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DOCKET	
09-AFC-6	
DATE	MAR 04 2010
RECD.	MAR 08 2010

March 4, 2010

California Energy Commission
Attn: Docket No. 09AFC6
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512

Re: 09-AFC-6 Blythe Solar Power Plant Project

Dear Docket Clerk:

Enclosed are an original and one copy of CURE Comments on the Preliminary Determination of Compliance for the Solar Millennium Blythe solar Power Project (09-AFC-6) dated March 4, 2010. Please process the document and provide us with a conformed copy in the envelope provided.

Thank you.

Sincerely,

/s/

Bonnie A. Heeley
Administrative Assistant

:bh
Enclosures

ADAMS BROADWELL JOSEPH & CARDOZO

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March 4, 2010

By: Facsimile and Overnight Mail

Eldon Heaston
Executive Director
Mojave Desert Air Quality Management District
14306 Park Ave
Victorville, CA 92392
Fax: (760) 241-3492

Re: Comments on the Preliminary Determination of Compliance for the Solar Millennium Blythe Solar Power Project (09-AFC-6)

Dear Mr. Heaston:

We represent California Unions for Reliable Energy (“CURE”). CURE is a party to the Solar Millennium Blythe Solar Power Project (“Project”) licensing case before the California Energy Commission.¹ The Project was jointly proposed by Chevron Energy Solutions and Solar Millennium LLC. However, Chevron has since withdrawn from the Project. The District was informed of the ownership change in a letter dated January 26, 2010, when the Project applicant requested that the District issue one permit for all four power blocks to a project-specific company known as Blythe Solar I, LLC, a wholly owned subsidiary of Solar Millennium, LLC.²

On February 2, 2010, the District published notice of a preliminary determination of compliance (“PDOC”) for the Project, dated January 28, 2010. The notice falsely states that Solar Millennium LLC will own and operate solely two of the four power block units. Similarly, the District’s PDOC now open for public comment analyzes only two of the four power block units.

¹ Application for Certification for the Blythe Solar Power Project, California Energy Commission Docket No, 09-AFC-05, August 10, 2009.

² AECOM Environment, Letter to Mojave Desert Air Quality Management District, January 26, 2010.

As stated in our February 26, 2010 letter to the District and to the California Energy Commission, the PDOC is moot because it does not address the entire Project. The District is depriving the public of its legal right to comment on the Project by publishing a notice that fails to adequately describe the District's permitting activities. As such, the District must withdraw the PDOC, issue one PDOC for the entire Project, *i.e.* all four power blocks (hereafter "Revised PDOC"), and inform the public accordingly. The District's continued reliance on the notice and the PDOC violates the Clean Air Act and the District's New Source Review rules.

Because the District, to date, has failed to respond to CURE's February 26, 2010 letter, we submit these comments within the 30-day period in order to preserve our right to review and comment on the PDOC. Our comments, prepared with the assistance of Petra Pless, D.Env, address the PDOC as well as the District's preliminary determination for Chevron Energy Solutions, which was never noticed for public comment.

A. The District is in Violation of the Clean Air Act's Public Notice and Comment Requirements

The Clean Air Act requires the District to provide the public with adequate notice of a preliminary determination on an application and to allow the public a minimum of thirty days to review and submit comments on its preliminary determination.³ The notice must identify the activity or activities involved in the permit action, the application, all relevant supporting materials, and all other materials available to the permitting authority that are relevant to the permit decision.⁴ The District's New Source Review rules are consistent with these requirements.⁵ Failure to comply with these public notice provisions is grounds for the U.S. Environmental Protection Agency to object to a permit.⁶

The District's February 2, 2010 notice fails to identify the activities involved in the permit action and the permit applications, and to include information that

³ 40 C.F.R. § 70.7(h).

⁴ *Id.*

⁵ District Rule 1306(E)(2).

⁶ *Sierra Club v. Johnson*, 436 F.3d 1269 (11th Cir. 2006).

would be relevant and necessary for the public to comment on the PDOC. Namely, the notice excludes *any* mention of the District's preparation of a separate analysis for the portion of the Project formerly owned by Chevron Energy Solutions. The February 2, 2010 notice references just one PDOC. The notice also fails to identify the separate applications filed by Chevron Energy Solutions and Solar Millennium, LLC. Lastly, the District excludes the relevant information that Chevron Energy Solution is no longer seeking a permit, and that Solar Millennium, LLC has requested a permit to operate the entire, four 250 MW solar unit facility. In effect, the District has led the public to believe that its PDOC now open for public comment addresses the entirety of the Project, whereas the PDOC addresses only half. As such, the February 2, 2010 notice violates the Clean Air Act and the District's New Source Review rules.

The District must withdraw the February 2, 2010 notice and publish notice that adequately describes the permitting action involved once it performs the required analyses, including those discussed in the following sections.

