

## CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET  
SACRAMENTO, CA 95814-5512

March 11, 2010

<b>DOCKET</b>
<b>09-AFC-8</b>

DATE MAR 10 2010RECD. MAR 11 2010

Mr. Alan J. De Salvio  
Supervising Air Quality Engineer  
Mojave Desert Air Quality Management District  
14306 Park Avenue  
Victorville, California 92392

**Re: Comments on Preliminary Determination of Compliance (PDOC)  
Genesis Solar Power Project (09-AFC-8)**

Dear Mr. De Salvio,

Energy Commission staff has reviewed the Mojave Desert Air Quality Management District PDOC for the Genesis Solar Power Project and has the following comments for your consideration for inclusion in the Final Determination of Compliance (FDOC).

**Comments on PDOC Engineering Evaluation**

Criteria Pollutant Emission Estimates

Staff notes that there are a couple of issues with the emissions estimate including minor inconsistencies between the maximum hourly, daily and annual operating emission estimates provided by the applicant in the Application for Certification (AFC) and in later responses to staff data requests and emissions estimates provided in the PDOC, and one error found in the applicant's emissions calculations that needs correction.

*Auxiliary Boilers – Carbon Monoxide (CO) Emissions*

Staff has recently determined that the applicant's CO emissions estimate for the auxiliary boilers does not match the concentration limit of 50 parts per million (ppm) CO, which was the districts Best Available Control Technology (BACT) determined level. Staff has determined that an emissions factor of approximately 39 pounds CO per million cubic feet (lbs/MMcuft) of natural gas is appropriate for the 50 ppm emission limit. This results in emissions of 1.14 lbs/hour per boiler, rather than the 0.563 lbs/hour per boiler identified by the applicant. Staff believes that all CO emissions from the boilers should be revised accordingly.

*Emergency Generator Engines – Volatile Organic Compounds (VOC) Emission Rate Discrepancy*

**Emergency Generator Engine – Emission Discrepancies**

	VOC		
	Lb/hr	lb/day	t/yr
Applicant Data	0.59	0.59	0.02
PDOC	0.06	0.06	0.001

The emergency generator engine VOC emissions shown in PDOC are lower than the applicant's estimate by an order of magnitude. Considering that all other criteria pollutants' emission factors are consistent, Staff believes that a typographical error or rounding issues in the District's calculations resulted in this error. Staff requests that District confirm the VOC emission factors in comparison with those factors in the AFC or data responses.

#### Other PDOC Engineering Evaluation Comments

##### *Emergency Generator Engines Air Resources Board (ARB)/U.S. Environmental Protection Agency (U.S. EPA) Tier Assumption*

The emergency generator engines should be consistently stated to be Tier 2 compliant engines, not Tier 3, as the engines are greater than 750 horsepower (hp), which are not subject to Tier 3 standards.

##### *Presumptive Maximum Achievable Control Technology (MACT) Standard for Expansion Tank/Ullage Vent Systems*

Staff requests that the FDOC provide the rationale for the presumptive MACT determination of "nitrogen blanket with daily inspections" in the BACT finding provided in the PDOC on page 7. These control measures seem to be inadequate to meet the assumed VOC control efficiency of 99 percent, where the addition of an emissions control system (carbon adsorption, distillation, etc.) for the vent stream would seem to be necessary to reach 99 percent VOC emissions control. Staff would like to know if this determination is based on another MACT standard or any other regulatory finding (such as BACT) for a similar type of emission source. Additionally, staff notes that the "xx%" listed on page 10 of the PDOC for the vent control system efficiency should be replaced with an actual value per the applicant's proposal or the District's MACT/BACT determination.

#### **Comments on PDOC Conditions**

##### *Continuous Emission Monitoring System Requirement – Boiler/Heater Condition 4*

Staff requests that the District reconsider the requirement of a Continuous Emission Monitoring System (CEMS) for the boiler/heater since CEMS are generally not required for boilers this small (30 million British thermal units per hour, MMBtu/hr) and with this low of an annual usage (less than 12 percent annual usage). Additionally, this requirement was not included in the PDOCs for the Blythe Solar Power Project and Abengoa Mojave Solar Project, both of which have similar sized boilers.

##### *Ullage Vent Control System Conditions*

Staff understands that the applicant did not provide information to the District regarding final design of the control system (carbon adsorption) that was provided to the Energy Commission. The District should obtain this information from the applicant and the FDOC should contain all relevant data and conditions for this control system, in a

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manner similar to that done in the Blythe Solar Power Project PDOCs, which includes monitoring/testing requirements and VOC emissions limits in the conditions.

*Gasoline Storage Tank Conditions*

Staff understands that the applicant did not provide information to the District regarding the proposed gasoline tank that was provided to the Energy Commission in data responses. The District should obtain this information from the applicant and the FDOC should contain all relevant data and conditions for this proposed gasoline tank.

*PDOC Condition Continuity between Genesis, Blythe, and Abengoa Mojave Projects*

Staff would like the District to review their recently issued Genesis, Blythe, and Abengoa Mojave thermal solar project PDOCs and attempt to provide continuity in the conditions for the similar equipment types. In particular, staff recommends that all of the PDOCs have similar emissions testing and CEMS (if any) requirements as appropriate for similar equipment types, and all have requirements for inspection and maintenance programs for the HTF systems, including the HTF piping system components.

Staff believes that certain emission limitations, specifically the boiler CO emissions, in the District Conditions may need to be revised to be consistent with any revisions made to address staff comments.

If you have any questions, please contact Gerry Bemis of my staff at (916) 654-4960. Thank you for the opportunity to comment on the Blythe Solar Power Project's Preliminary Determinations of Compliance.

Sincerely,

MATTHEW LAYTON, Manager  
Engineering & Corridor Designation Office  
Siting, Transmission and Environmental  
Protection Division

cc: Docket Genesis (09-AFC-08)  
Blythe (09-AFC-06)  
Abengoa (09-AFC-05)