local as a generator that interconnects within the boundaries of SDG&E's distribution system, and defines non-local as a generator that interconnects outside the boundaries of SDG&E's distribution system. The "other" category is defined as baseload and off-peak technologies. SDG&E states that its system is a load pocket<sup>10</sup> and it is seeking to build up its local resource adequacy resources to meet anticipated reliability needs. For the first auction, SDG&E is seeking 17 MW of peaking local and 1 MW each of peaking non-local, other local, and other non-local.

The Solar Alliance protests all three IOU proposals and states that the IOUs need to clearly set forth the rationale behind their product allocations based on their portfolio needs. Solar Alliance also states that SCE's value based methodology runs counter to the Decision, and that SDG&E's preference for products in its own territory (local category) is in contravention of the Decision. SunEdison supports Solar Alliance's concerns and states that the IOUs need to justify product allocations. Furthermore, SunEdison opposes SCE's methodology because it allocates capacity after the fact based on a post-bid valuation methodology.

Recurrent, on the other hand, supports SCE's methodology and states that it enables SCE to place bids on an equivalent basis before making a least cost selection allows SCE to target products that provide specific value to its portfolio.

Lastly, Foristar Methane protested SDG&E's methodology and states that SDG&E should not limit its selection to solar projects and should solicit equal amounts of each product. IEP provided a similar perspective as Foristar Methane stating that SDG&E should provide a significant opportunity for baseload, non-peaking, and non-local resources.

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<sup>10</sup> A load pocket is an area where there is insufficient transmission capability to reliably supply 100% of the electric load without relying on generation capacity that is physically located within that area. It is the result of high concentrations of intensive power use inevitable in a big city and limitations, known as constraints, on the transmission system that limit the ability of load to be served by generating resources located remotely. (Source: <http://www.uspowergen.com/2008/02/27/what-is-a-load-pocket/>)

Staff agrees with the Solar Alliance and SunEdison that SCE's methodology allocates capacity after the conclusion of each auction, which is not in compliance with the Decision. The Decision requires the IOUs to state before each auction how much from each product category they intend to procure. SCE's proposal to provide a range from zero to 35 MW does not provide the certainty to the market indicating the size of the procurement opportunity since SCE's ultimate procurement under this proposal can be zero. Thus, in the compliance filing, SCE should state its targeted procurement amount in each product category. At a minimum, SCE should target at least 5 MW in each product category. Staff recommends the Commission adopt the following language:

SCE's proposed product ranges and SCE's post-bid valuation methodology should be rejected. In the compliance filing, SCE shall state its targeted procurement amount for each product category, with a minimum of 5 MW in each category.

Foristar Methane and IEP protest SDG&E's preference for its peaking category. The Decision allows the IOUs to select their product category allocations and does not require the IOUs to simply split the allocations equally among categories. However, a targeted capacity of 1 MW in SDG&E's "other" category does not provide a sufficient market opportunity. In addition, SDG&E's "other" category does not separate out the baseload and non-peaking as-available category, as required in the Decision. Thus, the Commission should reject SDG&E's categories and direct SDG&E to use the categories established in the Decision: baseload, peaking as-available, and non-peaking as-available. At a minimum, SDG&E should target at least 3 MW in each of these product categories. Staff recommends the Commission adopt the following language:

In the compliance filing, SDG&E shall state its targeted procurement amount for each product category (baseload, peaking as-available, and non-peaking as-available), with a minimum of 3 MW in each category.

In regards to SDG&E's preference for procurement within its service territory, staff agrees with Solar Alliance that this proposal is not in compliance with the Decision, which requires the IOUs to solicit renewable projects located anywhere within the combined service territories of the IOUs.

SDG&E did not provide information to justify its need for generation within its service territory. In addition, SDG&E has other requests before the CPUC for approval of new generation to meet SDG&E's local resource adequacy need. Since SDG&E did not justify why a change to the decision is warranted, SDG&E's proposal to limit procurement to its service territory should be denied. Thus, SDG&E shall remove the local requirement. If SDG&E can demonstrate a need for local RAM generation in the future, SDG&E should make this request to the CPUC and provide sufficient justification. Staff recommends the Commission adopt the following language:

SDG&E shall remove its local category since this category is not in compliance with the Decision.

*SCE's Request to Procure Plus or Minus 20 MW of the Targeted Auction Capacity*

SCE proposes to procure plus or minus 20 MW of its total targeted auction capacity. Since SCE targets 65 MW per auction, SCE is proposing that it be allowed to procure 65 MW plus or minus 20 MW. Staff recognizes that project bids will come in a range of project sizes and will likely not exactly meet the targeted capacity. Since the purpose of providing the targeted capacity in advance is to provide the market certainty about the minimum market size, staff recommends the Commission reject SCE's proposal to solicit 20 MW less than each auction's targeted capacity.<sup>11</sup> Staff does accept SCE's proposal to solicit up to 20 MW more per auction because it is unlikely that the selected bids will exactly match the targeted capacity. All of the IOUs should provide this flexibility. Staff recommends the Commission adopt the following language:

The IOUs may procure up to 20 MW beyond each auction's targeted capacity in the circumstance that the selected bids do not exactly match the auction's capacity target.

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<sup>11</sup> The only circumstances under which the IOUs can procure less than the stated amount are if there is evidence of market manipulation or if the bid prices in that product category are not competitive with other renewable procurement opportunities.

*IOU Request to Update Product Allocations*

SCE anticipates updating the product allocations prior to each subsequent auction. PG&E intends to review the prices and quantity of bids it receives as part of the first RAM auction and may request a change in the product category allocations for subsequent auctions. Solar Alliance states that SCE and PG&E should not be allowed to change allocations in subsequent auctions. In PG&E's reply, PG&E states that if it modifies its allocation, it will state the change in the program forum and in an advice letter to the CPUC. Staff agrees with the IOUs that they should have the flexibility to modify their product allocations based on market conditions and experience. Staff recommends the Commission adopt the following language:

The IOUs may modify their product allocations on the condition that they request the change through an advice letter.<sup>12</sup>

**Interconnection***Aligning Procurement with Interconnection*

The Decision requires a project to have submitted its interconnection application in order to participate in a RAM auction. In its advice letter, SCE clarifies this requirement by stating that a project must have completed a System Impact Study, a Phase I interconnection study, or have passed the Wholesale Distribution Access Tariff ("WDAT") Fast Track screens in order to participate in each auction.<sup>13</sup> SCE has also requested that the first auction close two weeks after the Cluster Study 4 Phase I interconnection studies are complete, which is scheduled to occur in mid-October 2011. Recurrent protested SCE's proposal to wait for the Cluster Study 4 Phase I interconnection studies. According to Recurrent, there is enough competition in the market right now and it is not

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<sup>12</sup> If the IOU wishes to change the product capacity allocations prior to the second auction, the IOU can make this request in a Tier 2 advice letter.

<sup>13</sup> The System Impact Study is part of the WDAT or SGIP study process. The Phase I study is part of the WDAT/GIP cluster study process, and the Fast Track screens are part of the WDAT/GIP tariffs.

necessary to wait for additional generators to receive their Phase I interconnection study results. While Recurrent protested the timing of SCE's proposal, Recurrent did not protest SCE's proposal to require a project to have completed a System Impact Study, a Phase I interconnection study, or have passed the WDAT Fast Track screens in order to participate in each auction.

As stated previously, one of this resolution's guiding principles is to align the RAM procurement process with current interconnection processes. Since the WDAT and SGIP interconnection processes were reformed at the same time or after the Decision was approved, this resolution must determine how to achieve alignment. Given RAM's pay as bid program structure, it is critical for a project to have relatively accurate information on the cost of interconnection when the project participates in a RAM auction. SCE's proposal helps to align procurement with interconnection by allowing sellers to incorporate the estimated interconnection costs into their bids. Thus, staff supports SCE's proposal to require a project to have completed a System Impact Study, a Phase I interconnection study, or have passed the WDAT Fast Track screens in order to participate in each auction, with one change. Since the Fast Track is an option in both WDAT and the Generator Interconnection Procedures ("GIP"), a seller is eligible to participate in the RAM auction if it passed the WDAT or GIP Fast Track screens.

Staff rejects Recurrent's protest since timing the first auction with the Cluster Study 4 Phase I results will not constitute a delay in the schedule.

Staff recommends the Commission adopt the following language:

The IOUs shall require a seller to have completed a System Impact Study, a Phase I interconnection study, or have passed the WDAT or GIP Fast Track screens in order to participate in a RAM auction. The IOUs shall close the first RAM auction within two weeks of the release of the Phase 1 study results from Cluster Study 4 or no later than November 15, 2011.

#### *SDG&E's Interconnection Study Pause*

SDG&E requests a 6 to 24 month pause to complete interconnection studies of the short-listed projects located within its service territory. Unlike PG&E and SCE, SDG&E has not encouraged bidders to submit their interconnection request ahead of the RAM auction. In contrast, SDG&E intends to request only the short-

listed bidders to submit their interconnection request to SDG&E. Solar Alliance, SunEdison, and IEP oppose SDG&E's requested 6-24 month interconnection study pause. Solar Alliance states that allowing SDG&E to insert a protracted interconnection protocol into its solicitation process is contrary to the CPUC's intent of maintaining a streamlined approach to contract execution. Solar Alliance requests that the CPUC reject this pause.

In SDG&E's reply, SDG&E states that this pause is necessary for SDG&E to fully understand a generator's upgrade costs and the associated impact on ratepayers. Staff agrees with SDG&E that this interconnection information is critical, which is why staff recommends requiring a seller to have completed a Phase I study, the System Impact Study, or have passed the Fast Track screens before the project participates in an auction. Thus, because the seller will be required to have completed these studies, the 6 to 24 month pause is not necessary and should be removed from SDG&E's auction schedule. Staff recommends the Commission adopt the following language:

The IOUs shall not include an interconnection study pause in their auction schedules. SDG&E shall remove the 6 to 24 month study pause from its auction schedule.

