DOCKET
09-AFC-6
DATE MAY 14 2010
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May 14, 2010

Alan Solomon
Project Manager
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

RE: **Blythe Solar Power Project, Docket No. 09-AFC-6**
Responses to Questions from the April 28, 29 and May 7, 2010 CEC Workshops
HTF Fluid (burn rate discussion)
Technical Areas: Worker Safety/Hazardous Materials

Dear Mr. Solomon:

Attached please find the following response to questions generated at the April 28, 29, and May 7, 2010 CEC Workshops for the Blythe Solar Power Project. Additional responses to follow.

If you have any questions on this submittal, please feel free to contact me directly.

Sincerely,

Alice Harron
Senior Director, Development

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BLYTHE SOLAR POWER PROJECT (09-AFC-6)
APRIL 28, 29 & May 7, 2010 CEC WORKSHOP REQUESTS

Date: May 14, 2010

At the Staff Assessment Workshops on April 28-29, 2010, several requests for information were made by Dr. Alvin Greenberg to clarify his analysis on Worker Safety and Hazardous Materials. In addition, several items were requested at the Soil & Water Workshop on May 7, 2010. The following materials are provided to address these requests.

Technical Areas: Worker Safety and Hazardous Materials

WORKSHOP REQUEST-6

Information Required:

> The Applicant requested a modification to HAZ-4 to require isolation valves at the end of each loop such that the maximum HTF volume between valves is 1,250 gallons rather than 600 gallons. CEC requested an explanation of how long it would take 1,250 gallons of Heat Transfer Fluid (Therminol) to burn.

Response:

Starting and maintaining a fire requires three things: an ignition source, a fuel supply and sufficient oxygen to support combustion. For an ignition source, we would assume that therminol is sprayed on the hot surface of the collector tube assembly. If the leak merely drips, the therminol will not come into contact with a surface hot enough for ignition. Assuming that a spraying leak is detected, the mirrors will be defocused and the loop will be isolated. The mirror assemblies will be defocused immediately to prevent warping of the collector tubes. Warping would occur if there was improper heat dissipation due to compromised or irregular HTF flow through the collector tube. With the mirrors defocused and the loop isolated, the fluid working pressure of the loop will immediately begin to decrease due to a combination of the removal of the heat source, isolation of the loop from pump pressurization and the pressure loss in the loop due to the leak. This depressurization of the loop will likely cause the leak to seal or dramatically reduce the leakage to the point that the flame will self extinguish. Under this leak scenario, there is no credible way for all of the 1,250 gallons of therminol to burn.

Under the unlikely worst-case leak event in the form of a guillotine rupture of a collector tube, defocusing of the mirror assemblies and isolation of the header would quickly reduce loop pressure. However, due to the high working fluid temperature, the therminol would still be very hot and have the ability to flow. Depending upon the actual leak configuration, this would cause most but not all of the therminol to drain from the header in approximately 15 minutes. As the header drains, ambient air will be drawn into the header cooling the remaining therminol over time and causing it to become extremely viscous thereby reducing its ability to flow freely from the tube. In the unlikely event that the large volume 1,250 gallons of HTF were to drain from the header, only with adequate oxygen would it be expected to burn. The duration of the burn would be very rapid or in approximately the 15 minutes required to drain the header. To reiterate, therminol would not burn unless it drains from the header and reaches an oxygen source and is ignited. As therminol cools it becomes viscous and flows decrease, reducing the likelihood of the entire loop emptying. In the event the entire loop empties the HTF would burn off rapidly.

STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION

In the Matter of:
APPLICATION FOR CERTIFICATION
for the *BLYTHE SOLAR POWER PROJECT*

Docket No. 09-AFC-6
PROOF OF SERVICE
(Revised 1/26/2010)

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DECLARATION OF SERVICE

I, Carl Lindner, declare that on, May 14, 2010, I served and filed copies of the attached Blythe Solar Power Project Materials:

Responses to Questions from the April 28, 29 and May 7, 2010 CEC Workshops –
HTF Fluid (burn rate discussion)
Technical Areas: Worker Safety/Hazardous Materials

The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at:

[http://www.energy.ca.gov/sitingcases/solar_millennium_blythe].

The document has been sent to the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

(C*heck all that Apply*)

For service to all other parties:

__X___ sent electronically to all email addresses on the Proof of Service list;

_____ by personal delivery or by overnight delivery service or depositing in the United States mail at Camarillo, California with postage or fees thereon fully prepaid and addressed as provided on the Proof of Service list above to those addresses **NOT** marked "email preferred."

AND

For filing with the Energy Commission:

__X_ sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (preferred method);

OR

_____ depositing in the mail an original and 12 paper copies, along with 13 CDs, as follows:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 09-AFC-6
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512

docket@energy.state.ca.us

I declare under penalty of perjury that the foregoing is true and correct.