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AECOM

July 2, 2009

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

Subject: Application for Modification to Determination of Compliance for Beacon Solar Energy Project

Dear Mr. Stephens:

On behalf of Beacon Solar, LLC, AECOM is submitting the enclosed application for modification to the Determination of Compliance (DOC) for Beacon Solar Energy Project (BSEP). The application is necessary because of proposed changes to the project design that will affect the current DOCs. The equipment changes that are the subject of this application include the following:

1. Boiler No. 1 and Boiler No. 2 may be fired on propane, also known as liquefied petroleum gas (LPG); therefore, DOCs with Application Numbers 0369001 and 0369002 need to be revised to allow the boilers to operate on either natural gas or LPG.

2. The number of Heat Transfer Fluid (HTF) expansion tanks is to be increased from six to 22; and the volume of each tank is to be increased from 6,000 gallons to 75,000 gallons. Therefore, DOC with Application Number 0369004 needs to be revised to change the number and size of tanks described in the system.

The consequences of these proposed changes are that the amount of sulfur oxides (SOx) emissions from the boilers will increase because commercial grade LPG contains more sulfur than pipeline quality natural gas. The increase in the number and size of HTF tanks is not expected to produce an increase in VOC emissions because all tanks are vented to a vapor control system with an adequate adsorption capacity.

In addition to these changes, Beacon submitted comments to the California Energy Commission on May 1, 2009 on the Preliminary Staff Assessment. Beacon requested that Staff consider modifications to three of the proposed Conditions of Certification that the Staff had incorporated from the KCAPCD's DOCs, i.e., AQ-23, AQ-51, and AQ-70. These changes correspond to the Compliance Testing Requirements in Application 0369003; Controlled Vapor Emissions in Application 0369005; and Operational Condition 3 in Application 0369007. Mark-ups of these DOCs are provided along with the mark-ups for the boiler and HTF tank DOCs for which modifications are being requested in the attached application. Beacon requests the KCAPCD consider making these revisions as well.

The BSEP also considered whether an increase in the permitted level of Total Dissolved Solids (TDS) and hence particulate emissions from the cooling tower was needed. Beacon recently proposed to implement a partial zero liquid discharge system and reduce the size of the evaporation ponds. These changes will require some additional water treatment and increased cycles of concentration in the tower. However, it is expected that the BSEP can operate within the permitted limit of 1,600 ppm of TDS with the use of site groundwater. Other water supply sources are also being evaluated, including the use of high TDS water from wells in the vicinity of Koehn Lake. If water from this area is used, then

an increase in the permitted level of TDS and additional water treatment would be needed. Beacon will apply for these modifications at a later date should this alternative water source be pursued.

As discussed with you last week, Beacon requests that these modifications be made on an expedited basis. It's our understanding from your email on 6/24 that the current fees (since 4/1/09) are $46 per hour for engineering time and $57.11 per hour additional for priority processing. We request that the District proceed on that basis and Beacon will reimburse KCAPCD upon receipt of an invoice.

Should you have questions about the proposed changes to the project, please contact either of the undersigned at 805-388-3775.

Sincerely yours,

Russell Kingsley
Program Manager
russ.kingsley@aecom.com

Sara J. Head
Vice President
sara.head@aecom.com

Enclosure: Application for Modification to DOCs for BSEP

cc: CEC Dockets Unit, BSEP POS List / Eric Solorio, CEC
Kenny Stein, NextEra Energy Resources, LLC

Prepared for:
Beacon Solar, LLC

Application for Modification to Determination of Compliance for Beacon Solar Energy Project

AECOM Environment
June 2009
Document No.: 10056-014-035

AECOM

Prepared for:
Beacon Solar, LLC

Application for Modification to Determination of Compliance for Beacon Solar Energy Project

Prepared By: Russell Kingsley

Reviewed By: Sara J. Head

AECOM Environment
June 2009
Document No.: 10056-014-035

AECOM

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Appendices

1.0 Introduction

1.1 Application Overview

Beacon Solar, LLC, a Delaware limited liability company (herein "Beacon" or "Applicant"), is submitting this application to the Kern County Air Pollution Control District (KCAPCD) for modifications to the Determination of Compliance[1] (DOC) for two of the sources of air emissions that are proposed to be constructed at the Beacon Solar Energy Project (BSEP or Project). Beacon originally submitted an application for a DOC to KCAPCD on March 24, 2008, and the application was deemed complete on April 16, 2008. The KCAPCD issued its Preliminary Determination of Compliance on December 23, 2008. Upon consideration of comments provided on the PDOC, the KCAPCD prepared a Final DOC. Although the FDOC was prepared, it was not officially issued by the District. This application seeks to modify two aspects of the proposed project, and hence seeks to obtain modifications to the DOC for the Project.

The two modifications proposed with this application are:

- To allow the use of propane/liquefied petroleum gas (LPG)[2] in the facility's two 30 million British thermal units (MMBtu) per hour boilers used for startup and for heat transfer fluid (HTF) freeze protection; and

- The addition of 16 additional HTF expansion tanks into the HTF expansion system, bringing the total number of tanks to 22.

The proposed modifications will cause an increase in sulfur oxides (SOx) from the boilers, as LPG has a higher sulfur content than natural gas. Emission calculations for the modification are provided in **Section 3.0** of this application. The additional HTF expansion tanks have no impact on facility emissions. The proposed modifications do not cause criteria pollutant emissions from the facility to exceed major source thresholds and will not exceed the offset thresholds established by KCAPCD.

The KCAPCD application forms for each of these proposed modifications are attached in **Appendix A**. The proposed modifications will require changes to the DOCs; copies of the DOCs marked-up to show the requested changes are provided in **Appendix B**.

The modifications proposed for BSEP will require the installation several permit-exempt devices and processes, including two 18,000-gallon LPG storage tanks, electrically-heated LPG vaporizers, and certain wastewater treatment processes.

1.2 Background

Beacon is proposing to construct, own and operate the BSEP. The Project is a concentrated solar electric generating facility proposed on approximately 2,012 acres in Kern County, California. The Project will use well-established parabolic trough solar thermal technology to heat HTF to a nominal working temperature of

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[1] Under the Warren-Alquist Energy Resources Conservation and Development Act, the California Energy Commission (CEC) has sole permitting authority for all State, regional and local permits for all thermal power plants of 50 megawatts (MW) or greater. Therefore, rather than an Authority to Construct (ATC) permit, the KCAPCD will issue a DOC containing permit requirements and conditions needed to ensure compliance with applicable regulations, which the CEC will then incorporate into the license for the power plant. The DOC is in all respects the same as an ATC, different in name only.

[2] LPG is synonymous with propane in this application.

740 degrees Fahrenheit (°F). The heated HTF is circulated through a heat exchanger known as a solar steam generator (SSG) to produce steam. The steam powers a conventional steam turbine which is used to drive an electric generator (a steam turbine generator [STG]). The Project will have a nominal electrical output of 250 megawatt (MW). The solar thermal technology will provide 100 percent of the power generated by the plant.

The emissions sources proposed for the BSEP (as they are described in the current DOCs) are summarized in **Table 1-1**.

