DOCKET
09-AFC-9
DATE MAY 13 2010
RECD. MAY 13 2010

May 13, 2010

Eric Solorio
Project Manager
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

RE: Ridgecrest Solar Power Project (RSPP), Docket No. 09-AFC-9, Cooling Tower Change of Conditions KCAPCD application

Dear Mr. Solorio:

Attached please find a letter to Glen Stephens of the Kern County Air Pollution Control District regarding an additional change to the RSPP. The wet cooling tower used for heat rejection of the lube oil and generator cooling loops will operate 24 hours per day rather than 16 hours per day, as was stated in the original application for Determination of Compliance (DOC). The letter serves as the application for the modification to the Preliminary DOC.

This has been docketed in accordance with CEC requirements.

If you have any questions, please feel free to contact me at 510-809-4662 (office) or 949-433-4049 (cell).

Sincerely,

Billy Owens
Director, Project Development

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http://www.SolarMillennium.com

AECOM

AECOM Environment
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tel 805-388-3775
fax 805-388-3577

May 12, 2010

Mr. Glen Stephens
Kern County Air Pollution Control District
2700 "M" Street, Suite 302
Bakersfield, CA 93301-2370

Subject: Application for a Change of Conditions for the Cooling Tower at the Ridgecrest Solar 1, LLC Power Project

Dear Mr. Stephens:

This letter is being submitted to describe an additional change to the Ridgecrest Solar 1, LLC , a.k.a. Ridgecrest Solar Power Project (RSPP or Project). The Project has concluded that the wet cooling tower used for heat rejection of the lube oil and generator cooling loops will operate 24 hours per day rather than 16 hours per day as was stated in the original application for the Determination of Compliance (DOC).

This letter serves as the application for the modification to the Preliminary DOC (PDOC) for the cooling tower. The District-required application forms are included in **Attachment 1**. A copy of the current PDOC is provided in **Attachment 2**, with requested changes shown in ~~strikethrough~~ format for deletions and underline format for additions. The estimated emissions are described in **Section 1.0**; the operating data are in **Section 2.0;** proposed new permit terms are in **Section 3.0** and applicable regulations and fees are discussed in **Section 4.0**.

1.0 Operating Data

Because wet cooling towers provide direct contact between the cooling water and the air passing through the tower, some of the liquid water may be entrained in the air stream and be carried out of the tower as 'drift' droplets. PM10 is generated when the drift droplets evaporate and leave fine particulate matter formed by crystallization of dissolved solids. Dissolved solids found in cooling tower drift can consist of mineral matter, chemicals used for corrosion inhibition, etc. The assumptions made to regarding cooling tower operation are the same as was used in the original application with the exception of the daily hours of operation. The assumptions used to calculate emissions are as follows:

- The cooling tower maximum run time will now be 24 hours per day – increased from 16 hours per day.
- Circulation rate of 6,034 gallons per minute (unchanged);
- Cooling tower blowdown will contain a maximum of 2,000 mg/L Total Dissolved Solids (TDS) assuming fifteen cycles of concentration (unchanged);
- The cooling tower will be equipped with a drift eliminator with drift losses of less than or equal to 0.0005 percent by weight based on circulation flow rate (unchanged); and
- 100 percent of the TDS emissions are PM and PM10 (unchanged).

2.0 Estimated Emissions

Particulate matter emissions are calculated according to the method described in EPA's Compilation of Air Pollutant Emission Factors (AP-42), Section 13.4 Wet Cooling Towers (EPA 1995). Cooling tower PM10 emissions are shown in **Table 1**. A complete discussion of the methods and assumptions used to estimate cooling tower emissions, along with sample calculations was provided in Appendix D of the original application, and is not replicated here. The assumption that PM10 is equal to PM is quite conservative, as it is expected that less than half of the particles would be in the smaller size range.

Table 1 Cooling Tower PM10 Emissions

	Original Application			Proposed Change		
Pollutant	**lb/hr**	**lb/day**	**ton/yr**	**lb/hr**	**lb/day**	**ton/yr**
PM10	0.030	0.48	0.056	0.030	0.73	0.13
PM2.5	0.030	0.48	0.056	0.030	0.73	0.13

3.0 Proposed New Permit Terms

With this proposed modification the new emission limits should be as shown below.

