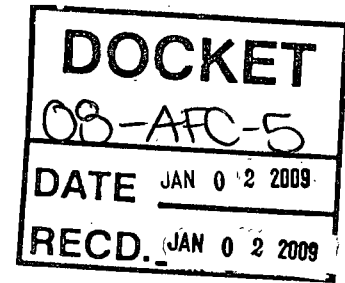


January 2, 2008

Christopher Meyer, Project Manager
Siting, Transmission and Environmental Protection Division
California Energy Commission
1516 Ninth Street, MS-15
Sacramento, CA 95814
Via email: cmeyer@energy.state.ca.gov



Re: 08-AFC-5: SES Solar Two

Mr. Meyer,

As I understand it, this process is to decide whether to site the Stirling Energy Systems (SES) Solar Two Suncatcher project on over 6000 acres of public lands in the El Centro area.

The involvement of public lands makes the evaluation of the viability of this unproven technology the major sticking point of this proposal. Six thousand acres will be permanently "disturbed."

I tried to find current technical information online for the Solar Two Suncatcher project at Sandia Labs. The only information available was produced by SES.

I thought that as a public-private partnership the technical reports and studies of this ongoing research and development would be public documents. I was wrong.

Dr. Tom Mancini, Program Manager, Concentrating Solar Power, Sandia National Labs, told me that since SES was providing the larger share of money for this project (\$100 million (SES) to \$1 million (Federal)), SES controls the information. None of the work done on the most recent research and development of the Solar Two Suncatcher (2001 to present) was available to the public.

This is a BIG problem in attempting to assess the viability of this technology.

I don't think the Energy Commission can make an informed decision on this without an independent assessment of the technology. There is no way to do that with SES as the sole source of information.

At the November 24, 2008, CEC hearing there were concerns about how the mechanical parts, mirrors, and seals would perform in the sand blown environment of Plaster City. The SES representatives were quick to reassure everyone that those issues had been successfully addressed and resolved. They expected that to suffice. It doesn't.

When Dr. Mancini and I talked on the phone, he expressed surprise that SES was promising such a rapid deployment of the Solar Two Suncatchers from 6 units at Sandia

to 12,000 in the field by 2010-2011. He stated that the latest iteration, the final design, of the technology was just being installed; the new pedestals for the four units going in as we spoke. He predicted that it would be three years before the technology would be commercially available.

I'm pretty sure that SES made some sweeping promises at the November 24, 2008, hearing about getting 12,000 Solar Two Suncatchers up and running at Plaster City by 2010-2011.

As nice as the SES folks might be there is no reason to trust them to tell the truth about the Solar Two Suncatcher technology. It's a business. They need investors with large amounts of cash and they need a place to put the Solar Two Suncatchers.

Sandia Labs, no matter how righteous and above reproach they might be, cannot provide a stand alone independent analysis for two reasons: (1) contractually they can't; and (2) there is the \$100 million that they are being paid which may skew their view of things.

I am including the email string between Dr. Mancini and I which may suggest other and/or clarify some issues. It starts with my request for public information. There is a telephone conversation between us and two follow up emails regarding that phone call.

Sincerely,

Charlene Ayers
10801 Dewitt Court
El Cajon, CA 92020
619-442-8046
char.ayers@att.net

Dr. Mancini string of emails:

From: "Mancini, Thomas R" <trmanci@sandia.gov> [Save Address](#) [Reminder](#)
To: "char.ayers@att.net" <char.ayers@att.net>
Cc: "Gilpin, Wendy" <wfalls@sandia.gov>,"Valdez, Salli" <svaldez@sandia.gov>,"Tallant, Joann M" <jmtalla@sandia.gov>,"Marchand, Deborah Ann" <damarch@sandia.gov>,"Marchand, Deborah Ann" <damarch@sandia.gov>,"Hurst, Kathleen T" <kthurst@sandia.gov>,"Nelson, Jennifer" <jenelso@sandia.gov>,"Shephard, Les E" <lesheph@sandia.gov>
Subject: RE: STIRLING ENERGY SYSTEMS DEVELOPMENT WORK
Date: Thursday, December 18, 2008 6:07:42 AM [\[View Source\]](#)

Hello Mrs. Ayers,

Thanks for the kind comments. I enjoyed visiting with you as well.

I would like to clarify a couple of points.

First, when I made a presentation to the group reviewing the Sunrise Power Link project, it was clear that SDG&E and the environmentalists and the NGO community had already had major issues. During our meeting, they did not seem to me to be at all receptive to discussions on several issues raised by the remaining groups.

Second, my comment related to the Solar 2 Project, was that I believed, based on information provided by several different parties, that there was sufficient existing transmission capacity for the initial phase of the project (~300 MW). However, as I explained, I've also heard that SDG&E plans to develop more of the geothermal resources in the Imperial Valley, which would require additional transmission capacity.

Last, while we do share a lot of information with SES, they do not keep us informed of their deployment plans and strategies. Over the course of the past year, their strategy has changed several times and, while I may have been surprised that they intend to deploy 12,000 systems during the next year, it is not at all unreasonable to think that they could do it.

Again, I very much appreciate folks like you and your husband, activist citizens who track civic activities and make sure that things are being done for the right reasons.