Table 1-1 Permitted Equipment

Equipment Description	Application Number
Two 30 million British thermal units (MMBtu) per hour natural gas-fired boilers used for startup and for HTF freeze protection	0369001 0369002
One 11-cell wet cooling tower	0369003
HTF expansion system, with 6 tanks	0369004
One air pollution control device for the HTF vent	0369005
One 300-horsepower (hp) diesel-fired emergency fire water pump engine	0369006
A land treatment unit that will be used for cleanup of soils contaminated by spills of the heat transfer fluid (the emissions from this source are considered negligible).	0369007

1.3 Facility Location

The Project is located in eastern Kern County along the California State Route 14 (SR-14) corridor, approximately 10 miles north-northwest of California City, approximately 15 miles north of the Town of Mojave, and approximately 24 miles northeast of the City of Tehachapi. Koehn Lake (normally dry) is located approximately five miles to the east-northeast, and Red Rock Canyon State park is located approximately four miles to the north. The Honda Proving Center vehicle test track facility is located approximately 0.8 mile to the east. The Project's primary solar energy generation facilities (i.e., solar array and power block) will be located on approximately 1,266 privately-owned acres east of SR-14 and east of an existing rail line that extends north-south across the property. Including ancillary facilities, the Project site covers about 2,012 acres located on all or part of 26 parcels. Access to the Project site will be from SR-14. A Project Location drawing was provided in the original application and is not provided with this submittal.

1.4 Facility / Application Contact Information

The following is the contact information for the responsible parties regarding the application:

Scott Busa
Director of Development
NextEra Energy Resources, LLC
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Information regarding the application is also available from the AECOM, who assisted in the application preparation:

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Sara.Head@AECOM.com
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805-320-8059 (Cell)
805-388-3577 (Fax)

2.0 Project Description

2.1 Proposed Modifications

The permit modifications proposed with this application are:

- To allow the use of LPG in the facility's two 30 MMBtu per hour boilers used for startup and for HTF freeze protection; and
- The addition of 16 additional HTF expansion tanks into the HTF expansion system, bringing the total number of tanks to 22.

2.2 Project Layout

A plot plan of the site showing the location of the proposed LPG tanks and additional HTF expansion tanks is provided in **Appendix C**. As shown, the proposed changes require minor changes to the layout of the power block, but no changes to other aspects of the solar field.

2.3 Construction Schedule

Construction is scheduled to begin in first quarter of 2010 and commercial operation is planned for early 2012. The proposed modifications do not impact the construction schedule compared to the original application, but the schedule has been extended to account for the current CEC licensing process.

2.4 Process Overview

The Project is a concentrated solar electric generating facility proposed on approximately 2,012 acres in Kern County, California. The Project will use well-established parabolic trough solar thermal technology to heat HTF to a nominal working temperature of 740°F. The heated HTF is circulated through a heat exchanger known as a SSG to produce steam. The steam powers a conventional STG. The Project will have a nominal electrical output of 250 MW. The solar thermal technology will provide 100 percent of the power generated by the plant.

The Project will utilize boilers for startup operations and HTF freeze protection. As originally proposed, the boilers would use natural gas as fuel; with this modification, LPG is proposed as an alternative fuel. The startup operations involve circulating steam through the steam turbine seals. Freeze protection is required to ensure that the temperature of the HTF anywhere in the field does not fall below 54°F, the HTF freezing point.

Support equipment for the facility includes a wet cooling tower and a diesel-fired emergency fire water pump. There will be water treatment facilities to pretreat boiler feedwater, mirror wash water and cooling tower feedwater. The facility will have storage tanks for raw water, treated water and water treatment chemicals, diesel fuel for the fire water pump engine, and lube oil for the steam turbine. A specialty water truck periodically drives through the solar field washing the mirrors in the solar array with deionized water to remove impurities that degrade mirror performance (e.g., dust). A land treatment unit is proposed onsite for treatment of soils that may become contaminated with HTF. A Process Flow Diagram was provided with the original DOC application, and is not reproduced for this application.

2.5 Equipment Description

The devices subject to this application for modification are:

- Two 30 MMBtu per hour boilers used for start up and for freeze protection; and
- HTF expansion system.

Air pollution control technologies for the permitted equipment are identified in **Section 2.5.3**. In addition, the facility will have a number of devices that are exempt from permit requirements; a list of devices and the applicable exemptions are provided in **Section 2.5.4**.

Process and equipment descriptions for each of the sources subject to the permit modification requirements are provided in the following sections.

2.5.1 Auxiliary Boilers

Two 30 MMBtu per hour boilers are required for the Project. As originally proposed, the boilers would use natural gas as fuel; with this modification, LPG is proposed as an alternative fuel. The function and operation of the boilers is otherwise unchanged from what was described in the original application for the equipment.

The two boilers are rated at 20,000 pounds per hour of steam each. The boilers are used to provide steam as needed for the steam turbine seal system during startup and to provide heat for HTF freeze protection. Sealing steam is used to prevent air from entering the steam turbine during start-up while a vacuum is being established in the condenser. Seal steam may also be required while the STG is offline but still under vacuum. HTF freezes at 54°F; to prevent HTF freezing, steam from the boilers will be used to ensure that HTF system temperature stays above 54°F whenever the solar unit is offline.

The boilers will be of the type manufactured by Rentech Boiler Systems. The boilers will be equipped with ultra-low-NOx burners capable of achieving nine (9) parts per million (ppm) NOx at three percent excess oxygen whether combusting natural gas or LPG. The vendor warranties that CO, PM10 and VOC emissions will not increase when LPG is used. SOx emissions are a function of the sulfur content of the fuel, and not on boiler or burner design. SOx emissions are expected to be higher when operating on LPG than when operating on natural gas. Boiler specifications are provided in **Appendix D**.

2.5.2 HTF System

The solar array will utilize a heat collection system that uses HTF. The individual elements of the HTF system are explained below, and specifications are provided in **Table 2-1**. This application proposes to add 16 HTF expansion tanks to the originally permitted six tanks, bringing the total number of tanks to 22. The function and operation of the expansion tanks is otherwise unchanged from the original application. The process description is reproduced from the original application for completeness.

Heat Transfer Fluid. Solutia Therminol™ VP-1 (or equivalent) will be used as the HTF. Therminol is a special high-temperature synthetic oil that has been used in many heat transfer processes and has an excellent operating history. The Material Safety Data Sheet (MSDS) for Therminol™ has been previously provided, and is not included with this submittal. Therminol™ VP-1 is an aromatic hydrocarbon, a mixture of biphenyl and diphenyl oxide.

Solar Steam Generator System. The SSG system will be typical of the design used reliably in the Solar Energy Generating Systems (SEGS) units near Kramer Junction, California for over 20 years. Solar boilers are designed similar to that used in conventional “kettle boiler” shell and tube heat exchangers in that the hot HTF is circulated through tubes and the steam is produced on the shell side. The SSG system includes heat exchangers for preheating the condensate, superheating the steam, and reheating steam in addition to the boiler vessels.

HTF Piping Header. To transport the HTF throughout the site, supply and return piping is routed to allow for balanced flow through the solar collectors. Expansion loops will be located through the plant as required to maintain the composite pipe stress within allowable limits. Automatic shut-off valves will be located in the

header piping crossing the fault zone that runs across the site. The automatic shut-off valves will either be triggered by ground acceleration or by the operator inside the control room.