B. The District Failed to Produce a Preliminary Determination for the Project

The District is required to issue a preliminary determination with regard to Solar Millennium, LLC's application for an authority to construct. In doing so, the District is required to quantify the facility's potential to emit criteria pollutants and toxic air contaminants and determine the required permit conditions to bring the facility into compliance with the State Implementation Plan and the federal Clean Air Act.⁷ The District defines "facility" as "any building, structure, emissions unit, combination of emissions units, or installation . . . located on one or more contiguous or adjacent properties within the District" that is under the control of the same person.⁸ As such, the District's preliminary determination must include consideration of the entire Project. The PDOC may be issued for public comment only *after* the required analysis has been completed.⁹

The District failed to quantify the Project's potential to emit. Such calculation requires that the District add *all* permit units that comprise the

⁷ District Rules 1306(C), 1302(C) and 1303.

⁸ District Rule 1301(X).

⁹ District Rules 1306(E)(1) and 1302(D)(1).

facility.¹⁰ However, the PDOC states, “Solar Millenium [*sic*] is proposing to install: *two* Tier III diesel fueled emergency fire pumps . . . ; *two* Tier II diesel fueled emergency generators . . . ; *two* auxiliary natural gas fired boilers . . . ; *two* HTF natural gas fired heaters . . . ; *two* HTF ullage/expansion tanks . . . ; [and] *two* cooling towers.”¹¹ The Project, however, will include *four* diesel fire pumps, *four* emergency diesel generators, *four* auxiliary boilers, *four* HTF heaters, *four* ullage/expansion tanks, and *four* cooling towers.¹² Thus, the PDOC noticed for public comment *analyzes only half of the facility*.

This grave omission renders the PDOC inadequate. Consistent with the District’s New Source Review rules, the PDOC must be withdrawn and reissued once the required analysis has been performed.

C. The District’s Analysis Is Not Adequately Supported

The PDOC suffers from a lack of adequate documentation. For example, the District refers to the results of an ambient air quality modeling and a health risk assessment but fails to provide any supporting documentation. Similarly, the District claims that the emergency generators and emergency fire pumps would comply with the best available control technology (“BACT”) requirements of Rule 1303 but fails to provide a top-down BACT analysis for these units. Further, the District presents a summary table for toxic air contaminant emissions for two (of four) power blocks but fails to provide separate estimates for toxic air contaminant emissions from each emissions unit, *i.e.* the diesel-powered emergency engines and the boilers and heaters.

D. The Revised PDOC Must Analyze and Permit the Project’s Land Treatment Units

The Project will use two land treatment units to bioremediate or land farm soil contaminated with heat transfer fluid (“HTF”).¹³ The HTF-contaminated soil will result in fugitive emissions of volatile organic compounds (“VOCs”). Fugitive VOC emissions from the land treatment unit at a facility with an identical

¹⁰ See District Rule 1304(D).

¹¹ Solar Millennium LLC PDOC, p. 2 (emphasis added).

¹² Application for Certification for the Blythe Solar Power Project, pp. 5.2-22, 5.2-25-26. (“AFC”).

¹³ AFC, p. 2-1.

equipment list for its 250-MW power block as proposed for each of the Project's power blocks, the proposed Solar Millennium Ridgecrest Solar Power Project, have been estimated at 0.169 lb/day and 0.031 tons/year for one 250-MW power block. (See Exhibit A.) Thus, VOC emissions from the land treatment units serving the Project's four power blocks can be estimated at 0.676 lb/day and 0.124 tons/year. The Revised PDOC must contain an estimate of VOC emissions from the land treatment units and contain adequate permit conditions.

E. The District Must Demonstrate Best Available Control Technology for All Applicable Permit Units

District Rule 1303(A) requires BACT for all new permit units that have the potential to emit 25 pounds per day or 25 tons per year of any non-attainment criteria pollutant. The Project site is located in an area designated as state non-attainment for ozone and PM10. The District states that the Project's emergency engines would meet BACT.¹⁴ Yet, the District does not provide a top-down BACT analysis for the emergency generators or emergency fire pumps and instead simply claims that "the engine[s] meeting the current tier requirements" is found to be BACT.¹⁵ This statement does not constitute an adequate BACT analysis.

Further, the District fails to require BACT for the HTF expansion tank/ullage vent system. The District estimates controlled VOC emissions from the HTF expansion tank/ullage vent system equipped with a carbon adsorption system with at least 98% control efficiency at 1.5 lb/day. Thus, uncontrolled emissions from the HTF expansion tank/ullage vent system amount to 75 lb/day of VOC, triggering the District's Rule 1303(A) BACT threshold of 25 lb/day. The District must provide a BACT analysis for the HTF expansion tank/ullage vent system.

The Revised PDOC for the Project must contain a top-down BACT analysis for all applicable permit units.

¹⁴ See Solar Millennium PDOC, p. 7 ("BACT for Each Internal Combustion Engine – Emergency Generator and Fire Pump"); see also Chevron Energy PDOC, p.7.

¹⁵ Solar Millennium PDOC, p. 7.

