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DOCKET

08-AFC-2

DATE AUG 11 2009

RECD AUG 11 2009

August 11, 2009

California Energy Commission
Docket No. 08-AFC-2
1516 Ninth Street
Sacramento, CA 95814

Re: Beacon Solar Energy Project, Docket No. 08-AFC-2

Dear Docket Clerk:

Pursuant to the California Code of Regulations, title 20, sections 1209, 1209.5, and 1210, enclosed herewith for filing please find **Revised Final Determination of Compliance permits for the Beacon Solar Energy Project** as issued by the Kern County Air Pollution Control District (KCAPCD). We are providing all of the individual permits, even though only five of the seven permits have been amended. The revisions to the permits were made in response to an “Application for Modification to Determination of Compliance for Beacon Solar Energy Project” that was submitted to the KCAPCD on July 2, 2009 and docketed with the Energy Commission on July 7, 2009.

The revisions to three of the Determination of Compliance (DOC) permits were related to refinements made to the Project, as follows:

- DOC 0369001A and 0369002A for the auxiliary boilers were modified to allow for the use of propane fuel and the SOx emissions limits were revised accordingly.
- DOC 0369004A for the HTF expansion tanks and HTF piping network was revised to increase the number of tanks from 6 to 22 tanks.

It is our understanding that the revised permits to reflect these changes were provided to the Staff’s air quality consultant, Mr. Will Walters, on July 23, 2009 even though they were not officially issued by KCAPCD until August 6, 2009.

In addition to these changes, two of the DOC permits contain minor administrative changes, as follows:

- DOC 0369003 for the cooling tower has slightly revised language related to the testing requirement, to clarify that the “test results” is not intended to be based on source testing.

- DOC 0369007 for the land treatment unit was amended to show the revised dimensions (590 ft. by 590 ft.) of the area based on the new Project site plan.

The other two DOC permits, 0369005 (vapor control system) and 0369006 (fire water pump) have not been revised by KCAPCD, but are included in this package so that the entire Final Determination of Compliance (FDOC) is being provided.

Very truly yours,

DOWNEY BRAND LLP

/S/

Jane E. Luckhardt

JEL:ln

cc: Diane Fellman, NextEra Energy Resources (via e-mail)

**KERN COUNTY AIR POLLUTION CONTROL DISTRICT
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
Fax: (661) 823-0167

ISSUE DATE: AUGUST 06, 2009

APPLICATION NO.: 0369001A

EXPIRATION: AUGUST 05, 2011

DATE: JULY 17, 2009

DETERMINATION OF COMPLIANCE IS HEREBY GRANTED TO:

BEACON SOLAR, LLC

DETERMINATION OF COMPLIANCE IS HEREBY GRANTED FOR:

30.0-MMBtu/hr Natural Gas or Liquefied Petroleum Gas (LPG) Fueled Boiler No. 1

(See attached sheets for equipment description and conditions)

**S T R Location:
SW04 31S 37E APN: 469-021-10**

Startup Inspection

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:

A handwritten signature in black ink, appearing to be "DJ Jones", written over a horizontal line.

*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: 30.0-MMBtu/hr Natural Gas or LPG Fueled Boiler No. 1, including following equipment and design specifications:

A. 30.0-MMBtu/hr (900-hp) natural gas or LPG fueled boiler with low-NOx burner system.

DESIGN CONDITIONS:

- a. Boiler shall be fueled with natural gas or LPG. (Rule 210.1)
- b. Boiler described above shall be equipped with low NOx burner and be in accordance with manufacturer's specifications. (Rule 210.1)
- c. Boiler exhaust stack shall be equipped with provisions for collection of pollutant samples in manner consistent with U. S. EPA test methods. (Rule 210.1)

OPERATIONAL CONDITIONS:

1. Visible emissions from boiler exhaust stack shall not exceed 5% opacity or Ringelmann No. ¼. (Rule 210.1 BACT Requirement)
2. Boiler operation shall not exceed 1000-hours/year without prior District approval. (Rule 210.1)
3. Boiler exhaust concentration of sulfur oxides (calculated as SO₂) shall not exceed 2000 parts per million on a volume basis (ppmv). (Rule 407)
4. If natural gas is used as fuel, volume of natural gas used as fuel for boiler shall not exceed 28.6 million standard cubic feet per year (MMscf/yr); if LPG is used as fuel, volume of LPG used as fuel for boiler shall not exceed 11.9-MMscf/yr. (Rule 210.1)
5. Operator shall comply with applicable monitoring, testing, and recordkeeping requirements of Rule 425.2. (Rule 425.2)
6. Operator shall maintain annual records of fuel use. (Rule 425.2)
7. Equipment shall be maintained according to manufacturer's specifications to ensure compliance with emissions limitations. (Rules 209 and 210.1)
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:

Boiler stack shall be equipped with sampling ports (in accordance with California Air Resources Board Standards), sampling platform, access to sampling platforms, and utilities for sampling equipment to perform source-sampling operations. (Rule 108.1)

Initial compliance with NOx emission limits shall be verified by compliance test utilizing test methods listed in Subsection VI.B of Rule 425.2 within 60-days of District initial start-up inspection. (Rule 210.1)

Initial testing for Rule 425.2 shall commence within 60-days after annual boiler heat attains or exceeds 90,000 therms (9,000-MMBtu). Boiler shall be tested in accordance with test methods listed in Subsection VI.B and in accordance to schedule in Subsection VI.C of Rule 425.2. (Rule 425.2)

Should inspection reveal conditions indicative of non-compliance, compliance with any emission limitations shall be verified, within 60 days of District request. Test results shall be submitted to KCAPCD within 30 days after test completion. (Rule 108.1 and 210.1)

EMISSION LIMITS:

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

Particulate Matter (PM₁₀):

0.22 lb/hr
3.04 lb/day
0.11 ton/yr

Sulfur Oxides (SOx as SO₂):

0.51 lb/hr
7.14 lb/day
0.25 ton/yr

Oxides of Nitrogen (NOx as NO₂):

9 ppmv @ 3% O₂ (Rule 210.1 BACT Rqmt.)
0.33 lb/hr
4.62 lb/day
0.17 ton/yr

Volatile Organic Compounds (VOC):
(as defined in Rule 210.1)

0.16 lb/hr
2.20 lb/day
0.08 ton/yr

Carbon Monoxide:

50 ppmv @ 3% O₂
1.11 lb/hr
15.54 lb/day
0.56 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 record keeping 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)

KERN COUNTY AIR POLLUTION CONTROL DISTRICT
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
Fax: (661) 823-0167

ISSUE DATE: AUGUST 06, 2009 APPLICATION NO.: 0369002A
EXPIRATION: AUGUST 05, 2011 DATE: JULY 17, 2009

DETERMINATION OF COMPLIANCE IS HEREBY GRANTED TO:

BEACON SOLAR, LLC

DETERMINATION OF COMPLIANCE IS HEREBY GRANTED FOR:

30.0-MMBtu/hr Natural Gas or Liquefied Petroleum Gas (LPG) Fueled Boiler No. 2

(See attached sheets for equipment description and conditions)

S T R Location:
SW04 31S 37E APN: 469-021-10

Startup Inspection

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:

A handwritten signature in black ink, appearing to read "DJ Jones", written over a horizontal line.

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: 30.0-MMBtu/hr Natural Gas or LPG Fueled Boiler No. 2, including following equipment and design specifications:

A. 30.0-MMBtu/hr (900-hp) natural gas or LPG fueled boiler with low-NOx burner system.

DESIGN CONDITIONS:

- a. Boiler shall be fueled with natural gas or LPG. (Rule 210.1)
- b. Boiler described above shall be equipped with low NOx burner and be in accordance with manufacturer's specifications. (Rule 210.1)
- c. Boiler exhaust stack shall be equipped with provisions for collection of pollutant samples in manner consistent with U. S. EPA test methods. (Rule 210.1)

OPERATIONAL CONDITIONS:

1. Visible emissions from boiler exhaust stack shall not exceed 5% opacity or Ringelmann No. ¼. (Rule 210.1 BACT Requirement)
2. Boiler operation shall not exceed 1000-hours/year without prior District approval. (Rule 210.1)
3. Boiler exhaust concentration of sulfur oxides (calculated as SO₂) shall not exceed 2000 parts per million on a volume basis (ppmv). (Rule 407)
4. If natural gas is used as fuel, volume of natural gas used as fuel for boiler shall not exceed 28.6 million standard cubic feet per year (MMscf/yr); if LPG is used as fuel, volume of LPG used as fuel for boiler shall not exceed 11.9-MMscf/yr. (Rule 210.1)
5. Operator shall comply with applicable monitoring, testing, and record keeping requirements of Rule 425.2. (Rule 425.2)
6. Operator shall maintain annual records of fuel use. (Rule 425.2)
7. Equipment shall be maintained according to manufacturer's specifications to ensure compliance with emissions limitations. (Rules 209 and 210.1)
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:

Boiler stack shall be equipped with sampling ports (in accordance with California Air Resources Board Standards), sampling platform, access to sampling platforms, and utilities for sampling equipment to perform source-sampling operations. (Rule 108.1)

Initial compliance with NOx emission limits shall be verified by compliance test utilizing test methods listed in Subsection VI.B of Rule 425.2 within 60-days of District initial start-up inspection. (Rule 210.1)

Initial testing for Rule 425.2 shall commence within 60-days after annual boiler heat attains or exceeds 90,000 therms (9,000-MMBtu). Boiler shall be tested in accordance with test methods listed in Subsection VI.B and in accordance to schedule in Subsection VI.C of Rule 425.2. (Rule 425.2)

Should inspection reveal conditions indicative of non-compliance, compliance with any emission limitations shall be verified, within 60 days of District request. Test results shall be submitted to KCAPCD within 30 days after test completion. (Rule 108.1 and 210.1)

EMISSION LIMITS:

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

Particulate Matter (PM₁₀):

0.22 lb/hr
3.04 lb/day
0.11 ton/yr

Sulfur Oxides (SO_x as SO₂):

0.51 lb/hr
7.14 lb/day
0.25 ton/yr

Oxides of Nitrogen (NO_x as NO₂):

9 ppmv @ 3% O₂ (Rule 210.1 BACT Rqmt.)
0.33 lb/hr
4.62 lb/day
0.17 ton/yr

Volatile Organic Compounds (VOC):
(as defined in Rule 210.1)

0.16 lb/hr
2.20 lb/day
0.08 ton/yr

Carbon Monoxide:

50 ppmv @ 3% O₂
1.11 lb/hr
15.54 lb/day
0.56 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 record keeping 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)

KERN COUNTY AIR POLLUTION CONTROL DISTRICT
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
FAX: (661) 823-0167

ISSUE DATE: MAY 13, 2009 **APPLICATION NO.: 0369003**
EXPIRATION: MAY 13, 2011 **DATE: APRIL 14, 2008**

DETERMINATION OF COMPLIANCE IS HEREBY GRANTED TO:

BEACON SOLAR, LLC

DETERMINATION OF COMPLIANCE IS HEREBY GRANTED FOR:

Forced Draft Cooling Tower with 11 Cells and High Efficiency Drift Eliminator

(See attached sheets for equipment description and conditions)

S **T** **R** Location: **Startup Inspection**
SW04 **31S** **37E** **APN: APN: 469-021-10**

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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: Forced Draft Cooling Tower with 11 Cells and High Efficiency Drift Eliminator, including following equipment and design specifications:

- A. Eleven 140-MMBtu (13,600-gpm) Cooling Tower Cells;
- B. Eleven 250-hp Cooling Tower Fans;
- C. Two 2,000-hp (79,000-gpm) Cooling Water Pumps;
- D. Make-Up Water Tank; and
- E. 50-hp Make-Up Water Pump.

OPERATIONAL CONDITIONS:

1. No hexavalent chromium containing compounds shall be added to cooling tower circulating water. (Rule 429.1)
2. Drift eliminator drift rate shall not exceed 0.0005%. (Rule 210.1)
3. Cooling tower total dissolved solids (TDS) shall not exceed 1600 mg/liter (0.01335 lb/gal). (Rule 210.1)
4. Cooling water volumetric flow rate shall not exceed 149,000-gal/minute. (Rule 210.1)
5. Compliance with daily PM₁₀ emission rate shall be determined by the product of the following factors: circulating water rate (gallons per day), total dissolved solids in blowdown water (lb/gal), and design drift rate (%). (Rule 210.1)
6. Operator shall comply with applicable monitoring, testing, and recordkeeping requirements of Rule 429.1. (Rule 429.1)
7. Equipment shall be maintained according to manufacturer's specifications to ensure compliance with emissions limitations. (Rules 209 and 210.1)
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)
9. Compliance with PM₁₀ emission limits shall be determined by continuous conductivity monitoring of blowdown water with results available to District staff upon request, and annual calibration verification available to District staff upon request. In-lieu of continuous conductivity monitoring, tests of total solids in blowdown water sample analysis shall be completed at a minimum of once per week by independent laboratory. (Rule 210.1)