HTF Expansion Tanks. To accommodate the volumetric change that occurs when heating the HTF to the operating temperature in the solar collectors, expansion tanks are required. As noted, the original design had six tanks; this application proposes to add 16 additional tanks bringing the total to 22 tanks, with a total capacity of 1,650,000 gallons. The expansion tanks are vented to atmosphere (through controls) upon startup each morning to prevent over-pressurization of the system. The vented gases contain volatile organic compounds (VOCs) consisting of HTF and organic compounds that are caused by thermal degradation of the HTF. Venting of the HTF expansion tanks occurs for approximately two (2) hours per day. Once the HTF system is up to normal operating temperatures, the venting is discontinued.

Nitrogen is added to the expansion tanks through a pressure (vacuum) regulator. The pressure regulator feeds nitrogen into the expansion tanks to prevent a vacuum from forming in the tanks when the HTF cools and contracts; nitrogen is used (as opposed to air) to provide an inert blanket to prevent an explosive atmosphere from forming in the tanks.

HTF Ullage System. In order to maintain proper HTF physical and chemical properties, the HTF is periodically routed through a series of equipment that removes breakdown products, commonly referred to as "high boilers" and "low boilers." The high boilers are separated as a sludge and recycled by the HTF supplier. The low boilers are removed as gases and routed to the venting header.

When the expansion tanks are venting or the ullage system is in operation, the vapors are routed through a vapor control consisting of two carbon adsorbers in series which will reduce the VOC concentration in the exhaust by 99 percent or more.

Table 2-1 HTF Expansion Tank Specifications

Parameter	Specification
Number of Tanks	22
Manufacturer	TBD
Model No.	TBD
Length (each)	TBD
Diameter (each)	TBD
Gross Capacity (each)	75,000
Operation	Continuous (see **Section 2.6**)
Vent Stack Height	TBD
Vent Stack Diameter	TBD
Vapor Control	See **Section 2.5.3**
Blanketing	Nitrogen, pressure regulator controlled feed
Operating Temperature (maximum)	740°F
Operating Temperature (minimum)	54°F
Tank Contents	Therminol™ VP-1
HTF Material Properties	See MSDS previously provided
Tank Color	TBD

Table 2-1 HTF Expansion Tank Specifications

Parameter	Specification
Coordinate East[1]	1996161
Coordinate North[1]	640322
1. Coordinates based on California Coordinate System NAD 1927 – Zone 5	

2.5.3 Air Pollution Control Equipment

The modifications proposed with this application do not change the emissions control measures for the boilers or HTF expansion tanks as specified in the DOCs.

2.5.4 Exempt Equipment

The proposed modifications will require the installation of devices and equipment that are exempt from permit according to KCAPCD Rule 202. A list of the new, additional equipment with the applicable exemption is provided in **Table 2-2**.

Table 2-2 Exempt Equipment

Description	Exemption
LPG tank, 18,000 gallon	Rule 202, II.G.7. Storage of liquefied gases in unvented (except for emergency relief) pressure vessels.
LPG vaporizer, electrically heated	Rule 201 – this equipment does not emit regulated air contaminants.
Wastewater treatment (i.e., partial zero-liquid discharge), also known as brine concentrator, electrically heated	Rule 201 – this equipment does not emit regulated air contaminants.

2.6 Operating Schedule

The modifications proposed with this application do not change the operating schedule identified in the original application for this Project. As a solar energy facility, power generation will only occur during daylight hours. The number of hours per day will vary according to the season. The operating schedule for the emissions units vary from the hours of operation of the power generating facilities, depending on the function of the equipment. The operating schedules for equipment affected by this application are summarized in **Table 2-3**. The operating schedules for the emissions units have been previously provided and are not repeated here for equipment that is not proposed to be modified.

Table 2-3 Operating Schedule

Equipment	Hours/day	Hours/year
Facility	24	8,760
Boilers	2 (average) 14 (maximum)	1,000 (each)
HTF Venting	2	730

2.7 Fuel Usage

The fuel usage related to operation of the emission sources at the facility affected by the proposed modifications is summarized in **Table 2-4**. Raw material usage for exempt devices (e.g., water treatment chemicals) is not provided, as it has no bearing on emissions or operation of the permitted sources.

Table 2-4 Fuel Usage

Source	Raw Material	Heating Content / Sulfur Content	Hourly Usage	Annual Usage
Boilers	Natural Gas (total)	1,050 Btu/scf (HHV) 0.2 gr/dscf S	57,100 scf/hr (HHV)	57.1 MMscf/yr
	LPG	2,522 Btu/scf 0.0113 lbs/MMBtu S	23,791 scf/hr	23.7 MMscf/yr

3.0 Emissions

The modifications proposed with this application impact the boilers and the HTF expansion tanks. The impacts of the proposed modifications on device and facility emissions are addressed in this section. Detailed emission calculations are provided in **Appendix E**.

3.1 Boiler Emissions

3.1.1 Criteria Pollutants

The boilers are currently permitted to combust natural gas fuel. The proposed modification is to allow combustion of LPG as an alternative fuel. According to the manufacturer's specifications (see **Appendix D**), the boilers will achieve the same emissions rates for NOx, VOC, CO and PM10 when burning LPG as they do when burning natural gas. The emissions of SOx are expected to be higher with LPG than with natural gas, however, due to the relatively higher sulfur content of the LPG compared to natural gas. Thus the potential consequences of the proposed modification are an increase in SOx emissions. The assumptions made regarding boiler operation used as the basis for emission calculations include:

- Two 30 MMBtu per hour boilers;
- LPG is used for fuel by the boilers;
- Operation of the boilers is limited to 14 hours per day and 1,000 hours per year; and
- SOx emissions are calculated using the sulfur emission factor taken from SBAPCD Technical Information and References at http://www.sbcapcd.org/eng/tech/sulfur01.htm.

Table 3-1 SOx Emission Comparison – One Boiler

Fuel	SOx Emissions		
	lb/hr	lb/day	ton/yr
Natural Gas	0.08	0.11	0.004
LPG	0.34	4.75	0.17
Net Increase	*0.26*	*4.64*	*0.166*

3.1.2 Toxic Air Contaminants

Toxic air contaminant (TAC) emissions are not expected to be significantly different for LPG than they are for natural gas. As a practical matter, TAC emission factors are not readily available for LPG; the Applicant reviewed the California Air Toxic Emission Factor (CATEF) database, EPA Compilation of Air Pollution Emission Factors (AP-42), South Coast Air Quality Management District (SCAQMD), Ventura County Air Pollution Control District (VCAPCD) and Bay Area Air Quality Management District (BAAQMD) emissions guidance and was unable to identify TAC emission factors for LPG. It is Beacon's understanding that the natural gas TAC emission factors are routinely used to predict TAC emissions from LPG combustion. Further, the health risks predicted for the Project were dominated by the diesel combustion emissions, and only marginally due to natural gas combustion. The overall BSEP health risk was modeled to be very low. So,

while the TAC emissions from LPG combustion may differ from natural gas to some (not quantified) extent, the LPG TAC emissions are not expected to lead to a significantly higher health risk from Project operations.

