

Implementation of Renewables) Docket No. 03-RPS-1078
Portfolio Standard Legislation (Public) RPS Proceeding
Utilities Code Sections 381, 383.5,)
399.11 through 399.15, and 445; [SB)
1038], [SB 1078]))

and

Implementation of Renewables) Docket No. 02-REN-1038
Investment Plan Legislation (Public) Renewable Energy Program:
Utilities Code sections 381, 383.5, and) Notice of Renewables Committee
445 [SB 1038])) Hearing
_____)

WRITTEN COMMENTS

Proposed Guidelines for Implementing California's Renewables Portfolio Standard (RPS).

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**Solargenix Comments on the California Energy Commission's
Renewable Energy Program Draft Guidebooks
February 9, 2004**

Introduction

Solargenix appreciates this opportunity to provide comments on the California Energy Commission Draft Guidebooks. The CEC staff has obviously spent a great deal of time and effort developing these Guidebooks and their expertise is readily apparent in the publishing of these documents. However, Solargenix has concerns regarding some of the proposed guidelines and rules related to the deployment of solar thermal generation. The purpose of these comments submitted herein by Solargenix is to complement the staff's work and, hopefully, provide insights to help facilitate and increase the commercial development of one of California's great natural power resources. Solar thermal generation (with gas assist) has been shown to be cost competitive when compared to other similar fossil technologies providing comparable products, i.e. firm on-peak capacity and energy. The recently published CEC Cost Comparison Report¹ concluded that, essentially, solar thermal generation with gas assist is cost competitive to combustion turbine technology when used in the same application (firm peaking).

Further investigation² by the CEC shows 60,000 GHW's to 128,000 GWH's solar commercial potential in California; the high end of this estimate exceeds the total needs of Southern California Edison. In addition, there is substantially more solar potential in the state of California that, over time, will become commercially attractive as the technology matures and the infrastructure becomes more fully developed. Harvesting the California sun provides cost competitive firm capacity and energy, helps stabilize natural gas prices, cleans the air and creates jobs in California. Solargenix submits the following comments to help achieve these objectives:

Comments on the "Renewable Portfolio Standard Eligibility Guidebook"

In general, the guidebooks provide sound guidance and fair rules that will greatly expedite the renewable energy portfolio mandated by the legislature in SB 1078 and SB 1038. Solargenix has serious concerns, however, that the development of the vast California solar may be hindered by two of the proposed rules in the draft report. Since the cost competitiveness of solar thermal is highly dependent on gas assist, we have concerns regarding the CEC proposal to "re-evaluate" the 25% fossil energy input now allowed for a "hybrid" renewable. Our second concern is the methodology for establishing "caps" for the Supplemental Energy Payments (SEP)

25% Fossil Energy Rule - RPS Eligibility Guidebook, Page 13

The genesis of the 25% rule is the 1978 Public Utility Regulatory and Policies Act (PURPA). The 25% rule, to date, has served both the solar thermal industry and the

¹ CEC's "Comparative Cost of California Central Station Electricity Generation Technologies", dated October, 2003, see page 3, Table 1 "Levelized Costs of Technologies"

² CEC's "Preliminary Renewable Resource Assessment" page 31

ratepayer well resulting in over 350 MW's of solar thermal generation facilities that provide reliable on-peak capacity and energy to Southern California Edison and their ratepayer. The 25% rule is an incentive to the solar thermal industry yet actually provides substantial savings to the ratepayer since it allows for most cost effective solar generation.

The 25% rule should be kept for the following reasons:

1. Allows Delivery of Firm Capacity and Energy

The use of a 25% gas burn at the Solar Electric Generating Station (SEGS) located in the high (Mojave) desert in southern California has permitted the facility to achieve a 100% availability in meeting their contractual requirement to Edison for the last 17 years³. This high availability, in spite of “cloudy” days and rainy periods, is the direct result of having fossil boilers available to provide heat to the steam cycle when the sun is not available. Because the solar plant is “backed up” with gas, solar thermal generation is counted as “firm” by Edison and is valued several times more than, say, wind energy, that produces energy on an intermittent basis. In addition, with wind and other renewables, many times the IOU is forced to “dump” the generation in order to achieve generation to load balance (for example, wind energy at night may exacerbate the minimum load problems in California). Seldom, if ever, has the IOU needed to balance the generation to load, i.e. “dump generation”, during peak periods when solar is generating and is needed.

