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.:	**0368001**
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:

35.0-MMBtu/hr Propane Fueled Boiler

DOCKET
09-AFC-9
DATE
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(See attached sheets for equipment description and conditions)

S	T	R	Location:	Startup Inspection
SW26	27S	39E	APN: 341-110-02	

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

g:\ATCLTR (2/2006)

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: 35.0-MMBtu/hr Propane Fueled Boiler, including following equipment and design specifications:

A. 35.0-MMBtu/hr propane fueled boiler with low-NOx burner system.

DESIGN CONDITIONS:

a. Boiler shall be fueled exclusively with propane classified as HD-10 or higher. (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 5,000-hours/year without prior District approval. (Rule 210.1)
3. Boiler exhaust concentration of sulfur oxides (calculated as SO_2) shall not exceed 2000 parts per million on a volume basis (ppmv). (Rule 407)
4. Volume of propane used as fuel for boiler shall not exceed 1.91-million gallons per year. (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 boiler's annual heat input 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 (PM_{10}):	0.27	lb/hr
	4.02	lb/day
	0.67	ton/yr
Sulfur Oxides (SOx as SO_2):	0.01	lb/hr
	0.11	lb/day
	0.02	ton/yr
Oxides of Nitrogen (NOx as NO_2):	9	ppmv @ 3% O_2 (Rule 210.1 BACT Rqmt.)
	0.39	lb/hr
	5.78	lb/day
	0.96	ton/yr
Volatile Organic Compounds (VOC): **(as defined in Rule 210.1)**	0.31	lb/hr
	4.59	lb/day
	0.77	ton/yr
Carbon Monoxide:	50	ppmv @ 3% O_2
	1.30	lb/hr
	19.43	lb/day
	3.24	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

PRELIMINARY DETERMINATION OF COMPLIANCE

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Phone: (661) 823-9264

ISSUE DATE:	**MONTH XX, 2010**	APPLICATION NO.:	**0368002**
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:

35.0-MMBtu/hr Propane Fueled Heater

(See attached sheets for equipment description and conditions)

S	T	R	Location:	Startup Inspection
SW26	27S	39E	APN: 341-110-02	

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

Validation Signature:

David L. Jones
Air Pollution Control Officer

g:\ATCLTR (2/2006)

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: 35.0-MMBtu/hr Propane Fueled Heater, including following equipment and design specifications:

A. 35.0-MMBtu/hr propane fueled heater with low-NOx burner system.

DESIGN CONDITIONS:

a. Heater shall be fueled exclusively with propane classified as HD-10 or higher. (Rule 210.1)
b. Heater described above shall be equipped with low NOx burner and be in accordance with manufacturer's specifications. (Rule 210.1)
c. Heater 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 heater exhaust stack shall not exceed 5% opacity or Ringelmann No. ¼. (Rule 210.1 BACT Requirement)
2. Heater operation shall not exceed 500-hours/year without prior District approval. (Rule 210.1)
3. Heater exhaust concentration of sulfur oxides (calculated as SO_2) shall not exceed 2000 parts per million on a volume basis (ppmv). (Rule 407)
4. Volume of propane used as fuel for heater shall not exceed 191,257-gallons per year. (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:

Heater 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 heater's annual heat input attains or exceeds 90,000 therms (9,000-MMBtu). Heater 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 (PM_{10}):	0.27	lb/hr
	2.68	lb/day
	0.07	ton/yr
Sulfur Oxides (SOx as SO_2):	0.01	lb/hr
	0.08	lb/day
	0.002	ton/yr
Oxides of Nitrogen (NOx as NO_2):	9	ppmv @ 3% O_2 (Rule 210.1 BACT Rqmt.)
	0.39	lb/hr
	3.85	lb/day
	0.10	ton/yr
Volatile Organic Compounds (VOC):	0.31	lb/hr
(as defined in Rule 210.1)	3.06	lb/day
	0.08	ton/yr
Carbon Monoxide:	50	ppmv @ 3% O_2
	1.30	lb/hr
	12.95	lb/day
	0.32	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

PRELIMINARY DETERMINATION OF COMPLIANCE

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Phone: (661) 862-5250
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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	T	R	Location:	Startup Inspection
SW26	27S	39E	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	

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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: 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:

Volatile Organic Compounds (VOC):	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)

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

PRELIMINARY DETERMINATION OF COMPLIANCE

2700 "M" Street, Suite 302
Bakersfield, CA 93301-2370
Phone: (661) 862-5250
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Field Office
Phone: (661) 823-9264

ISSUE DATE:	**MONTH XX, 2010**	APPLICATION NO.:	**0368004**
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:

Vapor Control System

(See attached sheets for equipment description and conditions)

S	T	R	Location:	Startup Inspection
SW26	27S	39E	APN: 341-110-02	

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

Validation Signature:

David L. Jones
Air Pollution Control Officer

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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 No. 0368003) 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. 0368003. (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)

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:

Volatile Organic Compounds (VOC):	3.13	lb/hr
(as defined in Rule 210.1)	6.26	lb/day
	1.14	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

PRELIMINARY DETERMINATION OF COMPLIANCE

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Bakersfield, CA 93301-2370
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Phone: (661) 823-9264

ISSUE DATE:	**MONTH XX, 2010**	APPLICATION NO.:	**0368005**
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:

Forced Draft Auxiliary Cooling Tower with 2 Cells and High Efficiency Drift Eliminator

(See attached sheets for equipment description and conditions)

S	T	R	Location:	Startup Inspection
SW26	27S	39E	APN: 341-110-02	

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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 Auxiliary Cooling Tower with 2 Cells and High Efficiency Drift Eliminator, including following equipment and design specifications:

A. Two 30.5-MMBtu (3,017-gpm) Cooling Tower Cells
B. Two 30-hp Cooling Tower Fans
C. Two 30-hp (1765-gpm) Cooling Water Pumps
D. Make-Up Water Tank
E. 10-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 2000-ppm (0.01670-lb/gal). (Rule 210.1)
4. Cooling water volumetric flow rate shall not exceed 6,100-gal/minute. (Rule 210.1)
5. Compliance with daily PM_{10} 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 PM_{10} emission limits shall be determined by continuous conductivity monitoring of blowdown water with results available to District staff upon request. Additionally, annual calibration verification shall be 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 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:

Particulate Matter (PM_{10}):	0.03	lb/hr
	0.49	lb/day
	0.09	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

PRELIMINARY DETERMINATION OF COMPLIANCE

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Phone: (661) 862-5250
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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

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:	Startup Inspection
SW26	27S	39E	APN: 341-110-02	

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

Validation Signature:

David L. Jones
Air Pollution Control Officer

g:\ATCLTR (2/2006)

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:

Volatile Organic Compounds (VOC):	0.17	lb/day
(as defined in Rule 210.1)	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)

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.:	**0368007**
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:

2000-kW Emergency Generator Set Driven with 2922-Bhp Diesel Fueled Piston Engine

(See attached sheets for equipment description and conditions)

S	T	R	Location:	Startup Inspection
SW26	27S	39E	APN: 341-110-02	

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

Validation Signature:

David L. Jones
Air Pollution Control Officer

g:\ATCLTR (2/2006)

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: 2000-kW Emergency Generator Set Driven with 2922-Bhp Diesel Fueled Piston Engine, including following equipment and design specifications:

A. 2000-kW Cummins electrical generator set Model DQKC, driven by 2922-bhp Cummins Tier 2, Model QSK60-G6 (60.2L), 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. ¼ 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/ft^3 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 generator shall comply with Tier 2 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)

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:

Particulate Matter (PM_{10}):	0.15	gm/bhp-hr
	0.97	lb/hr
	23.19	lb/day
	0.10	ton/yr
Sulfur Oxides (SOx as SO_2):	0.03	lb/hr
	0.75	lb/day
	0.00	ton/yr
Oxides of Nitrogen (NOx as NO_2):	4.5	gm/bhp-hr
	28.99	lb/hr
	695.85	lb/day
	2.90	ton/yr
Volatile Organic Compounds (VOC):	1.93	lb/hr
(as defined in Rule 210.1)	46.39	lb/day
	0.19	ton/yr
Carbon Monoxide:	16.75	lb/hr
	402.04	lb/day
	1.68	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

PRELIMINARY DETERMINATION OF COMPLIANCE

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Phone: (661) 862-5250
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Field Office
Phone: (661) 823-9264

ISSUE DATE:	**MONTH XX, 2010**	APPLICATION NO.:	**0368008**
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:

Emergency Firewater Pump Driven with 300-Bhp Diesel Fueled Piston Engine

(See attached sheets for equipment description and conditions)

S	T	R	Location:	Startup Inspection
SW26	27S	39E	APN: 341-110-02	

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

g:\ATCLTR (2/2006)

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 with 300-Bhp Diesel Fueled Piston Engine, including following equipment and design specifications:

A. 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. ¼ 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/ft^3 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 (excluding NFPA 25 testing) 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 number of hours necessary to comply with the testing requirements of the National Fire Protection Association (NFPA) 25 – "Standard for the Inspection, Testing and Maintenance of Water Based Fire Protection Systems," 2002 edition without prior District approval. (California Code of Regulations 93115, Title 17)
11. Additional engine operation for maintenance and emissions testing (excluding NFPA 25 testing) shall not exceed 50 hours per year without prior District approval. (California Code of Regulations 93115, Title 17)

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:

Particulate Matter (PM_{10}):	0.15	gm/bhp-hr
	0.10	lb/hr
	2.38	lb/day
	0.01	ton/yr
Sulfur Oxides (SOx as SO_2):	0.003	lb/hr
	0.08	lb/day
	0.0003	ton/yr
Oxides of Nitrogen (NOx as NO_2):	2.8	gm/bhp-hr
	1.85	lb/hr
	44.45	lb/day
	0.19	ton/yr
Volatile Organic Compounds (VOC): **(as defined in Rule 210.1)**	0.13	lb/hr
	3.18	lb/day
	0.01	ton/yr

Carbon Monoxide:	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)

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:

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

known as a solar steam generator (SSG) to produce steam. Produced steam powers a conventional steam turbine which is used to drive an electric generator (steam turbine generator [STG]). RSPP will have a nominal electrical output of 250 megawatts (MW). Solar thermal technology will provide 100 percent of the power generated by the plant.

Emissions units proposed for RSPP include the following:

1. 35-million British thermal units per hour (MMBtu/hr) propane fueled auxiliary boiler used for facility start-up;

2. 35-MMBtu/hr propane fueled heater used for HTF freeze protection;

3. HTF expansion system, that includes HTF expansion tanks, and solar generating field,

4. HTF vapor control system utilizing carbon adsorption system;

5. One cooling tower with 2 cells used for cooling of auxiliary equipment at the RSPP;

6. Bioremediation/land farm that will be used for treatment of HTF spills.

7. One emergency generator set driven by 2922-brake horsepower (bhp) diesel fueled engine;

8. One emergency fire water pump driven by 300-brake horsepower (bhp) diesel fueled engine;

Equipment determined to be exempt from permitting requirements of the Kern County Air Pollution Control District (District) are the following:

Equipment Description	**Applicable Exemption**
Diesel Fuel Storage Tank: 300-gallon fixed, unheated tank used to supply fuel for emergency fire water pump	Rule 202.II.G.5
Mirror Wash Vehicles: Water tanker trucks configured for washing parabolic mirrors in the solar field	Rule 202.I.B
Lube Oil Reservoir: 10,000-gallon fixed roof, unheated tank used to store lubrication oil for the Steam Turbine Generator.	Rule 202.II.G.6
Heating Ventilation and Air Conditioning (HVAC): Comfort air conditioning in offices and control room.	Rule 202.II.A.4 Rule 202.II.K.4
Water Heater: Hot water supply for restrooms and other auxiliary uses.	Rule 202.II.A.1
Water Treatment Systems: Pretreatment for boiler feed water, cooling tower feed water, and mirror wash water.	Emissions determined to be insignificant
Sodium Hydroxide Storage Tank: 8,500-gallon fixed roof, unheated tank used to store chemical for water treatment system.	No criteria air contaminant emissions

Sulfuric Acid Storage Tanks: Two 8,000-gallon fixed roof, unheated tank used to store chemical for water treatment system.	Emissions determined to be insignificant
Sodium Hypochlorite Storage Tanks: Two 8,500-gallon fixed roof, unheated tank used to store chemical for water treatment system.	Emissions determined to be insignificant

Because of the facility type and power generating capacity (thermal power plant with capacity greater than 50-MW) the California Energy Commission (CES) is the sole permitting agency. Additionally, as the project will be located on BLM land, the BLM and CEC will prepare a joint environmental analysis for the proposed project to avoid duplication of staff efforts, to share staff expertise and information, to promote intergovernmental coordination at the local, state, and federal levels, and to facilitate public review by producing a joint environmental document and a more efficient environmental review process. As the CEC is the sole permitting agency, the District will be issuing a *"Determination of Compliance"* (DOC) for the sources of air emissions that will constructed at RSPP. Mitigation measures for the project (if any) will be evaluated by the CEC. Facility is new; therefore, project will be evaluated for Best Available Control Technology (BACT) and Offset requirements.

II. APPLICABLE RULES and REGULATIONS:

A. Rule 201 – Permits Required (Amended 05/02/96)
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, shall first obtain authorization for such construction from the APCO. An Authority to Construct (ATC) shall remain in effect until the permit to operate the equipment for which the application was filed is granted, denied, or canceled.

B. Rule 208.2 – Criteria for Finding of No Significant Environmental Impact [California Environmental Quality Act (CEQA)] (Amended 1/8/98)
Establishes criteria by which a project under review by KCAPCD can be found to have no potential for causing a significant environmental impact, and, thus, be granted a general rule exemption pursuant to Section 15061(b)(3) of the State CEQA Guidelines.

C. Rule 210.1 – New and Modified Stationary Source Review (Amended 07/11/96)
a) Provide for pre-construction review of new and modified stationary sources of affected pollutants to insure emissions will not interfere with the attainment of ambient air quality standards.
b) Insure that appropriate new and modified sources of affected pollutants are constructed with Best Available Control Technology, and
c) Provide for no significant net increase in emissions from new and modified stationary sources for all non-attainment pollutants and their precursors.

D. Rule 401 – Visible Emissions (Amended 11/29/93)
A person shall not discharge into the atmosphere emissions as dark or darker than Ringelmann 1 or 20% opacity for more than 3 minutes in any one hour.

E. Rule 402 – Fugitive Dust (Amended 11/03/2004)
This rule is to reduce the amount of respirable particulate matter (PM_{10}) emitted from significant man-made fugitive dust sources and in an amount sufficient to maintain National Ambient Air Quality Standards.

F. Rule 404.1 – Particulate Matter Concentration (Adopted 1/24/2007)
A person shall not discharge from any single source operation, the construction or modification of which commenced after the adoption of this rule, particulate matter in excess of 0.1 grains per cubic foot of gas at standard conditions.

G. Rule 407 – Sulfur Compounds
A person shall not discharge into atmosphere sulfur compounds with discharge concentration greater than 0.2% by volume calculated as SO_2.

H. Rule 409 – Fuel Burning Equipment – Combustion Contaminants
Fuel burning equipment shall not discharge SOx, NOx, or PM in excess of U.S. EPA Standards of Performance. Additionally, combustion contaminants at point of discharge shall not exceed 0.1 grain per standard cubic foot.

I. Rule 411 – Storage of Organic Liquids (Amended 03/07/96)
Rule sets forth standards for storage of organic liquids with a true vapor pressure (TVP) of 1.5 or greater.

J. Rule 414.2 – Soil Decontamination (Volatile Organic Compounds)
VOC emissions from excavated, aeration, or treatment of soil that has been contaminated by organic compounds is required to comply with Excavation, Aeration, or Treatment requirements of Rule 414.2.

K. Rule 419 – Nuisance (Adopted 4/18/72 Renumbered 5/89)
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

L. Rule 422 (Standards of Performance for New Stationary Sources) 40 CFR Part 60, **Subpart IIII** (Stationary Compression Ignition Internal Combustion Engines): Manufacturers, owners, and operators of compression ignition (diesel) engines are required to utilize engines certified to "Tier" standards in accordance with the schedules in Subpart IIII.

M. Rule 425.2 – Boilers, Steam Generators, and Process Heaters (Oxides of Nitrogen)
Boiler, steam generator, and process heater rated at 5,000,000 Btu/hr or greater with an annual heat input of 90,000 therms (1 therm = 100,000 Btu) or greater NOx emissions shall not exceed the following:

	Gaseous Fuel
During Normal Operation	70 ppmv, or 0.09 lb/MMBtu
During Natural Gas Curtailment	

Additionally, CO emissions shall not exceed 400 ppmv.

N. Rule 429.1 – Cooling Towers (Hexavalent Chromium – Adopted 07/13/92)
Cooling towers shall not have water treatment chemicals containing hexavalent chromium.

O. California Health and Safety Code (CH&SC) 41700
Nuisance and hazardous emissions shall not cause any harm to the public (identical to Rule 419).