3.2 HTF Expansion Tank Vent VOC Emissions

As with the original Project, the HTF expansion tanks will vent to atmosphere via the Ullage system. The emissions will be controlled using two carbon adsorption beds in series. VOC emissions from the HTF are the result of thermal degradation of the HTF resulting in the formation of low molecular weight compounds that have low boiling points and high vapor pressure. These low molecular weight compounds volatilize in the headspace of the expansion tanks and when the HTF expands during the day, are forced out of the system through the Ullage system and carbon adsorption controls. The number of expansion tanks does not adversely affect the rate at which the HTF degrades into low molecular weight compounds. So, while the modified Project has more HTF expansion tanks and, therefore, a greater vapor volume to be displaced and vented, the daily and annual quantity of low molecular weight compounds in the system (and thus vented through the Ullage system to atmosphere) will not change. The net result is a much larger vapor volume at a much lower concentration, with no net change in emissions expected.

A component count is included in the current permit. However, similar to the overall emissions from the HTF system, the number of components was estimated based on the amount of HTF to be used, and not on the specific number of tanks. Therefore, no increase in the number of components is proposed at this time.

4.0 Regulatory Compliance Determination

4.1 KCAPCD Rules and Regulations

A comprehensive list of potentially applicable KCAPCD rules, and either an explanation of how the Project complies with the rule, or why the rule is not applicable, is provided in this section. Those rules that apply to the equipment, but are not impacted by the proposed modifications are not addressed in this section. Please refer to the original application for a discussion of rule compliance for those rules.

4.1.1 Regulation I General Provisions

The proposed modifications do not impact compliance with any Regulation I rules.

4.1.2 Regulation II Permits

Rule 201 Permits Required

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

With this application, Beacon is requesting modifications for its DOCs for the equipment and modifications described herein. The APCO will be notified before operating the equipment, as required.

Rule 202 Permit Exemptions

The BSEP will operate a number of devices that emit air pollutants but are exempt from permit pursuant to one or more exemptions listed in Rule 202. A list of exempt devices and the applicable exemptions were provided in the original DOC. The proposed modifications will add additional exempt equipment to the facility. The device descriptions and applicable exemptions are shown in **Table 2-2**.

Rule 210.1 New and Modified Stationary Source Review

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

BACT. An applicant shall provide BACT for all affected pollutants expected to be emitted from a new emissions unit and for all affected pollutants expected to increase from a modified existing emissions unit.

Each of the permitted devices proposed to be modified in the Project will employ current BACT. As discussed elsewhere, the boiler manufacturer guarantees the same emissions rates of NOx, VOC, CO and PM10 when combusting LPG as when combusting natural gas. With no increase in emissions, the proposed modification does not trigger a BACT review for these pollutants.

The use of LPG is an alternative basic process. It is not feasible or cost-effective to provide add-on SOx emissions controls for a limited use device with such low emissions. The use of low-sulfur LPG fuel satisfies BACT for the process.

HTF expansion tanks will use carbon adsorption system consisting of two carbon beds in series for emissions control.[3] The proposed addition of 16 HTF expansion tanks to the HTF system does not increase emissions and thus does not trigger a BACT review.

Offsets. An applicant must provide offsets for new or modified stationary source of PM10, SOx, NOx or VOC for the source's potential to emit when the source's potential to emit equals or exceeds the offset trigger levels shown in **Table 4-2**. If offsets are required, they must be provided at specified ratios. As discussed in **Section 3.0**, the proposed modifications do not increase NOx, VOC, CO or PM10 emissions. The facility SOx emissions will increase as a result of the proposed modifications. However, the post-modification SOx emissions are still well below the offset threshold, and thus offsets are not required for this application.

Table 4-1 Offset Determination

Pollutant	Offset Threshold Tons/year	Post-modification Project Emissions Tons/year	Offsets Required? Yes/No
SOx	27	0.34	No

Additional Requirements. The modifications proposed with this application do not change trigger the need to evaluate alternative siting, visibility impacts, modeling or provide a compliance certification because the emissions change does not cause the facility to become a major source and the modification is not a major modification.

4.1.3 Regulation III Fees; Rule 301, Permit Fees

Permit application fees are shown in **Table 4-3**.

Table 4-2 Permit Fees

Basic Equipment	Basis	Fee
Filing Fee	301 (I)	$120
Boiler No. 1	302, Schedule 2	$2,532
Boiler No. 2	302, Schedule 2	$2,532
HTF Expansion Tanks	302, Schedule 5 (16 new tanks at $162 each)	$2,592
Application Processing	303 (II) (minimum)	$46
Total		**$7,822**

[3] Final design of the carbon system is pending, so that the amount of carbon to be placed in the beds has not yet been determined.

Similar to the permit processing to date, it is expected that this modification to the DOC will be done on a cost reimbursement basis. Therefore, no fee has been provided with this application, and Beacon Solar will provide fee payment upon receipt of an invoice for processing services.

Beacon Solar requests that the processing be done on an expedited basis. The new fee schedule since April 1, 2009 is $46 per hour for engineering time and $57.11 per hour additional for priority processing.

4.1.4 Regulation IV Prohibitions

Rule 401 Visible Emissions

A person shall not discharge into the atmosphere, from any single source of emission whatsoever, any air contaminant for a period or periods aggregating more than three (3) minutes in any one hour which is as dark or darker in shade as that designated as No. 1 on the Ringelmann Chart, or of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke which is as dark or darker in shade as that designated as No. 1 on the Ringelmann Chart. The Project boilers will be equipped with BACT and combust clean fuels, and consequently, compliance with this rule is expected.

Rule 404.1 Particulate Matter Concentration – Desert Basin

Rule 404.1 applies to any person who discharges PM emissions into the atmosphere from any single source or operation. The rule limits PM emissions to less than 0.1 grains per standard cubic foot of gas at standard conditions. The requirements of this rule do not apply to the boilers provided they combust only liquid fuels, gaseous fuels, or waste gases, and only emit combustion contaminants. The Project boilers will combust only natural gas or LPG; therefore, the rule limit does not apply to the boilers.

Rule 407 Sulfur Compounds

A person shall not discharge into the atmosphere sulfur compounds, which would exist as a liquid or gas at standard conditions, exceeding in concentration at the point of discharge of 0.2 percent (or 2,000 parts per million [ppm]) by volume calculated as SO_2. The Project boilers and fire water pump engine will emit SOx.

As shown in **Table 3-1**, the SOx emissions from a boiler's operation are 0.34 pounds per hour. The exhaust gas flow rate from the boiler is 17,671 standard cubic feet per minute (scfm). Based on these values, the SOx concentration in the boiler stack is 2.0 ppm which complies with the rule.

Rule 409 Fuel Burning Equipment – Combustion Contaminants

Fuel burning equipment, the construction or modification of which commenced after August 17, 1971, shall not discharge into the atmosphere PM, SO_2 or NOx in excess of the EPA Standards of Performance (see Rule 422). In addition, a person shall not discharge into the atmosphere from any other fuel burning equipment combustion contaminants exceeding in concentration at the point of discharge, 0.1 grain per cubic foot of gas calculated to 12 percent of carbon dioxide (CO_2) at standard conditions. The proposed modification does not increase combustion contaminant emissions from the boilers.

Rule 411 Storage of Organic Liquids

This rule applies to equipment used to store organic liquids and petroleum distillates, with a true vapor pressure of greater than 1.5 pounds per square inch atmospheric (psia). HTF will be processed in the HTF expansion tanks. The expansion tanks are not storage tanks, and the vapor pressure of each of HTF is less than 1.5 psia. The LPG storage tanks are pressure vessels with no emissions during normal operations. Therefore, this rule will not apply to the proposed modifications.