In addition, fossil fuel can also be used to boost the operating temperature of the working fluid (steam) resulting in an overall higher solar to electricity efficiency. This higher conversion ratio, in effect, reduces the cost of the solar collectors and, combined with higher efficiencies, result in lower cost to the ratepayer.

2. Natural Advantage of Solar Thermal with Gas Assist

There is a natural advantage that solar thermal has over other forms of renewable generation. This advantage is the ease that solar thermal can be hybridized. The addition of a fossil boiler adds approximately 8% to the overall capital cost of a solar plant; with the addition of this boiler, the capacity and energy that heretofore would be sun following and considered to be intermittent by the IOU, now becomes firm capacity and energy. This “firmness” of capacity and energy and the ability to be firmly scheduled as a resource increases the product value by several times over intermittent energy resources such as wind. For wind to provide a form of firm capacity and energy, the cost would most likely exceed that of the wind turbine itself.

The Commission should:

³ SEGS Acquaintance and Data Package 2002 (contact author for copy of report)

- Place value on this ease of hybridizing;
- Not discriminate against the process; and,
- Recognize that any decrease in the 25% rule penalizes the ratepayer in the form of higher solar generated electricity costs.

Among all of the commercial renewables, only solar thermal can achieve hybridization at such low cost and yet provide such a high return in the form of lower cost energy and higher product value.

3. Increase in SEP Payments

The reduction or elimination of the 25% rule will result in higher costs charged by the solar thermal generator to the IOU; this will result in higher costs passed to the ratepayer since the solar generator will seek higher SEP payments to maintain plant economics. These higher costs are the direct result of the solar facility's lowered capacity factor (due to the reduction in gas usage) and less solar generated heat being converted to electricity at a higher efficiency. In addition, depending on location and expected solar unavailability, the contract with the IOU would have to be minimized in order to provide the same order of firmness with less gas delivery. This reduction in solar station use results in higher capital charges against the plant (on a per kwh basis) and results in higher overall cost to the ratepayer in the form of higher SEP payments. If the argument is made that, in the aggregate, the funds from the Public Goods Charge are fixed and there are no higher costs to the ratepayer, then the counter argument is made that higher SEP payments made to solar means other renewable generators may not be built due to the reduction in the availability of SEP funds.

4. Existing Solar Thermal Contracts Already Have 25% Limit

Existing solar thermal QF contracts already have the 25% rule and, as discussed in item no. 1 above, have performed flawlessly with the advantage of the 25% rule. It would be inappropriate and unfair to change the rules when the industry is still struggling with pricing and development of a production infrastructure to better serve the ratepayers of California. In addition, what would benefit the California ratepayer would also benefit other non-regional ratepayers who have the need and sufficient insolation to serve their need.

To tinker with rule now, is to set a dual standard that would make it difficult to directly compare price and performance of the proposed new standard. It seems foolhardy to somehow "fix" something that isn't broken and especially when that "something" is demonstrably showing improvement in capital costs, efficiency, operations, availability, performance and achieving lower cost. All of these positive things have resulted directly from the established rules and regulations.

It is oxymoronic to change the rules given the success enjoyed by both the industry and the ratepayer.

5. Appropriate Forum was in Phase II Implementation

In order to achieve a structured, fair and timely implementation of the rules and guidelines associated with these proceedings, rules must be set-up and followed. It is counterproductive to have an extensive forum to openly and freely discuss the advantages and disadvantages of a particular issue, reach an agreement and then re-open the conclusions to further debate. This method of rule making raises questions on the legitimacy of the overall process and provides incentives to all parties to disrupt, delay and equivocate those items that they may not agree with. The conclusion to accept the 25% rule was made in Phase II Implementation Report⁴ and there is no justified reason to re-open and re-evaluate either the decision itself or the decision making process.