F. The District's Determination of U.S. EPA Tier II Emission Factors for the Emergency Generator Is Erroneous

The District's emission estimates for the Project's 2,922-brake-horsepower ("bhp") emergency generators allegedly relies on U.S. EPA Tier II emission factors; specifically, 3.83 grams per brake-horsepower-hour ("g/bhp-hr") NO_x, 0.24 g/bhp-hr VOC, 0.07 g/bhp-hr PM₁₀, and 0.37 g/bhp-hr CO.¹⁶ These emission factors do not correspond to U.S. EPA Tier II emission factors for this size diesel engine. The correct Tier II emission factors set by the U.S. EPA for engines with rated power greater than 750 bhp are 4.8 g/bhp-hr NO_x + non-methane hydrocarbons ("NMHC"), 0.15 g/bhp-hr PM₁₀, and 2.6 g/bhp-hr CO.

The District's Revised PDOC must use the correct emission factors for calculating emissions from the emergency generators. The Revised PDOC must contain a permit condition specifying that Solar Millennium must purchase emergency generators that comply with the U.S. EPA's interim Tier IV standard if the equipment is not ordered until 2011. The Revised PDOC must specify compliance testing based on the appropriate emission factors, *i.e.* Tier II or interim Tier IV depending on the purchase date.

G. The District's Determination of Emission Factors for Fugitive VOC Emissions from Heat Transfer Fluid System Is Erroneous

The District's estimates of fugitive VOC emissions from the HTF system are based on emission factors for heavy liquids contained in the U.S. EPA's 1995 Protocol for Equipment Leak Emission Estimates. The emission factors for heavy liquids are not appropriate for all hours of operation of the Project's HTF system because during the day at higher temperatures, the HTF expands resulting in a considerably lower density and, thus, increased volatility and higher VOC emissions. For the proposed Solar Millennium Ridgecrest Solar Power Project, CEC staff recommended calculating emissions based on emission factors for light liquids for valves, pump seals and connectors and for gas for the pressure relief valves for 16 hours per day and for heavy liquids for all components for 8 hours per day.¹⁷ The estimates of fugitive VOC emissions from the HTF system in the Revised PDOC should reflect the increased volatility of the HTF fluid at higher temperatures during the day.

¹⁶ *Ibid*, p. 7 "BACT for Each Internal Combustion Engine – Emergency Generator and Fire Pump" and Table A-4.

¹⁷ See Exhibit A.
2398-014a

H. The District's Emission Calculations Fail to Account for All Toxic Air Contaminant Emissions

The District provides a summary of emission estimates and results of a health risk assessment for emissions of 23 toxic air contaminants. The District fails to provide separate estimates for toxic air contaminant emissions from each emissions unit, *i.e.* the boilers, heaters, emergency generators, emergency fire pump, and cooling towers. Further, the District fails to account for a number of toxic air contaminant emissions, including emission of acetaldehyde, acrolein, 1-3 butadiene, and xylene from the emergency generators and fire pumps and emissions of arsenic, cadmium, manganese and manganese compounds, mercury and mercury compounds, and nickel from the boilers and heaters, and emissions of benzene and biphenyl from the HTF ullage/expansion tanks. The Revised PDOC must account for these toxic air contaminant emissions.

I. The Revised PDOC Must Identify Exceedance of the 1-hour California Ambient Air Quality Standard and National Ambient Air Quality Standard for NO₂

The PDOC presents air quality impact analyses for two power blocks. Review of these ambient air quality analyses shows that the combined emissions from the entire Project, *i.e.* all four power blocks, would lead to exceedance of the 1-hour CAAQS for NO₂ of 339 µg/m³ and the new 1-hour NAAQS for NO₂¹⁸ of 100 parts per billion (191.3 µg/m³)¹⁹ for NO₂.²⁰ The Revised PDOC for the Project must present an air quality impact analysis for all four power blocks and identify the significant impacts on air quality due to exceedance of the 1-hour CAAQS for NO₂.

¹⁸ U.S. Environmental Protection Agency, 40 CFR Parts 50 and 58, Primary National Ambient Air Quality Standards for Nitrogen Dioxide; Final Rule, Federal Register Vol. 75, No. 26, February 9, 2010, p. 6474; <http://edocket.access.gpo.gov/2010/pdf/2010-1990.pdf>.

¹⁹ At 20°C: 1 ppb NO₂ = 1.913 µg/m³ NO₂.

²⁰ (1-hour project impact due to emissions from 2 power blocks: 91.5 µg/m³ NO₂) × 2 + (1-hour background concentration: 174.9 µg/m³ NO₂) = 357.9 µg/m³ 1-hour NO₂.