#### *Deliverability and Resource Adequacy Requirements*

The Decision did not address deliverability or resource adequacy ("RA"). However, all three IOUs require in their proposed contracts that the seller obtain full capacity deliverability status from the California Independent System Operator ("CAISO") in order to participate in the CPUC's RA program. The Decision ordered the IOUs to select bids on the basis of price, least expensive first until the capacity limit in each solicitation is reached.<sup>14</sup> The Decision rejected SCE's proposal to rank bids based on value. PG&E and SCE state that since the Decision requires the IOUs to rank bids based on price only, the IOUs need all bids to provide the same resource adequacy value. PG&E and SCE state that projects that provide resource adequacy are more valuable than projects that do not provide resource adequacy. SDG&E states that it is trying to build up its local RA resources to meet anticipated reliability needs and therefore only intends to procure products that provide resource adequacy.

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<sup>14</sup> See Appendix A, 2.b.

Solar Alliance, SunEdison, Clean Coalition, Foristar Methane, Recurrent, and IEP oppose this requirement. Solar Alliance states that: “Not only would these requirements complicate contracting and delay time to market, they would also impose additional costs on developers that can only be known after such studies are completed, which would be long after bid prices must be submitted.” As an alternative, Solar Alliance suggests: 1) The IOUs provide special consideration with respect to reliability and deliverability network upgrades for projects eligible for Fast Track, and 2) capping the cost of potential network upgrades that may be required to achieve full deliverability so that project bidders can more accurately account for these costs in their bid pricing.

SunEdison states that resource adequacy is a separate benefit that the buyer has not paid for and that the capacity value belongs to the seller. SunEdison also makes a similar argument as Solar Alliance and states “if generation never exceeds load on the radial distribution circuit to which it is interconnected, and the circuit is owned by the Buyer, then the generation is always deliverable to the Buyer ... It appears unnecessary to demonstrate an ability to deliver energy to a point on the CAISO grid when a Project is already on a radial distribution circuit of the Buyer.” The Clean Coalition opposes making full capacity deliverability status a requirement and suggests that developers who opt to pay for the studies and required network upgrades should receive a price adder or full deliverability costs should be capped. Both Foristar Methane and IEP state that achieving full deliverability status should be optional. IEP suggests that bidders can elect to provide resource adequacy as an express option within the pro forma PPA or as a separate transaction. Finally, Recurrent states that SCE’s language is unfinanceable since it requires a seller to achieve full capacity deliverability status before it reaches commercial operation. According to Recurrent, if necessary upgrades for full deliverability have not been completed for reasons beyond a seller’s control, the commercial operation date could be delayed and the seller is held responsible and/or deprived of project revenues.

In its reply, PG&E states that all RAM facilities should seek and convey RA-qualifying capacity since otherwise new fossil-fuel resources would be needed to meet long-term system resource adequacy needs. In addition, PG&E states that it included RA-qualifying capacity as part of the RAM product so that bids could be evaluated primarily on price alone, as required in the Decision.

In its reply, SCE contends that projects that do not provide resource adequacy have significantly less value to SCE's customers than projects that do have resource adequacy benefits. Similar to PG&E, SCE contends that the bids SCE is comparing in each RAM auction must be for the same product, which is energy and capacity. Lastly, SCE states "If the utility must select projects based solely on price, it would be unwise to select a lower priced project which does not include the RA product, and skip over a project that is marginally more expensive, but which includes the RA product."

In its reply, SDG&E makes the same argument as SCE and PG&E and states the auction mechanism pricing structure and its restriction on price adders makes it difficult to evaluate bids when they may or may not provide RA value. Finally, SDG&E states: "SDG&E has an increasing need for local RA over the next 5-10 years as current RA resources are phased out of the SDG&E Local Area."<sup>15</sup>

First, it is important to note that this issue was not part of the record that established the Decision. It has been litigated in other forums, including in D.11-04-030, the 2011 RPS Procurement Plans decision. SCE asked the CPUC to require projects participating in the 2011 RPS solicitation to be fully deliverable. D.11-04-030 rejected this proposal stating that it is not clear that the cost to build additional facilities (e.g., transmission for deliverability) will be lower than costs related to curtailment. The decision also states that the IOUs can incorporate the value of resource adequacy in their least-cost best-fit analysis of each bid. Staff agrees with the conclusions of D.11-04-030 and acknowledges that in the case of RAM, IOUs do not have an alternative method to consider a project's resource adequacy value since the IOUs must rank projects based on cost and not value.

While the IOUs state they need to buy products that provide resource adequacy, they have not made any showing of the size or timing of this need relative to the

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<sup>15</sup> A local area is a transmission constrained region for which the CPUC and CAISO establish resource adequacy procurement requirements called Local Resource Adequacy Requirements ("Local RAR"). These Local RAR are designed to ensure that enough RA resources are available within the local area so that the CAISO can reliably operate the grid under stressed conditions in or around that area. All of SDG&E's service territory is considered a Local Area.

projects they would procure through RAM. In addition, the IOUs have not articulated the cost tradeoffs between requiring full deliverability for RAM projects versus buying resource adequacy elsewhere. Although SCE states that projects that do not provide resource adequacy benefits have significantly less value to SCE's customers than projects that do have resource adequacy benefits, SCE does not support this statement with analysis weighing the estimated value against the potential cost of achieving it. As stated in D.11-04-030, it is unclear whether, in certain cases, it might be more cost-effective for the ratepayer if the IOU were to compensate a generator for a limited amount of energy curtailment per year and purchase resource adequacy from other sources, rather than paying for network upgrades solely for the purposes of deliverability.

Lastly, up until December 2010, small generators seeking interconnection through SGIP or WDAT were not eligible for full capacity deliverability status. Because this change is so recent, it will require more time to perform the analysis and potentially develop new rules that will allow small generators to count for resource adequacy purposes.

For these reasons, staff does not support the IOU's proposal to require full capacity deliverability status at this point in time. Instead, the IOUs should require the seller to apply for a deliverability study and achieve full deliverability status in the instances where no additional upgrades for deliverability purposes are needed. In addition, CPUC staff will work the CAISO and the IOUs to further analyze this issue and review the options to account for the capacity benefits of these types of projects. Finally, since the Decision directs the IOUs to only rank bids based on price and not value, the IOUs should provide CPUC staff with an analysis comparing the price and value of contracts with and without resource adequacy. Staff recommends the Commission adopt the following language:

The IOUs proposal to require a seller to achieve full deliverability status is rejected. The IOUs shall remove the requirement that the seller must achieve full deliverability status from the bidding protocols and the standard RAM contracts.

#### *Network Upgrade Cost Cap*

The Decision does not address the issue of network upgrade costs. In their advice letters, both SCE and SDG&E propose a cap on the costs of transmission network upgrades in relation to the size of the generator. Specifically, SCE proposes a

transmission network upgrade cost cap of \$2.50/MWh and SDG&E proposes a cap of \$150,000/MW. Assuming a 22% capacity factor, SDG&E's proposal is the equivalent of \$7.90/MWh. Neither utility provided a rationale for the transmission network cost cap in their advice letters.

The Solar Alliance, SunEdison, Clean Coalition, Recurrent, and IEP oppose the use of network upgrade caps. The Clean Coalition states that "pre-identified network upgrade costs should simply be part of each bid." SunEdison states "if a project has high upgrade costs, but can be offered at a price that is still lower than that of other projects, it seems there is no need to put a cap on the upgrade costs" and that "unless the IOUs can identify a need for a cap, SunEdison suggests that no interconnection cost cap be imposed." Recurrent states that "interconnection costs should be embedded in counterparties' bids, so establishing a pass/fail screen within price-focused selection criteria is unnecessary." Recurrent also states that SCE's \$2.50/MWh cost cap is arbitrary.

In reply comments, SDG&E states that the cap is intended to limit ratepayer exposure to excessive costs that were not included in the bid price. SCE states in reply comments that "establishing a cutoff for the cost of network upgrades assures that the projects eligible to bid have similar value and is reasonable since SCE's customers pay such network system upgrade costs through the Transmission Access Charge. Substantial differences in network upgrades required to interconnect projects can result in material differences in the total cost to customers." SDG&E and SCE are correct that sellers interconnecting to the distribution system pay all interconnection upgrade costs, while sellers that trigger network upgrade costs to the transmission system only pay the carrying costs of funding the upgrade since ratepayers reimburse the seller over a five year period through the Transmission Access Charge. Thus, transmission network upgrade costs are real ratepayer costs that would not be captured in the seller's bid price.

Conversely, the cost caps that the IOUs proposed are arbitrary and could unnecessarily limit competition. Thus, instead of using a cost cap, a more straightforward and efficient method is for the IOUs to add the generator's actual estimated costs of network upgrades when ranking bids. This method is in compliance with the Decision since the IOUs are allowed to normalize bids to place them on an equivalent basis before making least cost selection. Specifically, Appendix A of the Decision, which was adopted in Ordering Paragraph 1, states: "Each product is selected on the basis of price, least expensive first until the

capacity limit in each solicitation is reached; IOU may normalize (adjust) bids to place bids on an equivalent basis before making least cost selection using method approved, if any, in the advice letter implementing RAM. Network upgrade costs are direct costs that ratepayers incur and should be taken into account since the bid price does not reflect this cost. Because staff recommends adopting SCE's proposal to require projects to have completed a System Impact Study, a Phase I interconnection study, or have passed the Fast Track screens in order to participate in each auction, sellers should have this information when they submit their bids. Finally, the IOUs should not include transmission upgrade costs needed for deliverability upgrades in the analysis since this resolution does not require sellers to achieve full capacity deliverability status. Staff recommends the Commission adopt the following language:

The IOUs shall add the actual estimated network upgrade costs to the seller's price when ranking bids. SCE and SDG&E shall remove the transmission network upgrade cost caps from their bidding protocols and contract.

#### *DG Interconnection Maps*

The Decision requires the IOUs to provide the "available capacity" at the substation or circuit level in map format, which is defined as the total capacity minus the allocated and queued capacity. If unable to initially provide this level of detail, each IOU must provide the data at the most detailed level feasible, and work to increase the precision of the information over time.