III. EQUIPMENT SCHEMATICS:

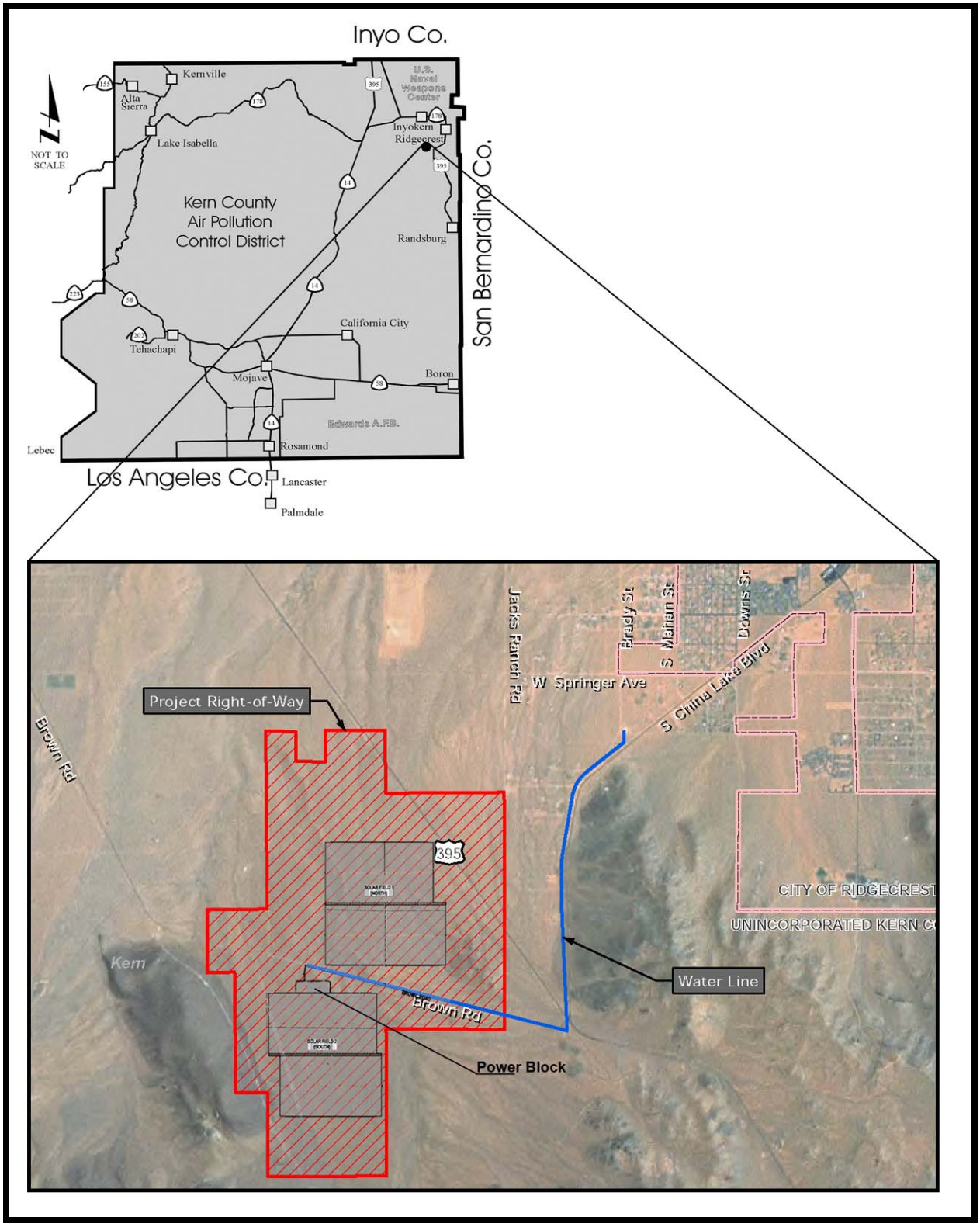


Figure 1: General Location of RSPP Facility

III. EQUIPMENT SCHEMATICS (Continued):

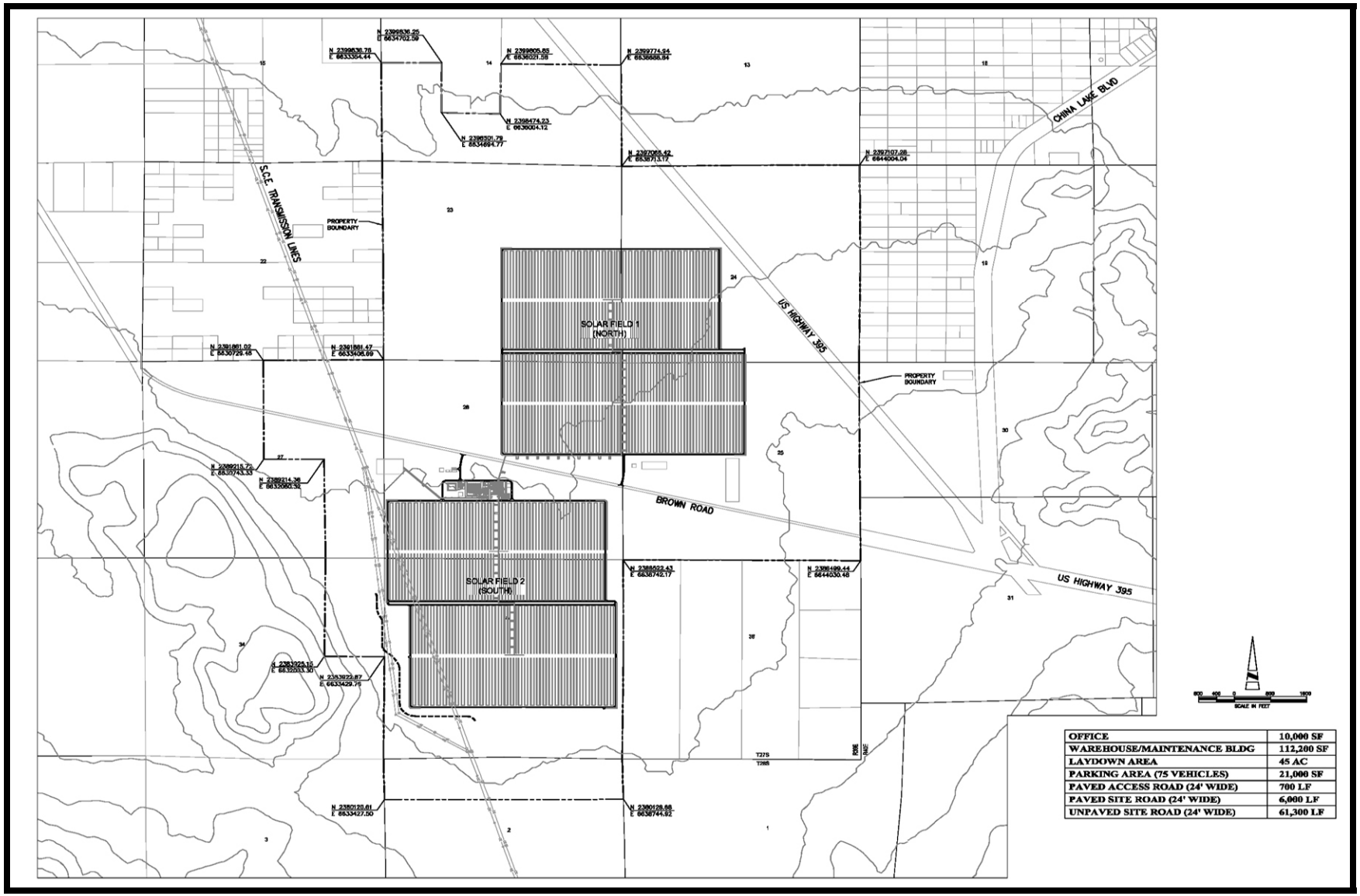
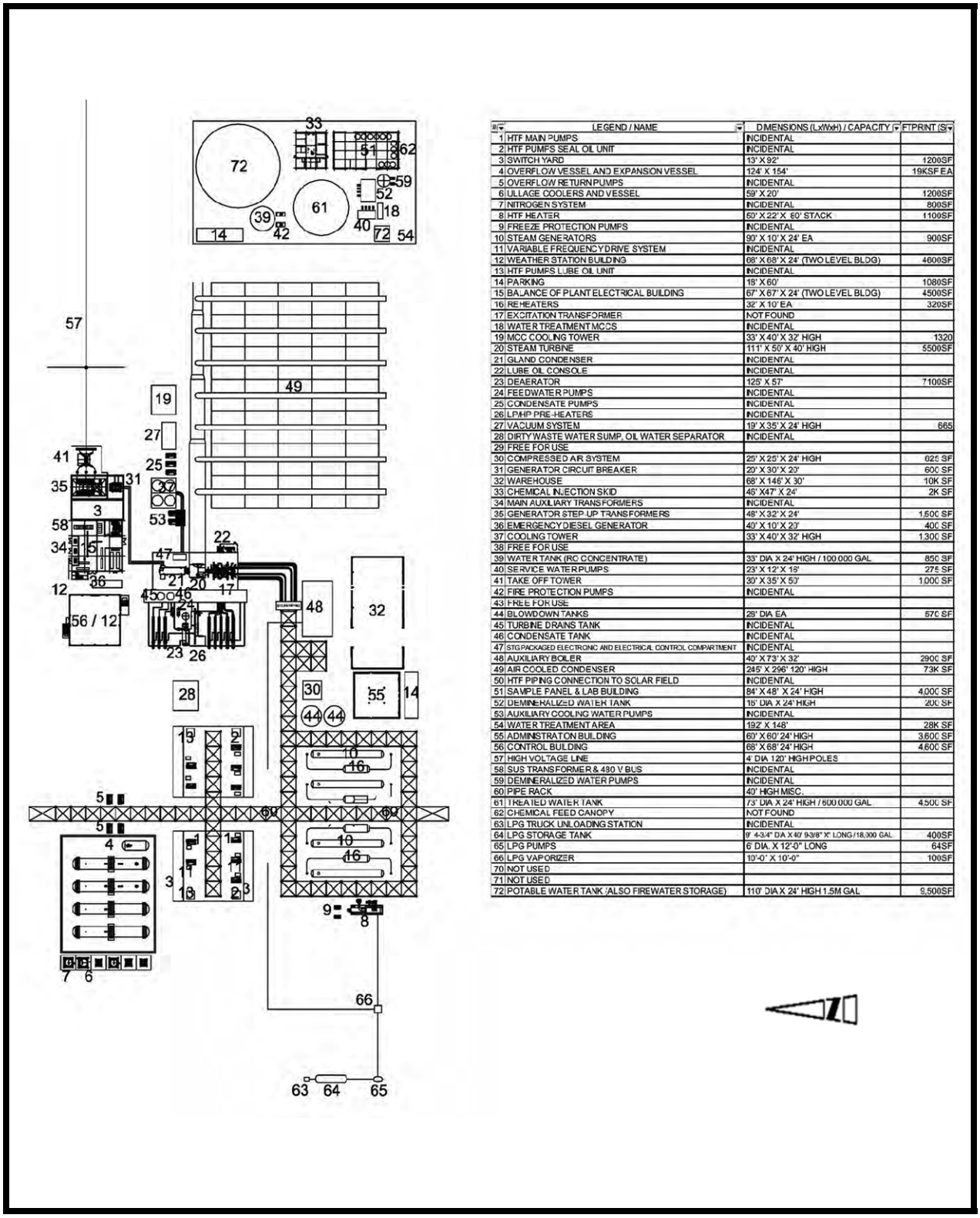


Figure 2: RSPP Facility Plot Plan

III. EQUIPMENT SCHEMATICS (Continued):



	LEGEND / NAME	DIMENSIONS (LxWxH) / CAPACITY	FTPRINT (S
1	HTF MAIN PUMPS	INCIDENTAL	
2	HTF PUMPS SEAL OIL UNIT	INCIDENTAL	
3	SWITCH YARD	13' X 92'	1200SF
4	OVERFLOW VESSEL AND EXPANSION VESSEL	124' X 154'	19KSF EA
5	OVERFLOW RETURN PUMPS	INCIDENTAL	
6	ULLAGE COOLERS AND VESSEL	59' X 20'	1200SF
7	NITROGEN SYSTEM	INCIDENTAL	800SF
8	HTF HEATER	50' X 22' X 60' STACK	1100SF
9	FREEZE PROTECTION PUMPS	INCIDENTAL	
10	STEAM GENERATORS	90' X 10' X 24' EA	900SF
11	VARIABLE FREQUENCY DRIVE SYSTEM	INCIDENTAL	
12	WEATHER STATION BUILDING	68' X 68' X 24' (TWO LEVEL BLDG)	4600SF
13	HTF PUMPS LUBE OIL UNIT	INCIDENTAL	
14	PARKING	18' X 60'	1080SF
15	BALANCE OF PLANT ELECTRICAL BUILDING	67' X 67' X 24' (TWO LEVEL BLDG)	4500SF
16	REHEATERS	32' X 10' EA	320SF
17	EXCITATION TRANSFORMER	NOT FOUND	
18	WATER TREATMENT MCCS	INCIDENTAL	
19	MCC COOLING TOWER	33' X 40' X 32' HIGH	1320
20	STEAM TURBINE	111' X 50' X 40' HIGH	5500SF
21	GLAND CONDENSER	INCIDENTAL	
22	LUBE OIL CONSOLE	INCIDENTAL	
23	DEAERATOR	125' X 57'	7100SF
24	FEEDWATER PUMPS	INCIDENTAL	
25	CONDENSATE PUMPS	INCIDENTAL	
26	LP/HP PRE-HEATERS	INCIDENTAL	
27	VACUUM SYSTEM	19' X 35' X 24' HIGH	665
28	DIRTY WASTE WATER SUMP, OIL WATER SEPARATOR	INCIDENTAL	
29	FREE FOR USE		
30	COMPRESSED AIR SYSTEM	25' X 25' X 24' HIGH	625 SF
31	GENERATOR CIRCUIT BREAKER	20' X 30' X 20'	600 SF
32	WAREHOUSE	68' X 146' X 30'	10K SF
33	CHEMICAL INJECTION SKID	45' X47' X 24'	2K SF
34	MAIN AUXILIARY TRANSFORMERS	INCIDENTAL	
35	GENERATOR STEP-UP TRANSFORMERS	48' X 32' X 24'	1,500 SF
36	EMERGENCY DIESEL GENERATOR	40' X 10' X 20'	400 SF
37	COOLING TOWER	33' X 40' X 32' HIGH	1,300 SF
38	FREE FOR USE		
39	WATER TANK (RO CONCENTRATE)	33' DIA X 24' HIGH / 100,000 GAL	850 SF
40	SERVICE WATER PUMPS	23' X 12' X 15'	275 SF
41	TAKE OFF TOWER	30' X 35' X 50'	1,000 SF
42	FIRE PROTECTION PUMPS	INCIDENTAL	
43	FREE FOR USE		
44	BLOWDOWN TANKS	28' DIA EA	570 SF
45	TURBINE DRAINS TANK	INCIDENTAL	
46	CONDENSATE TANK	INCIDENTAL	
47	STG PACKAGED ELECTRONIC AND ELECTRICAL CONTROL COMPARTMENT	INCIDENTAL	
48	AUXILIARY BOILER	40' X 73' X 32'	2900 SF
49	AIR COOLED CONDENSER	245' X 296' 120' HIGH	73K SF
50	HTF PIPING CONNECTION TO SOLAR FIELD	INCIDENTAL	
51	SAMPLE PANEL & LAB BUILDING	84' X 48' X 24' HIGH	4,000 SF
52	DEMINERALIZED WATER TANK	18' DIA X 24' HIGH	200 SF
53	AUXILIARY COOLING WATER PUMPS	INCIDENTAL	
54	WATER TREATMENT AREA	192' X 148'	28K SF
55	ADMINISTRATON BUILDING	60' X 60' 24' HIGH	3,600 SF
56	CONTROL BUILDING	68' X 68' 24' HIGH	4,600 SF
57	HIGH VOLTAGE LINE	4' DIA 120' HIGH POLES	
58	SUS TRANSFORMER & 480 V BUS	INCIDENTAL	
59	DEMINERALIZED WATER PUMPS	INCIDENTAL	
60	PIPE RACK	40' HIGH MISC.	
61	TREATED WATER TANK	73' DIA X 24' HIGH / 600,000 GAL	4,500 SF
62	CHEMICAL FEED CANOPY	NOT FOUND	
63	LPG TRUCK UNLOADING STATION	INCIDENTAL	
64	LPG STORAGE TANK	9' 4-3/4" DIA X 40' 9-3/8" X" LONG / 18,000 GAL	400SF
65	LPG PUMPS	6' DIA. X 12'-0" LONG	64SF
66	LPG VAPORIZER	10'-0" X 10'-0"	100SF
70	NOT USED		
71	NOT USED		
72	POTABLE WATER TANK (ALSO FIREWATER STORAGE)	110' DIA X 24' HIGH 1.5M GAL	9,500SF