J. The Revised PDOC Must Include Cumulative Ambient Air Quality Modeling for the Project

The Revised PDOC must contain an analysis determining whether pollutant concentrations resulting from Project emissions would exceed the Class II significant impact levels (“SILs”) established by the U.S. EPA. A SIL for a given pollutant and averaging period is defined as an ambient concentration produced by a source below which the source is assumed to have an insignificant impact. If ambient air quality modeling indicates that the SIL for any pollutant and averaging period is exceeded, then a cumulative modeling study is required to determine the combined impact of the Project sources plus other major nearby background sources for compliance with the NAAQS and California ambient air quality standard (“CAAQS”) for these pollutants. Based on the ambient air quality modeling presented by the District in the preliminary determinations of compliance, the combined maximum ambient air quality impacts for all four power blocks would exceed 24-hour and annual PM10 SILs. The combined maximum modeled concentrations for all four power blocks of 16.56 $\mu\text{g}/\text{m}^3$ 24-hour PM10 and 1.64 $\mu\text{g}/\text{m}^3$ annual PM10 would exceed the 24-hour PM10 SIL of 5 $\mu\text{g}/\text{m}^3$ and the annual PM10 SIL of 1 $\mu\text{g}/\text{m}^3$. Thus, the District must conduct a cumulative modeling analysis for the Project. The SIL modeling analysis should be conducted with the latest version of AERMOD, the model recommended by the U.S. EPA.

K. The Proposed Permit Conditions Are Inadequate

The PDOC must set forth the proposed permit conditions and the reasons for imposing such permit conditions.²¹ The PDOC fails to propose permit conditions for each permit unit.²²

Additionally, the District’s calculations of maximum daily and maximum annual emissions from the boilers are based on maximum daily operating hours of 15 hours at 25% load and 2 hours at 100% load and on maximum annual operating hours of 4,500 hours at 25% load and 500 hours at 100% load. Yet the proposed permit conditions for the boilers do not contain a restriction on the maximum daily or maximum annual operating hours. The Revised PDOC for the Project must contain a permit condition restricting maximum daily and maximum annual

²¹ District Rules 1306(C) and 1304(D).

²² See Comment, Section B.

operating hours, heat input, or fuel volume for the boilers that reflect the hours used for calculating maximum daily and annual emissions from the Project.

L. Other Errors that Must Be Corrected in the Revised PDOC

The PDOC fails to contain a Section 4, *i.e.* the section containing estimates of maximum daily and annual potential to emit for each permit unit.²³ The Revised PDOC should contain this section, which is necessary to determine the applicability of BACT for each permit unit.

Further, the PDOC contains typographical errors that should be corrected in the Revised PDOC for the Project: on page thirteen, Permit Conditions 4.a.2 incorrectly specify the emission limit for NO_x at 100% load instead of at 25% load.

M. Conclusion

The District is in violation of federal and state requirements for public notice and comment with regard to its preliminary determination for the Solar Millennium Blythe Solar Power Project. The District's preliminary determination is also severely flawed because it fails to evaluate the Project, and the entirety of the facility, in violation of the District's New Source Review rules. In addition, the PDOC is replete with technical errors and omissions that must be addressed prior to Project certification. The District must withdraw the PDOC, address the technical errors in the District's analysis, and reissue a Revised PDOC for public review and comment.

Sincerely,

/s/

Elizabeth Klebaner

EK:bh

cc: Via Email and U.S. Mail
Alan Solomon
Raoul Renaud, Hearing Officer
California Energy Commission Docket Unit (09-AFC-06)

²³ See "... as calculated in §4 above, ..." on p. 6; *see also* Chevron Energy PDOC.

EXHIBIT A

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

PRELIMINARY DETERMINATION OF COMPLIANCE

2700 "M" Street, Suite 302
Bakersfield, CA 93301-2370
Phone: (661) 862-5250
Fax: (661) 862-5251



Field Office
Phone: (661) 823-9264

ISSUE DATE: MONTH XX, 2010	APPLICATION NO.: 0368006
EXPIRATION: MONTH XX, 2012	DATE: SEPTEMBER 17, 2009

DETERMINATION OF COMPLIANCE IS HEREBY GRANTED TO:

SOLAR MILLENNIUM, LLC

<p>DETERMINATION OF COMPLIANCE IS HEREBY GRANTED FOR:</p> <p><u>Bio-Remediation of Hydrocarbon Contaminated Soil</u></p> <p>(See attached sheets for equipment description and conditions)</p>
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S SW26	T 27S	R 39E	Location: APN: 341-110-02	Startup Inspection
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This document serves as a temporary Permit to Operate only as provided by Rule 201 of the District's Rules and Regulations. For issuance of a Permit to Operate, Rule 208 requires equipment authorized by this Determination of Compliance, be installed and operated in accordance with conditions of approval. Changes to these conditions must be made by application and must be approved before such changes are made. This document does not authorize emission of air contaminants in excess of New Source Review limits (Rule 210.1) or Regulation IV emission limits. Emission testing requirements set forth on this document must be satisfied before a Permit to Operate can be granted.

UPON COMPLETION OF CONSTRUCTION AND/OR INSTALLATION, PLEASE TELEPHONE DISTRICT

Validation Signature:

David L. Jones
Air Pollution Control Officer

CONDITIONS OF APPROVAL:

Pursuant to Rule 209, "conditional approval" is hereby granted. Please be aware compliance with all conditions of approval imposed by any applicable Determination of Compliance remain in effect for life of project, unless modified by application.

EQUIPMENT DESCRIPTION: Bio-Remediation of Hydrocarbon Contaminated Soil, including following equipment and design specifications:

- A. 800-ft. by 200-ft. bio-remediation/land-farm facility,
- B. Irrigation system for bio-remediation/land-farm facility, and
- C. Bio-remediation fertilizer for enhanced bio-remediation.