Rule 419 Nuisance

A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public

or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property. Due to the application of BACT on each emission source and the distance from the emission sources to any potential receptors, compliance with this rule is expected.

Rule 422 New Source Performance Standards

The modifications proposed with this application will not trigger the applicability of any New Source Performance Standards (NSPS) on the subject equipment.

Rule 423 National Emission Standards for Hazardous Air Pollutants and Source Categories

The modifications proposed with this application will not trigger the applicability of any National Emission Standards for Hazardous Air Pollutants (NESHAPS) on the subject equipment.

Rule 425.2 Boilers, Steam Generators and Process Boilers (Oxides of Nitrogen)

The purpose of this rule is to limit NOx emissions from boilers, steam generators, and process heaters to levels consistent with Reasonably Available Control Technology (RACT) to satisfy California Health and Safety Code (HSC) Section 40918(b) and 1990 Federal CAA Amendments, Section 182(f). CO emissions are also limited to insure efficient combustion at reduced NOx levels. This rule applies to any boiler, steam generator or process heater with a rated heat input of five (5) MMBtu per hour or more and fired with gaseous and/or liquid fuels. An owner/operator of any unit subject to this rule with annual heat input of 90,000 therms or more during one or more of the three preceding years of operation shall comply with the applicable NOx emission limit(s) in **Table 4-4**.

Table 4-3 Emission Limits for Equipment Subject to Rule 425.2

Operating Mode	Gaseous Fuel	Liquid Fuel
During Normal Operation	70 ppmv, or 0.09 lb/MMBtu for NOx 400 ppmv for CO	115 ppmv, or 0.15 lb/MMBtu for NOx 400 ppmv for CO
During Natural Gas Curtailment	----	150 ppmv, or 0.19 lb/MMBtu for NOx 400 ppmv for CO

An owner/operator of any unit subject to this rule must submit to KCAPCD an Emission Control Plan that includes:

1. List of units subject to rule, including rated heat inputs, anticipated annual heat input, applicable NOx or CO emission requirements, and control option chosen, if applicable;

2. Description of actions to be taken to satisfy rule requirements. The plan shall identify actions to be taken to comply, including any type of emissions control to be applied to each unit and construction schedule, or shall include test results to demonstrate unit already complies with applicable requirements; and

3. Specification of proposed test methods.

All compliance demonstrations shall be performed using applicable test method(s) specified in the rule and the methods selected to demonstrate compliance shall be specified in Emission Control Plan required. All emission measurements shall be made with unit operating at conditions as close as physically possible to maximum firing rate allowed by the KCAPCD PTO. Any unit subject to NOx or CO emission limits shall be

tested to determine compliance with applicable requirements not less than once every 12 months. An owner/operator of gaseous fuel-fired units demonstrating compliance for two consecutive years can, if desired, demonstrate compliance once every 36 months.

The expected annual fuel use of the boilers will exceed 90,000 therms and, therefore, this rule will apply. The boilers will burn natural gas or LPG exclusively; low-NOx burners will limit NOx emissions to nine (9) ppm, which is less than 70 ppmv, and good combustion practices will limit CO emissions to 50 ppm, which is less than 400 ppmv. An Emission Control Plan will be prepared that will describe the nature and frequency of NOx and CO emission tests that will be performed to verify compliance with this rule.

4.2 California Rules and Regulations

4.2.1 California Accidental Release Prevention Program

The CalARP Program, California HSC Section 25531 et seq, directs facility owners storing or handling acutely hazardous materials in excess of threshold quantities to develop a Risk Management Plan (RMP) and submit it to the designated local Administering Agency and EPA for review and approval. The RMP must include an evaluation of the potential impacts associated with an accidental release, the likelihood of an accidental release occurring, the magnitude of potential human exposure, any preexisting evaluations or studies of the material, the likelihood of the substance being handled in the manner that would result in an accidental release, and the accident history of the material. The local Administering Agency for the RMP is the Certified Unified Program Agency (CUPA), the Kern County Environmental Health Services Department.

The proposed modifications will require the installation of two 18,000 gallon LPG storage tanks at the facility. While this quantity of LPG exceeds the state threshold for LPG, pursuant to California Code of Regulations §2770.4.1, Exclusions, a flammable substance is excluded from the provisions of the RMP rule when the substance is used as a fuel or held for sale as a fuel at a retail facility.

4.2.2 California Environmental Quality Act

The BSEP is subject to licensing by the California Energy Commission (CEC); an Application for Certification (AFC) has been submitted for this Project. The CEC-licensing process is a California Environmental Quality Act (CEQA)-equivalent process. The AFC provides additional information on the Project Description and other aspects of the environmental studies that have been performed for the Project. The modifications proposed in this application were submitted to the CEC for incorporation into the AFC process on June 19, 2009. A copy of the AFC and other relevant Commission and Applicant documents are available on the CEC's web site: http://www.energy.ca.gov/sitingcases/alphabetical.html.

4.3 Federal Rules and Regulations

The modifications proposed with this application will not trigger the applicability of any NSPS, NESHAPS, Prevention of Significant Deterioration or Title V Federal Operating Permits requirements on the subject equipment.

4.3.1 Chemical Risk Management

The Chemical Risk Management program, codified as 40 Code of Federal Regulations (CFR) Part 68, requires the preparation of a RMP if certain listed toxic or flammable substances are used in excess of the listed threshold quantity. The RMP addresses in detail the emergency prevention implemented at the facility and the response actions planned by the facility in the event of a hazardous materials release. The RMP is based on studies identifying potential hazards associated with the handling of the listed materials proposed for use at the facility. California has developed its own program (CalARP) that generally mirrors the Federal RMP program (see **Section 4.2.1**). For those aspects of the California program that differ from the Federal program, California's program is more stringent. Similar to the California program, while the quantity of LPG in the two

18,000 gallon LPG storage tanks at the facility will exceed the federal threshold for LPG, pursuant to 40 CFR § 68.126 Exclusion, a flammable substance listed in Tables 3 and 4 of §68.130 is nevertheless excluded from all provisions of the RMP rule when the substance is used as a fuel or held for sale as a fuel at a retail facility.

APPENDIX A
Application Forms

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

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

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

Operator Information

Business Name to Appear on Permit:	Owner's Name:		Phone No:
NextEra Energy Resources, LLC	NextEra Energy Resources, LLC		
Mailing Address: 700 Universe Blvd.		Business E-mail Address:	
City: Juno Beach	State: FL	Zip: 33408	Fax No:

Equipment Location

Street Address:	City:	Zip:
Off SR-14 in Sects. 3,4,7,8&9		
General Nature of Business: Solar electric generating facility		S.I.C. CODE(S) *If Known*: 4911

Assessors' Parcel No: _____ OR _____/4 SECTION 3,4,7,8&9 TOWNSHIP 30 S RANGE 37 E

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

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

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

30,0-MMBtu/hr Natural Gas OR Liquefied Petroleum Gas Fueled Boiler No. 1

Use Additional Sheets if Necessary

Check all that apply

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

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

Title: Director of Development Phone: (561) 691-2889 E-Mail Address: Scott.Busa@NextEraEnergy.com