Figure 3: RSPP Facility Power Block Layout

III. EQUIPMENT SCHEMATICS (Continued):

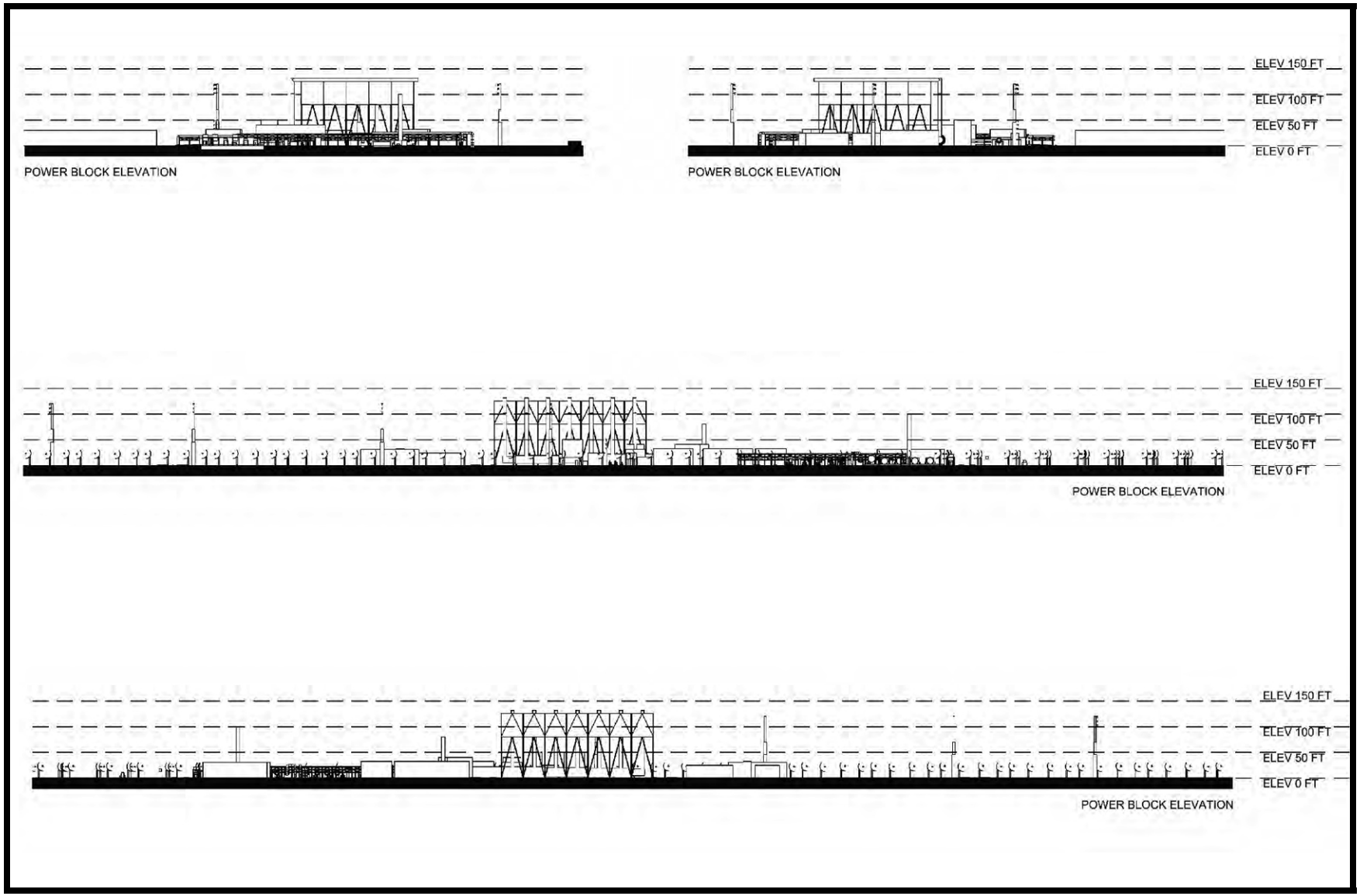


Figure 4: RSPP Facility Power Block Layout Elevation View

III. EQUIPMENT SCHEMATICS (Continued):

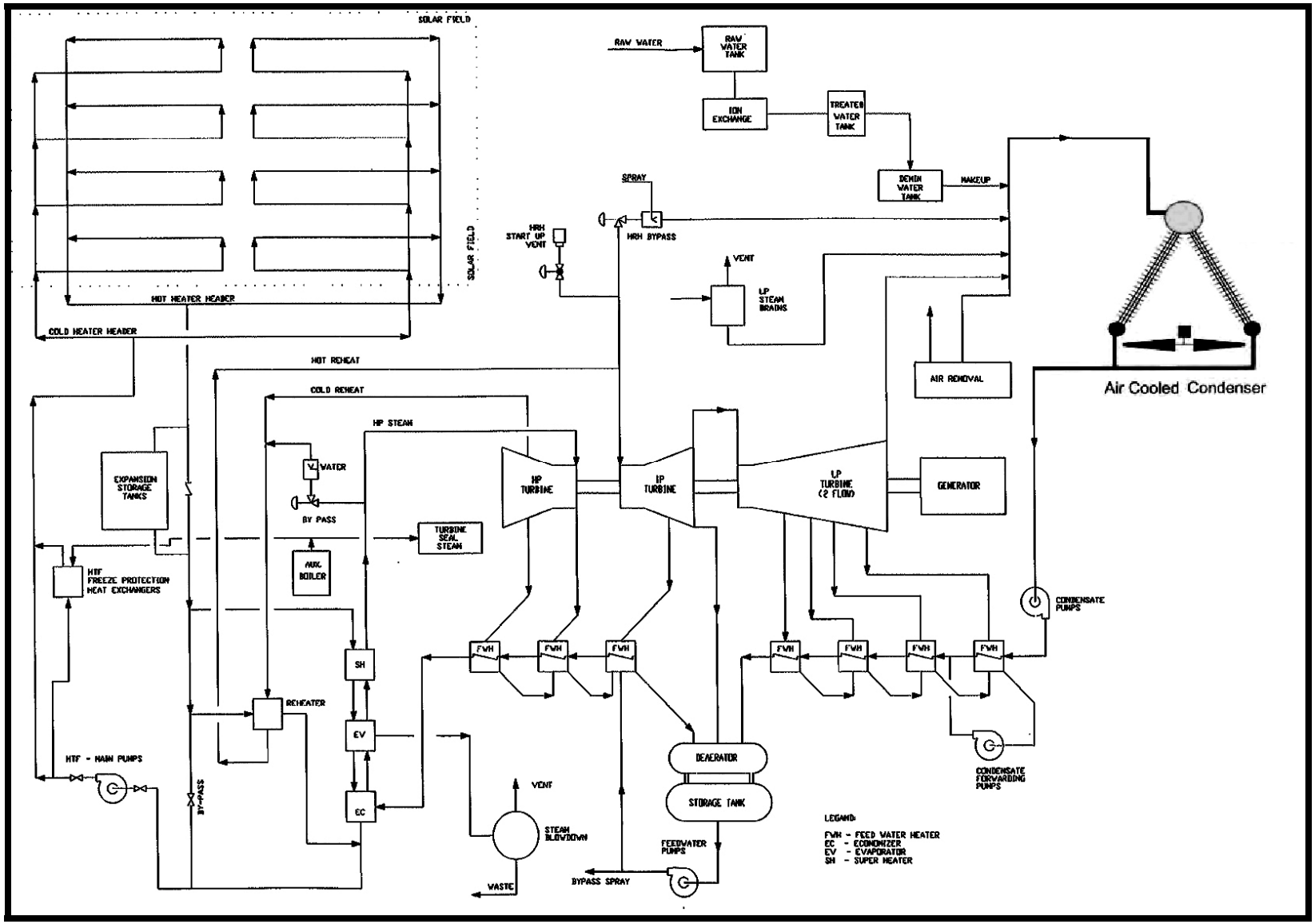


Figure 5: RSPP Facility Process Flow Diagram (General)

III. EQUIPMENT SCHEMATICS (Continued):

Figure 6: Picture of Trough Solar Collector

III. EQUIPMENT SCHEMATICS (Continued):

Figure 7: Picture of Similar Solar Generating Facility (Kramer Junction Solar Plant)

III. EQUIPMENT SCHEMATICS (Continued):

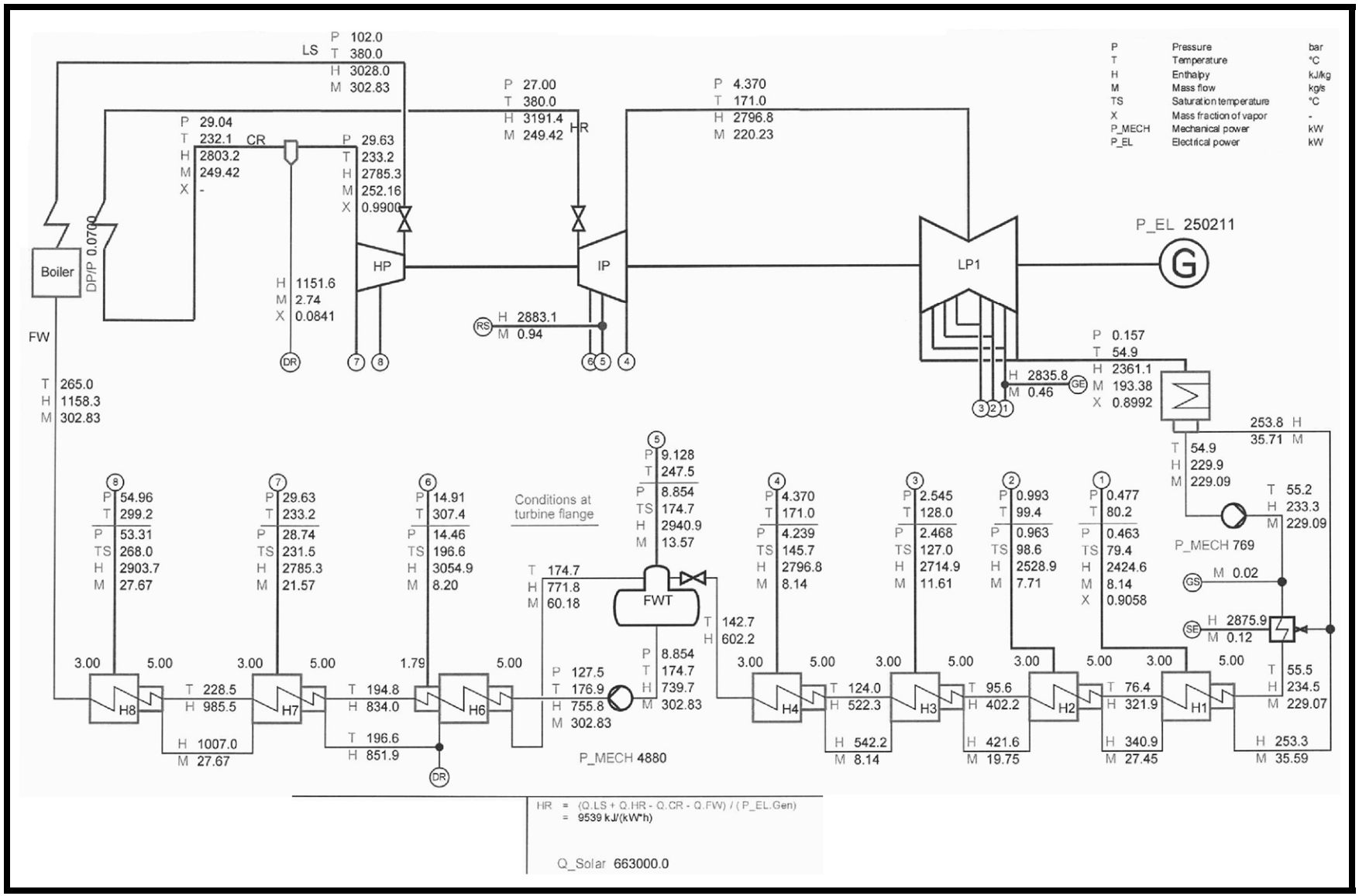
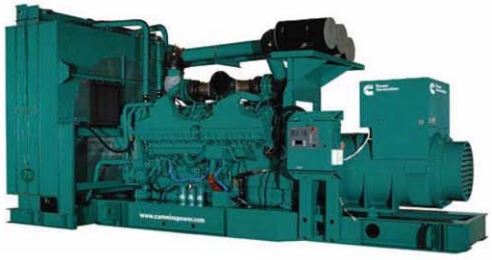


Figure 8: Heat Balance Diagram

III. EQUIPMENT SCHEMATICS (Continued):

Power Generation

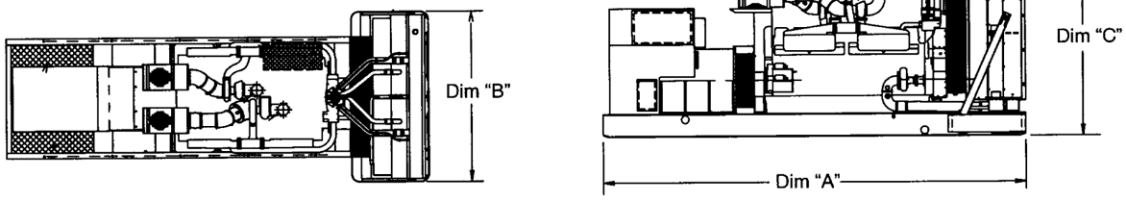


Diesel generator set
QSK60 series engine

Fuel consumption	Standby kW (kVA)			
Ratings	2000 (2500)			
Load	1/4	1/2	3/4	Full
US gph	43	71	103	135
L/hr	163	272	385	510

Model	Standby rating 60 Hz kW (kVA)
DQKC	2000 (2500)

Engine	Standby rating	Prime rating
Engine manufacturer	Cummins Inc.	
Engine model	QSK60-G6	
Configuration	Cast iron, 60°V 16 cylinder	
Aspiration	Turbocharged and low temperature aftercooled	
Gross engine power output, kWm (bhp)	2179 (2922)	1975 (2647)
BMEP at set rated load, kPa (psi)	2420 (351)	2185 (317)
Bore, mm (in)	159 (6.25)	
Stroke, mm (in)	190 (7.48)	
Rated speed, rpm	1800	
Exhaust		
Exhaust gas flow at set rated load, m^3/min (cfm)	439 (15500)	398 (14070)
Exhaust gas temperature, °C (°F)	477 (890)	460 (860)
Maximum exhaust back pressure, kPa (in H_2O)	6.7 (27)	
Air		
Combustion air, m^3/min (scfm)	173 (6150)	160 (5690)
Maximum air cleaner restriction, kPa (in H_2O)	6.2 (25)	
Alternator cooling air, m^3/min (cfm)	289 (10200)	



Model	Dim "A" mm (in.)	Dim "B" mm (in.)	Dim "C" mm (in.)	Set Weight* dry kg (lbs)	Set Weight* wet kg (lbs)
DQKC	6175 (243)	2286 (90)	2537 (100)	14649 (32296)	15152 (33405)

Figure 9: 2000-kW Generator Set with 2,922-bhp Engine

III. EQUIPMENT SCHEMATICS (Continued):

CLARKE
FIRE PUMP DRIVERS

MODEL JW6H-UF40

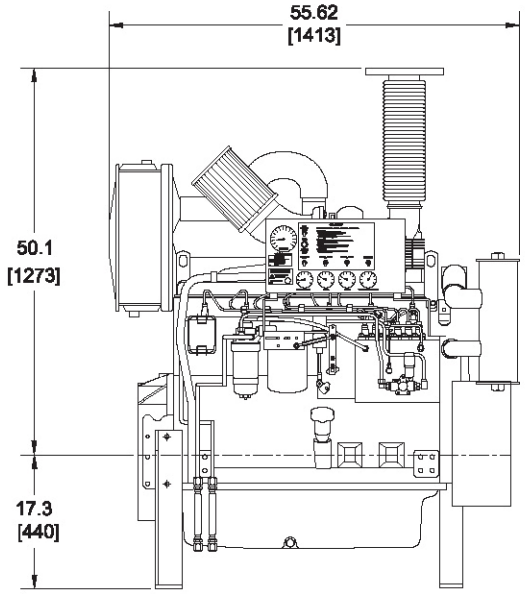
FM-UL-cUL Approved Ratings BHP/*kW*			
JW6H MODEL	OPERATING SPEED		
	1760	2100	2350
UF40	290 *216*	300 *224*	300 *224*

Basic Engine Description

Engine Manufacturer	John Deere Co.
Ignition Type	Compression (Diesel)
Number of Cylinders	6
Bore and Stroke - in.(mm)	4.56 (116) x 5.06 (129)
Displacement - $in.^3$ (L)	496 (8.1)
Compression Ratio	15.7:1
Valves per cylinder - Intake	1
Exhaust	1
Combustion System	Direct Injection
Engine Type	In-Line, 4 Stroke Cycle
Aspiration	Turbocharged
Firing Order (CW Rotation)	1-5-3-6-2-4
Charge Air Cooling Type	Raw Water Cooled
Rotation (Viewed from Front) - Clockwise	Standard
Counter-Clockwise	Not Available
Engine Crankcase Vent System	Open

Exhaust System	**2350**
Exhaust Flow - $ft.^3$/min. (m^3/min.)	2058 (58)
Exhaust Temperature - °F (°C)	738 (392)
Maximum Allowable Back Pressure - in. H_20 (kPa)	30 (7.5)
Minimum Exhaust Pipe Dia. - in. (mm)**	5.0 (127)

Fuel System	
Fuel Consumption - gal./hr. (L/hr.)	14.5 (54.9)
Fuel Return - gal./hr. (L/hr.)	61.5 (232.8)
Total Supply Fuel Flow - gal./hr. (L/hr.)	76.0 (287.7)



JW6H-UF50
OVERALL WIDTH
29.5
[749]

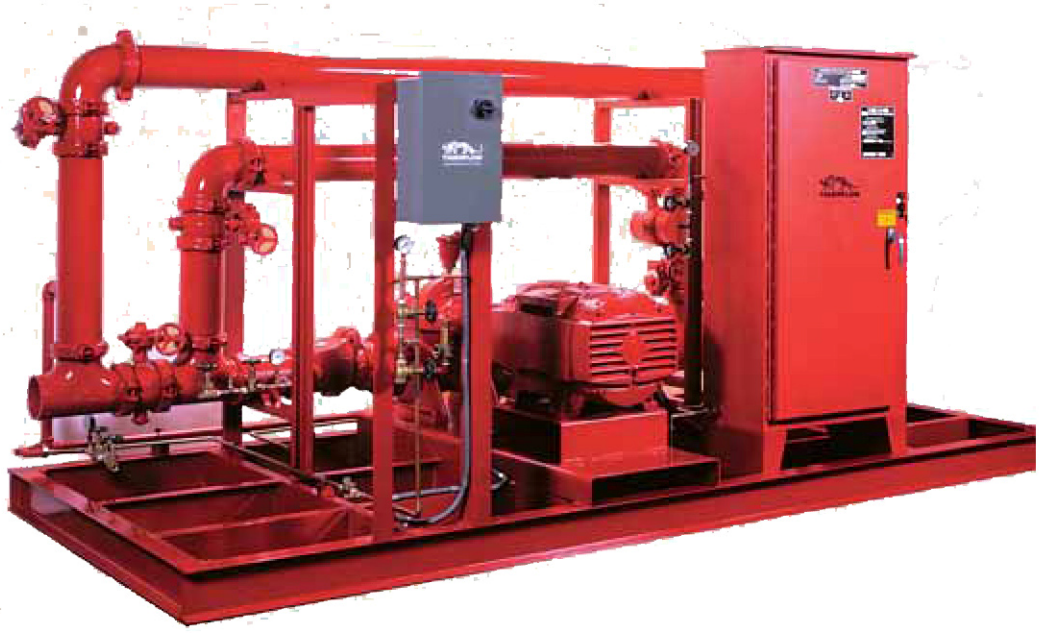


Figure 10: Schematic of Firewater Pump

IV. EQUIPMENT LISTING:

A. 35-MMBtu/hr propane fueled boiler with low NOx burner system (**ATC No 0368001**);

B. 35-MMBtu/hr propane fueled boiler with low NOx burner system (**ATC No 0368002**);

C. HTF expansion system including HTF expansion tanks, solar generating field, and HTF piping network vented to vapor control system (**ATC No. 0368003**);

D. HRF Vapor control system serving ATC Nos. 0368003 utilizing carbon adsorption system (**ATC No. 0368004**)

E. Forced Draft Cooling Tower with 2 Cells and High Efficiency Drift Eliminator for auxiliary equipment (**ATC No. 0368005**)
   1) Two 30.5-MMBtu (3,017-gpm) Cooling Tower Cells
   2) Two 30-hp Cooling Tower Fans
   3) Two 30-hp (1765-gpm) Cooling Water Pumps
   4) Make-Up Water Tank
   5) 20-hp Make-Up Water Pump

F. 800-ft by 200-ft Bioremediation/land farming operation with enclosed treatment area for spilled HTF (ATC No. **0368006**).

G. 2000-kW Cummins electrical generator set Model DQKC, driven by 2922-bhp Cummins Tier 2, Model QSK60-G6 (60.2L), diesel fueled piston engine. (**ATC No. 0368007**)

H. Clarke firewater pump driven by 300-bhp John Deere Tier 3 diesel fueled piston engine (**ATC No. 0368008**); and

V. ENGINEERING ANALYSIS:

A. Project Description

RSPP is to be a 1,440 acre facility in Kern County approximately five miles southwest of Ridgecrest. As shown in Figure 2, the Power Block is located in the SW¼ Section of Section 26, Township 27 South, Range 39 East of the Mount Diablo Base and Meridian (MDB&M). Total area solar facility will occupy is listed below by Section Township and Range (S/T/R) and Assessor Parcel Number (APN) (same area):

S/T/R:	Sections 14, 23, 24, 25, 26, 27, 34, and 35 of T27S/R39E, and Section 2 of T28S/R39E
APN:	341-091-08, 341-091-10, 0341-091-11, 341-110-01, 341-110-02, 341-110-03, 341-110-05, 341-110-06, and 097-070-02

RSPP will use parabolic trough solar 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 known as a solar steam generator (SGS) to produce steam. Produced stream powers a conventional steam turbine which is used to drive an electric generator (steam turbine generator [STG]). RSPP will have a nominal electrical output of 250 megawatts (MW). Solar thermal technology will provide 100 percent of the power generated by the plant.

Emissions generating support equipment for RSPP are the following:
1) 35-million British thermal units per hour (MMBtu/hr) propane fueled auxiliary boiler used for facility start-up; 2) 35-MMBtu/hr propane fueled heater used for HTF freeze protection; 3) HTF expansion system, that includes HTF expansion tanks, and solar generating field, 4) HTF vapor control system utilizing carbon adsorption system; 5) One cooling tower with 2 cells used for cooling of auxiliary equipment at the RSPP; 6) Bio-remediation/land farm that will be used for treatment of HTF spills; 7) One emergency generator set driven by 2922-brake horsepower (bhp) diesel fueled engine; and 8) One emergency fire water pump driven by 300-brake horsepower (bhp) diesel fueled engine.