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

Particulate Matter (PM10):	0.03	lb/hr
	~~0.49~~ 0.73	lb/day
	~~0.09~~ 0.13	ton/yr

4.0 Applicable KCAPCD Rules and Regulations

A comprehensive list of potentially applicable KCAPCD rules, and an explanation of how the cooling tower complies with the rule is provided in this section.

4.1 Regulation I General Provisions

4.1.1 Rule 111 Equipment Breakdown

The owner or operator shall notify the Air Pollution Control Officer (APCO) of any occurrence which constitutes a breakdown condition; such notification shall identify the time, specific location, equipment involved, and (to the extent known), the cause(s) of the occurrence and shall be given as soon as reasonably possible, but no later than one (1) hour after its detection unless the owner or operator demonstrates, to the satisfaction of the APCO, that a longer reporting period was necessary. Within 10 days after a breakdown occurrence has been corrected, the owner or operator shall submit a written report to the APCO which includes specific information. RSPP will comply with the requirements of this rule if a breakdown occurs.

4.2 Regulation II Permits

4.2.1 Rule 201 Permits Required

Any person building, altering or replacing any equipment, the use of which may cause the issuance of air contaminants or the use of which may eliminate or reduce or control the issuance of air contaminants, must first obtain authorization for such construction from the APCO. An Authority to Construct (ATC) shall remain in effect until the Permit to Operate (PTO) for the equipment for which the application was filed is granted, denied, or canceled. A person shall notify the APCO before operating or using equipment granted an ATC. Upon such notification, the ATC shall serve as a temporary PTO for the equipment until the PTO is granted or denied. The equipment shall not be operated contrary to conditions specified in the ATC, and testing requirements shall be satisfied.

With this application, RSPP is requesting a modification to the PDOC for the equipment described herein. The APCO will be notified before operating the equipment, as required.

4.2.2 Rule 210.1 New and Modified Stationary Source Review

This rule provides for preconstruction review of new and modified stationary sources of affected pollutants to insure emissions will not interfere with attainment of ambient air quality standards; insures appropriate new and modified sources of affected pollutants are constructed with Best Available Control Technology (BACT); and provides for no significant net increase in emissions from new and modified stationary sources for all non-attainment pollutants and their precursors.

BACT

An applicant shall provide BACT for all affected pollutants expected to be emitted from a new emissions unit and for all affected pollutants expected to increase from a modified existing emissions unit. The cooling tower will utilize a drift eliminator for PM10 emission control, with a maximum drift: 0.0005 percent of circulation rate. This was determined to be BACT, and the requested change of conditions will not alter the determination.

Offsets

An applicant must provide offsets for new or modified stationary source of PM10, SOx, NOx or VOC for the source's potential to emit when the source's potential to emit equals or exceeds the offset trigger levels shown in **Table 2**. If offsets are required, they must be provided at specified ratios. As shown in the table, offsets are not required for the Project.

Table 2 Offset Determination

Pollutant	Original Project Emissions Tons/year	Modified Project Emissions Tons/year	Offset Threshold Tons/year	Offsets Required? Yes/No
PM10	0.43	0.51	15	No

4.3 Regulation III Fees; Rule 301, Permit Fees

Permit application fees are shown in **Table 3**.

Table 3 Permit Fees

Basic Equipment	Basis	Fee
Filing Fee	301 (I)	$120
Cooling Tower	302, Schedule 6	Not applicable – no change in equipment rating
Application Processing	303 (II) (minimum)	$52
Total		**$172**

4.4 Regulation IV Prohibitions

4.4.1 Rule 401 Visible Emissions

A person shall not discharge into the atmosphere, from any single source of emission whatsoever, any air contaminant for a period or periods aggregating more than three (3) minutes in any one hour which is as dark or darker in shade as that designated as No. 1 on the Ringelmann Chart, or of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke which is as dark or darker in shade as that designated as No. 1 on the Ringelmann Chart. No visible emissions are expected from the cooling tower when properly operated; thus, compliance with this rule is expected.

4.4.2 Rule 419 Nuisance

A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property. Due to the application of BACT on this emission source and the distance from the source to any potential receptors, compliance with this rule is expected.

4.4.3 Rule 429.1 Cooling Towers (Hexavalent Chromium)

This rule applies to any person who owns or operates, or who plans to build, own, or operate, a cooling tower in which the circulating water is exposed to the atmosphere. The rule prohibits the use of hexavalent chromium-containing compounds in cooling tower circulating water. Chromium-containing compounds will not be used in the cooling tower.