In addition, the Decision allows the IOUs to provide this data initially for preferred areas, which is defined as areas "likely to be those near load where the IOU has a reasonable expectation of surplus transmission and/or distribution capacity." Finally, the Decision directs the IOUs to provide system wide information over time for both the distribution and transmission system. Based on this language, each IOU provided a different type of map.

SCE provided two maps. The first map is SCE's map for the solar PV program ("SPVP"), which contains red shapes showing the areas with available capacity on the 12 kilovolt (kV) distribution circuits in urban areas.<sup>16</sup> SCE's second map,

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<sup>16</sup> See website below for a link to SCE's SPVP map:

<http://www.sce.com/EnergyProcurement/renewables/spvp-ipp/spvp-ipp.htm>

or the RAM map,<sup>17</sup> shows the Non-ISO-controlled sub-transmission systems that serve large load centers at the 66 kV and 115 kV levels. SCE removed sub-transmission systems with high penetration levels (exceeding 150 MW) and short circuit duty levels approaching SCE equipment limitations, since according to SCE, it would add significant time and cost to interconnect in these areas. Unlike SCE's SPVP map, the RAM map shows areas with available capacity, but does not provide information on the amount of available capacity at the substation or circuit level.

PG&E's map takes a different approach.<sup>18</sup> Instead of providing the "available capacity," PG&E provides the raw data. Unlike SCE, PG&E's map does not highlight areas with available capacity. PG&E's map shows the distribution system circuits and the transmission system substations and lines. A registered user can click on a distribution system substation or circuit and receive the following data:

- Substation Name
- Substation Number
- Feeder Number
- Nominal Circuit Voltage (kV)
- Circuit Capacity (MW)
- Circuit Projected Peak Load (MW)
- Substation Bank
- Substation Bank Capacity (MW)
- Substation Bank Peak Load (MW)
- Existing Distributed Generation (MW)

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<sup>17</sup> Click on "Preferred Locations" to navigate to the RAM map:

<http://www.sce.com/EnergyProcurement/renewables/renewable-auction-mechanism.htm>

<sup>18</sup> See

<http://www.pge.com/b2b/energysupply/wholesaleelectricssuppliersolicitation/PVRF0/pvmap/>

- Queued Distributed Generation (MW)

According to AL 3809-E, PG&E intends to provide information on transmission facilities in the system-wide map. In addition, PG&E had planned on providing an excel spreadsheet containing the information above. Instead of providing an excel spreadsheet, PG&E was able to incorporate this information directly into a pop-up window in the map.

SDG&E's map requires registration and shows substation area location, feeder location, available generation capacity, total generation capacity, and area served for its distribution system at the substation and circuit level.<sup>19</sup> It also provides this information in table format. According to SDG&E's website, the substation area location is shown as a one mile red square grid symbol. A user can click on the substation or feeder to receive the substation or circuit number, the minimal impact capacity, and the total generation capacity. SDG&E defines the minimal impact capacity as an interconnection request seeking interconnection of 15% or less of substation area rated capacity, minus existing generation capacity, minus distribution queue position capacity. SDG&E defines the total generation capacity as the total substation area rated capacity, minus existing generation capacity, minus distribution queue position capacity. Unlike SCE, SDG&E's map does not highlight available capacity, but SDG&E does provide a table that would allow sellers to identify circuits and substations with available capacity. Similar to SCE's solar PV maps, SDG&E performs a calculation of available capacity instead of providing the raw data, as PG&E has done.

In their comments, SunEdison and Clean Coalition favored PG&E's map. SunEdison suggests that SCE and SDG&E should match or exceed PG&E's map, but at a minimum, provide voltage, available, capacity, peak load data, and other projects in the queue and that SCE should work towards providing this information on all of its circuits instead of its preferred locations. The Clean Coalition states that SCE's RAM map is not in compliance with the Decision.

Staff recognizes that each IOU took a different approach in creating their maps. The Decision allowed the IOUs this flexibility since it only required the IOU's to

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<sup>19</sup> <http://sdge.com/builderservices/dgmap/>

provide the “available capacity at the substation and circuit level.” Each map has its strengths and weaknesses. For example, PG&E’s map provides very detailed information once a seller has identified a particular site, but does not indicate areas with available capacity. SCE’s RAM map does not provide circuit or substation level data, but does show areas with higher likelihood of successful interconnection. SDG&E’s map takes a similar approach to PG&E, but does not provide the same level of detail. On the other hand, SDG&E provides a table of all the circuits and substations with the minimal impact capacity and the total generation capacity whereas PG&E does not.

Staff agrees with parties that SCE’s map does not provide “available capacity at the substation or circuit level,” as required in the Decision. Thus, SCE should provide the available capacity at the substation or circuit level for its preferred locations.

The Decision requires the IOUs to eventually provide maps that cover their whole service territory, including both distribution and transmission systems. In order to align procurement with interconnection, the IOUs should provide these maps in time to inform the Cluster Study 5 interconnection requests. Since Cluster Study 5 will accept interconnection requests from March 1, 2012 to March 31, 2012, the IOUs should provide maps that cover both the distribution and transmission systems by December 31, 2011.

Finally, the interconnection maps should be a topic at the RAM program forum and sellers should provide the IOUs feedback based on their actual experience using the maps to locate project sites. Staff recommends the Commission adopt the following language:

SCE shall update its map to provide the “available capacity at the substation or circuit level” for its preferred locations within 30 days of this resolution. The IOUs shall post on their website and make publicly available these updated maps by December 31, 2011. The updated maps shall cover their whole service territory, including both the distribution and transmission system.

## **Project Selection**

### *Seller Concentration Limit*

The Decision provided the IOUs flexibility to chose a seller concentration limit. PG&E proposes a limit of 20 MW per seller per auction, SDG&E proposes a limit

of two bids per seller, and SCE proposes to decide on a seller concentration limit after it receives and reviews the bids. Solar Alliance, SunEdison, and Recurrent protested PG&E's proposed limit of 20 MW per seller. SunEdison protested SDG&E's limit of two offers per seller. Resolution E-4368, which implements PG&E's solar PV program, allows PG&E to set a seller concentration limit of 20 MW per seller. Since this issue was already litigated in Resolution E-4368, staff supports PG&E's proposal to limit RAM contracts to 20 MW per seller per auction. For consistency purposes and because the Decision directs the IOUs to state in the implementing advice letters their seller concentration limit, staff recommends that SCE and SDG&E also use a seller concentration limit of 20 MW per seller per auction. Staff recommends the Commission adopt the following language:

The IOUs shall use a seller concentration limit of 20 MW per seller per auction. The IOUs may execute multiple contracts per seller, as long as the total capacity under contract per seller resulting from each auction does not exceed 20 MW.

#### *Additional Evaluation and Selection Criteria*

The Decision allows the IOUs to use additional evaluation and selection criteria, but requires the IOUs to state this information in the implementation advice letters.<sup>20</sup> In PG&E's advice letter, PG&E states: "PG&E retains the discretion, subject as applicable to the approval of the CPUC, to: ... (b) formulate and implement appropriate additional criteria for the evaluation and selection of Offers."<sup>21</sup> Since PG&E did not articulate these criteria in advice letter 3809-E, PG&E cannot formulate and implement additional criteria for the evaluation and selection of offers for the first auction. PG&E can propose additional criteria at the program forum or through an advice letter after the conclusion of the first auction. Staff recommends the Commission adopt the following language:

The IOUs shall not use additional evaluation or selection criteria when evaluating bid results that were not approved in the RAM Decision or through a resolution.

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<sup>20</sup> See Conclusion of Law 41 in D.10-12-048.

<sup>21</sup> See page 4 of PG&E's bidding protocols in section C. Disclaimers for Rejecting Offers and/or Terminating this RFO.

*Discount Rates*

SunEdison suggests that the IOUs publish the discount rates used to evaluate the bid prices. SunEdison cites SDG&E's bidding protocols, which mention the use of a discount rate to normalize the bids. Specifically, Section 4a of SDG&E's bidding protocols states:

A. LEVELIZED BID PRICE.

Bid Prices shall be for each megawatt-hour ("MWh") generated by the Project over the term of the PPA. Bid Prices are included in the Bid Ranking Price. The Levelized Bid Price shall be computed as follows:

The Bid Cost for each year is computed by multiplying the Bid Price in that year by the Expected Energy Delivery for that year. Bid Costs are then summed for each year divided by the Discount Factor for the year, where the Discount Factor is equal to 1 plus the Discount Rate, raised to the power of the original Contract Year. These discounted Bid Costs are then summed to produce the present value of the Bid Cost. The same present value method is then applied to the Expected Energy Deliveries to produce a present value of Expected Energy Deliveries. The Levelized Bid Cost is the present value of Bid Costs divided by the present value of Expected Energy Deliveries.

Staff agrees with SunEdison's suggestion and recommends the IOUs publish the discount rates that will be used to evaluate bids in the bidding protocols. Staff recommends the Commission adopt the following language:

The IOUs shall publish the discount rates used to determine the levelized bid cost in their bidding protocols.

*Rejection of Non-Competitive Bids*

The decision provides the IOUs discretion to not enter into contracts if there is evidence of market manipulation or if the bids are not competitive compared to other renewable procurement opportunities. If the IOU chooses to use this discretion, the decision requires the IOU to submit an advice letter explaining its decision not to enter into contracts. The Clean Coalition recommends that the threshold for non-competitive bids be clarified up front, and that any bids up to 10 percent higher than the median bid for the same technology state-wide should automatically be considered competitive. PG&E opposes the Clean Coalition's recommendation, stating that this request would set a price cap below which PG&E would be subject to a must-take obligation. In addition, both SCE and

PG&E state that this issue has already been litigated in R.08-08-009 and the CPUC decided not to establish a price cap for the RAM program.

D.10-12-048 purposely did not define these terms so that the IOUs could use their discretion based on their nearly ten years of experience procuring renewable energy through a competitive process. If the IOUs do choose to reject bids due to evidence of market manipulation or non-competitiveness, this should be a topic at the program forum where parties and the CPUC can revisit the need to further define non-competitiveness.