DESIGN CONDITIONS:

- a. Bio-remediation area shall be lined with minimum 60-mil high density polyethylene (HDPE) or alternate lining approved by Lahontan Regional Water Quality Board (LRWQB). (Rule 210.1)
- b. Permittee shall provide District with depth of bio-remediation operation area. (Rule 210.1)

OPERATIONAL CONDITIONS:

- 1. Visible emissions from bio-remediation/land-farm facility shall not equal or exceed 0% opacity for more than 5 minutes in any two hour period. (Rule 210.1 BACT Requirement)
- 2. Permittee shall have flame ionization detector (FID) or photo ionization detector (PID) on site to measure soil VOC emissions (measured as hexane). (Rule 210.1)
- 3. Permittee shall maintain weekly VOC readings of bio-remediation area during any time it is operated. Permittee shall provide protocol for VOC readings, soil acidity (pH), soil moisture content (% weight), soil temperature (°F), and Nutrient Ratio (C:N:P) to be approved by District staff. (Rule 210.1)
- 4. If soil in bio-remediation area registers a VOC reading of less than 50-ppm by volume, measured three inches above soil surface, with FID or PID compliance with Condition No. 5 is not required. (Rule 210.1)
- 5. If soil in bio-remediation area registers a VOC reading greater than or equal to 50-ppm (calibrated to methane) by volume, measured three inches above soil surface, with FID or PID bio-remediation operation shall comply with the following conditions. (Rule 210.1)
 - a. Affected soil stockpile shall be covered with minimum 10-mil plastic sheeting within 24-hours of detection to control emissions during treatment until VOC readings 3-inches above the uncovered soil stockpile are less than 50-ppmv (Rule 210.1);
 - b. Covered soil stockpile shall be treated by enhanced bio-remediation using accepted environmental engineering practices to maintain conditions suitable for bio-remediation. Soil in stockpiles shall be conditioned as necessary through addition of nutrients, moisture and air as needed;
 - c. The following parameters in treatment area shall be monitored according to approved protocol: VOC readings over treatment area in use, soil acidity (pH), soil moisture content (% weight), soil temperature (°F), and Nutrient Ratio (C:N:P);
 - d. Records of soil treatment and monitoring results shall be maintained at the site for a period of at least 5-years, and

- e. If bio-remediation operation is not effective after 2 months (i.e. VOC readings show no reduction in VOC content), Permittee shall propose alternate method of soil remediation for District approval.
6. Soil moisture content shall be maintained according to District approved protocol. (Rule 210.1)
7. Compliance with all operational conditions shall be verified by appropriate recordkeeping, including records of operational data needed to demonstrate compliance. Such records shall be kept on site in readily available format. (Rule 209)
8. No emission resulting from use of this equipment shall cause injury, detriment, nuisance, annoyance to or endanger comfort, repose, health or safety of any considerable number of persons or public. (Rule 419 and CH&SC 41700)

CONSTRUCTION ACTIVITY:

All construction phase emissions shall be controlled utilizing reasonably available control provisions, e.g. construction site and unsurfaced roadway dust control, conscientious maintenance of mobile and piston engine-powered equipment, etc.

STATE OF CALIFORNIA AIR TOXICS HOT SPOTS REQUIREMENTS:

Facility shall comply with California Health and Safety Code Sections 44300 through 44384. (Rule 208.1)

COMPLIANCE TESTING REQUIREMENTS:

Should inspection reveal conditions indicative of non-compliance, compliance with hourly and concentration emission limits for VOC shall be verified pursuant to Rule 108.1 and KCAPCD Guidelines for Compliance Testing, within 45 days of District request.

EMISSION LIMITS:

Emissions rate of each air contaminant from this unit shall not exceed following limits:

<u>Volatile Organic Compounds (VOC):</u>	0.17 lb/day
<u>(as defined in Rule 210.1)</u>	0.03 ton/yr

(Emissions limits established pursuant to Rule 210.1, unless otherwise noted.)

Compliance with maximum daily emission limits shall be verified by source operator (with appropriate operational data and recordkeeping to document maximum daily emission rate) each day source is operated and such documentation of compliance shall be retained and made readily available to District for period of three years. (Rules 209 and 210.1)

AUTHORITY TO CONSTRUCT ENGINEERING EVALUATION

Reviewed by: _____
Title: _____ KCAPCD
Date: _____

Applicant: **Solar Millennium, LLC**

Mailing Address: 1625 Shattuck Avenue
Berkeley, California 94709

Contact Name: Nichole Tenenbaum, Sr. Project Manager

Phone Number: 1-510-524-4517

Fax Number: 1-510-524-5516

Application Nos.: **0368001 – '008**

Project #: 090917

Location: 2 Mi West of Intersection of Brown Road
and Highway 395, Ridgecrest

QS/T/R: SW26/T27S/R39E
and Others

UTM Coordinates: Zone 11 431.82 km East 3934.82 km North

Project Title: Support Emissions Units Serving Solar Power Plant

App. Rec.: 09/17/2009

Deemed Complete: 10/01/2010

180 Days: 03/28/2010

Submittal Date: 02/13/2010

Evaluation By: Glen E. Stephens

Project Contents:

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I. PROPOSAL:

Solar Millennium, LLC (Solar Millennium) is proposing to construct and operate the Ridgecrest Solar Power Project (RSPP). RSPP is a concentrated solar electric generating facility. Facility is to be constructed and operated on two solar fields totaling approximately 1,440 acres on land owned by the Federal Government (to be least to Solar Millennium by the Bureau of Land Management (BLM)). Solar plant is approximately 2¼ miles west of the intersection of Brown Road and U.S. Highway 395; approximately 2 miles west of the city of Ridgecrest. RSPP will use solar parabolic trough thermal technology to heat a heat transfer fluid (HTF) to a nominal working temperature of 740 degrees Fahrenheit (°F). Heated HTF is circulated through a heat exchanger

ATC No.: 0368001 through 0368008; Project No.: 090917

$$6,100 \frac{\text{gal}}{\text{min}} \times 0.01670 \frac{\text{lb}}{\text{gal}} \times \frac{0.0005}{100} \times 60 \frac{\text{min}}{\text{hr}} = 0.031 \frac{\text{lb}}{\text{hr}}$$

$$\text{Daily: } 0.031 \frac{\text{lb}}{\text{hr}} \times 16 \frac{\text{hr}}{\text{day}} = 0.489 \frac{\text{lb}}{\text{day}}$$

$$\text{Annual: } 0.489 \frac{\text{lb}}{\text{hr}} \times 5840 \frac{\text{hours}}{\text{year}} \times \frac{1 \text{ tons}}{2000 \text{ lb}} = 0.089 \frac{\text{tons}}{\text{year}}$$

ATC No. 0368005 (Cooling Water Tower) Emissions Summary:

	PM ₁₀	SOx	NOx	VOC	CO
lb/hr:	0.03				
lb/day:	0.49				
tons/yr:	0.09				

6. ATC No. 0368006 (Bio-Remediation Operation):

Assumed 95% of light VOC component emitted into the atmosphere during leak. Heavy hydrocarbon (VOC) in soil transferred to bio-pile/land-farm for treatment. Minimum 95% control efficiency for heavy hydrocarbons expected for land farming operation.

Uncontrolled VOC Emissions (from liquid leaks – 0368003):

From (0368003): 2.81-lb/hr

$$2.811 \frac{\text{lb}}{\text{hr}} \times \left(1 - \left(\frac{95}{100}\right)\right) = 0.141 \frac{\text{lb}}{\text{hr}}$$

$$46.432 \frac{\text{lb}}{\text{day}} \times \left(1 - \left(\frac{95}{100}\right)\right) = 2.321 \frac{\text{lb}}{\text{hr}}$$

$$2.321 \text{ lb/day} \times 365 \text{ days/yr} \times 0.0005 \text{ tons/lb} = 0.424\text{-tons/year}$$

Controlled VOC Emissions

Land Farming with 95% Control Efficiency

$$0.141 \frac{\text{lb}}{\text{hr}} \times \left(1 - \left(\frac{95}{100}\right)\right) = 0.007 \frac{\text{lb}}{\text{hr}}$$

$$0.007 \text{ lb/hr} \times 24 \text{ hr/day} =$$

$$0.169 \text{ lb/day}$$

$$0.007 \text{ lb/hr} \times 8760 \text{ hours/yr} \times 0.0005 \text{ tons/lb} =$$

$$0.031 \text{ tons/year}$$

7. ATC No. 0368007 (2000-kWe Electrical Generator Driven by 2922-bhp Diesel Engine):

Example Emission Calculations for PM₁₀ (Identical Calculations for SOx, NOx, VOC and CO, results are summarized below):

	PM-10	SOx	NOx	VOC	CO
lb/hp-hr	3.31E-04	1.08E-05	9.92E-03	6.62E-04	5.73E-03

$$\text{PM}_{10}: 3.31 \times 10^{-4} \frac{\text{lb} \cdot \text{PM}_{10}}{\text{hp} - \text{hr}} \times 2922 \cdot \text{hp} = 0.966 \frac{\text{lb}}{\text{hr}}$$

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

PRELIMINARY DETERMINATION OF COMPLIANCE

2700 "M" Street, Suite 302
 Bakersfield, CA 93301-2370
 Phone: (661) 862-5250
 Fax: (661) 862-5251



Field Office
 Phone: (661) 823-9264

ISSUE DATE: MONTH XX, 2010	APPLICATION NO.: 0368003
EXPIRATION: MONTH XX, 2012	DATE: SEPTEMBER 17, 2009

DETERMINATION OF COMPLIANCE IS HEREBY GRANTED TO:
SOLAR MILLENNIUM, LLC

DETERMINATION OF COMPLIANCE IS HEREBY GRANTED FOR:
Two 18,000-Gallon Heat Transfer Fluid (HTF) Expansion Tanks Vented To Vapor Control System, Including HTF Piping Network