4.4.4 California Environmental Quality Act (CEQA)

Through a Memorandum of Understanding between the two agencies, the BLM and CEC are conducting a joint review of the BSPP. This joint process will allow BLM to discharge its obligations under the National Environmental Policy Act (NEPA), 42 United States Code §§4321-4347, and also allow the CEC to meet its obligations under CEQA, California Public Resources Code §§21000-21177. Although CEQA and NEPA differ in several respects, they are sufficiently similar and flexible that a single environmental document can be prepared that will comply with both laws. The BLM and CEC will jointly prepare a combined NEPA/CEQA document. The potential environmental impacts of the Project have been addressed by the

Applicants in an AFC filed with the CEC on August 24, 2009. This AFC is intended to support compliance by BLM and the CEC with the requirements of both NEPA and CEQA in the planned combined NEPA/CEQA document. A KCAPCD Environmental Information Form and Initial Study Evaluation is provided in **Attachment 1**.

Please do not hesitate to contact either of the undersigned if you have any questions or require additional information.

Sincerely,

Billy Owens
Director, Project Development
Owens@solarmillennium.com

Russ Kingsley
Program Manager, AECOM
Russ.Kingsley@aecom.com

Attachments:

1	KCAPCD Application Forms
2	Current Draft KCAPCD PDOC

Attachment 1

KERN COUNTY AIR POLLUTION CONTROL DISTRICT
2700 "M" STREET SUITE 302, BAKERSFIELD, CA 93301-2370
PHONE: (661) 862-5250 • FAX: (661) 862-5251 • www.kernair.org

APPLICATION FOR AUTHORITY TO CONSTRUCT, PERMIT TO OPERATE, EXEMPTION, AND BANKING CERTIFICATE

Operator Information

Business Name to Appear on Permit:	Owner's Name:		Phone No:
Ridgecrest Solar 1, LLC	Ridgecrest Solar 1, LLC		(510) 809-4662
Mailing Address: 1625 Shattuck Ave., Suite 270		Business E-mail Address: owens@solarmillennium.com	
City: Berkeley	State: CA	Zip: 94709	Fax No: (510) 524-5516

Equipment Location

Street Address:	City:	Zip:
Within BLM ROW near Brown Road	Ridgecrest	93555
General Nature of Business: Solar electric power generation		S.I.C. CODE(S) *If Known*: 4911

Assessors' Parcel No: _____ OR _____/4 SECTION _____ TOWNSHIP 27 south RANGE 39 east

Application Type *See ATC/PTO Instructions for appropriate filing fee*

☐ Authority To Construct (ATC)	☐ Permit To Operate (PTO)	☐ Exemption
☒ ATC – Modification	☐ PTO – Modification	☐ Exemption Renewal
☐ ATC – Renewal	☐ PTO – Transfer of Ownership	☐ Banking Certificate
☐ Transfer of Location	☐ Change of Business Name	

Description of Equipment or Modification for which application is made (*include Permit #'s if known*)

Cooling tower, 2-cell, 6,100 GPM

Use Additional Sheets if Necessary

Check all that apply

Is this Facility within 1,000 feet of the outer boundary of a school? ☐ YES ☒ NO
Have all necessary land-use authorizations been obtained? ☐ YES ☒ NO (*If "NO" attach explanation*) Currently in AFC review process
Is there any other equipment in the KCAPCD jurisdiction operated by the same operator? ☐ YES ☒ NO
Is this application being submitted as the result of a Notice of Violation or Notice to Comply? ☐ YES ☒ NO
If YES, NOV/NTC #: _____
Is this equipment portable AND will it be operated at different locations within KCAPCD jurisdiction? ☐ YES ☒ NO

Print Contact Name: Billy Owens Consultant? ☐ YES ☒ NO If YES, please attach Assignment of Agent

Title: Director, Proj. Dev Phone: (510) 809-4662 E-Mail Address: owens@solarmillennium.com

Signature: Billy Owens Date: 5-12-10

DATE RECEIVED **Validation (for KCAPCD use)**

ATC No: _____ **Filing Fee: $** _____
Equip Dscrpt: _____ **Receipt No:** _____
Equip Code: _____ **Date:** _____

Attachment 2

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

ENVIRONMENTAL INFORMATION FORM AND INITIAL STUDY EVALUATION

Applicant: Ridgecrest Solar 1, LLC
Contact: Billy Owens
Title: Director, Project Development **Phone:** (510) 809-4662
Project Description: Solar Electric Power Generation