## **Post-Auction Requirements**

### *18-Month Online Date*

#### **Trigger for 18-month deadline**

The Decision requires that projects under RAM contracts come online by 18 months of contract execution. SCE and PG&E request that the 18-month deadline begin with CPUC approval. In its comments, Recurrent cited an inconsistency in the Decision. On page 65, the Decision states that the 18 months commence after contract approval, while other references in the Decision state that the 18-month deadline starts after contract execution. All parties support SCE and PG&E's proposal to clarify that the 18-month deadline commences at CPUC approval. Due to the inconsistency in the Decision and the parties' unanimous support for this change, the 18-month deadline will commence after CPUC approval, and not after contract execution. Staff recommends the Commission adopt the following language:

The IOUs shall begin counting the 18-month deadline from the date of CPUC approval instead of the date of contract execution.

#### **Extension of 18-month online date**

As stated above, the Decision requires projects to come online in 18 months. In addition, the Decision allows for a six-month extension due to regulatory delays. SCE proposed to increase the 18-month online date to 36 months, stating that "SCE believes that its proposal provides for broader participation in each auction and is consistent with SCE's current projected need for additional renewable energy."

No parties support SCE's request to change the online date from 18 months to 36 months. Some parties suggested other modifications. Silverado suggested that the commercial operation deadline be 24 months. SunEdison supports the 18-month deadline, but suggests a 12-month extension due to CAISO delays. Both Silverado and SunEdison cite the timing associated with interconnection as the reason for extending the online date. Specifically, Silverado provides a timeline of PG&E's cluster study 4 interconnection process, which shows that interconnection facilities will be under construction from December 2012 to December 2013.

Staff rejects party recommendations to either extend the online date or to provide a longer extension. If the auction closes by November 15, 2011, then the IOUs will not submit the executed contracts to the CPUC before March 2012.<sup>22</sup> Generators will have 18 months to come online and the ability to request a 6-month extension due to regulatory delays. Thus, generators experiencing interconnection delays have at least until March of 2014 to come online. Since PG&E anticipates that all necessary interconnection facilities will be completed by December 2013, 18 months plus one 6-month extension is sufficient time for generators participating in cluster study 4 to come online.

Finally, staff recommends the Commission reject SCE's request to extend the commercial operation deadline to 36 months and as a result, an IOU should terminate a contract at the end of 18 months if the project fails to adequately demonstrate the merits of an extension.

### **Contract language articulating criteria for extensions**

Recurrent and Foristar Methane ask the CPUC to require SCE and SDG&E to adopt PG&E's contract language that articulates the reasoning for extensions due to regulatory delays. In its reply, SCE agrees to incorporate PG&E's language on this issue. Staff agrees that PG&E's language is clear and a model for the other IOUs to emulate. As a result, staff recommends that SCE and SDG&E incorporate PG&E's language on this issue into their standard contracts. Staff recommends the Commission adopt the following language:

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<sup>22</sup> See the IOUs' proposed schedules in their advice letters.

The IOUs shall use language similar to PG&E's language describing the criteria for contract extensions.

### **Time period to request extension**

Recurrent protested PG&E's requirement that a seller must request an extension no later than 6 months after the project obtains CPUC approval. Recurrent states that notice of delay should be considered at any time. In its reply, PG&E states that its provision strikes a reasonable balance between the need for a seller to have flexibility for delays outside of its control and PG&E's need to conduct advance resource and procurement planning and to replace the energy if necessary. PG&E's solar PV program contract, which formed the basis for the RAM contract, requires a 60-day notice period prior to the guaranteed commercial operation date. PG&E has not provided sufficient justification for changing this term and should provide more flexibility in order minimize the seller's risks. As a result, PG&E should be required to revert to the prior language, which requires a 60-day notice period prior to the guaranteed commercial operation date. Staff recommends the Commission adopt the following language:

The IOUs shall allow a seller to request a contract extension by providing a 60-day notice prior to the guaranteed commercial operation date.

### *Public Release of RAM Bid Data*

The Decision requires the IOUs to make certain information about bids received publicly available. The Decision states:

Information is vital to an effectively functioning competitive market. We expect IOUs and ED [Energy Division] to make the maximum amount of information public. In fact, all data must be public unless a party carries a strong burden of proof otherwise. It is particularly important for the RAM due to our reliance on the underlying market being competitive. ... We expect ED, respondents, and parties to explore all reasonable means to make price and other information widely available. At a minimum, we require specific information to be revealed publicly. For all bids received and shortlisted, we require the IOUs to provide the following information: names of participating companies and the number of bids per company; number of bids received and shortlisted; project size, participating technologies, quantitative summary of how many projects passed each project viability screen, and location of bids by county provided in a map format.

Finally, the IOUs must release information on the achievement of project development milestones for all executed RAM contracts. Pursuant to the program goal to select projects that can come online quickly, we believe this information is essential to verify that the program protocols and design are achieving the intended outcome. This transparency will allow the Commission to make changes to the program in order to increase its efficiency and effectiveness.

In order to comply with this requirement, PG&E includes the following language in its bidding protocol:

After contract execution, PG&E plans to submit executed RAM PPAs to the CPUC for approval via a Tier 2 advice letter filing. By participating in the RAM RFO, each Participant acknowledges and expressly authorizes PG&E to publicly disclose the following information as required by the Commission Decision: (1) names of the companies that submitted Offers into PG&E's RAM RFO; (2) number of Offers received by each company; (3) number of Offers received and shortlisted by PG&E; (4) Project size; (5) participating technologies; (6) the number of Projects which passed the project viability screen; (7) location of bids by county level shown in a map format; and (8) the progression of each executed contract's project development milestones.<sup>23</sup>

This language is very clear and comprehensive. Thus, staff recommends that SCE and SDG&E adopt similar language in order to inform bidders that certain information will not be treated as confidential. Staff recommends the Commission adopt the following language:

The IOUs shall adopt language similar to PG&E's proposed language informing bidders that information on bids and project development milestones for executed contracts will be publicly disseminated.

PG&E also provided a list of project development milestones that it will track and provide to the CPUC once per quarter. Staff recommends that SCE and SDG&E provide the CPUC the same list of project development milestones per

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<sup>23</sup> See page Section IX. Regulation, A. Confidentiality, on page 14 of PG&E's bidding protocols, as submitted in AL 3809-E.

project, which are listed in Attachment B. Staff recommends the Commission adopt the following language:

The IOUs shall provide the CPUC an update once per quarter on a project's progress toward the achievement of project development milestones, as specified in Attachment B.

## **Other Program Issues**

### *SDG&E's Request to Combine the Solar Energy Project with RAM*

In its advice letter, SDG&E requests to combine its Solar Energy Project (SEP), as approved in D.10-09-016, with RAM. SDG&E states that the SEP program and the RAM program largely target the same generators and serve a common purpose. Thus, in order to reduce the administrative burden and streamline the procurement process, SDG&E proposes to merge the SEP and RAM into a single program. This is not the appropriate forum to address this request because on April 20, 2011, SDG&E filed a petition to modify D.10-09-016 in order to combine the two programs. That petition is currently pending before the Commission.

## **Standard RAM Contracts**

### *Contract Format*

The Decision states: "We do strongly encourage the IOUs to begin with an existing standard contract that is simple, currently in use, and that has been vetted through a stakeholder process." Foristar Methane protested the IOU contracts and stated that the contracts should be simple, emulating the existing feed-in tariff contracts, and that the proposed pro formas are unnecessarily lengthy and complex. IEP also protested that the contracts are unnecessarily complex and that the terms and conditions should be consistent with the pro formas adopted in D.11-04-030, the decision that conditionally accepted the 2011 RPS Procurement Plans.

PG&E based its proposed standard RAM contract off of its CPUC-approved solar PV contract for projects greater than 3 MW. SCE based its standard RAM contract off of its 2010 Renewables Standard Contract program contract, which was based off of its RPS Pro Forma contract. SDG&E based its contract off of its RPS Pro Forma. Thus, all three contracts have been vetted through a stakeholder process and are in use in some form (either as a standard contract or as a pro

forma used in the RPS solicitation). We do agree with Foristar Methane and IEP that these contracts should be simple, however, Foristar Methane and IEP have not shown how these contracts impact the RAM program. Thus, this will be a topic at the program forum and parties should articulate how the contract should be simplified and streamlined based on their experience in the first RAM auction.

### *Contract Term*

SunEdison suggests that the IOUs offer contracts up to 30 years in length. Foristar Methane protested PG&E's contract length restriction of 20 years. PG&E states that it restricted contract length to 20 years in order to easily rank projects according to price. SCE proposed contract lengths of 10, 15, and 20 years while SDG&E offered a contract length of 20 years. In its reply, SCE states that a 30 year contract term increases the risk to SCE's customers of being locked into excessively long contracts for renewable energy that may ultimately prove overly costly and does not allow the ability to take advantage of technological improvements over time.

The Decision did not address this issue. In general, the RPS program allows long-term contract lengths of 10, 15, and 20 years and provides sellers the option to negotiate non-standard contract lengths. As SCE states, the CPUC's modifiable standard term and condition on Contract Term provides for standard delivery terms of 10, 15, and 20 years. In addition, D.07-07-027, which established the feed-in tariff program, requires the IOUs to offer contracts that are 10, 15, and 20 years in length.

For consistency and to expand the pool of participants, staff recommends adopting contract lengths of 10, 15, and 20 years for the RAM program. Staff rejects SunEdison's proposal that the IOUs should offer a contract length of 30 years since this is not a standard contract term in the RPS program. If a seller seeks a 30-year contract, the seller can participate in the utility's RPS solicitation. Staff recommends the Commission adopt the following language:

The IOUs shall allow for contract lengths of 10, 15, and 20 years.

### *Disputed Contract Terms and Conditions*

The purpose of the standard contracts is to appropriately balance the risks between the seller and the buyer while meeting two goals: ratepayer protection and a contract that a debt lender will finance. The Decision ordered the IOUs to

adopt certain terms and conditions and allowed the IOUs to submit other terms and conditions not addressed in the decision. Given that the RAM contracts are not negotiable, parties reviewed each IOU's proposed RAM contract and provided extensive comments on many of the terms and conditions. In their reply comments, the IOUs agreed to make some of the suggested changes proposed by the parties, which staff supports.