Boiler: 35-MMBtu/hr boiler is used for startup of the steam turbine. On a normal operating day, full-load boiler operation for startup will last less than two hours. The boiler will also be operated approximately 15-hours per day in stand-by mode, at 25 percent capacity. Boiler will be equipped with ultra-low-NOx burners capable of achieving an oxides of nitrogen as nitrogen dioxide (NOx as NO_2) emission concentration of 9-ppmv (parts per million on a volume basis) at three percent excess oxygen (3% O_2). Good combustion control will be utilized to ensure CO (carbon monoxide) and VOC (volatile organic compound) emission control. Low sulfur commercial propane (HD-10 grade or higher) will ensure low PM_{10} (particulate matter with aerodynamic diameter not exceeding 10 microns) and SOx as SO2 (oxides of sulfur as sulfur dioxide) emissions.

HTF Heater: 35-MMBtu/hr HTF heater will be used for HTF freeze protection. The number of hours per day required for freeze protection will vary according to the ambient nighttime temperature. The total annual HTF heater operation for freeze protection is not expected to exceed 500-hours per year. HTF heater will be equipped with ultra-low-NOx burners capable of achieving an oxides of nitrogen as nitrogen dioxide (NOx as NO_2) emission concentration of 9-ppmv (parts per million on a volume basis) at three percent excess oxygen (3% O_2). Good combustion control will be utilized to ensure CO (carbon monoxide) and VOC (volatile organic compound) emission control. Low sulfur commercial propane will ensure low PM_{10} (particulate matter with aerodynamic diameter not exceeding 10 microns) and SOx as SO2 (oxides of sulfur as sulfur dioxide) emissions.

Cooling Towers: RSPP will utilize to cooling systems 1) the air-cooled steam cycle heat rejection system and 2) the closed cooling water system for ancillary equipment cooling.

Air Cooled Condenser: The cooling system for heat rejection from the steam cycle consists of a forced draft air-cooled condenser (ACC) or “dry cooling” system. The dry cooling system receives exhaust steam from the low pressure section of STG, and condenses the steam to liquid to for return to the SSG. This unit is exempt from permitting.

Auxiliary Cooling Water System: The auxiliary cooling water system uses 2-cell wet cooling tower for cooling plant equipment, including the STG lubrication cooler, the STG generator cooler, steam cycle sample coolers, large pumps, and etc. The cooling water pick up heat from various equipment items being cooled and rejects the heat to the cooling tower. This auxiliary cooling system will allow critical equipment such as the generator and HTF pumps to operate at their design ratings during hot summer months when the Project’s power output is most valuable. An average of 73,000-gallons of water per day {gpd} (82-acre-feet per year {afy}) will be consumed by the auxiliary cooling water

system; the maximum rate of consumption is 112,000-gpd in the summer. PM_{10} emissions are minimized through use of a high efficiency drift eliminator (0.0005 percent of water circulation rate) and careful control of Total Dissolved Solids (TDS) loading in the circulating water. Water for the cooling tower is supplied from onsite groundwater supply wells. This unit will require District permit.

HTF system the heart of the solar power plant; the system is utilized to convert solar energy to electrical energy. HTF system includes HTF, solar steam generator system, HTF piping header, HTF expansion tanks, and HTF Ullage system. HTF (heat transfer fluid) currently expected to be utilized is Solutia Therminol^{TM} VP-1 (Therminol). Therminol is a special high-temperature synthetic oil; it an aromatic hydrocarbon with a mixture of biphenyl and diphenyl oxide.

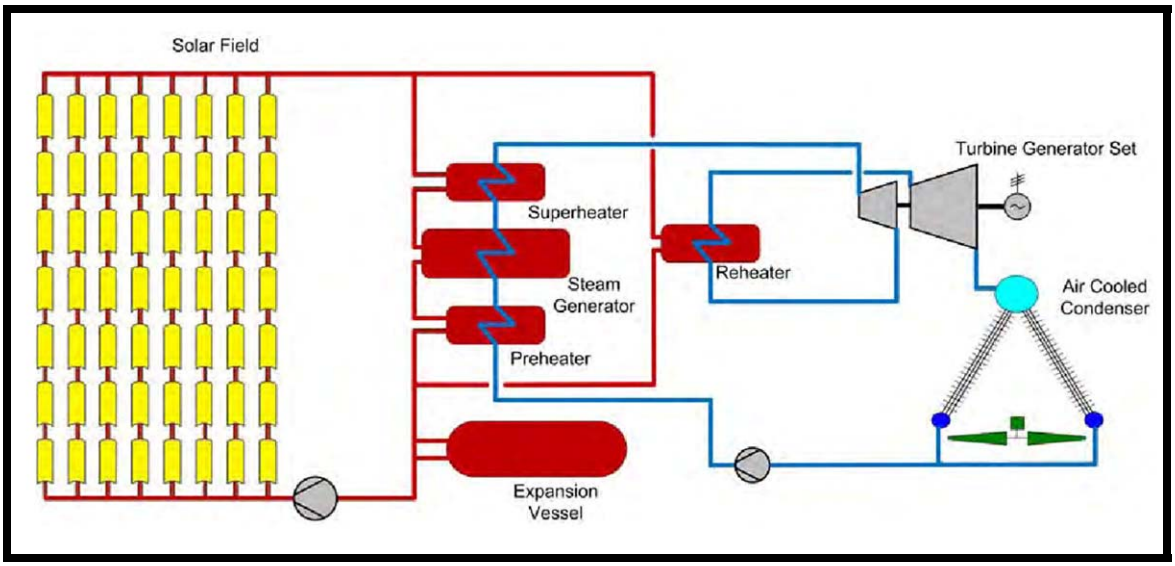


Figure 11 (Thermodynamic Cycle)

Thermodynamic cycle illustrated above is described as follows:
Red lines on the diagram represent HTF piping. HTF flows from top to the bottom in the figure, arriving from the solar field and transferring heat to the superheater and reheater, then to the SSG, and lastly in the preheater before returning to the solar field to be heated again. The blue lines represent steam and water piping. Feedwater, the portion of the blue between the ACC and the preheater, is heated in a series of feedwater heaters by steam turbine extraction at various pressure levels.

Step 1: The power cycle working fluid (water) from the de-aerator and feedwater heater is pumped from low to high pressure and piped to the solar preheater. HTF provides heat to the preheater which heats feedwater to its saturation temperature.

Step 2: High pressure saturated water enters the SSG where it is heater by warmer HTF. Water boils and exits as saturated steam.

Step 3: Saturated steam flows to the superheater where hot HTF takes the saturated steam at a constant pressure to a higher temperature prior to being feed to the high pressure (HP) section of the steam turbine

Step 4: Superheated steam expands through the HP section of the steam turbine turning generator to produce electricity.

Step 5: Steam let down from the turbine's HP section is then reheated in a solar reheater which is fed with hot HTF. The reheated steam is then fed to the intermediate pressure (IP) section of the steam turbine.

Step 6: The IP steam exhausts into the low pressure (LP) section of the steam turbine. All sections of the STG decrease the temperature and pressure of the steam, with the LP section extracting the last available power from the steam.

Step 7: Wet steam from the LP section then enters the ACC where it is cooled at a constant low pressure to become a saturated liquid. The condensed liquid returns to the feed water heater train and to the beginning of the steam cycle to begin the process again.

RSPP has been sized for 675-MW as the thermal input from the solar fields, which, with its rated net output of 235-MW, equates to, approximately, 35% thermal efficiency. The plant's overall availability is anticipated to be approximately 96% during daylight hours.

Solar Plant Operational Modes: Electrical power will be generated only during daylight hours. The following day-to-day operational modes are conducted with the HTF system: 1) Stand-by, 2) Warm-up, 3) Solar field mode (heat transfer fro solar field to power block), 4) Shutdown, and 5) Freeze protection.

1. Stand-By: A propane fueled auxiliary boiler with a capacity of 25,000-lbs steam/hr provides steam to maintain steam cycle vacuum overnight and for start-up. Steam generated by the auxiliary boiler is expected to be at a pressure of approximately 165-psig (gauge pressure). Sealing steam is used to prevent air from entering the steam turbine while the condenser is under vacuum. This method reduces start-up time for the plant compared to relying on solar-generated steam as the sealing steam source. As a solar plant must wait for the sun to rise to start generating steam, minimizing delays to generate electricity is paramount. It is estimated that using an auxiliary boiler for seal steam will reduce the daily start-up time by 30 to 60 minutes. Assuming the STG is on-line 30-minutes sooner each day, at a minimum of 25-MW, 350-days/year yields an additional 4,500-MW-hours of renewal electrical generation each year.

2. Warm-up: In the morning, this mode brings the HTF flow rate and temperatures up to their steady-state operating conditions by position all required valves, starting the required number of HTF main pumps for establishing a minimum flow within the solar field, and tracking the solar field collectors in to the sum. Normal operational conditions (565°F at solar field inlet and 739°F at solar field outlet) are usually achieved within 30 minutes for less.

   At the beginning of warm-up, HTF is circulated through a bypass around the power block heat exchangers until the outlet temperature reaches the residual steam temperature in the heat exchangers. HTF is then circulated through the heat exchangers and the bypass is closed. As the HTF temperature at the solar field outlet continues to rise, steam pressure builds up in the heat exchangers until the minimum turbine inlet conditions are achieved, at which time the turbine is started and run up to speed. The turbine is synchronized and loaded according to the design specifications until its power output matches the full steady state solar field thermal output.

3. Solar field mode: Distributed Control System (DCS), which coordinates and integrates power block, HTF system and solar field operations, automatically enters solar field mode after completing the warm-up mode. It regulates the flow by

controlling the HFT main pump speeds to maintain the solar field outlet temperature of 739°F. Several HTF pumps will generally be operated in parallel at the speed required to provide the required flow in the field. However, in exceptional cases (e.g. during maintenance), a lower number of pumps may be used, providing up to 70% of full flow at nominal pump capacity. If the thermal output of the solar field is higher than the capacity of the steam generation system, collectors within the solar field are de-focused to maintain design operating temperatures.

4. Shutdown: If the minimal thermal input to the turbine required by the operating strategy cannot be met under the prevalent weather conditions, the turbine is shutdown. Operators would track all solar collectors into the stow position, reduce number of HTF main pumps to main to a minimum, and stop the HTF flow to the power blow heat exchangers.

5. Freeze protection: To eliminate the problem of HTF freezing, one HTF heater will be installed and used to ensure system temperature stays above 54°F whenever the solar field is off-line. A freeze protection system will be used to prevent freezing of the HTF piping system during cold winter nights. Since HTF freezes at a relatively high temperature, warm HTF will be circulated at low flow rated from the HTF heater through the solar field. Performance model results indicate that the HTF heater may be required on very cold nights in the winter.

HTR System collectively consists of the HTF piping, 15,900-gallon storage tank, and expansion tank, four or more overflow vessels (analysis will be based on four), and a ullage system to capture, recover, and recondition HTF. The HTF piping system includes the valves, flanges, pumps, pressure relief device, which emit fugitive VOC emissions.

HTF thermal expansion is accommodated in the expansion vessel, a pressurized tank with nitrogen blanketing. With rising HTF temperatures, HTF in the expansion vessel reaches its design working level and overflows into four overflow vessels. With falling HTF temperatures, one of four overflow return pumps supplies HTF from the overflow vessels back into the expansion vessel.

Each of the two solar fields at RSPP will be equipped with one expansion tank and four overflow tanks. The expansion tanks are elevated, to provide net positive suction head to the HTF main pumps. Expansion vessels have an approximately capacity of 5,000-cubic feet (ft^3) and are 37-ft. long with 14-ft. diameter. Overflow vessels have an approximately capacity of 18,000- ft^3 and are 110-ft long with 15-ft diameter. Each expansion vessel is supported approximately 6-meters above grade on a steel frame, which may be integrated onto the HF pumping area pipe support rack. The four overflow vessels are located side-by-side below each of the expansion vessel. Underneath all HTF vessels is a concrete containment pit sized to accommodate the entire volume of HTF in all tanks when full. The pit is also the central drain location for fugitive HTF leaks in the HTF pumping and handling area of the plant. The pit basin is drained by a sump pump to a waste collection tank that is regularly emptied and hauled away for further recycling and reprocessing. The collection tank has a design capacity of 2,200- ft^3.

Some internal structures within the expansion vessels allow distribution of feed HTF for stripping of gaseous contamination or low boiler HTF degradation products like benzene.

RSPP will utilize a 2-stage condensing system to reclaim usable HTF liquids and carbon filtration to control emissions for HTF low-boiling derivates.

The mixture of gas from the expansion vessel enters the ullage system via ullage vessel #1, which contains a certain level of HTF at any time. The HTF vapor within the mixture condenses and is recirculated to the HTF cycle. If necessary, the HTF content of the first ullage vessel is cooled by circulation via an air cooler.

Leaving the first usage vessel, residual mixture of gas enters the second ullage vessel, where it will be further condensed. The content of the second usage vessel is cooled by circulation via a second air cooler. By cooling, the hydrocarbons within the gaseous mixture condensed to a large extent and are collected in the ullage drain vessel. Residual gaseous components are vented to the vessel pit through an active carbon bed reducing the VOC content over 98%. The volume of collected liquid residuals and vented gas will depend upon the final operating temperature during the previous operational day and the temperature of the system overnight. The second ullage vessel has a capacity of approximately 600-ft^3 and is 15-ft tall with 8-ft diameter. Liquid residuals are stored in a reclamation drain vessel with 350- ft^3 capacity.

Emissions to the atmosphere from HTF system shall be limited to 1.5-lb/day, from the second ullage vessel, vented at predefined intervals ranging between one to three days. To maintain sufficient system pressure within the HTF cycle, nitrogen is introduced simultaneously with venting.

Nitrogen will be used to provide a blanket on the headspace of the expansion and overflow tanks. Nitrogen prevents oxidization or contamination of HTF by reducing its exposure to atmospheric air and also reduces potential evaporative emissions. During plant operation, HTF will degrade into components of high- and low-boilers (substances with high and low boiling points). The low boilers are removed from the process through the ullage system, and are vented to the atmosphere through carbon adsorption system. HTF is removed from the HTF surge tanks and flashed, leaving behind high boilers and residual HTF. The flashed HTF vapors are condensed and collected in the ullage system for return to the heat collection circuit.

Solar Steam Generator System: The SSG system transfers the latent heat from the HTF to the feedwater. The steam generated in the SSG is piped to a Ranking-cycle reheat steam turbine. Heat exchangers are includes as part of the SSG system to preheat and boil the condensate, superheat the steam, and reheat the steam. Steam from the SSG is sent to the STG. Steam expands through the STG turbine blades to derive the steam turbine, which, in turn, drives the electric generator, converting mechanical energy to electrical energy. Projects STC is expected to be a three-stage casing type with HP, IP and LP steam sections.

Emergency Fire Water Pump and Emergency Electrical Generator: Fire water pump driven with 300-bhp diesel fueled piston engine shall be utilized for fire emergencies when utility power is unavailable. Emergency electrical generator powered with a 2922-bhp engine shall be utilized during utility power failure. Applicant has proposed use of a Tier 3 engine as power plant for firewater pump and Tier 2 engine as the power plant for the emergency electrical generator. In accordance with CARB (California Air Resources Board) Stationary Diesel ATCM (Airborne Toxic Control Measure, section 93115, title 17) engine operation for maintenance and emissions testing cannot exceed 50-hours per year. Also, for fire water pump engine only, Diesel ATCM allows for additional engine operation for maintenance and testing to comply with the testing requirements of the National Fire Protection Association (NFPA) 25 – "Standard for the Inspection, Testing and Maintenance of Water Based Fire

Protection Systems," 2002 edition. Additional operation time is not exceed number of hours necessary to complete NFPA 25 required testing. District requires operation emergency emission units not exceed 200-hours per year. Finally, fire pump engine and emergency electrical generator engine must comply with the following:

1) CARB diesel fuel or alternative diesel fuel that has been verified for use, and
2) Tier 3 Non-Road Engine Certification Standard for a model year 2006 – 2010 engine between 300-bhp and 600-bhp.
3) Tier 2 Non-Road Engine Certification Standard for a model year 2006 – 2010 engine greater than 1200-bhp.

Model year 2006 – 2010 engines between 300-bhp and 600-bhp have to comply with Federal Tier 3 NMHC+NOx, CO and PM standards of 3.0, 2.6 and 0.15-g/bhp-hr (respectively). The 300-bhp engine has the following emission rates:

	NMHC+NOx	CO	PM-10
g/bhp-hr	3.0	2.6	0.15

Model year 2006 – 2010 engines with ratings greater than 1200-bhp have to comply with Federal Tier 2 NMHC+NOx, CO and PM standards of 4.8, 2.6 and 0.15-g/bhp-hr (respectively). The 2922-bhp engine has the following emission rates:

	NMHC+NOx	CO	PM-10
g/bhp-hr	4.8	2.6	0.15

Bioremediation: HTF piping has large number of valves, flanges, pumps, and fittings. Because of large temperature range these components experience daily, there is significant thermal expansion and contraction of the materials. Seals expand, contract, wear, and age, and as a result, these components occasionally leak small amounts of HTF. The facility proposes use of bioremediation to reclaim soil for later use as fill onsite.

Bioremediation process has three steps; first step is bioremediation, which contaminated soils (those soils with more than 1,000 milligrams per kilogram {mg/kg} hydrocarbons) are remediated using naturally occurring bacteria. Biological activity is enhanced using water and fertilizers such as urea and monopotassium phosphate. Once contamination level drops below 1,000-mk/kg, soils are removed from bioremediation pile and transferred to land farm in second step of process. Land farm is used for "clean" soil storage; although, not specifically operated for bioremediation, additional biological activity is expected to occur. Final step in process is to use remediated soil for backfill on Project site.

Bioremediation/land farm facility will cover an area of approximately 400-feet by 800-feet. Bioremediation will be used for soils with hydrocarbon contamination concentration less than 10,000-mg/kg, and land farming for soils with concentrations below 1,000-mg/kg. Soils will be moved into and oft of bioremediation pile and land farm either manually (e.g. shovels) or using a small backhoe, depending on amount of soil to be moved. Fertilizer will be added manually in pellet form.

B. Toxic Emissions Screening Health Risk Assessment:

RSPP has toxic air contaminant emissions. Toxic emissions were assessed from propane combustion from boiler and heater, HTF emissions (including vapor emissions, leaks and soil remediation operation), and diesel engine (fire water pump and emergency electrical generator drivers) emissions.