6. Rule Change Imperils Solar Thermal Finances

In addition to the question of fairness, there is a “hard money” aspect that also must be considered. The financial community still views solar as a nascent industry and maintains somewhat of a skeptical view of the technology notwithstanding the success of previous projects; bankers, by nature, are extremely conservative. Re-evaluation of established guidelines and changes to those guidelines may seriously erode the financial community’s faith in the solar thermal energy sector. The rules may also produce different set of criteria for re-powered solar plants when compared to new solar hybrids that again will confuse and raise financial skepticism about the Commission’s commitment to solar thermal and to the renewable industry in general. After all, if the Commission can arbitrarily change the rules to solar thermal, can it not also change the rules for wind also?

Rate Caps - New Renewable Facilities Program Guidebook (Page 8)

In the “New Renewable Facilities Program Guidebook” (page 8) reference is made that the SEP CAP should be made on a “case by case” basis. Solargenix agrees with the need

⁴ The Commission's Phase 2 decision on October 21, 2003 defined Renewables to include the 25% limitation of fossil fuel. (*"A power source other than a conventional power source within the meaning Section 2805 of the Public Utilities Code provided that a power source utilizing more than 25 percent fossil fuel is not included."* Renewables Portfolio Standard: Decision on Phase 2 Implementation issues, publication number 500-03-049F. October 21, 2003; pg C-3).

to establish a limit on the amount that can be paid to each generator; however, we also believe that the manner of setting the rate caps should be structured and that a criteria be established that would be used universally by the Commission. A “case by case” basis with no established methodology allows too much variance and will result in a wide interpretation by the IOU’s. Although the Commission establishes the cap, the IOU would provide input to develop the caps and the caps would reflect, in part, the value of the product that paid for by the IOU.

In addition, Solargenix also has concerns with how the rate cap and SEP payment will be calculated. For example, a 2 cent SEP payment represents a roughly 40% subsidy to the wind developer but less than a 20% subsidy to the solar thermal developer. The Commission should consider the overall product value when establishing SEP payments and rate caps.

Concluding Remarks

During the Hearing on February 6, Solargenix was asked by the Commission its interpretation on what ALJ Allen had ruled regarding hybridization of solar thermal. Upon research of the records, while there was brief conversation between Messrs Skowronski (Solargenix) and Bergmann (Edison) regarding hybridization, there was no discussion by ALJ Allen or decision regarding gas usage or on the 25% rule.

Accordingly, Solargenix would recommend that the Commission use the Guidebooks as an appropriate forum, not to change the 25% rule, but to eliminate any misunderstanding regarding its intent. Solargenix would recommend the following to be adapted by the Commission and used in the Guidebook.

To be considered as a qualified renewable under the California Renewable Portfolio Standard, any standalone solar generating plant that derives the majority of its electricity production from solar energy, may employ up to 25% of the total station heat input from fossil fuels providing such fuel usage is used in a cost effective and useful manner to benefit the ratepayer.

Summary

A change in the RPS rules at this time could effectively kill solar thermal generation in California. Changing the 25% rule is simply unfair, contradicts previously established policy, undermines the credibility of the Commission, increases the unknowns and risks for the investor, and results in higher cost to the ratepayer. In addition, the potential reduction in Renewable Energy Credits would also provide a bias against the IOU’s purchase of a solar thermal power plant with gas assist. This is because the amount of qualified energy would go down resulting in an IOU preference for other types renewables that do not have a “de-rate” of emission credits.

Any rate cap that is established by the Commission should be based on “work shop” generated criteria in order to ensure all-party input and a fair and consistent methodology. In addition, SEP payments should consider the product value and apply percentage subsidies instead of a fixed “one size fits all” payment.

The Commission should use this opportunity to clarify the 25% rule to help eliminate any misunderstandings in the future and adopt Solargenix suggested language.

Respectfully Submitted by Solargenix

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