Signature: S. C. Busa Date: 6/30/09

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

ATC No: _____ **Filing Fee: $**_____

Equip Dscrpt: _____ **Receipt No:** _____

Equip Code: _____ **Date:** _____

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

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

Operator Information

Business Name to Appear on Permit:	Owner's Name:	Phone No:
NextEra Energy Resources, LLC	NextEra Energy Resources, LLC	(561) 691-2889
Mailing Address: 700 Universe Blvd.	Business E-mail Address:	
City: Juno Beach	State: FL	Zip: 33408
Fax No:		

Equipment Location

Street Address:	City:	Zip:
Off SR-14 in Sects. 3,4,7,8&9		
General Nature of Business: Solar electric generating facility		S.I.C. CODE(S) *If Known*: 4911

Assessors' Parcel No: _____ OR _____/4 SECTION 3,4,7,8&9 TOWNSHIP 30 S RANGE 37 E

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

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

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

30,0-MMBtu/hr Natural Gas OR Liquefied Petroleum Gas Fueled Boiler No. 2

Use Additional Sheets if Necessary

Check all that apply

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

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

Title: Director of Development Phone: (561) 691-2889 E-Mail Address: Scott.Busa@NextEraEnergy.com

Signature: Scott C. Busa Date: 6/30/09

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

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

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

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

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

Operator Information

Business Name to Appear on Permit:	Owner's Name:		Phone No:
NextEra Energy Resources, LLC	NextEra Energy Resources, LLC		(561) 691-2889
Mailing Address: 700 Universe Blvd.		Business E-mail Address:	
City: Juno Beach	State: FL	Zip: 33408	Fax No:

Equipment Location

Street Address:	City:	Zip:
Off SR-14 in Sects. 3,4,7,8&9		
General Nature of Business: Solar electric generating facility		S.I.C. CODE(S) *If Known*: 4911

Assessors' Parcel No: _____ OR _____/4 SECTION 3,4,7,8&9 TOWNSHIP 30 S RANGE 37 E

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

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

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

22 75,000-Gallon Heat Transfer Fluid (HTF) Expansion Tanks Vented to Vapor Control Including HTF Piping Network

Use Additional Sheets if Necessary

Check all that apply

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

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

Title: Director of Development Phone: (561) 691-2889 E-Mail Address: Scott.Busa@NextEraEnergy.com

Signature: Scott C. Busa Date: 6/30/09

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

ATC No: _____ **Filing Fee: $** _____

Equip Dscrpt: _____ **Receipt No:** _____

Equip Code: _____ **Date:** _____

APPENDIX B
Current Determinations of Compliance (DOCs) with Mark-ups for Requested Changes

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

DETERMINATION OF COMPLIANCE

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

ISSUE DATE:	**MAY 13 2009**	**APPLICATION NO.:**	**0369001**
EXPIRATION:	**MAY 13, 2011**	**DATE:**	**APRIL 14, 2008**

DETERMINATION OF COMPLIANCE IS HEREBY GRANTED TO:

BEACON SOLAR, LLC

DETERMINATION OF COMPLIANCE IS HEREBY GRANTED FOR:

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

(See attached sheets for equipment description and conditions)

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

This document serves as a temporary Permit to Operate only as provided by Rule 201 of the District's Rules and Regulations. For issuance of a Permit to Operate, Rule 208 requires equipment authorized by this Determination of Compliance be installed and operated in accordance with conditions of approval. Changes to these conditions must be made by application and must be approved before such changes are made. This document does not authorize emission of air contaminants in excess of New Source Review limits (Rule 210.1) or Regulation IV emission limits. Emission testing requirements set forth on this document must be satisfied before a Permit to Operate can be granted.

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

Validation Signature:

David L. Jones
Air Pollution Control Officer

CONDITIONS OF APPROVAL:

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

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

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

DESIGN CONDITIONS:

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

OPERATIONAL CONDITIONS:

1. Visible emissions from boiler exhaust stack shall not exceed 5% opacity or Ringelmann No. ¼. (Rule 210.1 BACT Requirement)
2. Boiler operation shall not exceed 1000-hours/year without prior District approval. (Rule 210.1)
3. Boiler exhaust concentration of sulfur oxides (calculated as SO_2) shall not exceed 2000 parts per million on a volume basis (ppmv). (Rule 407)
4. Volume of natural gas used as fuel for boiler shall not exceed 28.6 million standard cubic feet per year (MMscf/yr). (Rule 210.1) If LPG is used instead of natural gas, Volume of LPG used as fuel for boiler shall not exceed 11.9 MMscf/yr.
5. Operator shall comply with applicable monitoring, testing, and recordkeeping requirements of Rule 425.2. (Rule 425.2)
6. Operator shall maintain annual records of fuel use. (Rule 425.2)
7. Equipment shall be maintained according to manufacturer's specifications to ensure compliance with emissions limitations. (Rules 209 and 210.1)
8. No emission resulting from use of this equipment shall cause injury, detriment, nuisance, annoyance to or endanger comfort, repose, health or safety of any considerable number of persons or public. (Rule 419 and CH & SC 41700)

CONSTRUCTION ACTIVITY:

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

STATE OF CALIFORNIA AIR TOXICS HOT SPOTS REQUIREMENTS:

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

COMPLIANCE TESTING REQUIREMENTS:

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

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

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

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

EMISSION LIMITS:

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

Particulate Matter (PM_{10}):	0.22	lb/hr
	3.04	lb/day
	0.11	ton/yr
Sulfur Oxides (SOx as SO_2):	0.34 ~~0.02~~	lb/hr
	4.76 ~~0.24~~	lb/day
	0.17 ~~0.01~~	ton/yr
Oxides of Nitrogen (NOx as NO_2):	9	ppmv @ 3% O_2 (Rule 210.1 BACT Rqmt.)
	0.33	lb/hr
	4.62	lb/day
	0.17	ton/yr
Volatile Organic Compounds (VOC): (as defined in Rule 210.1)	0.16	lb/hr
	2.20	lb/day
	0.08	ton/yr
Carbon Monoxide:	50	ppmv @ 3% O_2
	1.11	lb/hr
	15.54	lb/day
	0.56	ton/yr

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

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

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

DETERMINATION OF COMPLIANCE

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

ISSUE DATE:	**MAY 13, 2009**	**APPLICATION NO.:**	**0369002**
EXPIRATION:	**MAY 13, 2011**	**DATE:**	**APRIL 14, 2008**

DETERMINATION OF COMPLIANCE IS HEREBY GRANTED TO:

BEACON SOLAR, LLC

DETERMINATION OF COMPLIANCE IS HEREBY GRANTED FOR:

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

(See attached sheets for equipment description and conditions)

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

This document serves as a temporary Permit to Operate only as provided by Rule 201 of the District's Rules and Regulations. For issuance of a Permit to Operate, Rule 208 requires equipment authorized by this Determination of Compliance be installed and operated in accordance with conditions of approval. Changes to these conditions must be made by application and must be approved before such changes are made. This document does not authorize emission of air contaminants in excess of New Source Review limits (Rule 210.1) or Regulation IV emission limits. Emission testing requirements set forth on this document must be satisfied before a Permit to Operate can be granted.