Due to the volume and complexity of the terms and conditions, it is not possible to address every protest on each term and condition at this time. Since the IOUs based their standard RAM contracts on other renewable contracts, many of the disputed terms and conditions are standard terms and conditions that have already been approved by the CPUC. Thus, in our review of the protests, staff focused on terms and conditions that were added or modified from previously approved contracts. Staff also reviewed the IOUs proposed contracts to see if they were in compliance with the terms and conditions ordered in the Decision. Since staff will not address each issue in the resolution, contract terms and conditions will be a topic at each IOU's RAM program forum and parties should be prepared to articulate any concerns based on their experience using the approved RAM contract.

### **Forecasting Requirements**

Solar Alliance, SunEdison, and the Clean Coalition had concerns about the forecasting requirements (referred to as metering, real time telemetry, or communications) in each IOU's contract. Specifically, Solar Alliance states: "We suggest that performance and meteorological reporting should be standardized across the State, in line with the Participating Intermittent Resource Program (PIRP) or other standardized requirements." We agree with the Solar Alliance that standardization could help lower the transaction costs of fulfilling the requirements of these contracts and direct the IOUs to work with the parties to craft more specific and standardized requirements. The IOUs should submit this new language in their compliance filings.

The IOUs shall work with parties to formulate more standardized forecasting requirements and submit this language in the compliance filing required by this resolution.

The Clean Coalition states that the IOUs should be responsible for forecasting. The Decision did not require the IOUs to be responsible for forecasting, so staff

rejects the Clean Coalitions proposal. Foristar Methane protested PG&E's meteorological measurement requirements and states that these requirements should only apply to wind and solar. PG&E agreed to Foristar Methane's proposal in its reply.

### **Performance Obligation**

Both SCE and PG&E suggested changes to the Performance Obligation term, which the Decision articulated would be 140% of expected two-year production. Clean Coalition, Solar Alliance, Foristar Methane, and IEP protested this change. Since this term is ordered in the Decision, the IOUs must conform this term to the parameters set forth in D.10-12-048. Thus, SCE and PG&E's proposed language is rejected. Staff recommends the Commission adopt the following language:

The IOUs shall use the performance obligation set in the RAM Decision.

### **SCE's Contract Terms and Conditions**

In its advice letter, SCE submitted two types of contracts, its decision-consistent contracts (Full Buy Sell and Excess Sales) and its preferred RAM contract (Full Buy Sell Only).<sup>24</sup> Staff recommends rejecting SCE's preferred RAM contract and directs SCE to modify its decision consistent RAM contracts with the changes authorized in this resolution. Staff recommends the Commission adopt the following language:

SCE shall modify its decision-consistent RAM contracts with the changes authorized in this resolution.

SCE proposed to set a floor and a cap on damages, even though the Decision rejected this proposal and clearly stated that sellers must pay actual damages. The Clean Coalition, Foristar Methane, and Recurrent protested this change. Staff recommends rejecting this change and directing SCE to require payment of actual damages. Staff recommends the Commission adopt the following language:

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<sup>24</sup> SCE filed two contracts that complied with D.10-12-048, which SCE called the "Decision Consistent Contracts," and a third contract that includes with SCE's preferred program and contract changes, called "SCE's preferred contract."

SCE shall require payment of actual damages and cannot charge damages based on the proposed ceiling and floor.

The Solar Alliance, Recurrent, and IEP protested SCE's modification of the term "Independent Engineer Annual Energy Yield Factor" in the Excess Sales Agreement, Section 1.06. SCE proposes to replace the existing provision in its Full Buy Sell agreement with one that would reduce the contract price by 25% for deliveries in excess of 115% of Expected Annual Net Energy Production. Parties claim that the proposed changes to term are confusing, not financeable, and should be deleted. Staff agrees that the language is not clear, and as a result, recommends that SCE delete the change to Section 1.06 in its Excess Sales Agreement. Staff recommends the Commission adopt the following language:

SCE shall use the language in Section 1.06 of its Full Buy Sell agreement in its Excess Sales Agreement. The change SCE made to Section 1.06 in its Excess Sales Agreement should be rejected.

IEP protested section 6.01(b)(vii), which states that baseload resources that generate more than 115% of contract capacity in any one interval without SCE's prior written consent is considered an event of default. IEP states that termination is too harsh a remedy and that a reduced price for excess generation is more appropriate. SCE replied that this is a standard provision and that termination is not automatic and that the provision provides ample protections for the seller. Staff agrees with IEP that termination is too harsh a remedy, but recognizes that generation of more than 115% of contract capacity would most likely reflect a physical change to the product and can be easily avoided. Thus, staff does not direct SCE to change this term, but do request that parties address this issue at the RAM program forum if there is evidence that it is an issue.

### **PG&E's Contract Terms and Conditions**

The Clean Coalition, Solar Alliance, SunEdison, and Foristar Methane protested PG&E's proposed Guaranteed Energy Product Section 3.1(e) (II)(E), which states that energy delivered in excess of 20 MW/hour will not be credited toward or added to Seller's Guaranteed Energy Production Requirement. SunEdison states that limitations on annual production are unnecessary, but could be capped at 120% of forecast annual production, as PG&E has done in previous contracts. Staff agrees with SunEdison and rejects PG&E's proposed language. Staff directs

PG&E to modify this term to cap excess generation that can be credited toward the seller's guaranteed energy production requirement at 120%. Staff recommends the Commission adopt the following language:

PG&E shall change Section 3.1(e) (II)(E) to allow for annual production up to 120% of forecast annual production to be credited toward or added to Seller's Guaranteed Energy Production Requirements.

The Clean Coalition, Solar Alliance, and SunEdison protested PG&E's contract language at 3.1(l)(i), which requires the seller to make and pay for any changes to the delivery provisions in this section that the buyer determines are necessary for the buyer to forecast delivery. These parties state that costs to comply with the data requirements should be explicitly capped and that the utility should bear the responsibility to make changes to provide any additional data. Staff agrees it is the responsibility of the seller to provide relevant data throughout the life of the contract, which may result in new requirements after the initial equipment is installed. In order to balance the seller's exposure, these costs should be reasonable. Thus, staff recommends that PG&E add the word "reasonably" to the contract language below (3.1(l)(i) "Access to Data and Installation and Maintenance of Weather Station"):

(l) Access to Data and Installation and Maintenance of Weather Station.

(i) Commencing on the first date on which the Project generates Product to be delivered to the CAISO Grid or the Delivery Point, if different, and continuing throughout the Term, Seller shall provide to Buyer, in a form reasonably acceptable to Buyer, the following data on a real-time basis; provided that Seller shall agree to make and bear the cost of changes to any of the data delivery provisions below, as **reasonably** requested by Buyer, throughout the Term, which changes Buyer determines are necessary to forecast output from the Project.

Staff recommends the Commission adopt the following language:

PG&E shall add the word "reasonably" to Section 3.1(l)(i), "Access to Data and Installation and Maintenance of Weather Station."

The Decision directs the IOU be the scheduling coordinator and to bear the risk of scheduling deviations if the generator provides the IOU, as the scheduling coordinator, with timely information on its availability. In contract term 4.6(b),

PG&E proposed that the seller of a baseload resource bear any imbalance energy risk. IEP and Foristar Methane protested this provision. IEP states that this requirement is contrary to the Decision. In its reply, PG&E states that “the binding forecast is only required for baseload resources, and is reasonable in context given a baseload plant itself provides the schedule and remains in control of the factors that could vary output from what is presented in such schedule.” Since the Decision directs the IOUs to bear the risk of scheduling deviations if the generator provides the IOUs with timely information on its availability, Staff agrees with IEP and Foristar Methane that PG&E’s proposed term is contrary to the Decision. While the baseload resource is in control of its schedule, the decision states that PG&E should only bear the risk of scheduling deviations if the generator provides the IOU with timely information on its availability. If the baseload resource does not provide PG&E with timely information on its availability, then PG&E is not liable for any scheduling deviations. Thus, staff recommends rejecting PG&E’s proposed language. Staff recommends the Commission adopt the following language:

PG&E shall modify contract term 4.6(b) so that PG&E, as scheduling coordinator, bears the risk of scheduling deviations if the generator provides PG&E with timely information on availability.

Finally, Recurrent Energy protested PG&E’s change of its performance tolerance band from 5% to 3% of forecasted deliveries. Recurrent states that PG&E made this change from its Solar PV Program contract, but did not provide a rationale for increasing the risk of penalty on the seller. Staff agrees and recommends that the Commission reject PG&E’s proposed language. PG&E should revert to the previous Performance Tolerance Band of 5%. Staff recommends the Commission adopt the following language:

PG&E shall revert to the previous performance tolerance band of 5%

### **SDG&E’s Contract Terms and Conditions**

The Solar Alliance protested term 3.1(e), “Contract Quantity and Guaranteed Energy Production.” The Solar Alliance states: “For solar projects, the Contract Quantity should take into account the module manufacturer’s annual degradation factor.” The Solar Alliance states that SCE’s contract does take into account degradation factors. For consistency purposes, SDG&E should take

annual degradation factors into account. Staff recommends the Commission adopt the following language:

The IOUs shall factor in the manufacturer's degradation factors into their contracts. SDG&E shall factor this into term 3.1(3), "Contract Quantity and Guaranteed Energy Production."

The Solar Alliance and SunEdison protested SDG&E's Assignment term (13.2), which would require negotiation of consent to assignment at a later date. The Solar Alliance states: "The negotiation of individual consents to collateral assignment would be burdensome, costly, and an unattractive prospect to potential Project investors. Suggest that Buyer consent to collateral assignment at time of execution under specified terms and conditions. PG&E's proposed PPA provides such consent." Staff agrees that this should be provided in the contract since the Decision directed the IOUs to submit non-negotiable contracts. SDG&E should modify its proposed contract to provide this agreement upfront. Staff recommends the Commission adopt the following language:

SDG&E shall provide a consent to assignment agreement in its standard contract.