Best Regards,

Tom

Dr. Thomas R. Mancini
Program Manager *TEL (505) 844-8643*
Concentrating Solar Power *FAX (505) 845-3366*
Sandia National Laboratories *Cell (505) 264-0614*
P. O. Box 5800, MS 1127 *Email: trmanci@sandia.gov*
Albuquerque, NM 87123

From: char.ayers@att.net [mailto:char.ayers@att.net]
Sent: Wednesday, December 17, 2008 1:37 PM
To: Mancini, Thomas R
Cc: Gilpin, Wendy; Valdez, Salli; Tallant, Joann M; Marchand, Deborah Ann; Marchand, Deborah Ann; Hurst, Kathleen T; Nelson, Jennifer; Shephard, Les E
Subject: RE: STIRLING ENERGY SYSTEMS DEVELOPMENT WORK

Dr. Mancini...

I was pleasantly surprised by our conversation yesterday. I am glad that you insisted on it.

As you surmised, my attempts to get information on the SES Solar Two Suncatcher technology were motivated by SDG&E's plans for the Sunrise Powerlink. They are

citing the SES Solar 2 project as the reason for it all.

I was interested in your comments about their involvement. It sounded like the SES Solar Two Suncatcher technology could do very well by itself without any help by SDG&E.

I believe your comment was that when you came out to make a technical presentation on this technology, you were put off by SDG&E's hijacking of the SES Solar Two Suncatcher technology, adding that they drove all the NGOs off.

Although, not a transmission expert, you thought that SDG&E could handle the all the energy produced by SES Solar 2 project by expanding their existing lines.

After my husband (Lehigh-Engineering Physics '53) and I attended the last California Energy Commission's hearing (Nov. 24, 2008) on the SES Solar Two, we thought that a test group of 100 units sited at Plaster City would be a good research strategy.

According to SES's presentation at the hearing, they intend to go from the 6 units at Sandia Labs to 12,000 in the first phase. That doesn't sound very scientific to us.

In our conversation yesterday, it sounded like this was the first time you had heard of these plans, and you were a bit skeptical of that timeline.

SES also stated at that hearing that they would have those first 12,000 units at Plaster City up and running by 2010. I think that you said that it would take 3 years more to make the technology commercially ready, and that would be with the new design (4 units) being set up for evaluation as we speak.

Mr. Liden, VP SES, stated to us directly as he was working the room before the November 24, 2008 hearing that the investment breakdown was government \$1 to SES's \$5. He urged us to see what a good value that was.

As per our conversation, the investment breakdown is government \$1 million and SES \$100 million and whenever the commercial partner puts in more money than the government, the commercial enterprise controls all the information because of the proprietary issues. That would be why there are no public documents available, and why all the news releases have that SES spin.

The once-in-a-blue-moon conditions under which the award winning "Popular Mechanics" test was conducted was a media event orchestrated by SES. You reported that the actual annual overall performance of the Solar Two Suncatcher technology is 24% which is still pretty good. You pointed out that a single solar cell has 38.1% efficiency but when put into an array the efficiency drops to 20%.

Here's the link to the report "Status of the Boeing Dish Engine Critical Component Project (Jan 1999)" that my husband found online:

http://www.osti.gov/bridge/product.biblio.jsp?osti_id=3273

Thank you for the "SCE Dish Report" from 1993. It looks to be very comprehensive.

Charlene Ayers

----- Original message from "Mancini, Thomas R" <trmanci@sandia.gov>: -----

Hello Mrs. Ayers,

I enjoyed visiting with you earlier today. As I noted in our discussion, there are a number of issues around the Sunrise Power Link transmission line with which I do not necessarily agree. Also, as your husband rightfully noted, defining a point performance metric under "best conditions" is not really a fair way of characterizing the annual performance of a system. But, of course, we weren't trying to characterize this as anything other than what it is – a high level of performance under best conditions.

Attached to this message is the early performance paper for the pre-cursor to the SES system. To a first order, the performance reported in this paper fairly represents that of the current design.

Best Regards,

Tom

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Albuquerque, NM 87123

From: char.ayers@att.net [mailto:char.ayers@att.net]
Sent: Tuesday, December 16, 2008 11:43 AM
To: Mancini, Thomas R
Cc: Gilpin, Wendy; Valdez, Salli; Tallant, Joann M; Marchand, Deborah Ann; Marchand, Deborah Ann; Hurst, Kathleen T; Nelson, Jennifer; Shephard, Les E
Subject: RE: STIRLING ENERGY SYSTEMS DEVELOPMENT WORK

Dr. Mancini...

I, too, am sorry for the mix up. I'm not looking for a chat on this technology (SES-Solar Two Suncatcher).

I am looking for public documents on the testing and research that describe the methods and conclusions.

Please direct me to where I can view those technical documents.

Charlene Ayers

----- Original message from "Mancini, Thomas R" <trmanci@sandia.gov>: -----

Hello Ms. Ayers,

Your note to Tom Hunter was forwarded to me for response.

I apologize for the misunderstanding. Unfortunately, I never received your original email message because Mr. Sanchez must have forgotten that my email address includes my middle initial (i.e, trmanci@sandia.gov). I would very much like to visit with you about Stirling Energy Systems' development work and our support of it here at Sandia. Our group is very excited about the expansion of Concentrating Solar energy projects in Southwest and we are working hard to support them all.

I have your telephone number and will call you later today to schedule a time when we can have a more extended discussion.

Best Regards,

Tom

Dr. Thomas R. Mancini

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