Boiler and heater toxic emissions were based on EPA AP-42 (Tables 1.4-3 and 1.4-4, 7/98). Please note most of the emission factors are rated "D" (below average) and "E" (poor); therefore, factors are considered worst case. Also, please note, Tables 1.4-3 and 1.4-4 reference natural gas combustion emissions; natural gas and propane combustion emissions are very similar; therefore, natural gas emission factors for toxic emissions shall be used to calculate toxic air contaminant emissions from proposed boiler and heater:

Pollutant	Emission Factor (lb/10^6 scf)	Pollutant	Emission Factor (lb/10^6 scf)
arsenic	2.00E-04	p-dichlorobenzene	1.20E-03
benz(a)anthracene	1.80E-06	formaldehyde	7.50E-02
benzene	2.10E-03	ideno(1,2,3-c,d)pyrene	1.80E-06
benzo(a)pyrene	1.20E-06	manganese	3.80E-04
benzo(b)fluoranthene	1.80E-06	mercury	2.60E-04
benzo(k)fluroanthene	1.80E-06	naphthalene	6.10E-04
cadmium	1.10E-03	nickel	2.10E-03
copper	8.50E-04	toluene	3.40E-03
dibenz(a,h)anthracene	1.20E-06		

Emission factor was converted from pounds per million standard cubic feet (lb/10^6 scf) to pounds per million British Thermal Units (lb/MMBtu) by utilizing the higher heating value of propane of 2520-Btu/scf. Toxic emissions were calculated boiler and heater (each rated at 35-MMbtu/hr). Emission factors rated in lb/MMBtu and resultant toxic emissions are listed below:

Pollutant	Emission Factor (lb/MMBtu)	Toxic Emissions (lb/hr)	(lb/year)
arsenic	7.94E-08	5.56E-06	0.0306
benz(a)anthracene	7.14E-10	5.00E-08	0.0003
benzene	8.33E-07	5.83E-05	0.3208
benzo(a)pyrene	4.76E-10	3.33E-08	0.0002
benzo(b)fluoranthene	7.14E-10	5.00E-08	0.0003
benzo(k)fluroanthene	7.14E-10	5.00E-08	0.0003
cadmium	4.37E-07	3.06E-05	0.1681
copper	3.37E-07	2.36E-05	0.1299
dibenz(a,h)anthracene	4.76E-10	3.33E-08	0.0002
p-dichlorobenzene	4.76E-07	3.33E-05	0.1833
formaldehyde	2.98E-05	2.08E-03	11.4583
ideno(1,2,3-c,d)pyrene	7.14E-10	5.00E-08	0.0003
manganese	1.51E-07	1.06E-05	0.0581
mercury	1.03E-07	7.22E-06	0.0397
naphthalene	2.42E-07	1.69E-05	0.0932
nickel	8.33E-07	5.83E-05	0.3208
toluene	1.35E-06	9.44E-05	0.5194

HTF is a compound containing 26.5% biphenyl and 73.5% diphenyl ether. Biphenyl and diphenyl ether are both compounds in which two benzene rings are connected to each other. Studies have been preformed to showing conversion of biphenyl and diphenyl ether into benzene. Applicant assessed 99% of HTF vapor emissions from expansion tanks as benzene emissions; therefore, 99% of calculated emissions from expansion tanks will be assessed as benzene emission, as shown below:

HTF Toxic Emissions:

Pollutant	HTF Emissions (lb/hr)	(tons/yr)	(lb/year)	Toxic Emissions (lb/hr)	(lb/year)
benzene	3.13	1.14	2283.54	3.10	2260.70

Diesel engines (generator set and fire water pump driver) emissions were calculated based on maximum emergency stand-by emissions of 200-hours/year. Toxic emissions are calculated based on uncontrolled diesel fuel combustion for the 2922 and 300-bhp engines (worst case emissions), CARB VOC speciation profiles, and certified diesel PM emissions.

Diesel Exhaust Toxic Components

2922-Bhp Engine			300-Bhp Engine		Totals
Fuel Use	138.9	gal/hr	14.5	gal/hr	153.4
#2 Diesel	19,111	Btu/lb	19,111	Btu/lb	19,111
Density	57.4	lb/cu.ft.	57.4	lb/cu.ft.	57.4
Vol. Conv.	7.4805	gal/cu.ft.	7.4805	gal/cu.ft.	7.4805
Fuel Use	1065.82	lb/hr	111.26	lb/hr	1,177.08
Fuel Use	20.369	MMBtu/hr	2.126	MMBtu/hr	22.495
Yearly Use	200.0	hrs/yr	200.0	hrs/yr	200.0

Using totals for the 2922 and 300-bhp engine, maximum toxic air contaminant emissions based of CARB VOC speciation profiles and maximum operation conditions are summarized below.

Pollutant	lb/MMBtu	lb/hr	lb/yr
Acetaldehyde	7.67E-04	1.725E-02	3.450765
Acrolein	9.25E-05	2.081E-03	0.416161
Benzene	9.33E-04	2.099E-02	4.197606
1,3-Butadiene	3.91E-05	8.796E-04	0.175913
Diesel Particulate		**9.665E-01**	**193.290300**
Formaldehyde	1.18E-03	2.654E-02	5.308869
Naphthalene	8.48E-05	1.908E-03	0.381519
POLYCYCLIC AROMATIC HYDROCARBONS (PAH)			
Benz(a)anthracene	1.68E-06	3.779E-05	0.007558
Benzo(b)flouranthene	9.91E-08	2.229E-06	0.000446
Benzo(k)flouranthene	1.55E-07	3.487E-06	0.000697
Benzo(a)pyrene	1.88E-07	4.229E-06	0.000846
Dibenz(a,h)anthracene	5.83E-07	1.311E-05	0.002623
Ideno(1,2,3-cd)pyrene	3.75E-07	8.436E-06	0.001687
TOTAL PAH	**3.08E-06**	**6.929E-05**	**0.013857**
Toluene	4.09E-04	9.201E-03	1.840108
Xylenes	2.85E-04	6.411E-03	1.282227

A screening health risk assessment for the facility based on proposed toxic air contaminant emissions was completed. Summary of toxic air contaminants are summarized below:

TOXICS SUMMARY

Pollutant	lb/hr	lb/yr
Acetaldehyde	0.01725383	3.4507651
Acrolein	0.00208081	0.4161614

Arsenic	5.56E-06	3.06E-02
Benzene	3.12E+00	2.27E+03
1,3-Butadiene	0.00087956	0.1759125
Cadmium	3.06E-05	1.68E-01
Copper	2.36E-05	1.30E-01
p-Dichlorobenzene	3.33E-05	1.83E-01
Formaldehyde	2.86E-02	1.68E+01
Manganese & compounds	1.06E-05	5.81E-02
Mercury & compounds	7.22E-06	3.97E-02
Naphthalene	1.92E-03	4.75E-01
Nickel & Nickel Compounds (0.1 for nickel oxide chronic)	5.83E-05	3.21E-01
Particulate frm Diesel Eng.	0.9664515	193.2903
PAH's		
-Benz[a]anthracene	3.7792E-05	0.0075584
-Benzo[b]fluoranthene	2.2293E-06	0.0004459
-Benzo[k]fluoranthene	3.4868E-06	0.0006974
-Benzo[a]pyrene	4.2291E-06	0.0008458
-Dibenz[a,h]anthracene	1.31E-05	2.81E-03
-Indeno[1,2,3-cd]pyrene	8.4357E-06	0.0016871
Toluene	9.29E-03	2.36E+00
Xylenes (o, m, p)	0.00641113	1.2822269

Initially, a “Prioritization Score” is obtained to determine if a more refined screening risk assessment will be required. The prioritization score was based on toxic air contaminates listed above, and the nearest receptor exceeding 2000 meters (see Figure 11 below). Prioritization for the solar power plant is as follows:

PRIORITIZATION SCORE

Proximity Factors (Meters)		Carcinogenic Scores	Non-Carcinogenic Scores	Facility Ranking
1000≤ R<1500	**0.003**	0.63106	0.95076	**Low Priority**
1500≤ R<2000	**0.002**	0.42070	0.63384	**Low Priority**
2000≤ R	**0.001**	0.21035	0.31692	**Low Priority**

Based on above carcinogenic and non-carcinogenic scores (see Attachment A for details), carcinogenic and non-carcinogenic health risk from solar power plant is insignificant. Therefore, a more refined risk assessment is not required.

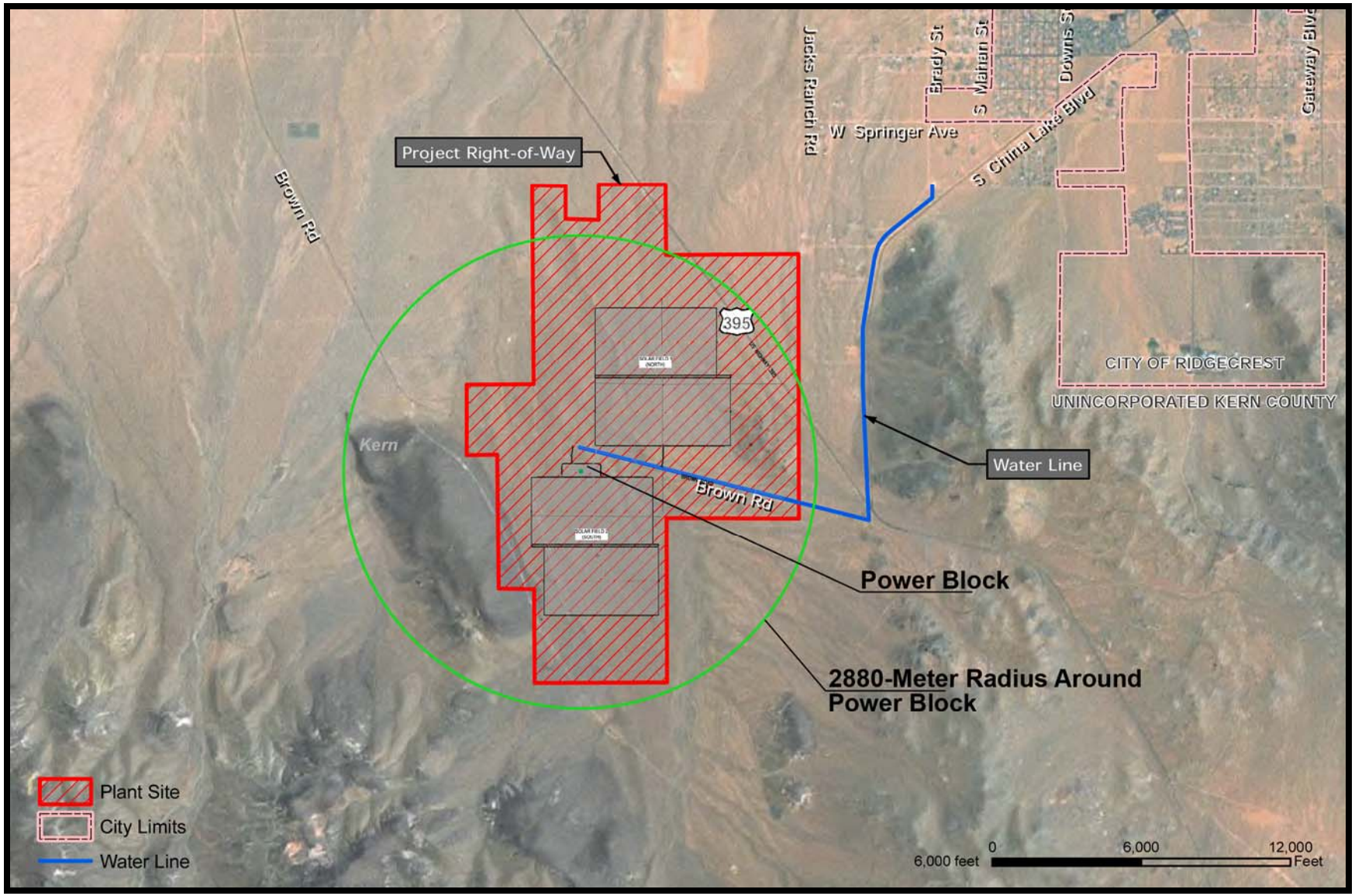


Figure 11: RSPP and Nearby Receptors

C. Offset Requirements

Proposed emissions do not exceed 15 tons/yr of PM_{10}, 27 tons/yr of SOx, 25 tons/yr of NOx, or 25 tons/yr of VOC. Therefore offsets are not required.

VI. BACT DETERMINATION:

BACT is required for the solar power plant in accordance with District Rule 210.1, Section III.A.1. Specifically, BACT is required for the Heat Transfer Fluid (HTF) Piping Network, 35.0-MMBtu/hr Boilers, 35.0-MMBtu/hr heater, Forced Draft Cooling Tower, HTF Storage and Expansion Operation, 2000-kW Generator Set driven by 2922-Bhp Diesel Piston Engine, 300-Bhp Diesel Fueled Piston Engine driving Firewater Pump, and Hydrocarbon Bio-remediation Operation.

A. Heat Transfer Fluid (HTF) Piping Network (Included on ATC No. 0368003)

BACT for the Heat Transfer Fluid (HTF) Piping Network are the following:

ATC Description	BACT
2-18,000-gallon heat transfer fluid (HTF) expansion tanks vented to vapor control system (including HTF piping network)	VOC: 1) I&M Program Leaks not to exceed 100 ppmv for all components

These provisions are also accepted as achieved in practice BACT and will be incorporated into BACT requirement for this operation.

B. BACT for 35.0-MMBtu/hr Boiler and 35-MMBtu/hr Heater (ATC Nos. 0368001 and 0368002)

BACT is required for each boiler in accordance with District Rule 210.1, Section III.A. Fuel for each unit is Commercial (HD-10) quality propane. Therefore, BACT is the following:

Pollutant	Control
PM-10:	Commercial quality propane
SOx:	Commercial quality propane
NOx:	Low NOx burners with emission concentration of 15 ppmvd
VOC:	Commercial quality propane
CO:	Not required

These provisions are also accepted as achieved in practice BACT and will be incorporated into BACT requirement for this operation. Applicant has proposed the following:

1. Use of Commercial quality propane.
2. Low NOx burners with exhaust emission concentration of 9-ppmv
3. CO exhaust emission concentration of 50-ppmv

C. BACT for Cooling Tower (ATC No. 0368005)

BACT is required for the cooling tower in accordance with District Rule 210.1, Section III.A. Therefore, utilizing San Joaquin Valley Air Pollution Control District (SJVAPCD) BACT Policy), BACT is the following:

Pollutant	Control
PM-10:	Drift rate not to exceed 0.0005%
VOC:	Hydrocarbon detection device and repair of leaks within 15 days of detection
SOx, NOx, and CO:	Not Required

Cooling Tower as proposed complies with the above requirements.

D. BACT for HTF Storage and Expansion Operation (ATC Nos. 0368003 and 0368004)
BACT is required for HTF storage and expansion operations in accordance with District Rule 210.1, Section III.A. Unit 0368004 exhaust to 0368005 (carbon adsorption system); therefore, BACT for ATC No. 0368004 is ATC No 0368005 (BACT is not required for control equipment). BACT is the following:

Pollutant	Control
VOC:	Vapor control system. Applicant has proposed use of carbon adsorption for vapor control.
PM_{10}, SOx, NOx, and CO:	Not Required

Carbon adsorption is accepted as achieved in practice BACT and will be incorporated into BACT requirement for this operation.

E. BACT for Bio-Remediation Operation (ATC No. 0368006)
Emissions from ATC No. 0368003 (HTF fluid piping network – liquid leaks) can be treated by bio-remediation. Therefore, ATC No 0368006 is control equipment for ATC No. 0368003 (BACT is not required for control equipment).

F. BACT for 2922-bhp and 300-bhp Diesel Fueled Engine Driving Electrical Generator Set and Firewater Pump respectively (ATC Nos. 0368007 and 0368008)
BACT is required for the 2922-bhp and 300-bhp diesel fueled engines driving electrical generator set and firewater pump in accordance with District Rule 210.1, Section III.A. In accordance with District's Piston Engine BACT policy, BACT is the following:

Pollutant	Control Technology
PM_{10}	• Visible emissions no greater than Ringelmann ¼ or 5% opacity once normal operating temperature is achieved.
SOx	• Fuel satisfying CARB reformulated diesel specifications
NOx	• NOx emissions for both engines not to exceed 5.8 g/bhp-hr • 300-bhp engine NOx emissions rated at 2.8-g/bhp-hr (Tier 3 NMHC + NOx not to exceed 3.0-g/bhp-hr) • 3,000-bhp engine NOx emissions rated at 4.5-g/bhp-hr (Tier 2 NMHC + NOx not to exceed 4.8-g/bhp-hr)
VOC	• Crankcase ventilation exhausting to engine air inlet, or 90% efficient control device for crankcase VOC emissions
CO	• Not required

Applicant proposed a Tier 3 engine driving the firewater pump. Proposed Tier 3 engine complies with the above requirements. Applicant proposed a Tier 2 engine driving the 2000-kW generator set. Proposed Tier 2 engine complies with the above requirements.

VII. CEQA DETERMINATION:

KERN COUNTY APCD PERMITS - CEQA COMPLIANCE
Instructions for Checklist

This form is designed to be used by the permit application processing engineer in implementing requirements of the California Environmental Quality Act (CEQA) for District permitting activities when the District is the lead or responsible agency under CEQA. The District is generally a responsible agency for portions of development projects requiring District permits. The District is a commenting agency for other parts of a project, such as, indirect source emissions and vehicle trips. Most District permits are considered exempt from CEQA (see District List of Exempt Projects). In most cases the environmental document prepared by the lead agency is adequate for the District permitting action. Certain District permit modifications may require supplemental CEQA documents.

CEQA compliance for a project subject to District permit requirements includes two steps:

A. Determining what CEQA-related information, if any, is required from the applicant to deem the application complete (this may also be identified at the pre-application stage, if there is one[1]).

B. Determining and documenting CEQA compliance for each permit application prior to granting a permit by completing the attached form.

The following instructions correspond to the questions on the form:

B.2. Projects subject to District permits often also require a land use or other permit from other agencies. The permit engineer should check the application or request from the applicant information regarding what other agencies will be requiring permits for the project and who the "Lead Agency" will be. District permit processing should begin as soon as adequate information is available to deem the application complete, even if the lead agency has not completed the environmental document (Govt. Code ' 65941 (b), amended 1993), and if the applicant so requests (Govt. Code ' 65951, amended 1993).

B.3. For District permits that do not fall under the preceding case, the engineer shall receive from the applicant a signed and dated environmental questionnaire (Initial Study checklist).

C.2. As a "responsible agency" under CEQA, the Control Officer shall consider information contained in the lead agency's final EIR or ND prior to granting the District permit. Acting on behalf of the Control Officer, the engineer shall review the ND or EIR and adopt any mitigation measures for air quality impacts or project alternatives over which the District has regulatory discretion.

