URS

DOCKET	
08-AFC-5	
DATE	Jul 07 2009
RECD.	Jul 08 2009

July 7, 2009

Mr. Christopher Meyer
Project Manager
Attn: Docket No. 08-AFC-5
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

Subject: SES Solar Two (08-AFC-5)
Applicant's Response to CEC and BLM Data Requests 151-155
URS Project No. 27657106.00609

Dear Mr. Meyer:

On behalf of SES Solar Two, LLC, URS Corporation Americas (URS) hereby submits the Applicant's Response to CEC and BLM Data Requests 151-155. These are the data requests concerning Public Health and Safety.

I certify under penalty of perjury that the foregoing is true, correct, and complete to the best of my knowledge. I also certify that I am authorized to submit the transcript on behalf of SES Solar Two, LLC.

Sincerely,

Angela Leiba
Project Manager

AL:kl

URS Corporation
1615 Murray Canyon Road, Suite 1000
San Diego, CA 92108
Tel: 619.294.9400
Fax: 619.293.7920

In Response to CEC & BLM Data Requests 151-155
Application for Certification (08-AFC-5)
SES Solar Two, LLC

Submitted to:
Bureau of Land Management
1661 S. 4th Street, El Centro, CA 92243

Submitted to:
California Energy Commission
1516 9th Street , MS 15, Sacramento, CA 95814-5504

Submitted by:
SES Solar Two, LLC
2920 E. Camelback Road, Suite 150, Phoenix, AZ 85016

URS
With Support From:
URS Corporation

July 2009

TECHNICAL AREA: PUBLIC HEALTH AND SAFETY

Data Request 151: For the emergency generators:

a. Please provide historical use patterns of the emergency generator providing power at other facilities that use the Stirling SunCatcher technology.

b. Please include the frequency and duration of diesel power generation use.

Response: The Project AFC (08-AFC-5) analyzed the potential human health risks from the emergency diesel firewater pump and power generator. However, subsequent to comments received from CEC and BLM, SES reviewed the project to find opportunities to reduce air emissions from the Project. SES chose to electrify the fire water pump, which will now use power generated in priority order from the Project, grid power or power generated from the diesel emergency generator. Thus no emissions will be associated with the fire water pump. It is worth noting that SES is still investigating the possibility of using gasoline or other alternative fuels for the emergency power generator in order to eliminate DPM emissions altogether from the Project.

This and other emissions reduction scenarios and the revised emissions calculations were presented in the General Comment Section of *SES Solar Two, Responses to CEC and BLM Data Requests 53-110, 08-AFC-5*, docketed April 08, 2009. The electrification of the emergency fire water pump is reported in the response to Data Request 105 and in the Public Health and Safety Section of *Reclaimed Water and Hydrogen System Supplement to Application for Certification, 08-AFC-5*, docketed June 15, 2009.

Regarding item a: Because the Stirling SunCatcher technology is a new technology that has not been deployed on large scale power production, there are not historical use patterns of emergency generator providing power at facilities that use this particular technology. The use of emergency generators to provide power at other facilities is common, but not expected at the Solar Two facility.

Regarding item b: Because of the modular design of the Stirling SunCatcher systems, it is expected that the emergency power generator would be used infrequently to produce power. Electricity production will be minimally impacted when a module fails. The main service complex will be powered by purchased grid power independently of the solar system. Therefore, it will not rely on power provided by the emergency power generator when the solar system is not in operation (i.e. nightly or weather-related stow position). Finally, the emergency nature of the use of the diesel power generator makes it difficult to assert with accuracy the frequency and duration of its use. In the revised air emission calculations, as in the AFC, the diesel power generator would be used only 15 minutes per month for testing. In order to obtain conservative emissions values, annual emissions modeling was based on 13 hours of engine operation per year (15 minutes weekly), however it is the intent of the Applicant to test the generator monthly (3 hours of engine operation per year).

TECHNICAL AREA: PUBLIC HEALTH AND SAFETY

Data Request 152: Please provide the same historical use information for the emergency fire water pump when activated to fight fires.

Response: As indicated above, the emergency fire water pump will use electric power from the proposed Project, grid power or emergency power generator. Therefore, no emissions will be associated with the emergency fire pump.

TECHNICAL AREA: PUBLIC HEALTH AND SAFETY

Data Request 153: Please add those DPM emissions and the weekly testing DPM emissions provided in the AFC to arrive at an estimated average daily and average annual DPM emission factor over a 30-year facility lifetime. Include all calculations used to arrive at those estimates.

Response: The emergency fire water pump is no longer a source of emissions due its electrification. Therefore, the only stationary source of DPM emissions at the project site will be the emergency power generator. Since the use patterns of the emergency power generator is unknown at this time but are expected to be minimal given the nature of the SunCatcher system (see response to Data Request 151 above). The only expected quantifiable DPM emissions are those associated with the weekly tests. These emissions are presented in Table 5.16-1, Section 5.16.2.3 of the AFC (note that DPM emissions from the emergency fire water pump are now irrelevant). The detailed calculations are presented in Appendix DD of the AFC. The emissions are 0.01 lbs/hour and 0.14 lbs/year and will remain the same over the 30-year lifetime of the project. Hourly and daily emissions include only 15 minute engine operation for testing and annual emissions are based on 13 hours of engine operation per year.