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 any emission limitations shall be verified, within 60 days of District request. Test results (i.e. conductivity calibration or laboratory water sample testing) shall be submitted to KCAPCD within 30 days after test completion. (Rule 108.1, 210.1, and 429.1)

EMISSION LIMITS:

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

<u>Particulate Matter (PM₁₀):</u>	0.60 lb/hr
	9.55 lb/day
	1.74 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)

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

DETERMINATION OF COMPLIANCE

2700 "M" Street, Suite 302
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Phone: (661) 862-5250
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Field Office
Phone: (661) 823-9264
Fax: (661) 823-0167

ISSUE DATE: AUGUST 06, 2009 APPLICATION NO.: 0369004A
EXPIRATION: AUGUST 05, 2011 DATE: JULY 17, 2009

DETERMINATION OF COMPLIANCE IS HEREBY GRANTED TO:

BEACON SOLAR, LLC

DETERMINATION OF COMPLIANCE IS HEREBY GRANTED FOR:

Twenty-Two 75,000-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 T R Location: Startup Inspection
SW01 31S 37E APN: 469-021-10 and Others

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

Validation Signature:

A handwritten signature in black ink, appearing to read "D. L. Jones".
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: Twenty-Two 75,000-Gallon Heat Transfer Fluid (HTF) Expansion Tanks Vented To Vapor Control System, Including HTF Piping Network, including following equipment and design specifications:

- A. Twenty-Two 75,000 Gallon HTF Expansion Tanks (No. 1 through No. 22) each with PV vent valve;
- B. 25-hp Expansion tank pump;
- C. HTF Fluid pumps (400-hp);
- D. Nitrogen blanket system;
- E. HTF piping header;
- F. HTF ullage system;
- G. Solar field piping;
- H. Solar generating system piping; and
- I. Piping from expansion tanks to vapor control system.

DESIGN CONDITIONS:

- a. Each HTF tank shall be connected to volatile organic compound (VOC) vapor control system (Permit No. 0369005). (Rule 210.1)
- b. Volume of each tank shall not exceed 75,000-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. 0369005). (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 documentation 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 tagged (with date and concentration) and repaired within seven calendar days of detection.
 - d. VOC leaks greater than 10,000-ppmv shall be tagged and 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 detected leak 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 | Service | Count |
|-----------------------|----------------|--------------|
| Valves | Light Liquid | 3050 |
| Pump Seals | Light Liquid | 4 |
| Connectors* | Light Liquid | 7646 |
| Pressure Relief Valve | Gas | 22 |
| Open-ended Lines | Light Liquid | 44 |
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 hatches 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. Permittee shall provide District with total volume required for solar power plant and annual volume of HTF used at the facility. (Rule 210.1)
9. Equipment shall be maintained according to manufacturer's specifications to ensure compliance with emissions limitations. (Rules 210.1 and 209)
10. Compliance with all operational conditions shall be verified by appropriate record keeping, including records of operational data needed to demonstrate compliance. Such records shall be kept on site in readily available format. (Rule 210.1)
11. 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)
12. The District shall be notified of any breakdown conditions in accordance with Rule 111 (Equipment Breakdown). (Rule 111)

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 60 days of District request.

EMISSION LIMITS:

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

Fugitive Emissions (Connectors, Pumps, etc.)

<u>Volatile Organic Compounds (VOC):</u>	34.34 lb/day
	6.27 ton/yr

VOC Emissions from HTF Expansion Assessed on Permit No. 0369005

(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 record keeping 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)

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

DETERMINATION OF COMPLIANCE

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



ISSUE DATE: MAY 13, 2009

APPLICATION NO.:

0369005

EXPIRATION: MAY 13, 2011

DATE:

APRIL 14, 2008

DETERMINATION OF COMPLIANCE IS HEREBY GRANTED TO:

BEACON SOLAR, LLC

DETERMINATION OF COMPLIANCE IS HEREBY GRANTED FOR:

Vapor Control System

(See attached sheets for equipment description and conditions)

S T R Location:
SW01 31S 37E APN: 469-021-10

Startup Inspection

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:

A handwritten signature in black ink, appearing to read "D. Jones", written over a horizontal line.