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

Validation Signature:

David L. Jones
Air Pollution Control Officer

CONDITIONS OF APPROVAL:

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

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

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

DESIGN CONDITIONS:

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

OPERATIONAL CONDITIONS:

1. Visible emissions from boiler exhaust stack shall not exceed 5% opacity or Ringelmann No. ¼. (Rule 210.1 BACT Requirement)
2. Boiler operation shall not exceed 1000-hours/year without prior District approval. (Rule 210.1)
3. Boiler exhaust concentration of sulfur oxides (calculated as SO_2) shall not exceed 2000 parts per million on a volume basis (ppmv). (Rule 407)
4. Volume of natural gas used as fuel for boiler shall not exceed 28.6 million standard cubic feet per year (MMscf/yr). (Rule 210.1) If LPG is used instead of natural gas, volume of LPG used as fuel for boiler shall not exceed 11.9 MMscf/yr
5. Operator shall comply with applicable monitoring, testing, and recordkeeping requirements of Rule 425.2. (Rule 425.2)
6. Operator shall maintain annual records of fuel use. (Rule 425.2)
7. Equipment shall be maintained according to manufacturer's specifications to ensure compliance with emissions limitations. (Rules 209 and 210.1)
8. No emission resulting from use of this equipment shall cause injury, detriment, nuisance, annoyance to or endanger comfort, repose, health or safety of any considerable number of persons or public. (Rule 419 and CH & SC 41700)

CONSTRUCTION ACTIVITY:

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

STATE OF CALIFORNIA AIR TOXICS HOT SPOTS REQUIREMENTS:

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

COMPLIANCE TESTING REQUIREMENTS:

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

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

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

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

EMISSION LIMITS:

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

Particulate Matter (PM_{10}):	0.22	lb/hr
	3.04	lb/day
	0.11	ton/yr
Sulfur Oxides (SOx as SO_2):	0.34 ~~0.02~~	lb/hr
	4.75 ~~0.24~~	lb/day
	0.17 ~~0.01~~	ton/yr
Oxides of Nitrogen (NOx as NO_2):	9	ppmv @ 3% O_2 (Rule 210.1 BACT Rqmt.)
	0.33	lb/hr
	4.62	lb/day
	0.17	ton/yr
Volatile Organic Compounds (VOC): (as defined in Rule 210.1)	0.16	lb/hr
	2.20	lb/day
	0.08	ton/yr
Carbon Monoxide:	50	ppmv @ 3% O_2
	1.11	lb/hr
	15.54	lb/day
	0.56	ton/yr

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

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

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

DETERMINATION OF COMPLIANCE

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

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

DETERMINATION OF COMPLIANCE IS HEREBY GRANTED TO:

BEACON SOLAR, LLC

DETERMINATION OF COMPLIANCE IS HEREBY GRANTED FOR:

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

(See attached sheets for equipment description and conditions)

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

This document serves as a temporary Permit to Operate only as provided by Rule 201 of the District's Rules and Regulations. For issuance of a Permit to Operate, Rule 208 requires equipment authorized by this Determination of Compliance be installed and operated in accordance with conditions of approval. Changes to these conditions must be made by application and must be approved before such changes are made. This document does not authorize emission of air contaminants in excess of New Source Review limits (Rule 210.1) or Regulation IV emission limits. Emission testing requirements set forth on this document must be satisfied before a Permit to Operate can be granted.

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

Validation Signature:

David L. Jones
Air Pollution Control Officer

CONDITIONS OF APPROVAL:

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

EQUIPMENT DESCRIPTION: Forced Draft Cooling Tower with11 Cells and High Efficiency Drift Eliminator, including following equipment and design specifications:

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

OPERATIONAL CONDITIONS:

1. No hexavalent chromium containing compounds shall be added to cooling tower circulating water. (Rule 429.1)
2. Drift eliminator drift rate shall not exceed 0.0005%. (Rule 210.1)
3. Cooling tower total dissolved solids (TDS) shall not exceed 1600 mg/liter (0.01335 lb/gal). (Rule 210.1)
4. Cooling water volumetric flow rate shall not exceed 149,000-gal/minute. (Rule 210.1)
5. Compliance with daily 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 ~~available to District staff~~ upon request, and annual calibration verification available to District staff upon request. In-lieu of continuous conductivity monitoring, tests of total solids in blowdown water sample analysis shall be completed at a minimum of once per week by independent laboratory. (Rule 210.1

(repeated phrase)

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)

TDS (i.e., conductivity calibration or laboratory water sample testing)

EMISSION LIMITS:

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

Particulate Matter (PM_{10}):	0.60	lb/hr
	9.55	lb/day
	1.74	ton/yr

(see BSEP May 1, 2009 PSA Comments)

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

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

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

DETERMINATION OF COMPLIANCE

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

ISSUE DATE:	**MAY 13, 2009**	**APPLICATION NO.:**	**0369004**
EXPIRATION:	**MAY 13, 2011**	**DATE:**	**APRIL 14, 2008**

DETERMINATION OF COMPLIANCE IS HEREBY GRANTED TO:

BEACON SOLAR, LLC

DETERMINATION OF COMPLIANCE IS HEREBY GRANTED FOR:

Twenty-two 75,000 ~~Six 6000~~ Gallon Heat Transfer Fluid (HTF) Expansion Tanks Vented To Vapor Control System, Including HTF Piping Network

(See attached sheets for equipment description and conditions)

S	T	R	Location:	Startup Inspection
SW01	**31S**	**37E**	**APN: 469-021-10 and Others**	

This document serves as a temporary Permit to Operate only as provided by Rule 201 of the District's Rules and Regulations. For issuance of a Permit to Operate, Rule 208 requires equipment authorized by this Determination of Compliance be installed and operated in accordance with conditions of approval. Changes to these conditions must be made by application and must be approved before such changes are made. This document does not authorize emission of air contaminants in excess of New Source Review limits (Rule 210.1) or Regulation IV emission limits. Emission testing requirements set forth on this document must be satisfied before a Permit to Operate can be granted.

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

Validation Signature:

David L. Jones
Air Pollution Control Officer

CONDITIONS OF APPROVAL:

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

EQUIPMENT DESCRIPTION: ~~Six 6000~~ 22 75,000 Gallon Heat Transfer Fluid (HTF) Expansion Tanks Vented To Vapor Control System, Including HTF Piping Network, including following equipment and design specifications:

A. ~~Six 6,000~~ 22 75,000 Gallon HTF Expansion Tanks (No. 1 through No. ~~6~~ 22) each with PV vent valve;
B. 25-hp Expansion tank pump;
C. HTF Fluid pumps (400-hp);
D. Nitrogen blanket system;
E. HTF piping header;
F. HTF ullage system;
G. Solar field piping;
H. Solar generating system piping; and
I. Piping from expansion tanks to vapor control system.