TECHNICAL AREA: PUBLIC HEALTH AND SAFETY

Data Request 154: Please provide DPM emission factors for on-site solar field and equipment maintenance activities in pounds per day and tons per year. This value can be submitted as a single number estimate of total emissions from all vehicular sources used on-site.

Response: SES chose to switch from diesel to gasoline, electric and/or hybrid vehicles when possible during operation. All diesel-fueled wash vehicles and other maintenance trucks will be replaced with new gasoline-fueled vehicles that meet California vehicle emissions standards. This will eliminate the emissions of toxic diesel particulate matter (DPM). All security vehicles used for site inspection and security will be replaced with gasoline hybrid vehicles, most likely the Toyota Highlander Hybrid sport utility vehicles (SUV) or similar vehicle. The Toyota Highlander SUV is a super ultra low emission vehicle (SULEV) that meets both Tier 2/Bin 3 Federal standards and California ULEV II standards.

Therefore, there will be no diesel-fueled vehicles on the Project site during the operation phase of the Project. Therefore, no DPM will be emitted from vehicular sources related to the operation and maintenance activities.

TECHNICAL AREA: PUBLIC HEALTH AND SAFETY

Data Request 155: Please provide a cumulative PM2.5 emissions estimate on a daily and yearly basis when fugitive dust emissions are added to the DPM emissions from the above stationary and mobile sources, assuming that all DPM from diesel engines are PM2.5.

Response: The only DPM source on the Project's site during operation is the emergency power generator. The only quantifiable DPM emissions associated with this equipment are those from the monthly tests. It is the Applicant's intent to test the generator monthly for 15 minutes, however, to obtain conservative emissions estimate, weekly, 15-minute tests were modeled. The results are presented in Table 5.16-1, Section 5.16.2.3 of the AFC and are equal to 0.01 lbs/day and 0.14 lbs/year. The revised total $PM_{2.5}$ emissions of the operational phase of the Project are presented in Tables 5.2-25a and 5.2-25b of the Responses to Data Requests 53-110, docketed April 08, 2009. The total on-site and off-site diesel particulate $PM_{2.5}$ emissions, from the diesel emergency generator and diesel delivery trucks are 0.22 lbs/day and 0.006 tons/year. The total on-site and off-site fugitive dust $PM_{2.5}$ emissions are 20.01 lbs/day and 3.19 tons/year. Therefore, the maximum cumulative $PM_{2.5}$ emissions from diesel and dust are 20.23 lbs/day and 3.19 tons/year. Detailed emission calculations are presented in Attachment AQ-2 to the Applicant's Responses to Data Requests 53-110, docketed April 08, 2009.

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814
1-800-822-6228 – WWW.ENERGY.CA.GOV

APPLICATION FOR CERTIFICATION
For the SES SOLAR TWO PROJECT

Docket No. 08-AFC-5

PROOF OF SERVICE
(Revised 5/26/09)

APPLICANT

*Robert B. Liden,
Executive Vice President
SES Solar Two, LLC
4800 North Scottsdale Road, Ste. 5500
Scottsdale, AZ 85251
rliden@stirlingenergy.com

*Kevin Harper,
Project Manager
SES Solar Two, LLC
4800 North Scottsdale Road,
Ste. 5500
Scottsdale, AZ 85251
kharper@stirlingenergy.com

CONSULTANT

Angela Leiba, Sr. Project Manager URS Corporation
1615 Murray Canyon Rd., Ste. 1000
San Diego, CA 92108
Angela_Leiba@urscorp.com

APPLICANT'S COUNSEL

Allan J. Thompson
Attorney at Law
21 C Orinda Way #314
Orinda, CA 94563
allanori@comcast.net

INTERESTED AGENCIES

California ISO
e-recipient@caiso.com

Daniel Steward, Project Lead
BLM – El Centro Office
1661 S. 4th Street
El Centro, CA 92243
daniel_steward@ca.blm.gov

Jim Stobaugh,
Project Manager &
National Project Manager
Bureau of Land Management
BLM Nevada State Office
P.O. Box 12000
Reno, NV 89520-0006
jim_stobaugh@blm.gov

INTERVENORS

CURE
c/o Tanya A. Gulesserian
Loulena Miles
Marc D. Joseph
Adams Broadwell Joseph & Cardozo
601 Gateway Blvd., Ste. 1000
South San Francisco, CA 94080
tgulesserian@adamsbroadwell.com
lmiles@adamsbroadwell.com

ENERGY COMMISSION

JEFFREY D. BYRON
Commissioner and Presiding Member
jbyron@energy.state.ca.us

JULIA LEVIN
Commissioner and Associate Member
jlevin@energy.state.ca.us

Raoul Renaud
Hearing Officer
rrenaud@energy.state.ca.us

Caryn Holmes
Staff Counsel
cholmes@energy.state.ca.us

Christopher Meyer
Project Manager
cmeyer@energy.state.ca.us

Public Adviser
publicadviser@energy.state.ca.us

DECLARATION OF SERVICE

I, Angela Leiba, declare that on July 7, 2009, I served and filed copies of the attached Applicant's Data Responses 151-155. 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:
[www.energy.ca.gov/sitingcases/solartwo]. The document has been sent to both 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:

(*Check all that Apply*)

FOR SERVICE TO ALL OTHER PARTIES:

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

_X___by personal delivery or by depositing in the United States mail at Sacramento, California with first-class postage 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, as follows:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 08-AFC-5
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.

Original Signed By:
Angela Leiba