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California Energy Commission
Eric Solario, Project Manager
1516 Ninth Street
Sacramento, CA
95814-5512

Dear Mr. Solario,

Please accept these comments on the proposed Ridgecrest Solar Power Project's (RSSP) Application for Certification (09-AFC-9), and suggestions for the upcoming Environmental Impact Statement.

Sincerely,

Tom Budlong
310-476-1731

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1) The 250MW characterization is incorrect and should not be used.

The maximum the facility can output is 250 MW. The average over time is closer to 57 MW, and represents the actual output. The 250 MW number is used throughout the documentation.

Page 2.2 of the Project Description states the specific objective: '...contribute over 500,000 MWh ...per year'. Since there are 365x24 = 8,760 hours in a year, dividing the 500,000 MWh per year by 8,760 hours per year gets 57 MW, nowhere near the 250 MW used to characterize the facility. This is closely in line with capacity factors for CSP solar generators in general.

The 250 MW number is a gross, misleading mischaracterization, and must not be used to characterize the project. The number invites almost all readers to assume the plant will produce almost four times as much as it actually will produce. The misconception carries to media reports and to general public perception. It misleads the public, and probably many working on the project as well.

The difference between the oft-stated 250 MW and actual production is not explained in the AFC that I have found. An extremely small number of people would think to question the 250 MW number, suspect that the actual output stated in the AFC is different, and then do the arithmetic to confirm.

That this is common practice with most solar facility descriptions is not a reason or excuse to allow it to happen in the Ridgecrest documentation. It is wrong and misleading to the point of being fraudulent. One responsibility of the documentation is to fairly describe the proposal, and 250 MW does not do that.

I note that the CEC website (http://www.energy.ca.gov/sitingcases/solar_millennium_ridgecrest/) uses the term 'nominal 250 MW'. One dictionary definition of nominal is "*Existing in name only; not real or actual; theoretical; so-called*". Another dictionary adds "*existing in name only'*. Use of the word nominal without explanation of the actual output does not justify using the incorrect number.

Neither does the word capacity, as in 250 MW capacity, alert the casual reader. Only the most experienced in technical language know to look further.

Instead, the 57 MW should be used throughout, perhaps qualified by 'average'.

Because stating the maximum instantaneous output is common practice, the documents should explain the difference between maximum and average output, explain Capacity Factor, explain meaning and use of the words 'nominal' and 'capacity', and explain that the output is commonly mis-stated. Because it is easy to miss a single explanation in such a large amount of documentation (you estimated the DEIS would be 1250 pages), or not understand its implication, or be seduced by repetition of the 250 MW number, all documentation connected with the project should use the 57MW number. Perhaps when comparing Ridgecrest with other facilities the 250 MW number could be used, each time with explanation. The purpose is to alert and avoid misleading readers who are innocent of this situation.

As evidence of the mischief, here are some media quotes that carry the misconception. I googled 'Ridgecrest Solar' to find them:

...construct a 250-megawatt (MW)... BLM press release announcing the Jan 2010 workshops. http://www.blm.gov/ca/st/en/info/newsroom/2009/december/CDD23_ridgecrest_solar_meetings.html
...power facility that will produce 250 megawatts annually ... Ridgecrest Independent, Dec 26, 2009: http://www.ridgecrestca.com/news/x1136811963/Solar-field-moves-forward
The 250 MW Ridgecrest solar trough project... CSP Today, Nov 30, 2009 http://social.csptoday.com/weekly-brief/november-23-30

2) Apparent NEPA Requirements

NEPA has some very clear statements regarding the environment and environmental quality. The EIS should discuss these, and explain how the project satisfies the statements. The quotes below are from NEPA's Title 1, Section 101.

In relating the quotes to the proposed project, it is important to keep in mind that the proposed project will completely use up undeveloped, essentially virgin land. The land will convert from pristine, virtually untouched, to a high-intensity industrial zone. It will destroy all life and environmental benefits of the property. It will be a complete change in the visual impact, completely inconsistent with adjacent lands.

NEPA Quote
The Congress recognizing the profound impact ... industrial expansion ... resource exploitation... recognizing further the critical importance of ... maintaining environmental quality...
... create and maintain conditions under which man and nature can exist in productive harmony ...
fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.
... assure...productive, and aesthetically and culturally pleasing surroundings
attain the widest range of beneficial uses of the environment without degradation...
Preserve...natural aspects, maintain...diversity ...
... each person has a responsibility to contribute to the preservation and enhancement of the environment.

3) Economic Analysis:

The impact analysis must include economic analyses of the proposed project and of the alternatives.

An economic analysis is necessary to evaluate the project, and to compare it with alternatives. It is insufficient to state economics in terms of generalities, such as

> *A smaller facility would not meet Project objectives and would not offer economies of scale. (AFC, 4.0 Alternative, page 1.)*

or

> *... alternative is not economically preferable...*

Without economic analysis we are forced into terms such as 'cost more' or 'cost less', with no quantification. Intelligent opinions and decisions cannot be made based on non-specific terms.