(See attached sheets for equipment description and conditions)

S SW26	T 27S	R 39E	Location: APN: 341-110-02, 341-091-08, 341-091-10, 341-91-11, 341-110-01, 341-110-03, 341-110-05, 341-110-06, and 097-070-02	Startup Inspection
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This document serves as a temporary Permit to Operate only as provided by Rule 201 of the District's Rules and Regulations. For issuance of a Permit to Operate, Rule 208 requires equipment authorized by this Determination of Compliance be installed and operated in accordance with conditions of approval. Changes to these conditions must be made by application and must be approved before such changes are made. This document does not authorize emission of air contaminants in excess of New Source Review limits (Rule 210.1) or Regulation IV emission limits. Emission testing requirements set forth on this document must be satisfied before a Permit to Operate can be granted.

UPON COMPLETION OF CONSTRUCTION AND/OR INSTALLATION, PLEASE TELEPHONE DISTRICT

Validation Signature:

 David L. Jones
 Air Pollution Control Officer

CONDITIONS OF APPROVAL:

Pursuant to Rule 209, "conditional approval" is hereby granted. Please be aware compliance with all conditions of approval imposed by any applicable Determination of Compliance remain in effect for life of project, unless modified by application.

EQUIPMENT DESCRIPTION: Two 18,000-Gallon Heat Transfer Fluid (HTF) Expansion Tanks Vented To Vapor Control System, Including HTF Piping Network, including following equipment and design specifications:

- A. Two 18,000 Gallon HTF Expansion Tanks No. 1 and 2 each with PV vent valve,
- B. 4 - 1,250-gal HTF Overflow tanks north solar field,
- C. 4 - 1,250-gal HTF Overflow tanks south solar field,
- D. 25-hp Expansion tank pump,
- E. HTF Fluid pumps (400-hp),
- F. Nitrogen blanket system,
- G. HTF piping header,
- H. HTF ullage system,
- I. Solar field piping,
- J. Solar generating system piping, and
- K. Piping from expansion tank to vapor control system.

DESIGN CONDITIONS:

- a. Each HTF tank shall be connected to volatile organic compound (VOC) vapor control system (Permit No. 0368004). (Rule 210.1)
- b. Volume of each expansion tank shall not exceed 18,000-gallons without prior District approval. (Rule 210.1)

OPERATIONAL CONDITIONS:

- 1. HTF expansion vessel shall be gas tight and vent to vapor control system (Permit No. 0368004). (Rule 210.1 BACT Requirement)
- 2. Permittee shall establish an inspection and maintenance program to determine, repair, and log leaks in HTF piping network and expansion tanks. Inspection and maintenance program and related logs shall be available to District staff upon request. (Rule 210.1 BACT Requirement)
 - a. All pumps, compressors and pressure relief devices (pressure relief valves or rupture disks) shall be electronically, audio, or visually inspected once every operating day.
 - b. All accessible valves, fittings, pressure relief devices (PRDs), hatches, pumps, compressors, etc. shall be inspected quarterly using a leak detection device such as a Foxboro OVA 108 calibrated for methane.
 - c. VOC leaks greater than 100-ppmv shall be repaired within seven calendar days of detection.
 - d. VOC leaks greater than 10,000-ppmv shall be repaired within 24-hours of detection.

- e. Permittee shall maintain a log of all VOC leaks exceeding 10,000-ppmv, including location, component type, and repair made.
 - f. Permittee shall maintain record of the amount of HTF replaced on a monthly basis for a period of 5 years.
 - g. Any leak detected by District inspection(s) exceeding 100-ppmv and not repaired in 7-days and 10,000-ppmv not repaired within 24-hours shall constitute a violation of this Authority to Construct (ATC)/Permit to Operate (PTO).
 - h. Pressure sensing equipment shall be installed that will be capable of sensing a major rupture or spill within the HTF network.
3. The following component count shall be utilized to determine fugitive emissions:

Equipment	Count	Service	hrs/day	Service	hrs/day
Valves	3050	Light Liquid	16	Heavy Liquid	8
Pump Seals	4	Light Liquid	16	Heavy Liquid	8
Connectors*	7594	Light Liquid	16	Heavy Liquid	8
Pressure Relief Valve	10	Gas	16	Heavy Liquid	8

- 4. Each expansion tank shall have fixed roof without holes, tears, or other such openings, except pressure/vacuum (PV) valves, in the cover which allow the emission of VOC. (Rule 210.1)
- 5. All expansion tank and overflow tank hatch shall be kept closed and gap-free, except during maintenance, inspection, or repair. (Rule 210.1)
- 6. Tank roof appurtenances shall not exhibit emissions exceeding 10,000-ppmv as methane measured with an instrument calibrated with methane and conducted in accordance with U.S. EPA Method 21. (Rule 411)
- 7. Each tank shall be maintained leak-free. A "leak" is defined as the dripping of liquid volatile organic compounds at a rate of three or more drops per minute, or vapor volatile organic compounds in excess of 10,000-ppm as equivalent methane as determined by U.S. EPA Test Method 21. (Rule 210.1)
- 8. Equipment shall be maintained according to manufacturer's specifications to ensure compliance with emissions limitations. (Rules 210.1 and 209)
- 9. Compliance with all operational conditions shall be verified by appropriate recordkeeping, including records of operational data needed to demonstrate compliance. Such records shall be kept on site in readily available format. (Rule 210.1)
- 10. No emission resulting from use of this equipment shall cause injury, detriment, nuisance, annoyance to or endanger comfort, repose, health, or safety of any considerable number of persons or public. (Rule 419 and CH&SC Sec 41700)
- 11. The District shall be notified of any breakdown conditions in accordance with Rule 111 (Equipment Breakdown). (Rule 111)