### **Program Forum**

The Decision directs the IOU to hold a program forum once a year. This resolution directs the IOUs to scope specific issues into the agenda of the program forums, including: seller experience using interconnection maps, contracts, and whether or not there is a need to define non-competitive bids. In addition, the IOUs should take the following actions to ensure that program forums are effective:

- Notice all stakeholders of the date, time, location and methods for participation<sup>25</sup> for each program forum;
- Issue a request for feedback from all stakeholders after the close of each solicitation in order to inform the agenda for the program forum;

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<sup>25</sup> The IOUs should utilize telecom and web-based technologies to facilitate remote participation.

- Provide CPUC staff with a draft of the agenda at least 14 days prior to the program forum;
- At the program forum, the IOUs shall provide sufficient time to address key issues identified in the request for feedback and the independent evaluator's report;
- At the program forum, the IOUs shall provide sufficient time for stakeholders to discuss their experience with the solicitation, interconnection process, or the program in general; and
- The independent evaluator should participate in the program forum.

### **COMMENTS**

Public Utilities Code section 311(g)(1) provides that this resolution must be served on all parties and subject to at least 30 days public review and comment prior to a vote of the Commission. Section 311(g)(2) provides that this 30-day period may be reduced or waived upon the stipulation of all parties in the proceeding.

The 30-day comment period for the draft of this resolution was neither waived nor reduced. Accordingly, this draft resolution was mailed to parties for comments, and will be placed on the Commission's agenda no earlier than 30 days from today.

### **FINDINGS AND CONCLUSIONS**

1. Pursuant to Decision 10-12-048, Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas & Electric Company are required to execute contracts with renewable generators up to 20 MW through the renewable auction mechanism.
2. Pursuant to Decision 10-12-048, on February 25, 2011, Pacific Gas and Electric Company filed Advice Letter 3809-E, Southern California Edison Company filed Advice Letter 2557-E, and San Diego Gas & Electric Company filed Advice Letter 2232-E to implement the renewable auction mechanism program details.
3. Decision 10-12-048 ordered the investor-owned utilities to hold two auctions per year.

4. Decision 10-12-048 ordered the investor-owned utilities to coordinate their auction schedule so that the auctions would be held simultaneously. The investor-owned utilities did not submit coordinated schedules.
5. It is reasonable for the investor-owned utilities to submit an auction schedule that reflects simultaneous auctions.
6. It is reasonable for the first auction to close no later than November 15, 2011 and for the second auction to close no later than May 31, 2012.
7. It is reasonable for the investor-owned utilities to submit the executed renewable auction mechanism contracts to the Commission within 45 days of contract execution.
8. It is reasonable to allow existing generators to participate in the renewable auction mechanism.
9. It is reasonable to allow sellers to aggregate multiple facilities that have a minimum 500 kilowatt gross power rating in order to meet or exceed one megawatt, provided that the aggregated facilities interconnect within a single p-node and that the contract size of the aggregated facilities does not exceed five megawatts.
10. It is reasonable for the investor-owned utilities to modify the targeted procurement capacity in future auctions as long as the investor-owned utilities request the change in an advice letter.
11. Southern California Edison Company's post-bid evaluation methodology to determine the amount of procurement from each product bucket is not in compliance with Decision 10-12-048 and should be rejected. It is reasonable for Southern California Edison to solicit a minimum of five megawatts from each product category.
12. San Diego Gas & Electric Company's product categories are not in compliance with Decision 10-12-048 and should be rejected. It is reasonable for San Diego Gas & Electric to solicit a minimum of three megawatts from each product category.
13. Southern California Edison Company's proposal to procure less than 20 megawatts of its targeted auction capacity is not reasonable unless there is evidence of market manipulation or if the bid prices are not competitive with other renewable procurement opportunities.

14. It is reasonable for investor-owned utilities to procure up to 20 megawatts beyond each auction's targeted capacity in the circumstance that the last bid selected to meet the targeted capacity exceeds the targeted capacity.
15. It is reasonable to require sellers to complete either the System Impact Study, a Phase I interconnection cluster study, or have passed the Wholesale Distribution Access Tariff/Generator Interconnection Procedures Fast Track screens in order to participate in an auction.
16. San Diego Gas & Electric Company's interconnection study pause is not reasonable or necessary and should be rejected.
17. Southern California Edison Company and San Diego Gas & Electric Company's proposed transmission network upgrade cost caps are arbitrary and could unnecessarily limit competition.
18. It is reasonable to add the costs of the transmission network upgrades into the bid price for ranking purposes since ratepayers, instead of the seller, bear the costs of the upgrades.
19. The investor-owned utilities' requirement for sellers to achieve full deliverability status is not reasonable and could incur unnecessary ratepayer costs.
20. The investor-owned utilities have not made any showing of the size or timing of their resource adequacy need relative to the projects they would procure through the renewable auction mechanism. In addition, the investor-owned utilities have not articulated the cost tradeoffs between requiring full deliverability for renewable auction mechanism projects versus buying resource adequacy elsewhere.
21. It is reasonable to limit seller concentration in each auction to 20 megawatts per seller. The IOUs may execute multiple contracts per seller, as long as the total capacity under contract per seller resulting from each auction does not exceed 20 megawatts.
22. It is not reasonable to use additional evaluation and selection criteria that were not approved in a Commission decision or resolution.
23. It is reasonable for the IOUs to publish the discount rates used to determine the levelized bid cost in their bidding protocols.
24. Decision 10-12-048 established criteria and a process for the investor-owned utilities to reject bids and it is not necessary to determine additional criteria at this time.

25. The 18-month online date requirement is reasonable.
26. The 18-month online date should begin from CPUC approval instead of contract execution.
27. The 18-month online date and 6-month extension provide sufficient time for a project in Cluster Study 4 to complete construction of new interconnection facilities.
28. It is reasonable for the investor-owned utilities to adopt language similar to Pacific Gas and Electric Company's language on granting contract extensions.
29. Decision 10-12-048 directs the investor-owned utilities to make certain information about bids and project development milestones public.
30. It is reasonable for the investor-owned utilities to adopt language similar to Pacific Gas and Electric Company's language on public dissemination of bid and project development milestones.
31. It is reasonable for sellers to provide the investor-owned utilities a 60-day notice prior to the guaranteed commercial operation date when requesting a contract extension.
32. It is reasonable to address San Diego Gas & Electric Company's request to combine the solar energy project with the renewable auction mechanism through San Diego Gas & Electric Company's petition to modify Decision 10-09-016.
33. Southern California Edison Company's solar photovoltaic map shows available capacity at the circuit level. Southern California Edison's renewable auction mechanism map does not provide available capacity at the circuit or substation level, as required by Decision 10-12-048.
34. It is reasonable for Southern California Edison Company to provide more detail on the available capacity at the substation or circuit level in the renewable auction mechanism map within 30 days of this resolution.
35. It is reasonable that the investor-owned utilities post publicly by December 31, 2011 updated maps that cover their whole service territory, including both the distribution and transmission system.
36. It is reasonable to use contract terms and conditions that the Commission approved in other standard renewable contracts.
37. It is reasonable for the investor-owned utilities to work together to craft more similar and standardized language regarding forecasting requirements.

38. Decision 10-12-048 did not require the investor-owned utilities to be responsible for forecasting.
39. Decision 10-12-048 determined that the performance obligation should be 140% of expected two-year production. The investor-owned utilities' alternative proposals should be rejected.
40. Southern California Edison Company's preferred renewable auction mechanism contract is not in compliance with Decision 10-12-048 and should be rejected.
41. Decision 10-12-048 determined that damages should be calculated based on actual damages. Southern California Edison Company's proposed damage cap and floor is not in compliance with Decision 10-12-048 and should be rejected.
42. It is reasonable for Southern California Edison Company to delete the changes it made to Section 1.06 "Independent Engineer Annual Energy Yield Factor" of its Excess Sales Agreement and to use the language in the Full Buy Sell Agreement. The change SCE made to Section 1.06 in its Excess Sales Agreement should be rejected.
43. It is reasonable for Pacific Gas and Electric Company to cap excess generation that can be credited toward the seller's guaranteed energy production requirement at 120%. Pacific Gas and Electric Company's proposal to cap excess generation at 100% should be rejected.
44. Pacific Gas and Electric Company should add the word "reasonably" to term 3.1(l)(i), "Access to Data and Installation and Maintenance of Weather Station" in its proposed contract.
45. Decision 10-12-048 directs the investor owned utilities to be the scheduling coordinator and to bear the risk of scheduling deviations if the generator provides the investor-owned utility with timely information on its availability.
46. Pacific Gas and Electric's proposal to require baseload resources to bear any imbalance energy risk is not in compliance with Decision 10-12-048 and should be rejected.
47. It is reasonable for Pacific Gas and Electric to change its proposed performance tolerance band from 3% back to the 5% tolerance band used in the solar photovoltaic program contract. Its proposed 3% tolerance band should be rejected.

48. San Diego Gas & Electric's term 3.1(e) "Contract Quantity and Guaranteed Energy Production" should account for the manufacturers' degradation factors.
49. San Diego Gas & Electric should provide a consent agreement in term 13.2, "Assignment."
50. Advice letters Pacific Gas and Electric 3809-E, Southern California Edison 2557-E, and San Diego Gas & Electric 2232-E should be approved with modifications.

**THEREFORE IT IS ORDERED THAT:**

1. Advice letters PG&E 3809-E, SCE 2557-E, and SDG&E 2232-E are approved with modifications.
2. Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas & Electric Company (investor-owned utilities) shall hold an auction every six months. The first auction shall close no later than November 15, 2011 and the second auction shall close no later than May 31, 2012.
3. The investor-owned utilities shall submit an auction schedule that reflects simultaneous auctions.
4. The investor-owned utilities shall submit the executed renewable auction mechanism contracts through a Tier 2 advice letter within 45 days of contract execution.
5. The investor-owned utilities shall allow existing and new projects to participate in each auction.
6. The investor-owned utilities shall allow facility aggregation under the following conditions:
  - a. A single contract may be comprised of the aggregation of multiple facilities to meet or exceed one megawatt, provided that each system has a minimum 500 kilowatt gross power rating;
  - b. A project comprised of aggregated sites interconnects within a single p-node; and
  - c. The contract size of the aggregated facilities does not exceed five megawatts.