It's tempting to say that the project is necessary, no matter the cost, for the public good of renewable energy, currently accepted as a necessary goal. But it is still a matter of degree. If the project provided only enough power to keep a 100 watt bulb lit, the balance would not justify the environmental cost. Or if it provided enough energy for all of California for the next 50 years, the balance would easily justify the environmental cost. This project is somewhere between these two unreasonable extremes. An analysis tells where.

Additionally, transparency demands that the economics of the project be revealed to the public since:

- The project is subsidized with public money
- The project will use public land

- Public policy is that the public will pay more for electricity from the project than from conventional sources.

An economic analysis should include comprehensive details, including:

- Cost of construction.
- Cost of financing the construction.
- Cost of land usage – purchase or lease.
- Operation costs when the facility is up and running.
- Insurance costs.
- Revenues from electricity sales.
- Taxes
- Government subsidies
- All other costs and revenues.

4) Net Energy Analysis:

The impact statement must analyze the net energy produced. It is impossible to judge if the project benefits balance the environmental cost without knowing how well the project satisfies its basic purpose.

This analysis should compare net usable energy produced against the no-action alternative, which would neither use or produce energy. It therefore should include:

- Energy delivered to the customer, after it has gone through transmission lines.
- Energy required to upgrade or make new transmission lines.
- Energy expended during construction – machinery fuel etc.
- Personnel commuting energy (e.g., gas for commuting vehicles), during construction and production.
- Energy to make the mirrors and supports, power plant (turbine, boilers, ..), exclusion fence, and all other facilities. This energy should be compared to the no-action alternative, which would use no materials, and so should include the energy used, from mining the materials through the manufacturing process to the finished product.
- Energy to transport the plant machinery to the site.
- Construction will advance construction machinery to its eventual end of life. The energy analysis should include the energy needed to either replace worn out machinery, or a percentage of life used. Again, this should include total cost of replacement, from mine to finished product. Without this project, these costs would be avoided.
- Parasitic energy during production.
- Energy required for decommissioning at the end of the useful life of the power plant.

5) Alternatives:

Section 2 of the AFC, page 2-2, lists the project objectives. The objectives are unreasonably restrictive.

Only solar trough technology is considered.	See the excerpt from NEPA, below. Alternatives not desirable from the standpoint of the applicant must be considered.
Must be 500,000 MWh/yr or larger	A 490,000 alternative could not be considered.
The area must have high insolation	'high insolation' is not defined. And if an alternative were found with low insolation, it would not be considered.
It must interconnect with SCE lines.	Non-SCE transmission lines would not be considered.
It must start by Dec 31, 2010, to get subsidies.	Implies this project is not feasible without subsidies, that it would not be reasonable without an artificial deadline.

The narrowness of the objectives violates regulations. From the CEQ, Regulations for Interpreting NEPA:

2a. Alternatives Outside the Capability of Applicant or Jurisdiction of Agency. If an EIS is prepared in connection with an application for a permit or other

federal approval, must the EIS rigorously analyze and discuss alternatives that are outside the capability of the applicant or can it be limited to reasonable alternatives that can be carried out by the applicant?

A. Section 1502.14 requires the EIS to examine all reasonable alternatives to the proposal. In determining the scope of alternatives to be considered, the emphasis is on what is "reasonable" rather than on whether the proponent or applicant likes or is itself capable of carrying out a particular alternative. Reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant.

The alternatives considered must include other feasible technologies:

- Power Tower
- Linear Fresnel
- Stirling Dish
- Conventional Photovoltaic
- Concentrated Photovoltaic
- Roof-top Solar
- Private Land alternatives, including the previously disturbed areas south of Garlock Road, and the alfalfa farming areas near Ridgecrest.
- Wind

6) **Reclamation:**

Return to current condition: The impact statement must describe the methods and time required to return the land to the current condition. Since desert lands reclaim themselves slowly, to be acceptable the plan would probably have to describe active methods.

Financial guarantees: The impact statement must include financial guarantees required by the applicant. Since the project is planned for 30 years, the financial guarantee must include provisions to revise guarantees during the project life as conditions change.

Return to other uses: The impact statement must include provisions to prohibit the possibility of using the land for other purposes at the end of its life.

Dust during reclamation: A reclamation plan must include description of fugitive dust control after closure. How will dust be controlled until the land is returned to current condition?

7) **Project Objectives:**

Page 4-3 of section 4.0 (Project Alternatives) of the AFC lists the project objective and purpose.

Missing is the basic and fundamental underlying Solar Millennium objective, company profit. Without profit, Solar Millennium would not be here.

If the impact statement includes a list of project objectives, profit to Solar Millennium should be listed.

8) **Compliance Monitors:**

If the impact statement describes / specifies project monitors during construction and operation, it should have provisions to ensure enough project monitors, and that they are completely independent of the applicant, project owner, contractor, ... If they are paid by the applicant, the applicant must have no control over their job duties, compensation, or working conditions.

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