C.3. If any component of the project is not listed, and if exceptions to these exemptions provided in the form are true, then the project cannot be considered exempt. In making a recommendation to issue the District permit, the permit engineer shall review the environmental questionnaire provided by the applicant to establish the project has no potential for resulting in a significant adverse environmental impact to any environmental media (see Initial Study form). The study shall also demonstrate the project will not contribute to significant cumulative impacts and will not have significant impact itself. Although no further action is required under CEQA, the applicant may request a Notice of Exemption to be filed, to reduce the statute of limitations from 180 days to 30 days, on challenges to the decision the project is exempt from CEQA.

[1] *Preapplication under PRC ' 21080.1(b) amended 1993-at the request of the applicant the lead agency must provide for pre-application consultation on the environmental document.*

KERN COUNTY APCD PERMITS -- CEQA COMPLIANCE CHECKLIST

Completeness Review Form

This form shall be completed by the permit application engineer for all Authority to Construct permit applications. The completed form shall be included in the Engineering Evaluation File.

A. General Information

Application Number: 0368001 – '008
Applicant Name: Solar Millennium, LLC
Project Description: Support Emissions Units Serving Solar Power Plant

B. Determination of Completeness

Check the corresponding action to be taken to determine the application is complete for CEQA purposes and fill in blanks where appropriate.

1. Ministerial Exemption

___This permit application is not subject to CEQA because the evaluation is a ministerial action conducted using fixed standards and objective measurements. No discretion or judgment is required in granting of this permit.

2. Project Was Exempted by or is Subject to Negative Declaration or EIR by Another Agency

X This permit application was exempted by or is subject to a ND or EIR prepared (or under preparation) by another agency. The District has received the necessary information indicating another agency is acting as the Lead Agency. Therefore, the application shall be deemed complete for CEQA purposes.

3. All Other Permits

___The District has received from the applicant, a completed, signed and dated environmental questionnaire and any other information necessary for preparing a negative declaration or EIR, if required (see Form Instructions B.3.). Therefore, the application shall be deemed complete for CEQA purposes.

C. Final Action

Check the appropriate action taken by the APCO prior to issuing the final permit.

1. Ministerial Action

___This permit application is exempt from CEQA because the permit evaluation is a ministerial action. CEQA does not apply to ministerial actions. No further action is necessary.

2. Project Was Exempted by or is Subject to Negative Declaration or EIR by Another Agency

X This permit application was exempted by or was subject to an EIR or Negative Declaration by another agency. The final action on the District permit was taken only after review and consideration of information in the certified CEQA document by the Control Officer, or authorized District representative of the Control Officer.

3. Exemption

___This permit application is exempt from CEQA because the project, as a whole, is listed in the District List of Exempt Projects AND because the project has no potential for causing a significant adverse environmental impact. A General Exemption under CEQA Section 15061 (b)(3) applies if the project is not listed in the District Exemption List AND it can be seen with certainty the project will not have a significant adverse effect on the environment. In making this determination,

a. a review of information submitted by the applicant has been conducted indicating there is no potential for a significant adverse environmental impact on any environmental media from the project;
b. emissions offsets were not required by KCAPCD Rule 210.1, Subsection III.B.;
c. recognized Best Available Control Technology (BACT) was proposed; and
d. no unusual circumstances such as location, or cumulative impacts from successive projects of the same type in the same place over time, were determined to result in significant adverse environmental impacts.

4. Permit is Not Exempt from CEQA

___This permit was found not to be exempt from CEQA and no other agency will be conducting a CEQA review for the project. The District has prepared and adopted a Negative Declaration/Addendum or certified an EIR for the project. The final action by the District was taken only after information contained in the final EIR or ND was considered and any significant adverse environmental effects were mitigated to the maximum extent feasible.

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

ENVIRONMENTAL INFORMATION FORM AND INITIAL STUDY EVALUATION

Applicant: Solar Millennium LLC
Contact: Nicole Tenenbaum
Title: Senior Project Manager **Phone:** (510) 524-4517 Ext. 306
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:** 9/16/09

[Federal Register: November 23, 2009 (Volume 74, Number 224)] [Notices]
[Page 61168-61169]
From the Federal Register Online via GPO Access [wais.access.gpo.gov]
[DOCID:fr23no09-81]

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[CACA-049016, LLCAD05000, L51010000, ER0000, LVRWB09B2990]

Notice of Intent To Prepare an Environmental Impact Statement for the Proposed Solar Millennium Ridgecrest Solar Power Project, Kern County, CA and Possible Land Use Plan Amendment and Staff Assessment

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of intent.

SUMMARY: In compliance with the National Environmental Policy Act of 1969 (NEPA), as amended, the Federal Land Policy and Management Act of 1976, as amended, and the California Environmental Quality Act, the Bureau of Land Management (BLM) Ridgecrest Field Office, together with the California Energy Commission (CEC), intend to prepare an Environmental Impact Statement (EIS)/Staff Assessment (SA), which may include an amendment to the California Desert Conservation Area (CDCA) Plan of 1980, as amended, and by this notice are announcing the beginning of the scoping process to solicit public comments and identify issues.

DATES: This notice initiates the public scoping process for the Draft EIS/SA and possible plan amendment. Comments on issues may be submitted in writing until December 23, 2009. The dates and locations of scoping meetings, information hearings, and site visits will be announced at least 15 days in advance through local media, the BLM Web site at http://www.blm.gov/ca/st/en/fo/ridgecrest.html, and the CEC's Web site at http://www.energy.ca.gov/sitingcases/solar_millennium_ridgecrest/index.html. In order to be considered in the Draft EIS/SA, all comments must be received prior to the close of the scoping period or 15 days after the last public meeting, whichever is later. We will provide additional opportunities for public participation upon publication of the Draft EIS and SA.

ADDRESSES: You may submit comments on issues and planning criteria related to the Solar Millennium Ridgecrest Draft EIS and SA by any of the following methods:

Web site: http://www.blm.gov/ca/st/en/fo/ridgecrest.html
or http://www.energy.ca.gov/sitingcases/solar_millennium_ridgecrest/index.html.

E-mail: CARSPP@blm.gov or esolorio@energy.state.ca.us.

Fax: BLM (951) 697-5299 or CEC (916) 654-3882.

Mail: BLM California Desert District, 22835 Calle San Juan de los Lagos, Moreno Valley, California 92553, Attn: Janet Eubanks; or
California Energy Commission, 1516 Ninth Street, MS-15, Sacramento, California, 95814, Attn: Eric Solorio.

Documents pertinent to this proposal may be examined at the Ridgecrest Field Office.

FOR FURTHER INFORMATION CONTACT: For further information or to have your name added to our mailing list, contact Janet Eubanks, Project Manager, at (951) 697-5376; or 22835 Calle San Juan de los Lagos, Moreno Valley, California 92553; or e-mail Janet_Eubanks@ca.blm.gov.

SUPPLEMENTARY INFORMATION: Solar Millennium, LLC, has applied for a right-of-way (ROW) authorization to construct and operate a parabolic trough, solar thermal, generating facility with a capacity of 250 megawatts. The project would connect to the existing Southern California Edison 230-kilovolt (kV) Inyokern/Kramer Junction transmission line. About a mile long portion of this 230 kV transmission line and about a mile long portion of a 115 kV line would be realigned to avoid the project area. The approximately 3,920-acre proposed ROW would contain two solar fields, a power block, construction areas, a dry-cooling tower, steel transmission towers with associated transmission lines, access roads, three covered water tanks, an underground water pipeline, a water treatment facility, an electrical switchyard, a land treatment unit for bioremediation of any soil that may be contaminated by heat transfer fluid, an office, a warehouse, a parking lot, and facility perimeter fencing. The project would be located approximately five miles southwest of the city of Ridgecrest in Kern County, California.

The purpose of the public scoping process is to determine relevant issues that will influence the scope of the environmental analysis, including alternatives, and guide the process for developing the EIS. At present, the BLM has identified the following preliminary issues: special area designations; social and economic impacts, including impacts to the public from traffic; ground and surface water quantity and quality; special status species management; cultural resources; and visual resources.

Authorization of this proposal may require amendment of the CDCA Plan (1980, as amended). By this notice, the BLM is complying with requirements in 43 CFR 1610.2(c) to notify the public of potential amendments to land use plans, predicated on the findings of the EIS. If a land use plan amendment is necessary, the BLM will integrate the land use planning process with the NEPA process for this project. The BLM will use the NEPA commenting process to satisfy the public involvement process for Section 106 of the National Historic Preservation Act (16 U.S.C. 470f) as provided for in 36 CFR 800.2(d)(3). Native American Tribal consultations will be conducted in accordance with BLM policy, and Tribal concerns will be given due consideration, including impacts on Indian trust assets. Federal, State, and local agencies, tribes, and stakeholders that may be interested or affected by the BLM's decision on this project are invited to participate in the scoping process and, if eligible, may request or be requested by the BLM to participate as a cooperating agency.

Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment--including your personal identifying information--may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Authority: 40 CFR 1501.7 and 43 CFR 1610.2.

Thomas Pogacnik,
Deputy State Director, Natural Resources, California State Office.
[FR Doc. E9-27981 Filed 11-20-09; 8:45 am]

BILLING CODE 4310-40-P

STATE OF CALIFORNIA – THE RESOURCES AGENCY

ARNOLD SCHWARZENEGGER, *Governor*

CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814-5512
www.energy.ca.gov

DOCKET
09-AFC-09
DATE OCT 12 2009
RECD. OCT 13 2009

NOTICE OF RECEIPT OF AN APPLICATION FOR CERTIFICATION FOR THE RIDGECREST SOLAR POWER PROJECT (09-AFC-9)

On September 1, 2009, Solar Millennium LLC (applicant) submitted an Application for Certification (AFC) to the California Energy Commission to develop the Ridgecrest Solar Power Project (RSPP) on federal land administered by the Bureau of Land Management (BLM) in Kern County, California.

PROJECT DESCRIPTION

Solar Millennium LLC (Applicant) is proposing to construct a utility-scale solar thermal electric power generating facility. The RSPP will have a nominal output of 250 megawatts (MW), consisting of a single power plant utilizing two solar fields. The RSPP will utilize parabolic trough technology to generate electricity. With this technology, arrays of parabolic mirrors collect heat energy from the sun and refocus the radiation on a receiver tube located at the focal point of the parabola. A heat transfer fluid (HTF) reaches high temperatures (750 degrees Fahrenheit [°F]) as it circulates through the receiver tubes. The HTF is then piped through a series of heat exchangers where it releases its stored energy to generate high pressure steam. The steam is then fed to a traditional steam turbine generator where electricity is produced.

The project is proposed to be developed on a 3,920-acre site, administered by the Bureau of Land Management (BLM). The project site is located in north-eastern Kern County, along U.S Highway 395, just west of the China Lake Boulevard exit. The site is approximately four miles southwest of Ridgecrest, California. Ridgecrest is at the southern boundary of the northernmost of two discrete sections of China Lake Naval Air Weapons Station (NAWS).

TRANSMISSION

A new 230-kilovolt (kV) transmission line will interconnect with Southern California Edison's (SCE) existing 230 kV InyoKern/Kramer Junction transmission line passing west of the RSPP site. The California Independent System Operator (CAISO) and SCE initiated a Phase I Cluster Study in the fall of 2008. The Transition Cluster Phase I Interconnection Study was released on July 28, 2009.

WATER USE AND DISCHARGE

The proposed project would utilize an air cooled condenser (ACC), also known as a dry cooling system because it does not use water for power plant cooling. Water will be used for solar mirror washing, feedwater makeup, firewater supply, dust control, and onsite domestic use. Total consumption for the facility is estimated at 150 acre-feet per year which is proposed to be supplied by Indian Wells Water District via a new five-mile pipeline.

BIOLOGICAL RESOURCES

The proposed project site is confirmed to contain habitat for and presence of desert tortoise (federal- and state-listed as threatened). The site also contains a conservation area for Mohave ground squirrel (state-listed as threatened). The Energy Commission and BLM will work closely with the California Department of Fish and Game (CDFG) and the U.S. Fish and Wildlife Service (FWS) to assess potential impacts to these species.

WATERS OF THE STATE

The proposed project site contains several linear miles of desert dry washes considered to be waters of the state which the applicant proposes to relocate. As such, the project will require at least two streambed alteration agreements. The Energy Commission and BLM will work closely with CDFG and the California Regional Water Quality Control Board (CRWQCB), Lahontan Region, to assess potential impacts to waters of the state, and also evaluate proposed design/engineering of new diversion channels.

ENERGY COMMISSION AND BUREAU OF LAND MANAGEMENT JOINT REVIEW PROCESS

The BLM and the Energy Commission have executed a Memorandum of Understanding concerning their intent to conduct a joint environmental review of the project in a single National Environmental Policy Act (NEPA)/California Environmental Quality Act (CEQA) process. It is in the interest of the BLM and the Energy Commission to share in the preparation of a joint environmental analysis of the proposed project to avoid duplication of staff efforts, to share staff expertise and information, to promote intergovernmental coordination at the local, state, and federal levels, and to facilitate public review by providing a joint document and a more efficient environmental review process.

Under federal law, the BLM is responsible for processing requests for rights-of-way to authorize the proposed project and associated transmission lines and other facilities to be constructed and operated on land it manages. In processing applications, the BLM must comply with the requirements of NEPA, which requires that federal agencies reviewing projects under their jurisdiction consider the environmental impacts associated with the proposed project construction and operation.

As the lead agency under CEQA, the Energy Commission is responsible for reviewing and ultimately approving or denying all applications to construct and operate thermal electric power plants, 50 MW and greater, in California. The Energy Commission's facility certification process carefully examines public health and safety, environmental impacts and engineering aspects of proposed power plants and all related facilities such as electric transmission lines, and natural gas and water pipelines.

The first step in the Energy Commission’s review process is for staff to determine whether or not the AFC contains all the information required by its regulations. When

the Energy Commission determines the AFC is complete, staff will begin data discovery and issue analysis phases. At that time, a detailed examination of the issues will occur.

PUBLIC PARTICIPATION

The Energy Commission and the BLM will conduct several public workshops. These workshops will provide the public as well as local, state and federal agencies the opportunity to ask questions about, and provide input on, the proposed project. All public notices will be made in accordance with the Energy Commission's notice requirements, and the BLM's notice requirements set forth by NEPA and BLM's environmental review policies. Please direct your technical or project schedule questions to the Energy Commission's Project Manager, Eric Solorio, at (916) 651-0966, or by e-mail at esolorio@energy.state.ca.us.

If you desire information on participating in the Energy Commission's review of the project, please contact the Energy Commission's Public Adviser's Office, at (916) 654-4489 or toll free in California, at (800) 822-6228. The Public Adviser's Office can also be contacted via email at publicadviser@energy.state.ca.us. News media inquiries should be directed to the media office at (916) 654-4989 or via email at mediaoffice@energy.state.ca.us.

The status of the proposed project, copies of notices, an electronic version of the AFC, and other relevant documents are also available on the Energy Commission's web site at: http://www.energy.ca.gov/sitingcases/solar_millennium_ridgecrest/index.html. You can also subscribe to receive e-mail notification of all notices at http://www.energy.ca.gov/listservers. By being on the mailing list, you will receive notices of all project-related activities and notices when documents related to the proposed project's evaluation are available for review. If you want your name removed from the mailing list, please contact Mineka Foggie, Project Assistant, at (916) 653-1608 or by email at mfoggie@energy.state.ca.us.

AVAILABILITY OF THE AFC DOCUMENT

Copies of the AFC are available for public inspection at the following public libraries:

Ridgecrest Public Library 131 E Las Flores Ave Ridgecrest, CA 93555-3648	Walter Stiern Memorial Library 3000 College Heights Blvd Ridgecrest, CA 93555-9571
Boron Library 26965 Twenty Mule Team Rd Boron, CA 93516-1550	San Bernardino Library 82805 Mountain View St Trona, CA 93562-1920
Kern County Library 9507 California City Blvd California City, CA 93505-2280	Naval Air Warfare Tech Library 1 Administration Cir Ridgecrest, CA 93555-6104

Copies are also available at the Energy Commission's Library in Sacramento, the California State Library in Sacramento, and at California public libraries in Eureka, Fresno, San Francisco, Los Angeles, and San Diego. In addition, copies will be distributed to those public agencies that would normally have jurisdiction except for the Energy Commission's exclusive authority to certify sites and related facilities.

Sincerely,

Originally Signed by
Eileen Allen, Manager
Energy Facilities Siting and Compliance Office

Negative Declaration or EIR by Another Agency

PENDING

VIII. EMISSION CALCULATIONS:

A Assumptions:

1. Therminol VP-1: 0.26-lb/ft3 -- from properties chart
2. Facility Operations: Boiler: 14-hr/day, Solar Plant: 16-hr/day, 365-days/year
3. 0.2642 gal/l; 2.2046 lb/kg
4. Boiler Rating and Heater Rating: 35.0-MMBtu/hr
5. Generator Set Rating: 2922-Bhp
6. Fire water pump rating: 300-bhp
7. Propane: HHV 91.5-MMBtu/1000-gal, Sulfur content 0.2-gr/100-scf

B. Emission Factors:

1. Propane Fueled Boiler and Propane Fueled Heater

F (@68):	8727	dscf/MMBtu	
	F(@60) = F(@68) x	0.985	
F(@60):	8596.0000	dscf/MMBtu	
%O2:	3.0000	%	
SV:	379.6	ft^3/lb-mole	(specific molecular volume)
MW NOx:	46.0000	lb/lb-mole	
MW CO:	28.0100	lb/lb-mole	
NOx:	9.0000	ppmv	
CO:	50.0000	ppmv	(applicant proposed)

$$\frac{lb}{MMBtu} = \frac{ppm \times MW \times F}{SV \times 10^6} \times \frac{20.9}{20.9 - \%O_2}$$

	Calculated Emission Factor	Emission Factor Used
NOx:	0.0110 lb/MMBtu	0.011 lb/MMBtu
CO:	0.0370 lb/MMBtu	0.037 lb/MMBtu

Emission Factors (AP-42 {Table 1.5-1}, except NOx – {BACT} and CO – {Applicant Proposed})

	PM_{10}	SOx	NOx	VOC	CO
lb/10^3 gal	0.7	0.02	BACT	0.8	Proposed
lb/MMBtu:	0.0077	0.0002	0.0110	0.0087	0.0370

2. Cooling Water System

Drift Eliminator Control:	0.0005%	of cooling water circulation flow rate (guaranteed by cooling tower vendor)
Cooling water TDS:	1600	mg/liter TDS (total dissolved solids)
	0.01335	lb/gal
Cooling Water Flow Rate:	149,000.0	gal/min

3. Estimated Emissions from Component Count:

Daytime Emission Factors:

Equipment Type	Service	Sampling	(lb/hr/source)	Factor Source
Valves	Light Liquid	100 ppmv	**0.000555**	SOCMI*
Pump Seals	Light Liquid	100 ppmv	**0.001862**	SOCMI
Connectors	Light Liquid	Default Zero	**0.0000165**	SOCMI
Pressure Relief Valve	Gas	<10,000 pmv	**0.098546**	SOCMI
Open-ended Lines	Light Liquid	<10,000 pmv	**0.003307**	SOCMI