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: Vapor Control System, including following equipment and design specifications:

- A. Piping from expansion tanks (Permit Nos. 0369004) to vapor control system; and
- B. Two Granular Activated Carbon (GAC) adsorption units in series each with 1,000-lb GAC vessel, and sampling ports at entrance and exhaust.

DESIGN CONDITIONS:

- a. Vapor control system shall serve HTF expansion tanks and HTF piping system listed on Permit No. 0369004. (Rule 210.1)
- b. Carbon adsorption system shall have provisions for monitoring between carbon beds and exhaust of carbon adsorption system. (Rule 210.1)

OPERATIONAL CONDITIONS:

- 1. Carbon adsorption system shall be operated during heat transfer fluid (HTF) expansion system operation and during operation of HTF Ullage system. (Rule 210.1)
- 2. Control efficiency of carbon adsorption vessels shall be at least 95%. (Rule 210.1)
- 3. Vapor samples shall be taken monthly between carbon beds and at the exhaust carbon adsorption system and tested for carbon breakthrough. (Rule 210.1)
- 4. Carbon breakthrough shall be defined as VOC concentration of 10-ppmv as hexane measured after primary carbon bed measured with a flame ionization detector (FID) or photo ionization detector (PID). (Rule 210.1)
- 5. Primary carbon bed shall be replaced upon indication of carbon breakthrough. (Rule 210.1)
- 6. Operation of this equipment shall be conducted in compliance with all data and specifications submitted with application under which this permit is issued. (Rule 210.1)
- 7. Equipment shall be maintained according to manufacturer's specifications to ensure compliance with emissions limitations. (Rules 209 and 210.1)
- 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, Sec 41700)

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 60 days of District request.

EMISSION LIMITS:

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

Controlled Vapor Emissions:

<u>Volatile Organic Compounds (VOC):</u>	0.63	lb/hr
	1.25	lb/day
	0.23	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)

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

DETERMINATION OF COMPLIANCE

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



ISSUE DATE: MAY 13, 2009

APPLICATION NO.: 0369006

EXPIRATION: MAY 13, 2011

DATE: APRIL 14, 2008

DETERMINATION OF COMPLIANCE IS HEREBY GRANTED TO:

BEACON SOLAR, LLC

DETERMINATION OF COMPLIANCE IS HEREBY GRANTED FOR:

Emergency Firewater Pump Driven by 300-bhp Diesel Piston Engine

(See attached sheets for equipment description and conditions)

S T R Location:
SW01 31S 37E APN: 469-021-10

Startup Inspection

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: Emergency Firewater Pump Driven by 300-bhp Diesel Piston Engine, including following equipment and design specifications:

- A. 3000-gallon per minute (gpm) Clarke firewater pump driven by 300-bhp John Deere Tier 3 diesel fueled piston engine

DESIGN CONDITIONS:

- a. Engine shall be equipped with turbocharger and aftercooler. (Rule 210.1 BACT Requirement)
- b. Elapsed time meter shall be installed and maintained indicating cumulative hours of engine operating time. (Rule 210.1)

OPERATIONAL CONDITIONS:

1. Visible emissions from engine exhaust after engine has reached normal operating temperature shall not equal or exceed 5% opacity or Ringelmann No. $\frac{1}{4}$ for more than 3 minutes in any one hour. (Rule 210.1 BACT Requirement)
2. Exhaust gas particulate matter concentration shall not exceed 0.1 grains/ft³ of gas at standard conditions. (Rule 404.1)
3. Fuel for diesel piston engine shall conform to California Air Resources Board standards for reformulated diesel fuel (low sulfur, 0.0015% by weight and low aromatic hydrocarbon, 20% by weight). (Rule 210.1 BACT Requirement)
4. Equipment shall be maintained according to manufacturer's specifications to ensure compliance with emissions limitations. (Rule 210.1 and Rule 209)
5. 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)
6. Operating record of this equipment shall be maintained in format approved in writing by District, kept for minimum of two years, and made available upon request of District personnel. Record shall include, at minimum, days and hours of operation, location of operation, amount of fuel oil supplied to this engine, and date(s), check(s) and certification(s) of injection timing. (Rules 209 and 210.1)
7. 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)
8. Engine operation shall not exceed 200 hours per year without prior District approval. (Rule 210.1)
9. Diesel engine driving emergency fire water pump shall comply with Tier 3 emissions standards and Air Toxic Control Measure (ATCM) for Stationary Compression Ignition Engines. (California Code of Regulations 93115, Title 17)