7. The investor-owned utilities shall solicit capacity from each product category: baseload, peaking as-available, and non-peaking as-available. San Diego Gas & Electric Company shall solicit a minimum of three megawatts from each category and Southern California Electric Company shall solicit a minimum of five megawatts from each category.
8. The investor-owned utilities may procure up to 20 megawatts beyond each auction's targeted capacity.
9. The investor-owned utilities shall require projects to have completed a System Impact Study, a Phase I interconnection study, or have passed the Wholesale Distribution Access Tariff/Generator Interconnection Procedures Fast Track screens in order to participate in each auction.
10. San Diego Gas & Electric Company shall remove the 6 to 24 month interconnection study pause from its renewable auction mechanism schedule.
11. The investor-owned utilities shall not use network upgrade cost caps. The investor-owned utilities shall add the estimated costs of network upgrades to bid prices for ranking purposes.
12. The investor-owned utilities shall not require sellers to achieve full deliverability status. The investor-owned utilities shall require the seller to apply for a deliverability study in order to count generation for resource adequacy in the instance where no deliverability upgrades are needed to deliver the energy and count it towards resource adequacy.
13. The investor-owned utilities shall use a seller concentration limit of 20 MW per seller per auction.
14. The investor-owned utilities cannot use additional criteria for the evaluation and selection of offers without CPUC approval.
15. The investor-owned utilities shall publish the discount rates that will be used to evaluate bids in the bidding protocols.
16. The investor-owned utilities shall change the renewable auction mechanism contracts to allow for the 18-month online date to begin after CPUC approval, and not after contract execution.
17. The investor-owned utilities shall incorporate language in their standard contracts similar to Pacific Gas and Electric Company's language on allowing the contract extension due to regulatory delays.

18. The investor-owned utilities shall allow a seller to request a contract extension by providing a 60-day notice prior to the guaranteed commercial operation date.
19. The investor-owned utilities shall adopt language similar to Pacific Gas and Electric Company's language in its bidding protocol informing bidders that certain information will not be treated as confidential.
20. The investor-owned utilities shall report to the Commission the project development milestones of all executed contracts, as contained in Attachment B, on a quarterly basis. This information shall be public in accordance with Decision 10-12-048.
21. In its renewable auction mechanism map, Southern California Edison Company shall provide the available capacity at the substation or circuit level for its preferred locations within 30 days of this resolution.
22. The investor-owned utilities shall post publicly by December 31, 2011 updated maps that cover their whole service territory, including both the distribution and transmission system.
23. The investor-owned utilities shall allow contract term lengths of 10, 15, and 20 years.
24. The investor-owned utilities shall work with parties to craft more similar and standardized forecasting requirements.
25. The investor-owned utilities shall remove modifications to the performance obligation requirements and use the requirements as ordered in D.10-12-048.
26. Southern California Edison Company shall not use its preferred RAM contract.
27. Southern California Edison Company shall use the language in Section 1.06, "Independent Engineer Energy Yield Factor" of its Full Buy Sell agreement in its Excess Sales Agreement.
28. Southern California Edison Company shall remove its proposal to set a floor and cap on damages and instead require sellers to pay actual damages, as ordered in D.10-12-048.
29. Pacific Gas and Electric Company shall modify the term in its proposed contract 3.1(e)(ii)(A) "Seller's Guaranteed Energy Production Requirement." Pacific Gas and Electric Company shall cap excess generation that can be credited toward the seller's guaranteed energy production requirement at 120%.

30. Pacific Gas and Electric Company shall add the word “reasonably” to its proposed contract, term 3.1(l)(i) “Access to Data and Installation and Maintenance of Weather Station.”
31. Pacific Gas and Electric Company shall revert to the performance tolerance band of 5%, as defined in the solar PV program contract.
32. The investor-owned utilities shall factor in the manufacturers’ degradation factors into their contracts. San Diego Gas & Electric Company shall factor this into term 3.1(3), “Contract Quantity and Guaranteed Energy Production.”
33. San Diego Gas & Electric Company shall amend term 13.2, “Assignment” to provide the consent to assignment agreement in its standard contract.
34. Within 30 days of the effective date of this resolution, Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas & Electric Company shall file a Tier 1 advice letter with the Energy Division demonstrating compliance with Ordering Paragraphs 2-33 of this resolution.
35. All contracts executed under, and consistent with, the Renewable Auction Mechanism program adopted in Decision 10-12-048 and implemented by this resolution shall be filed by Tier 2 advice letter.
36. The modifications to Decision 10-12-048 contained in Attachment A are adopted.
37. The program rules contained in Attachment C are adopted.

This Resolution is effective today.

I certify that the foregoing resolution was duly introduced, passed and adopted at a conference of the Public Utilities Commission of the State of California held on August 18, 2011; the following Commissioners voting favorably thereon:

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PAUL CLANON  
Executive Director

# Attachment A

## Modifications to Decision 10-12-048

**ATTACHMENT A****MODIFICATIONS TO DECISION 10-12-048**

Decision 10-12-048 is modified as follows:<sup>26</sup>

1. Appendix A, 4. RAM Standard Contract, Length of Time to COD:

From:

“Within 18 months of contract execution, with one 6-month extension for regulatory delays.”

To:

“Within 18 months of ~~contract execution~~ CPUC approval, with one 6-month extension for regulatory delays.”

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<sup>26</sup> Underlined language reflects new words to be added while strike-through reflects words that were included that should be removed.

## Attachment B

# Project Development Milestones Reporting Requirements

## ATTACHMENT B

### Project Development Milestones

- Project Name
- Company Name
- Project Status (Delayed/On Schedule)
- Product Category/Technology Type
- Location (County, City)
- RAM Solicitation in which Project Was Bid
- CPUC Final, Non-Appealable Approval Date
- Guaranteed Commercial Operation Date
- 6-month Regulatory Delay Extension (Yes/No)
- If Extension, Reason (Force Majeure/Transmission/Permitting/Interconnection)
- Actual Commercial Operation Date (if operating)
- Construction Started? (Y/N)
- Original Bid Capacity
- Installed Capacity
- Full Buy/Sell or Excess Sales
- All Necessary Permitting/Government Approvals Received? (Y/N)
- All Necessary Permitting/Government Approvals Filed? (Y/N)
- If Filed, Expected Date by Which All Necessary Permitting/Government Will Be Approved
- If Not Yet Filed, Expected Date by Which All Necessary Permitting/Government Will Be Filed
- Interconnection Agreement Signed? (Y/N)
- Interconnection Application Deemed Complete? (Y/N)
- Stage in Interconnection Process (Studies/Interconnection Agreement Signed/Construction)

## Attachment C

### Summary of RAM Program Rules

**ATTACHMENT C****SUMMARY OF RAM PROGRAM RULES**

CPUC Decision 10-12-048 adopted the Renewable Auction Mechanism. This attachment revises Appendix A in Decision 10-12-048 to include the additional rules adopted in Resolution E-4414. Underlined language reflects additions while strike-through reflects deletions.

**RENEWABLE AUCTION MECHANISM****1. Price Determination:** Renewable Auction Mechanism (RAM)

- Projects submit price bids
- IOUs select projects in order of least-costly first, up to program capacity limit

**2. Auction Design:****a. Program Procurement Requirement:**

- i. 1,000 MW Capacity Limit
- ii. Adjustment to the Program Capacity Limit: May occur in any appropriate proceeding or through a Tier 3 advice letter/Resolution, or a Resolution on the Commission's own motion

## iii. Capacity Allocation for total RAM program and per auction

UTILITY	TOTAL PROGRAM (MW)	PER AUCTION (MW)
SCE	<del>498.4</del> <sup>27</sup> <u>259.4</u> <sup>28</sup>	<del>124.6</del> <u>65</u>
PG&E	420.9	105.2
SDG&E	80.7	20.2
TOTAL	<del>1,000.0</del> <u>761</u>	<del>250.0</del> <u>190.25</u>

iv. **Number of Auctions per Year:** Two per year, every six months, held concurrently by all three IOUs; a project may bid into all three auctions.

v. **Amount per auction:** 25% of the total program allocation will be offered in the initial auction; unsubscribed capacity, or drop out capacity, is added to the next auction

vi. **Procurement Requirement:** Each IOU must enter into a standard contract with each winning bidder up to the capacity limits in each solicitation and total program capacity limits. IOUs select on the basis of least costly projects first until the IOU fully subscribes its allocated capacity for that auction. IOUs have the discretion to not enter into contracts if there is evidence of market manipulation or if the bids are not competitive compared to other renewable procurement opportunities. The IOU must submit an advice letter explaining its decision not to enter into contracts.

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<sup>27</sup> As described in the text of this decision, SCE's procurement obligation may be reduced by the capacity represented in the 21 contracts it has executed from its 2010 Renewables Standard Contract solicitation. Furthermore, SCE may elect to submit additional contracts resulting from its 2010 RSC solicitation via a Tier 3 advice letter, however, these additional contracts and associated capacity will not reduce SCE's procurement obligations under RAM.

<sup>28</sup> SCE's revised obligation is contingent upon CPUC-approval of the 21 contracts executed from the 2010 Renewables Standard Contract solicitation. The CPUC has not yet approved those contracts.

## b. Products and Selection

- **Products:** Firm (baseload), non-firm peaking (peaking as-available), and non-firm non-peaking (non-peaking as-available) electricity
  - IOU shall specify the amount of each product for the initial four auctions in the first advice letter filed pursuant to this order. Utilities are required to solicit and procure capacity up to the capacity limit for each solicitation.
  - Project must submit eligibility information (e.g., generation profile, project characteristic information) corresponding to the product bid, as established by the IOU
- **Selection:** Each product is selected on the basis of price, least expensive first until the capacity limit in each solicitation is reached; IOU may normalize (adjust) bids to place bids on an equivalent basis before making least cost selection using method approved, if any, in the advice letter implementing RAM; IOUs should add the estimated transmission network upgrade costs to the bids for ranking purposes.
- **Independent Evaluator:** Utilities will employ an Independent Evaluator to assess the competitiveness and integrity of each RAM auction and submit the IE's report with its Tier 2 advice letter requesting approval of contracts resulting from those auctions.