*Synthetic Organic Chemicals Manufacturing Industry (Source is EPA's Protocol for Equipment Leak Estimates [EPA-453/R-95-017, November 1995], Tables 2.4, 2.5 and 2.9)

Nighttime Emission Factors:

Equipment Type	Service	Sampling	(lb/hr/source)	Factor Source
Valves	Light Liquid	10,000 ppmv	**0.000019**	SOCMI
Pump Seals	Light Liquid	10,000 ppmv	**0.000053**	SOCMI
Connectors	Light Liquid	Default Zero	**0.0000165**	SOCMI
Pressure Relief Valve	Gas	<10,000 pmv	**0.000019**	SOCMI

4. 2000-kW Generator Set Driven with 2922-bhp Diesel Piston Engine

Max. Horsepower	2922	bhp
Max. daily use, hrs	24	hr
Max weeks use, weeks	52	weeks
Max. annual use, hrs	200.0	hrs
Fuel use	136.60	gal/hr
	1048.17	lb/hr
Sulfur content	0.0015	%

	PM-10	SOx	NOx	VOC	CO
gm/hp-hr	0.150	See Below	4.500	0.300	2.600

SOx: $1048.17\frac{lb(\,fuel)}{hr}\times\frac{0.0015(S-\,fuel\cdot content)}{100}\times 453.59\frac{gm}{lb}\times 2\left(\frac{SO_2}{S}\right)=14.26\frac{gm\cdot SOx}{hr}$

$$14.26\frac{gm\cdot SOx}{hr}\times\frac{1}{2922}\frac{1}{hp}=0.005\frac{gm\cdot SOx}{hp-hr}$$

$$0.005\frac{gm\cdot SOx}{hp-hr}\times\frac{1}{453.59}\frac{lb}{gm}=1.08\times10^{-5}\frac{lb\cdot SOx}{hp-hr}$$

PM_{10}: $0.15\frac{gm\cdot PM_{10}}{hp-hr}\times\frac{1}{453.59}\frac{lb}{gm}=3.31\times10^{-4}\frac{lb\cdot PM_{10}}{hp-hr}$

NOx: $4.5\frac{gm\cdot NOx}{hp-hr}\times\frac{1}{453.59}\frac{lb}{gm}=9.92\times10^{-3}\frac{lb\cdot NOx}{hp-hr}$

VOC: $0.3\frac{gm\cdot VOC}{hp-hr}\times\frac{1}{453.59}\frac{lb}{gm}=6.62\times10^{-4}\frac{lb\cdot VOC}{hp-hr}$

CO: $2.6\frac{gm\cdot CO}{hp-hr}\times\frac{1}{453.59}\frac{lb}{gm}=5.73\times10^{-3}\frac{lb\cdot CO}{hp-hr}$

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

5. 300-bhp Diesel Piston Engine Driving Firewater Pump

Max. Horsepower	300
Max. daily use, hrs	24
Max weeks use, weeks	52

Max. annual use, hrs	200.0	
Fuel use	14.5	gal/hr
	111.26	lb/hr
Sulfur content	0.0015	%

	PM-10	SOx	NOx	VOC	CO
gm/hp-hr	0.150	See Below	2.800	0.200	2.600

SOx: $$111.26\frac{lb(\,fuel)}{hr}\times\frac{0.0015(S-\,fuel\cdot content)}{100}\times 453.59\frac{gm}{lb}\times 2\left(\frac{SO_2}{S}\right)=1.51\frac{gm\cdot SOx}{hr}$$

$$1.51\frac{gm\cdot SOx}{hr}\times\frac{1}{300}\frac{1}{hp}=0.005\frac{gm\cdot SOx}{hp-hr}$$

$$0.005\frac{gm\cdot SOx}{hp-hr}\times\frac{1}{453.59}\frac{lb}{gm}=1.11\times10^{-5}\frac{lb\cdot SOx}{hp-hr}$$

PM_{10}: $$0.15\frac{gm\cdot PM_{10}}{hp-hr}\times\frac{1}{453.59}\frac{lb}{gm}=3.31\times10^{-4}\frac{lb\cdot PM_{10}}{hp-hr}$$

NOx: $$2.8\frac{gm\cdot NOx}{hp-hr}\times\frac{1}{453.59}\frac{lb}{gm}=6.17\times10^{-3}\frac{lb\cdot NOx}{hp-hr}$$

VOC: $$0.2\frac{gm\cdot VOC}{hp-hr}\times\frac{1}{453.59}\frac{lb}{gm}=4.41\times10^{-4}\frac{lb\cdot VOC}{hp-hr}$$

CO: $$2.6\frac{gm\cdot CO}{hp-hr}\times\frac{1}{453.59}\frac{lb}{gm}=5.73\times10^{-3}\frac{lb\cdot CO}{hp-hr}$$

	PM-10	SOx	NOx	VOC	CO
lb/hp-hr	3.31E-04	1.11E-05	6.17E-03	4.41E-04	5.73E-03

C. Emissions Calculations:

1. ATC No. 0368001 (Boiler):

Example Emission Calculations for PM_{10} (Identical Calculations for SOx, NOx, VOC and CO, results are summarized below):

	PM_{10}	SOx	NOx	VOC	CO
lb/MMBtu:	0.0077	0.0002	0.0110	0.0087	0.0370

Hourly: $$0.0077\frac{lb}{MMBtu}\times 35.0\frac{MMBtu}{hr}=0.268\frac{lb}{hr}$$

Daily: $$0.268\frac{lb}{hr}\times 15\frac{hr}{day}=4.02\frac{lb}{day}$$

Annual: $$0.268\frac{lb}{hr}\times 5000\frac{hours}{year}\times\frac{1}{2000}\frac{tons}{lb}=0.67\frac{tons}{year}$$

ATC No. 0368001 (Boiler) Emissions Summary:

	PM_{10}	SOx	NOx	VOC	CO
lb/hr:	0.268	0.008	0.385	0.306	1.295
lb/day:	4.02	0.11	5.78	4.59	19.43
tons/yr:	0.67	0.02	0.96	0.77	3.24

2. ATC No 0368002 (Heater):
Example Emission Calculations for PM_{10} (Identical Calculations for SOx, NOx, VOC and CO, results are summarized below):

	PM_{10}	SOx	NOx	VOC	CO
lb/MMBtu:	0.0077	0.0002	0.0110	0.0087	0.0370

Hourly: $0.0077\frac{lb}{MMBtu}\times 35.0\frac{MMBtu}{hr}=0.268\frac{lb}{hr}$

Daily: $0.268\frac{lb}{hr}\times 10\frac{hr}{day}=2.68\frac{lb}{day}$

Annual: $0.268\frac{lb}{hr}\times 500\frac{hours}{year}\times\frac{1}{2000}\frac{tons}{lb}=0.07\frac{tons}{year}$

ATC No. 0368002 (Heater) Emissions Summary:

	PM_{10}	SOx	NOx	VOC	CO
lb/hr:	0.268	0.008	0.385	0.306	1.295
lb/day:	2.68	0.08	3.85	3.06	12.95
tons/yr:	0.07	0.002	0.10	0.08	0.32

3. **ATC No. 0368003 (HTF Expansion Tanks and Fugitive Emissions):**
As suggested by CEC representative, fugitive VOC emissions are estimated assuming 16-hrs/day of light liquid service and 8-hr/day of heavy liquid service.

Daytime Emission Factors:

Equipment Type	Service	Count	(lb/hr/source)	Use (hrs/day
Valves	Light Liquid	3050	**0.000555**	16
Pump Seals	Light Liquid	4	**0.001862**	16
Connectors	Light Liquid	7594	**0.0000165**	16
Pressure Relief Valve	Gas	10	**0.098546**	16

Nighttime Emission Factors:

Equipment Type	Service	Count	(lb/hr/source)	Use (hrs/day
Valves	Heavy Liquid	3050	**0.000019**	8
Pump Seals	Heavy Liquid	4	**0.000053**	8
Connectors	Heavy Liquid	7594	**0.0000165**	8
Pressure Relief Valve	Heavy Liquid	10	**0.000019**	8

Fugitive Emissions:

a. Valves:

Hourly Emissions (day): $3050-valves\times 0.000555\frac{lb}{hr\cdot valve}\times=1.692\frac{lb}{hr}$

(night): $3050 - valves \times 0.000019 \frac{lb}{hr \cdot valve} \times = 0.056 \frac{lb}{hr}$

b. Pump Seals:

Hourly Emissions (day): $4 - seals \times 0.001862 \frac{lb}{hr \cdot pump \cdot seal} \times = 0.007 \frac{lb}{hr}$

(night): $4 - seals \times 0.000053 \frac{lb}{hr \cdot pump \cdot seal} \times = 0.0002 \frac{lb}{hr}$

c. Connectors:

Hourly Emissions (day): $7594 - connect \times 0.0000165 \frac{lb}{hr \cdot connect} \times = 0.126 \frac{lb}{hr}$

(night): $7594 - connect \times 0.0000165 \frac{lb}{hr \cdot connect} \times = 0.126 \frac{lb}{hr}$

d. Pressure Relief Valves:

Hourly Emissions (day): $10 - PRvalves \times 0.098546 \frac{lb}{hr \cdot PRvalve} \times = 0.985 \frac{lb}{hr}$

(night): $10 - PRvalves \times 0.000019 \frac{lb}{hr \cdot PRvalve} \times = 0.0002 \frac{lb}{hr}$

f. Emissions Total:

Equipment Type	Service	Day (lb/hr)	Night (lb/hr)
Valves	Light Liquid	1.692	0.056
Pump Seals	Light Liquid	0.007	0.0002
Connectors	Light Liquid	0.126	0.126
Pressure Relief Valve	Gas	0.985	0.0002
Total:		**2.811**	**0.182**

g. Daily Emissions:

Equipment Type	Daytime (hrs/day)	Daytime (lb/day)	Nighttime (hrs/day)	Daytime (lb/day)
Valves	16	27.0774	8	0.4519
Pump Seals	16	0.1192	8	0.0017
Connectors	16	2.0090	8	1.0045
Pressure Relief Valve	16	15.7673	8	0.0015
Subtotal:		44.9729		1.4595
Grand Total				**46.432**

h. Annual Emissions and Emissions Summary:

$$46.432 \frac{lb}{day} \times 365 \frac{day}{year} \times \frac{1}{2000} \frac{ton}{lb} = 8.474 \frac{ton}{year}$$

ATC No. 0368003 (Solar Field and Expansion Tanks Fugitive Emissions)
Emissions Summary:

	PM_{10}	SOx	NOx	VOC	CO
lb/hr:				2.81	
lb/day:				46.32	
tons/yr:				8.47	

4. ATC No. 0368004 (Vapor Control System – Carbon Canisters):

Operating Temperatures (deg F)	High	Low	2/3 Maximum
			511.66666
	740	55	7 (use 500)
Vapor Density @ Median:	0.26	lb/ft3 -- from properties chart	
Expansion Tank Volume:	36000	gal	per 2-hours

Maximum Volume: $36000 \cdot gal \times \frac{1}{7.4805} \frac{ft^3}{gal} = 4812.5 \cdot ft^3$

System operates 2-hr/day

Uncontrolled Emissions: $\frac{4812.5 \cdot ft^3}{2 \cdot hours} \times 0.26 \frac{lb}{ft^3} = 625.63 \frac{lb}{hr}$

Vapor Control System: Dual carbon adsorption in series
95% control efficiency each (Use 99.5% control efficiency)

$$625.63 \frac{lb}{hr}\left(1 - \frac{99.5}{100}\right) = 3.13 \frac{lb}{hr}$$

$$3.13 \frac{lb}{hr} \times 2 \frac{hr}{day} = 6.26 \frac{hr}{day}$$

$$6.26 \frac{hr}{day} \times 365 \frac{days}{year} \times \frac{1}{2000} \frac{tons}{lb} = 1.14 \frac{tons}{year}$$

ATC No. 0368005 (Vapor Control System) Emissions Summary:

	PM_{10}	SOx	NOx	VOC	CO
lb/hr:				3.13	
lb/day:				6.26	
tons/yr:				1.14	

5. ATC No. 0368005 (Cooling Water System):

PM_{10} Drift Emissions:

$$PM_{10}\left(\frac{lb}{hr}\right) = FlowRate\left(\frac{gal}{\min}\right) \times TDS\left(\frac{lb}{gal}\right) \times \frac{DriftControl\%}{100} \times 60 \frac{\min}{hr}$$

where:

Cooling Water Flow Rate:	6,100.0	gal/min
TDS:	0.01670	lb/gal
Drift Eliminator Control:	0.0005	%

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

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

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

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

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

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

2.321 lb/day x 365 days/yr x 0.0005 tons/lb = 0.424-tons/year

Controlled VOC Emissions
Land Farming with 95% Control Efficiency

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

0.007 lb/hr x 24 hr/day = 0.169 lb/day
0.007 lb/hr x 8760 hours/yr x 0.0005 tons/lb = 0.031 tons/year

7. ATC No. 0368007 (2000-kWe Electrical Generator Driven by 2922-bhp Diesel Engine:
Example Emission Calculations for PM_{10} (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

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

$$0.966\frac{lb}{hr}\times 24\frac{hr}{day}=23.195\frac{lb}{day}$$

$$0.966\frac{lb}{hr}\times 200\frac{hr}{year}\times\frac{1}{2000}\frac{tons}{lb}=0.097\frac{tons}{year}$$

ATC No. 0368007 (2000-kW GenSet w/2922-Bhp Engine) Emissions Summary:

	PM-10	SOx	NOx	VOC	CO
lb/hr	0.966	0.031	28.994	1.933	16.752
lb/day	23.195	0.755	695.845	46.390	402.044
tons/yr	0.097	0.0031	2.899	0.193	1.675

8. ATC No. 0368008 (300-bhp {224-kW} Engine Driving Fire Water Pump):
Example Emission Calculations for PM_{10} (Identical Calculations for SOx, NOx, VOC and CO, results are summarized below):

	PM-10	SOx	NOx	VOC	CO
lb/hp-hr	3.31E-04	1.11E-05	6.17E-03	4.41E-04	5.73E-03

PM_{10}: $$3.31\times 10^{-4}\frac{lb\cdot PM_{10}}{hp-hr}\times 300\cdot hp=0.099\frac{lb}{hr}$$

$$0.099\frac{lb}{hr}\times 24\frac{hr}{day}=2.381\frac{lb}{day}$$

$$0.099\frac{lb}{hr}\times 200\frac{hr}{year}\times\frac{1}{2000}\frac{tons}{lb}=0.010\frac{tons}{year}$$

ATC No. 0368008 (300-bhp Engine Driving Firewater Pump) Emissions Summary:

	PM-10	SOx	NOx	VOC	CO
lb/hr	0.099	0.003	1.852	0.132	1.720
lb/day	2.381	0.080	44.453	3.175	41.278
tons/yr	0.010	0.0003	0.185	0.013	0.172

7. Emissions Summary:

0368001 (Boiler):	PM-10	SOx	NOx	VOC	CO
lb/hr:	0.27	0.01	0.39	0.31	1.30
lb/day:	4.02	0.11	5.78	4.59	19.43
tons/yr:	0.67	0.02	0.96	0.77	3.24

0368002 (Heater):	PM-10	SOx	NOx	VOC	CO
lb/hr:	0.27	0.01	0.39	0.31	1.30
lb/day:	2.68	0.08	3.85	3.06	12.95
tons/yr:	0.07	0.002	0.10	0.08	0.32

0368003 (*HTF Piping):	PM-10	SOx	NOx	VOC	CO
lb/hr:				1.63	
lb/day:				21.39	
tons/yr:				3.90	

*Fugitive emissions only, exhaust emissions assed on '005

0368004 (Vapor Control):	PM-10	SOx	NOx	VOC	CO
lb/hr:				3.13	
lb/day:				6.26	
tons/yr:				1.14	

0368005 (Clng Twr):	PM-10	SOx	NOx	VOC	CO
lb/hr:	0.03				
lb/day:	0.49				
tons/yr:	0.09				

0368006 (Landfarm):	PM-10	SOx	NOx	VOC	CO
lb/hr:				0.01	
lb/day:				0.17	
tons/yr:				0.03	

0368007 (2.0-MW Gen Set):	PM-10	SOx	NOx	VOC	CO
lb/hr:					
lb/day:	Emergency Equipment (Not added to NSRB or SSPE)				
tons/yr:					

0368008 (Firewater Pump):	PM-10	SOx	NOx	VOC	CO
lb/hr:					
lb/day:	Emergency Equipment (Not added to NSRB or SSPE)				
tons/yr:					

Totals:	PM-10	SOx	NOx	VOC	CO
lb/hr:	0.54	0.02	0.77	6.56	2.59
lb/day:	6.72	0.19	9.63	60.51	32.38
tons/yr:	1.23	0.02	1.06	10.49	3.56

IX. EMISSION CHANGES:

A. **PROJECT'S EMISSION CHANGE**:

Sum of emissions changes for all emissions units to be included in the NSR Balances (NSRB) and the Stationary Source Potentials to Emit (SSPE). (See Page 39)

	PM_{10}	SOx	NOx	VOC	CO
lb/day:	6.72	0.19	9.63	60.51	32.38
tons/yr	1.23	0.02	1.06	10.49	3.56

B. **PRE-PROJECT NSR BALANCES AND SSPE:**

	NSRB	NSRB	SSPE	SSPE	NSRB
Pollutant:	**PM_{10}**	**SOx**	**NOx**	**VOC**	**CO**
lb/day:	0.0	0.0	0.0	0.0	0.0
tons/yr:	0.0	0.0	0.0	0.0	0.0

C. **POST-PROJECT CUMULATIVE NSR BALANCE AND SSPE**:
Pre-Project NSR Balance/SSPE + Projects Emissions Change

	NSRB	NSRB	SSPE	SSPE	NSRB
Pollutant:	**PM_{10}**	**SOx**	**NOx**	**VOC**	**CO**
lb/day:	6.72	0.19	9.63	60.51	32.38
tons/yr:	1.23	0.02	1.06	10.49	3.56

X. CONCLUSIONS:

A. Rule 210.1 (conclusions based on worst case):
X satisfies requirements of Section III.A. (BACT)
_X Project not subject to Sec, III.B. (offsets), NSR balance for SOx< 27 tons/yr, and PM_{10} < 15 tons/yr and SSPE for VOC and NOx < 25 tons/yr,
___Project subject to Sec III.B. (offsets), NSR balance for VOC >25 tons/yr

B. Rule 401: Only visible emissions from the solar power plant should be limited to the plant boilers, firewater pump, and fugitive dust emissions. For the boilers and firewater pump, visible emissions are not expected to exceed 5% opacity or Ringelmann ¼. Fugitive dust emissions will be addressed in Rule 402 Compliance. Compliance with Rule 401 is expected.