10. Engine operation for maintenance and testing shall not exceed 50 hours per year without prior District approval. (Rule 210.1)

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 any emission limitations shall be verified, within 60 days of District request. Test results shall be submitted to KCAPCD within 30 days after test completion. (Rule 108.1 and 210.1)

EMISSION LIMITS:

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

<u>Particulate Matter (PM₁₀):</u>	0.15 gm/bhp-hr
	0.10 lb/hr
	2.38 lb/day
	0.01 ton/yr

<u>Sulfur Oxides (SO_x as SO₂):</u>	0.003 lb/hr
	0.08 lb/day
	0.0003 ton/yr

<u>Oxides of Nitrogen (NO_x as NO₂):</u>	2.8 gm/bhp-hr
	1.85 lb/hr
	44.45 lb/day
	0.19 ton/yr

<u>Volatile Organic Compounds (VOC):</u> (as defined in Rule 210.1)	0.2 gm/bhp-hr
	0.13 lb/hr
	3.18 lb/day
	0.01 ton/yr

<u>Carbon Monoxide:</u>	1.72 lb/hr
	41.28 lb/day
	0.17 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)

KERN COUNTY AIR POLLUTION CONTROL DISTRICT
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
FAX: (661) 823-0167

ISSUE DATE: MAY 13, 2009

APPLICATION NO.: 0369007

EXPIRATION: MAY 13, 2011

DATE: APRIL 14, 2008

DETERMINATION OF COMPLIANCE IS HEREBY GRANTED TO:

BEACON SOLAR, LLC

DETERMINATION OF COMPLIANCE IS HEREBY GRANTED FOR:

Bio-Remediation of Hydrocarbon Contaminated Soil

(See attached sheets for equipment description and conditions)

S T R Location:
SW01 31S 37E APN: 469-021-10

Startup Inspection

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. 590-ft. by 590-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 when soil is not actively being added or removed shall not 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 VOC readings of bio-remediation area during any period it is operated as required by an approved protocol. 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)

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 any emission limitations shall be verified, within 60 days of District request. Test results shall be submitted to KCAPCD within 30 days after test completion. (Rule 108.1 and 210.1)

EMISSION LIMITS:

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

<u>Volatile Organic Compounds (VOC):</u>	0.10 lb/day
(as defined in Rule 210.1)	0.02 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)

**BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION
OF THE STATE OF CALIFORNIA**

**APPLICATION FOR CERTIFICATION FOR
THE BEACON SOLAR ENERGY PROJECT**

DOCKET NO. 08-AFC-2

PROOF OF SERVICE
(Revised 4/28/09)

<u>APPLICANT</u>	<u>COUNSEL FOR APPLICANT</u>	<u>ENERGY COMMISSION</u>
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<p>Bill Pietrucha, Project Manager Jared Foster, P.E. Worley Parsons 2330 E. Bidwell, Suite 150 Folsom, CA 95630 Bill.Pietrucha@worleyparsons.com Jared.Foster@worleyparsons.com</p>	<p><u>INTERVENORS</u></p> <p>Tanya A. Gulesserian Marc D. Jacobs Adams Broadwell Joseph & Cardozo 601 Gateway Boulevard, Suite 1000 South San Francisco, CA 94080 E-MAIL PREFERRED tgulesserian@adamsbroadwell.com</p>	<p>Public Adviser's Office publicadviser@energy.state.ca.us</p>

Declaration of Service

I, Lois Navarrot, declare that on August 11, 2009, I served and filed copies of the **Beacon Solar, LLC's Final Determinations of Compliance permits**. 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/beacon. 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.

For Filing with the Energy Commission

 X sending an original paper copy mailed, to the address below;

OR

 depositing in the mail an original and 12 paper copies as follow:

California Energy Commission
Attn: Docket No. 08-AFC-2
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.

/s/
Lois Navarrot