Environmental Information	**Yes**	**No**	**Maybe**
Will the proposed project with regard to the proposed location:			
a. Conflict with the adopted environmental plans and goals of the community?	[ ]	[X]	[ ]
b. Have a substantial, demonstrable negative aesthetic effect?	[ ]	[X]	[ ]
c. Substantially affect a rare or endangered species of animal or plant or the habitat of the species?	[X]	[ ]	[ ]
d. Interfere substantially with the movement of any resident or migratory fish or wildlife species?	[ ]	[X]	[ ]
e. Substantially diminish habitat for fish, wildlife or plants?	[X]	[ ]	[ ]
f. Breach published national, state, or local standards relating to solid waste or litter control?	[ ]	[X]	[ ]
g. Substantially degrade water quality or contaminate a public water supply?	[ ]	[X]	[ ]
h. Substantially degrade or deplete ground water resources or interfere substantially with ground water recharge?	[ ]	[X]	[ ]
i. Disrupt or adversely affect a prehistoric or historic archeological site or a property of historic or cultural significance to a community or ethnic or social group; or a paleontological site except as part of scientific study?	[X]	[ ]	[ ]
j. Induce substantial growth or concentration of population?	[ ]	[X]	[ ]
k. Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system?	[ ]	[X]	[ ]
l. Displace a substantial number of people?	[ ]	[X]	[ ]
m. Encourage activities which result in the use of large amounts of fuel, water or energy?	[ ]	[X]	[ ]
n. Use fuel, water or energy inefficiently?	[ ]	[X]	[ ]

o. Increase substantially the ambient noise level for adjoining areas?	[ ]	[X]	[ ]
p. Cause substantial flooding, erosion or siltation?	[ ]	[X]	[ ]
q. Expose people or structures to major geologic hazards?	[ ]	[X]	[ ]
r. Extend a sewer trunk line with capacity to serve new development?	[ ]	[X]	[ ]
s. Disrupt or divide the physical arrangement of an established community?	[ ]	[X]	[ ]
t. Create a potential public health hazard or involve the use, production, or disposal of materials which pose a hazard to people or animal or plant populations in the area affected?	[ ]	[X]	[ ]
u. Conflict with established recreational, educational, religious or scientific uses?	[ ]	[X]	[ ]
v. Convert prime agricultural land to non-agricultural use or impair the agricultural productivity of prime agricultural land?	[ ]	[X]	[ ]
w. Interfere with emergency response or evacuation plans?	[ ]	[X]	[ ]
x. Violate any ambient air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations?	[ ]	[X]	[ ]

NOTE: Please attach any pertinent explanatory information.

CERTIFICATION:

I hereby certify the statement furnished above and in attached exhibits present the data and information required for this initial evaluation to the best of my ability, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Signature: _____ **Date:** 5-12-10

Solar Millennium LLC
1625 Shattuck Ave., Ste 270
Berkeley, CA 94709
(510) 524-4517

CITIBANK, N.A.
90-7118/3211

2338

5/12/2010

PAY TO THE ORDER OF Kern County Air Pollution Control Dist. $ **172.00

One Hundred Seventy-Two and 00/100********** DOLLARS

Kern County Air Pollution Control Dist.

MEMO KCAPCD Permit Amendment for Cooling Towers

⑈002338⑈ ⑆321171184⑆ 20245120 9⑈

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2338

Kern County Air Pollution Control Dist. 5/12/2010

Date	Type	Reference	Original Amt.	Balance Due	Discount	Payment
5/12/2010	Bill		172.00	172.00		172.00
				Check Amount		172.00

CitiBank -1209 KCAPCD Permit Amendment for Cooling Tower 172.00

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 *RIDGECREST SOLAR POWER PROJECT*

Docket No. 09-AFC-9

PROOF OF SERVICE
(Revised 5/12/2010)

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DECLARATION OF SERVICE

I, Elizabeth Copley, declare that on May 13, 2010, I served and filed copies of the attached Ridgecrest Solar Power Project (Docket No. 09-AFC-9) Cooling Tower Change of Conditions KCAPD Application. 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_ridgecrest].

The documents have 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;

_ by personal delivery;

X by delivering on this date, for mailing with the United States Postal Service with first-class postage thereon fully prepaid, to the name and address of the person served, for mailing that same day in the ordinary course of business; that the envelope was sealed and placed for collection and mailing on that date 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. 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.