C. Rule 402: Because the proposed operation involves property exceeding 100 contiguous acres of disturbed surface area, applicant shall be required to submit a Fugitive Dust Plan, as the area is defined as a Large Operation. The Fugitive Dust Plan shall include also include a "High Wind Fugitive Dust Plan" for instances with wind gust exceed 25-mile per hour. Additionally, Fugitive Dust Plan shall include Reasonably Available Control Measures (RACM). RACM include, but are not limited to the following:

Source Category	**Control Measure**
Unpaved Roads	Improve Road Surface
	Control Vehicular Traffic Speed
	Application of Dust Suppressants
Source Category (cont.)	**Control Measure**
Construction/Demolition	Use of Wind Screens
	Application of Dust Suppressants
Earth-moving or	Use of Wind Breaks
Open Storage Pile	Enclosures Around Storage Piles
	Application of Dust Suppressants
Disturbed Surface Area	Use of Fences/Barriers
	Vegetate
	Application of Dust Suppressants
	Cover with Gravel
	Compact Surface

Solar Millennium has made a commitment to submit a "Construction Dust Control Plan" and an "Operations Dust Control Plan" prior to commencement of construction. District shall monitor facility for construction to verify compliance. Compliance with Rule 402 is expected.

D. Rule 404.1: Particulate matter emissions from the facility should be limited to the plant boilers, cooling tower, firewater pump and fugitive dust emissions. Fugitive dust emissions are addressed in Rule 402 compliance above. Propane fueled boilers are exempt from the requirements of this rule. Calculations show particulate matter emission concentration from the cooling tower and diesel fueled firewater pump are less than 0.1-gr/scf. Compliance with Rule 401.1 is expected.

E. Rule 407: Sulfur content of propane is not expected to exceed 0.025-grains per standard cubic foot (gr/scf). Given known combustion principles, the SO_2 emission rate shall be less than 0.2%. Compliance with Rule 407 is expected.

F. Rule 411: HTF storage/expansion vessels shall be equipped with vapor control system. Therefore, compliance with Rule 411 is not required.

G. Rule 414.2: HTF treated on-site shall comply with "Maximum Allowable Addition Rates of Contaminated Soil" (Rule 414.2, Section V.B) or "Treatment System" (Rule 414.2, Section V.C). Applicant has proposed usage of "Land Farming" operation utilizing Bio-Remediation to comply with BACT and requirements of Rule 414.2. Compliance with Rule 414.2 is expected.

H. Rule 419: Proposed facility has several of control devices and systems to minimize nuisance emissions. Proposed facility will be required to maintain an inspection and maintenance program listed on ATC 0368003, included as part of the facilities BACT requirements. In general leak criteria, inspection frequency, and repair times are set forth as BACT requirement. Additionally, the facility is located in an industrial area with no residences adjacent to the property. Nuisance emissions are not expected. Compliance with Rule 419 is expected.

I Rule 422 (Standards of Performance for New Stationary Sources) 40 CFR Part 60, **Subpart IIII** (Stationary Compression Ignition Internal Combustion Engines): Proposed generator set and fire pump engine are certified to Tier 2 and Tier 3 standards, respectively; therefore, compliance with 40 CFR Part 60, Subpart IIII is expected.

J. Rule 429.1: Proposed cooling tower is prohibited from using hexavalent chromium compounds in cooling tower circulating water. Applicant has not proposed usage of chromium compound in circulating compounds; therefore, compliance with Rule 419 is expected.

K. California Health and Safety Code (CH&SC) 41700: A Screening Health Risk Assessment was performed for the expected emissions from the Clean Energy facility. Prioritization Score for carcinogenic and non-carcinogenic emissions are less than 1.0. Therefore, proposed facility should not propose a significant health risk to community at large. Compliance with CH&SC 41700 is expected.

XI. RECOMMENDATIONS:

Issue Authority to Construct Nos. 0368001 through 0368008 subject to the following conditions:

ATC No. 0368001 (35.0-MMBtu/hr Propane Fueled Boiler):

EQUIPMENT DESCRIPTION:

A. 35.0-MMBtu/hr propane fueled boiler with low-NOx burner system.

DESIGN CONDITIONS:

a. Boiler shall be fueled exclusively with propane classified as HD-10 or higher. (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 5,000-hours/year without prior District approval. (Rule 210.1)
3. Boiler exhaust concentration of sulfur oxides (calculated as SO_2) shall not exceed 2000 parts per million on a volume basis (ppmv). (Rule 407)
4. Volume of propane used as fuel for boiler shall not exceed 1.91-million gallons per year. (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 boiler's annual heat input 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 (PM_{10}):	0.27	lb/hr
	4.02	lb/day
	0.67	ton/yr
Sulfur Oxides (SOx as SO_2):	0.01	lb/hr
	0.11	lb/day
	0.02	ton/yr
Oxides of Nitrogen (NO_2):	9	ppmv @ 3% O_2 (Rule 210.1 BACT Rqmt.)
	0.39	lb/hr
	5.78	lb/day
	0.96	ton/yr
Volatile Organic Compounds (VOC): (as defined in Rule 210.1)	0.31	lb/hr
	4.59	lb/day
	0.77	ton/yr
Carbon Monoxide:	50	ppmv
	1.30	lb/hr
	19.43	lb/day
	3.24	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)

ATC No. 0368002 (35.0-MMBtu/hr Propane Fueled Heater):

EQUIPMENT DESCRIPTION:

A. 35.0-MMBtu/hr propane fueled heater with low-NOx burner system.

DESIGN CONDITIONS:

a. Heater shall be fueled exclusively with propane classified as HD-10 or higher. (Rule 210.1)
b. Heater described above shall be equipped with low NOx burner and be in accordance with manufacturer's specifications. (Rule 210.1)
c. Heater 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 heater exhaust stack shall not exceed 5% opacity or Ringelmann No. ¼. (Rule 210.1 BACT Requirement)

2. Heater operation shall not exceed 500-hours/year without prior District approval. (Rule 210.1)
3. Heater exhaust concentration of sulfur oxides (calculated as SO_2) shall not exceed 2000 parts per million on a volume basis (ppmv). (Rule 407)
4. Volume of propane used as fuel for heater shall not exceed 191,257-gallons per year. (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:
Heater 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 heater's annual heat input attains or exceeds 90,000 therms (9,000-MMBtu). Heater 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 (PM_{10}):	0.27	lb/hr
	2.68	lb/day
	0.07	ton/yr
Sulfur Oxides (SOx as SO_2):	0.01	lb/hr
	0.08	lb/day
	0.002	ton/yr

Oxides of Nitrogen (NO_2):	9	ppmv @ 3% O_2 (Rule 210.1 BACT Rqmt.)
	0.39	lb/hr
	3.85	lb/day
	0.10	ton/yr
Volatile Organic Compounds (VOC):	0.31	lb/hr
(as defined in Rule 210.1)	3.06	lb/day
	0.08	ton/yr
Carbon Monoxide:	50	ppmv
	1.30	lb/hr
	12.95	lb/day
	0.32	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)

ATC No. 0368003 (Two 18,000-Gallon Heat Transfer Fluid (HTF) Expansion Tank Vented To Vapor Control System, Including HTF Piping Network):

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)

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:
Fugitive Emissions (Connectors, Pumps, etc.)

Volatile Organic Compounds (VOC):	46.43	lb/day
	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)

ATC No. 0368004 (Vapor Control System):
EQUIPMENT DESCRIPTION:
A. Piping from expansion tanks (Permit No. 0368003) 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. 0368003. (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 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 the following emissions limitations:

Controlled Vapor Emissions:

Volatile Organic Compounds (VOC):	3.13	lb/hr
(as defined in Rule 210.1)	6.26	lb/day
	1.14	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 the source is operated and such documentation of compliance shall be retained and made readily available to District for period of three years. (Rules 210.1 and 209)

ATC No. 0368005 (Forced Draft Auxiliary Cooling Tower with 2 Cells and High Efficiency Drift Eliminator):
A. Two 30.5-MMBtu (3,017-gpm) Cooling Tower Cells
B. Two 30-hp Cooling Tower Fans
C. Two 30-hp (1765-gpm) Cooling Water Pumps
D. Make-Up Water Tank
E. 10-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 2000-ppm (0.01670-lb/gal). (Rule 210.1)
4. Cooling water volumetric flow rate shall not exceed 6,100-gal/minute. (Rule 210.1)
5. Compliance with daily PM_{10} 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. Additionally, annual calibration verification shall be 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 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:

Particulate Matter (PM_{10}):	0.03	lb/hr
	0.49	lb/day
	0.09	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)

ATC No. 0368006 (Bio-Remediation of Hydrocarbon Contaminated Soil):
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)

EMISSION LIMITS:

Emissions rate of each air contaminant from this unit shall not exceed the following emissions limitations:

Volatile Organic Compounds (VOC):	0.17	lb/day
(as defined in Rule 210.1)	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)

ATC No. 0368007 (2000-kW Emergency Generator Set Driven with 2922-Bhp Diesel Fueled Piston Engine):

A. 2000-kW Cummins electrical generator set Model DQKC, driven by 2922-bhp Cummins Tier 2, Model QSK60-G6 (60.2L), 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. ¼ 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/ft^3 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 generator shall comply with Tier 2 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. (California Code of Regulations 93115, Title 17)

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:

Particulate Matter (PM_{10}):	0.15	gm/bhp-hr
	0.97	lb/hr
	23.19	lb/day
	0.10	ton/yr
Sulfur Oxides (SOx as SO_2):	0.03	lb/hr
	0.75	lb/day
	0.00	ton/yr
Oxides of Nitrogen (NOx as NO_2):	4.5	gm/bhp-hr
	28.99	lb/hr
	695.85	lb/day
	2.90	ton/yr
Volatile Organic Compounds (VOC): (as defined in Rule 210.1)	1.93	lb/hr
	46.39	lb/day
	0.19	ton/yr
Carbon Monoxide:	16.75	lb/hr
	402.04	lb/day
	1.68	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)

ATC No. 0368008 (Emergency Firewater Pump Driven with 300-Bhp Diesel Fueled Piston Engine):

A. 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. ¼ 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/ft^3 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 (excluding NFPA 25 testing) 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 number of hours necessary to comply with the testing requirements of the National Fire Protection Association (NFPA) 25 – "Standard for the Inspection, Testing and Maintenance of Water Based Fire Protection Systems," 2002 edition without prior District approval. (California Code of Regulations 93115, Title 17)
11. Additional engine operation for maintenance and emissions testing (excluding NFPA 25 testing) shall not exceed 50 hours per year without prior District approval. (California Code of Regulations 93115, Title 17)

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:

Particulate Matter (PM_{10}):	0.15	gm/bhp-hr
	0.10	lb/hr
	2.38	lb/day
	0.01	ton/yr
Sulfur Oxides (SOx as SO_2):	0.003	lb/hr
	0.08	lb/day
	0.0003	ton/yr
Oxides of Nitrogen (NOx as NO_2):	2.8	gm/bhp-hr
	1.85	lb/hr
	44.45	lb/day
	0.19	ton/yr

Volatile Organic Compounds (VOC):	0.13	lb/hr
(as defined in Rule 210.1)	3.18	lb/day
	0.01	ton/yr
Carbon Monoxide:	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)

ATTACHMENT A

Energy Commissions Findings, Comments, and Responses

State Of California

Memorandum

DOCKET
09-AFC-9
DATE 9/30/2009
RECD. 9/30/2009

The Resources Agency of California

Date: September 30, 2009
Telephone: (916) 654-4996

To: Karen Douglas, Chairman
James D. Boyd, Vice Chair
Arthur H. Rosenfeld, Ph.D., Commissioner
Jeffrey D. Byron, Commissioner
Julia Levin, Commissioner

From: California Energy Commission – 1516 Ninth Street Sacramento, CA 95814-5512
Melissa Jones
Executive Director

Subject: **RIDGECREST SOLAR POWER PROJECT, DATA ADEQUACY RECOMMENDATION (09-AFC-9)**

On September 1, 2009, the California Energy Commission received an Application for Certification (AFC) from Solar Millennium LLC for the Ridgecrest Solar Power Project. The proposed project is a concentrated solar powered, electric generating facility. The process for electric power generation would be to utilize parabolic trough, solar collectors to concentrate solar energy onto heat collection elements that contain a fluid, known as "heat transfer fluid" (HTF). After being heated in the solar troughs, the HTF is run through a heat exchanger where it converts water into steam. In the next stage, the steam is converted into electricity utilizing a Rankine-cycle reheat, steam turbine, electric generator. The project would have a nominal electrical output of 250 megawatts (MW).

The project is proposed to be developed on a 3,920-acre site, administered by the Bureau of Land Management (BLM). The project site is located in northeastern Kern County, along U.S Highway 395, just west of the China Lake Boulevard exit. The site is approximately four miles southwest of Ridgecrest, California. The community of Ridgecrest is at the southern boundary of the northernmost of two discrete sections of China Lake Naval Air Weapons Station (NAWS).

Staff has completed its data adequacy review of the AFC and has determined that it does not meet all the requirements listed in Title 20, section 1704, and Division 2, Chapter 5, Appendix B of the California Code of Regulations for the 12-month process. Therefore, staff recommends that the Energy Commission find the AFC inadequate and adopt the attached list of data deficiencies. Of the 23 technical disciplines reviewed, we believe the information contained in the AFC is deficient in nine areas which are: Air Quality, Biological Resources, Cultural Resources, Land Use, Project Overview, Socioeconomics, Soils, Transmission System Design and Water Resources.

Attached is a summary table and data adequacy worksheets for all technical disciplines. The worksheets for the aforementioned sections identify the additional information that staff believes is necessary to fulfill the AFC data adequacy requirements. At the Energy Commission's October 7, 2009 Business Meeting, I will recommend that the Commission adopt the list of deficiencies and not accept the AFC until the additional information specified in the data adequacy worksheets is supplied. If you have any questions, please contact Eric Solorio, staff's Project Manager, at (916) 651-0966.

Attachments:
1.) Summary Table and
2.) Staff's Data Adequacy Worksheets

State Of California **The Resources Agency of California**

Memorandum

Date: November 11, 2009
Telephone: (916) 654-4996

To: Karen Douglas, Chairman
James D. Boyd, Vice Chair
Arthur H. Rosenfeld, Ph.D., Commissioner
Jeffrey D. Byron, Commissioner
Julia Levin, Commissioner

From: **California Energy Commission –** **Melissa Jones**
1516 Ninth Street **Executive Director**
Sacramento, CA 95814-5512

DOCKET
09-AFC-9
DATE NOV 11 2009
RECD NOV 12 2009

Subject: **RIDGECREST SOLAR POWER PROJECT, DATA ADEQUACY RECOMMENDATION (09-AFC-9)**

On September 1, 2009, the California Energy Commission received an Application for Certification (AFC) from Solar Millennium LLC for the Ridgecrest Solar Power Project. The proposed project is a concentrated solar powered, electric generating facility. The process for electric power generation would be to utilize parabolic trough, solar collectors to concentrate solar energy onto heat collection elements that contain a fluid, known as “heat transfer fluid” (HTF). After being heated in the solar troughs, the HTF is run through a heat exchanger where it converts water into steam. In the next stage, the steam is converted into electricity utilizing a Rankine-cycle reheat, steam turbine, electric generator. The project would have a nominal electrical output of 250 megawatts (MW).

The project is proposed to be developed on a 3,920-acre site, administered by the Bureau of Land Management (BLM). The project site is located in northeastern Kern County, along U.S Highway 395, just west of the China Lake Boulevard exit. The site is approximately four miles southwest of Ridgecrest, California. The community of Ridgecrest is at the southwestern boundary of the China Lake Naval Air Weapons Station (NAWS).

During the October 7, 2009 Business Meeting, the Commission adopted staff’s recommendation and found the AFC to be data inadequate in ten areas: Air Quality, Biological Resources, Cultural Resources, Land Use, Project Overview, Socioeconomics, Soils, Transmission System Design, Water Resources and Worker Safety. The applicant subsequently filed a supplemental AFC. Staff has completed its data adequacy review of the supplemental AFC and has determined that it does meet all the requirements listed in Title 20, section 1704, and Division 2, Chapter 5, Appendix B of the California Code of Regulations for the 12-month process. Therefore, staff recommends that the Energy Commission accept the AFC as data adequate.

Attached is a summary table and data adequacy worksheets for all technical disciplines. At the Energy Commission’s November 18, 2009 Business Meeting, I will recommend that the Commission accept the AFC as data adequate. If you have any questions, please contact Eric Solorio, staff’s Project Manager, at (916) 651-0966.

Attachments:
1.) Summary Table and
2.) Staff’s Data Adequacy Worksheets

Attachment #1
Summary Table of Energy Commission Staff's
Data Adequacy Determination
Ridgecrest Solar Power Project
09-AFC-9

Technical Area	Attachment #2 Page No.	Data Adequate
AIR QUALITY	4	YES
BIOLOGICAL RESOURCES	23	YES
CULTURAL RESOURCES	24	YES
LAND USE	33	YES
PROJECT OVERVIEW	38	YES
SOCIOECONOMICS	43	YES
SOILS	51	YES
TRANSMISSION SYSTEM DESIGN	54	YES
WATER RESOURCES	59	YES
WORKER SAFETY	70	YES

STATE OF CALIFORNIA – THE RESOURCES AGENCY ARNOLD SCHWARZENEGGER, *Governor*

CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814-5512
www.energy.ca.gov

DOCKET
09-AFC-09
DATE DEC 22 2009
RECD. DEC 22 2009

December 22, 2009

Nicole Tenenbaum, Senior Project Manager
Solar Millennium LLC
1625 Shattuck Avenue, Suite 270
Berkeley, CA 94709

RE: RIDGECREST SOLAR POWER PROJECT (09-AFC-9), DATA REQUESTS SET 1

Ms. Tenenbaum:
Pursuant to Title 20, California Code of Regulations, Section 1716, the California Energy Commission staff seeks the information specified in the enclosed data requests. The information requested is necessary to: 1) more fully understand the project, 2) assess whether the facility will be constructed and operated in compliance with applicable regulations, 3) assess whether the project will result in significant environmental impacts, 4) assess whether the facilities will be constructed and operated in a safe, efficient and reliable manner, and 5) assess potential mitigation measures.

This set of data requests is being made in the areas of Air Quality, Alternatives, Biological Resources, Cultural Resources, Hazardous Materials, Land Use, Public Health, Reliability, Soil & Water Resources, Traffic and Transportation, Transmission System Design, Visual Resources and Waste Management. Written responses to the enclosed data requests are due to the Energy Commission staff on or before January 25, 2010 or at such later date as may be mutually agreeable.

If you are unable to provide the information requested, need additional time, or object to providing the requested information, you must send a written notice to both the Committee and me within 20 days of receipt of this notice. The notification must contain the reasons for not providing the information, the need for additional time, and the grounds for any objections (see Title 20, California Code of Regulations, Sec.1716 (f)). If you have any questions, please call me at (916) 651-0966 or email me at esolorio@energy.state.ca.us.

Sincerely,

Eric K. Solorio
Project Manager

Enclosure

PROOF OF SERVICE (REVISED 11/18/09) FILED WITH ORIGINAL MAILED FROM SACRAMENTO ON 12/22/09
MF