## 3. Eligibility:

- **Minimum Size:** Minimum contract size of 1 MW, but projects 500 kilowatts and greater can aggregate to meet the minimum contract size of 1 MW. Projects can aggregate as long as they interconnect to the same p-node and the contract size does not exceed 5 MW
- **Project Vintage:** New and existing projects are eligible for RAM
- **Location:** Combined IOU service territories (e.g. a project bidding into SCE's auction can be located in either PG&E or SDG&E's service territory).
- **Retail Customer/Third Party Ownership:** Seller need not be a retail customer and the facility need not be located on property owned or under the control of a retail customer
- **Utility Applicability:** Southern California Edison Company (SCE), Pacific Gas and Electric Company (PG&E), and San Diego Gas & Electric Company (SDG&E)

- **Project and Transaction Limit:** 20 megawatts (MW)  
This is the maximum size for any project signing a full buy/sell or excess sales transaction through the RAM.<sup>29</sup>
- **Full Buy/Sell or Excess Sales:** Seller may elect either full buy/sell or excess sales
- **Counting Excess Sales:** Capacity associated with the transaction size is applied to the program cap.
- **Seller Concentration:** Up to 20 MW per seller per auction. The IOUs can execute multiple contracts with a seller per auction as long as the total does not exceed 20 MW.

#### 4. RAM Standard Contract:

- **Contract Language:** IOUs can use their individual contracts, but should start with a contract that is simple, streamlined, and has already been vetted by stakeholders through another CPUC program.
- **Negotiations:** Price, terms, and conditions are not negotiable.
- **Contract Terms and Conditions**
  - Length of Contract: 10, 15, or 20 years
  - **Length of Time to COD:** Within 18 months of CPUC Approval contract execution, with one 6-month extension for regulatory delays. Seller can request a contract extension by providing a 60-day notice prior to the guaranteed commercial operation date.
  - **Development Deposit:** \$20/kW for projects 5 MW and smaller, and a \$60/\$90 per kW for intermittent and baseload resources, respectively, for projects greater than 5 MW and up to 20 MW in size, refundable upon achieving commercial operation or applied to the performance deposit; development deposit is due

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<sup>29</sup> If a project elects to pursue excess sales, the total project size, including the capacity associated with the wholesale transaction under RAM as well as the capacity associated with onsite load, is counted as part of the project's capacity for purposes of project eligibility. However, only the capacity associated with the wholesale transaction will count against the capacity limit under RAM.

on the date of contract execution in the form of cash or letter of credit from a reputable U.S. bank; development deposit forfeited if project fails to come on line within 18 months or other 6-month extension granted by IOU.

- **Performance Deposit:**
  - For projects less than five MW: conversion of development deposit to performance deposit
  - For projects five MW and larger: 5% of expected total project revenues
- **Performance Obligation:**
  - Performance is required to be consistent with good utility (or prudent electrical) practices; project is obligated to have liability insurance against utility losses; the project is liable for an IOU's direct, actual losses; and project must perform consistent with generation profile or other characteristics for the product, to the extent stated in the Commission-adopted contract
  - Minimum deliveries of 140% of expected annual net energy production based on two years of rolling production
- **Damages for Failure to Perform:** Damages are limited to actual, direct damages; neither party is liable for consequential, incidental, punitive, exemplary or indirect damages, lost profits or other business interruption damages regardless of cause
- **Force Majeure and Events of Default:** Each RAM contract shall include a force majeure definition and provision
- **Insurance:** IOU discretion, submitted in implementation advice letter
- **Scheduling Coordinator:** Where possible, the contracting IOU shall be the scheduling coordinator for each project using the RAM, and the IOU shall bear the risk of scheduling deviations if the generator provides the IOU with timely information on its availability; the IOU can decline scheduling coordinator responsibilities only upon a written, affirmative request from the

seller that the IOU not be the scheduling coordinator, or if unable to perform these duties

## 5. Project Viability Requirements

Bidder must demonstrate the following items with its bid. An IOU shall reject a bid that fails to demonstrate the following items. Each IOU shall adopt reasonable definitions and lists, related to:

- **Site Control:** Bidder must show 100% site control through (a) direct ownership, (b) lease or (c) an option to lease or purchase that may be exercised upon award of the RAM contract
- **Development Experience:** Bidder must show that at least one member of the development team has (a) completed at least one project of similar technology and capacity or (b) begun construction of at least one other similar project
- **Commercialized Technology:** Bidder must show the project is based on commercialized technology (e.g., is neither experimental, research, demonstration, nor development)
- **Interconnection Application:** Bidder must show that it has filed its interconnection application. In addition, bidder must have completed a System-Impact Study, Cluster Study Phase 1, or have passed the Fast Track screens.

## 6. Market Elements

- a. **Preferred Locations:** The IOUs must provide the “available capacity” at the substation and circuit level, defined as the total capacity minus the allocated and queued capacity. The IOUs should provide this information in map format. If unable to initially provide this level of detail, each IOU must provide the data at the most detailed level feasible, and work to increase the precision of the information over time. This information is to be available in the advice letter implementing RAM and updated on a monthly basis.
  - i. Each IOU should examine DG interconnection screening tools currently used to screen DG interconnection applications. The IOUs should evaluate how individual project studies could be automated to provide the requested data and a reasonable assessment of a DG project’s impact on the distribution system.

- ii. The IOUs should work with parties and Commission staff through the Renewable Distributed Energy Collaborative (Re-DEC) or other forums in order to improve the data, usefulness of the maps, and to discuss other issues related to the interconnection of distributed resources.
- b. **Project Milestones:** Sellers shall submit a project development milestone timeline to the IOU upon RAM contract signing, and quarterly progress reports. The only enforceable milestone is the commercial operation data (COD) (subject to a one 6-month extension for regulatory delays).
- c. **Relationship to Voluntary and Other Programs:** 1,000 MW capacity limit does not include capacity subscribed under the Existing FIT (up to 1.5 MW, subject to expansion to three MW under SB 32). SCE is permitted to draw down its capacity limit with the 21 contracts it selected in November 2010 from the RSC solicitation, if the CPUC approves these contracts
- d. **FERC Certification:** No FERC certification as a QF is required for a project to be eligible for RAM
- e. **Conveyance of RECs:** RECs transferred in relationship to the amount of the purchase (for full buy/sell, the IOU buys the RECs coincident with the entire output; for excess sales, the IOU buys the RECs coincident with the purchased excess energy)

## 7. Regulation and Commission Oversight

- a. **Program modifications:** The Commission can modify any element of the program at any time through a Commission resolution.
- b. **Advice Letter Review:** All executed RAM contracts from each auction are filed with the Commission in one Tier 2 advice letter.
- c. **Program Evaluation:** RAM to be monitored and evaluated annually, with each IOU filing a report each year. The report shall be filed with ED and posted on the IOU's website. ED shall include RAM program information in the Commission's reports to the legislature on the RPS program.
- d. **Data:**

Each annual report shall include information and evaluation on all relevant items and characteristics including but not limited to:

- Competition and competitiveness

- Auction design
- Time necessary to complete projects
- Auction timing
- Project status
- Anything else determined by ED to be necessary for a complete report

IOUs shall adopt a uniform report template with guidance from Energy Division

The first report shall include each IOU's proposal for a definition of a competitive market, proposed measurements of RPS markets generally, and proposed measurements of this RAM market specifically

As available over time, each report shall include data on:

- Measures of the requirements for a perfectly competitive market
- Measures of market power
- Seller concentration
- Data on each RAM results
- Information on the achievement of project development milestones for all executed RAM contracts
- Any other information necessary to present a complete report

e. **Public release of aggregated Data:**

i. IOUs and ED shall make the maximum amount of RAM data public, including the following:

- Names of participating companies and number of bids per company
- Number of bids received and shortlisted
- Project size
- Participating technologies
- Quantitative summary of how many projects passed each project viability screen
- Location of bids by county provided in a map format
- Information on the achievement of project development milestones for all executed RAM contracts (See Attachment B)

f. **Cost Recovery:** RAM costs may be charged to bundled and departing customers consistent with current practice

g. **Program Forum:**

- i. IOUs will hold a program forum once per year in order to meet with sellers and discuss seller experience participating in an auction. The IOUs are required to:
  - Notice all stakeholders of the date, time, location and methods for participation<sup>30</sup> for each program forum;
  - Issue a request for feedback from all stakeholders after the close of each solicitation in order to inform the agenda for the program forum;
  - Provide CPUC staff with a draft of the agenda at least 14 days prior to the program forum;
  - At the program forum, the IOUs shall provide sufficient time to address key issues identified in the request for feedback and the independent evaluator's report;
  - At the program forum, the IOUs shall provide sufficient time for stakeholders to discuss their experience with the solicitation, interconnection process, or the program in general; and
  - The independent evaluator should participate in the program forum.

**8. Implementation Advice Letter:** PG&E, SCE, and SDG&E shall file Tier 3 advice letters within 60 days of the date this order. The implementation advice letters shall include:

- Procurement protocols
- RAM standard contract
- Program implementation details
- Timing of RAM auctions
- Specific amounts of capacity and type of resources in each auction over the next two years
- Explanation of any normalization procedures used for bid selection process

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<sup>30</sup> The IOUs should utilize telecom and web-based technologies to facilitate remote participation.

- Detailed description of the generation profiles and characteristics that correspond with each product bucket
- Description of how IOU-proposed product eligibility requirements will provide reasonable assurance that a bid for one product will, if selected, deliver energy in a manner that corresponds to the generation profile associated with that
- Identify seller concentration limit, if any
- Provide the preferred locations map and a description of how the maps were computed
- Provide a simple methodology to measure the status of project development milestones