CONSTRUCTION ACTIVITY:

All construction phase emissions shall be controlled utilizing reasonably available control provisions, e.g. construction site and unsurfaced roadway dust control, conscientious maintenance of mobile and piston engine-powered equipment, etc.

STATE OF CALIFORNIA AIR TOXICS HOT SPOTS REQUIREMENTS:

Facility shall comply with California Health and Safety Code Sections 44300 through 44384. (Rule 208.1)

COMPLIANCE TESTING REQUIREMENTS:

Should inspection reveal conditions indicative of non-compliance, compliance with hourly and concentration emission limits for VOC shall be verified pursuant to Rule 108.1 and KCAPCD Guidelines for Compliance Testing, within 45 days of District request.

EMISSION LIMITS:

Emissions rate of each air contaminant from this unit shall not exceed following limits:

<u>Volatile Organic Compounds (VOC):</u>	46.43 lb/day
(as defined in Rule 210.1)	8.47 ton/yr

VOC Emissions from HTF Expansion Assessed on Permit No. 0368004

(Emissions limits established pursuant to Rule 210.1, unless otherwise noted.)

Compliance with maximum daily emission limits shall be verified by source operator (with appropriate operational data and recordkeeping to document maximum daily emission rate) each day source is operated and such documentation of compliance shall be retained and made readily available to District for period of three years. (Rules 209 and 210.1)

DECLARATION OF SERVICE
Blythe Solar Power Plant Project

Docket No. 09-AFC-6

I, Bonnie Heeley, declare that on March 4, 2010, I served and filed copies of the attached CURE Comments on the Preliminary Determination of Compliance for the Solar Millennium Blythe Solar Power Project (09-AFC-6) dated March 4, 2010. The original document, filed with the Docket Office, 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/index.html.

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 Office via email and U.S. mail as addressed below:

CALIFORNIA ENERGY COMMISSION

Attn: Docket No. 09-AFC-9
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.
Executed at South San Francisco, CA on March 4, 2010.

/s/

Bonnie Heeley

CALIFORNIA ENERGY COMMISSION Attn: Docket No. 09AFC6 1516 Ninth Street, MS4 Sacramento, CA 95814-5512 docket@energy.state.ca.us	Alice Harron Senior Director-Project Dvlpmnt 1625 Shattuck Ave., #270 Berkeley, CA 94709-1161 harron@solarmillennium.com	Elizabeth Ingram, Associate Dvlpr Solar Millennium LLC 1625 Shattuck Avenue Berkeley, CA 94709 ingram@solarmillennium.com
Carl Lindner AECOM Project Manager 1220 Avenida Acaso Camarillo, CA 93012 Carl.lindner@aecom.com	Scott Galati, Esq. Galati/Blek, LLP 455 Capitol Mall, #350 Sacramento, CA 95814 sgalati@gb-llp.com	Peter Weiner/Matthew Sanders Paul Hastings Janofsky & Walker LLP 55 2 nd Street, #2400-3441 San Francisco, CA 94105 peterweiner@paulhastings.com matthewsanders@paulhastings.com

<p>California ISO e-recipient@caiso.com VIA EMAIL ONLY</p>	<p>Holly L. Roberts, Project Mngr Bureau of Land Management Palm Springs-So. Coast Field Off. 1201 Bird Center Drive Palm Springs, CA 92262 CAPSSolarBlythe@blm.gov</p>	<p>California Unions for Reliable Energy T.Gulesserain/MDJoseph Adams Broadwell Joseph & Cardozo 601 Gateway Blvd., #1000 South San Francisco, CA 94080 tgulesserian@adamsbroadwell.com</p>
<p>Karen Douglas Chairman/Presiding Member California Energy Commission 1516 Ninth Street Sacramento, CA 95814 kldougla@energy.state.ca.us</p>	<p>Robert Weisenmiller Commissioner-Assoc. Member California Energy Commission 1516 Ninth Street Sacramento, CA 95814 rweisenm@energy.state.ca.us</p>	<p>Raoul Renaud Siting Project Manager California Energy Commission 1516 Ninth Street Sacramento, CA 95814 rrenaud@energy.state.ca.us</p>
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<p>Ram Ambatipudi Chevron Energy Solutions 150 E. Colorado Blvd., Ste. 360 Pasadena, CA 91105 rambatipudi@chevron.com</p>		