DESIGN CONDITIONS:

a. Each HTF tank shall be connected to volatile organic compound (VOC) vapor control system (Permit No. 0369005). (Rule 210.1)
b. Volume of each tank shall not exceed ~~6,000~~ 75,000 gallons without prior District approval. (Rule 210.1)

OPERATIONAL CONDITIONS:

1. HTF expansion vessel shall be gas tight and vent to vapor control system (Permit No. 0369005). (Rule 210.1 BACT Requirement)
2. Permittee shall establish an inspection and maintenance program to determine, repair, and log leaks in HTF piping network and expansion tanks. Inspection and maintenance program and documentation shall be available to District staff upon request. (Rule 210.1 BACT Requirement)
   a. All pumps, compressors and pressure relief devices (pressure relief valves or rupture disks) shall be electronically, audio, or visually inspected once every operating day.
   b. All accessible valves, fittings, pressure relief devices (PRDs), hatches, pumps, compressors, etc. shall be inspected quarterly using a leak detection device such as a Foxboro OVA 108 calibrated for methane.
   c. VOC leaks greater than 100-ppmv shall be tagged (with date and concentration) and repaired within seven calendar days of detection.
   d. VOC leaks greater than 10,000-ppmv shall be tagged and repaired within 24-hours of detection.
   e. Permittee shall maintain a log of all VOC leaks exceeding 10,000-ppmv, including location, component type, and repair made.
   f. Permittee shall maintain record of the amount of HTF replaced on a monthly basis for a period of 5 years.

g. Any detected leak exceeding 100-ppmv and not repaired in 7-days and 10,000-ppmv not repaired within 24-hours shall constitute a violation of this Authority to Construct (ATC)/Permit to Operate (PTO).
h. Pressure sensing equipment shall be installed that will be capable of sensing a major rupture or spill within the HTF network.

3. The following component count shall be utilized to determine fugitive emissions:

Equipment	Service	Count
Valves	Light Liquid	3050
Pump Seals	Light Liquid	4
Connectors*	Light Liquid	7550
Pressure Relief Valve	Gas	6
Open-ended Lines	Light Liquid	44

4. Each expansion tank shall have fixed roof without holes, tears, or other such openings, except pressure/vacuum (PV) valves, in the cover which allow the emission of VOC. (Rule 210.1)
5. All expansion tank hatches shall be kept closed and gap-free, except during maintenance, inspection, or repair. (Rule 210.1)
6. Tank roof appurtenances shall not exhibit emissions exceeding 10,000-ppmv as methane measured with an instrument calibrated with methane and conducted in accordance with U.S. EPA Method 21. (Rule 411)
7. Each tank shall be maintained leak-free. A "leak" is defined as the dripping of liquid volatile organic compounds at a rate of three or more drops per minute, or vapor volatile organic compounds in excess of 10,000-ppm as equivalent methane as determined by U.S. EPA Test Method 21. (Rule 210.1)
8. 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 60 days of District request.

EMISSION LIMITS:

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

Fugitive Emissions (Connectors, Pumps, etc.)

Volatile Organic Compounds (VOC):	21.39	lb/day
	3.90	ton/yr

VOC Emissions from HTF Expansion Assessed on Permit No. 0369005

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

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

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

DETERMINATION OF COMPLIANCE

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

ISSUE DATE:	**MAY 13, 2009**	**APPLICATION NO.:**	**0369005**
EXPIRATION:	**MAY 13, 2011**	**DATE:**	**APRIL 14, 2008**

DETERMINATION OF COMPLIANCE IS HEREBY GRANTED TO:

BEACON SOLAR, LLC

DETERMINATION OF COMPLIANCE IS HEREBY GRANTED FOR:

Vapor Control System

(See attached sheets for equipment description and conditions)

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

This document serves as a temporary Permit to Operate only as provided by Rule 201 of the District's Rules and Regulations. For issuance of a Permit to Operate, Rule 208 requires equipment authorized by this Determination of Compliance be installed and operated in accordance with conditions of approval. Changes to these conditions must be made by application and must be approved before such changes are made. This document does not authorize emission of air contaminants in excess of New Source Review limits (Rule 210.1) or Regulation IV emission limits. Emission testing requirements set forth on this document must be satisfied before a Permit to Operate can be granted.

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

Validation Signature:

David L. Jones
Air Pollution Control Officer

CONDITIONS OF APPROVAL:

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

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

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

DESIGN CONDITIONS:

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

OPERATIONAL CONDITIONS:

1. Carbon adsorption system shall be operated during heat transfer fluid (HTF) expansion system operation and during operation of HTF Ullage system. (Rule 210.1)
2. Control efficiency of carbon adsorption vessels shall be at least 95%. (Rule 210.1)
3. Vapor samples shall be taken monthly between carbon beds and at the exhaust carbon adsorption system and tested for carbon breakthrough. (Rule 210.1)
4 Carbon breakthrough shall be defined as VOC concentration of 10-ppmv as hexane measured after primary carbon bed measured with a flame ionization detector (FID) or photo ionization detector (PID). (Rule 210.1)
5. Primary carbon bed shall be replaced upon indication of carbon breakthrough. (Rule 210.1)
6. Operation of this equipment shall be conducted in compliance with all data and specifications submitted with application under which this permit is issued. (Rule 210.1)
7. Equipment shall be maintained according to manufacturer's specifications to ensure compliance with emissions limitations. (Rules 209 and 210.1)
8. No emission resulting from use of this equipment shall cause injury, detriment, nuisance, annoyance to or endanger comfort, repose, health, or safety of any considerable number of persons or public. (Rule 419 and CH&SC, Sec 41700)

STATE OF CALIFORNIA AIR TOXICS HOT SPOTS REQUIREMENTS:

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

COMPLIANCE TESTING REQUIREMENTS:

Should inspection reveal conditions indicative of non-compliance, compliance with hourly and concentration emission limits for VOC shall be verified pursuant to Rule 108.1 and KCAPCD Guidelines for Compliance Testing, within 60 days of District request.

EMISSION LIMITS:

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

Controlled Vapor Emissions:

Volatile Organic Compounds (VOC):

~~0.63~~	lb/hr	3.13
~~1.25~~	lb/day	6.26
~~0.23~~	ton/yr	1.14

See BSEP May 1, 2009 PSA Comments

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

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

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

DETERMINATION OF COMPLIANCE

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

ISSUE DATE:	**MAY 13, 2009**	**APPLICATION NO.:**	**0369007**
EXPIRATION:	**MAY 13, 2011**	**DATE:**	**APRIL 14, 2008**

DETERMINATION OF COMPLIANCE IS HEREBY GRANTED TO:

BEACON SOLAR, LLC

DETERMINATION OF COMPLIANCE IS HEREBY GRANTED FOR:

Bio-Remediation of Hydrocarbon Contaminated Soil

(See attached sheets for equipment description and conditions)

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

This document serves as a temporary Permit to Operate only as provided by Rule 201 of the District's Rules and Regulations. For issuance of a Permit to Operate, Rule 208 requires equipment authorized by this Determination of Compliance be installed and operated in accordance with conditions of approval. Changes to these conditions must be made by application and must be approved before such changes are made. This document does not authorize emission of air contaminants in excess of New Source Review limits (Rule 210.1) or Regulation IV emission limits. Emission testing requirements set forth on this document must be satisfied before a Permit to Operate can be granted.

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

Validation Signature:

David L. Jones
Air Pollution Control Officer

CONDITIONS OF APPROVAL:

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

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

A. 400-ft. by 800-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: See BSEP May 1, 2009 PSA Comments

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

6. Soil moisture content shall be maintained according to District approved protocol. (Rule 210.1)
7. Compliance with all operational conditions shall be verified by appropriate record keeping, including records of operational data needed to demonstrate compliance. Such records shall be kept on site in readily available format. (Rule 209)
8. No emission resulting from use of this equipment shall cause injury, detriment, nuisance, annoyance to or endanger comfort, repose, health or safety of any considerable number of persons or public. (Rule 419 and CH&SC 41700)

STATE OF CALIFORNIA AIR TOXICS HOT SPOTS REQUIREMENTS:

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

COMPLIANCE TESTING REQUIREMENTS:

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

EMISSION LIMITS:

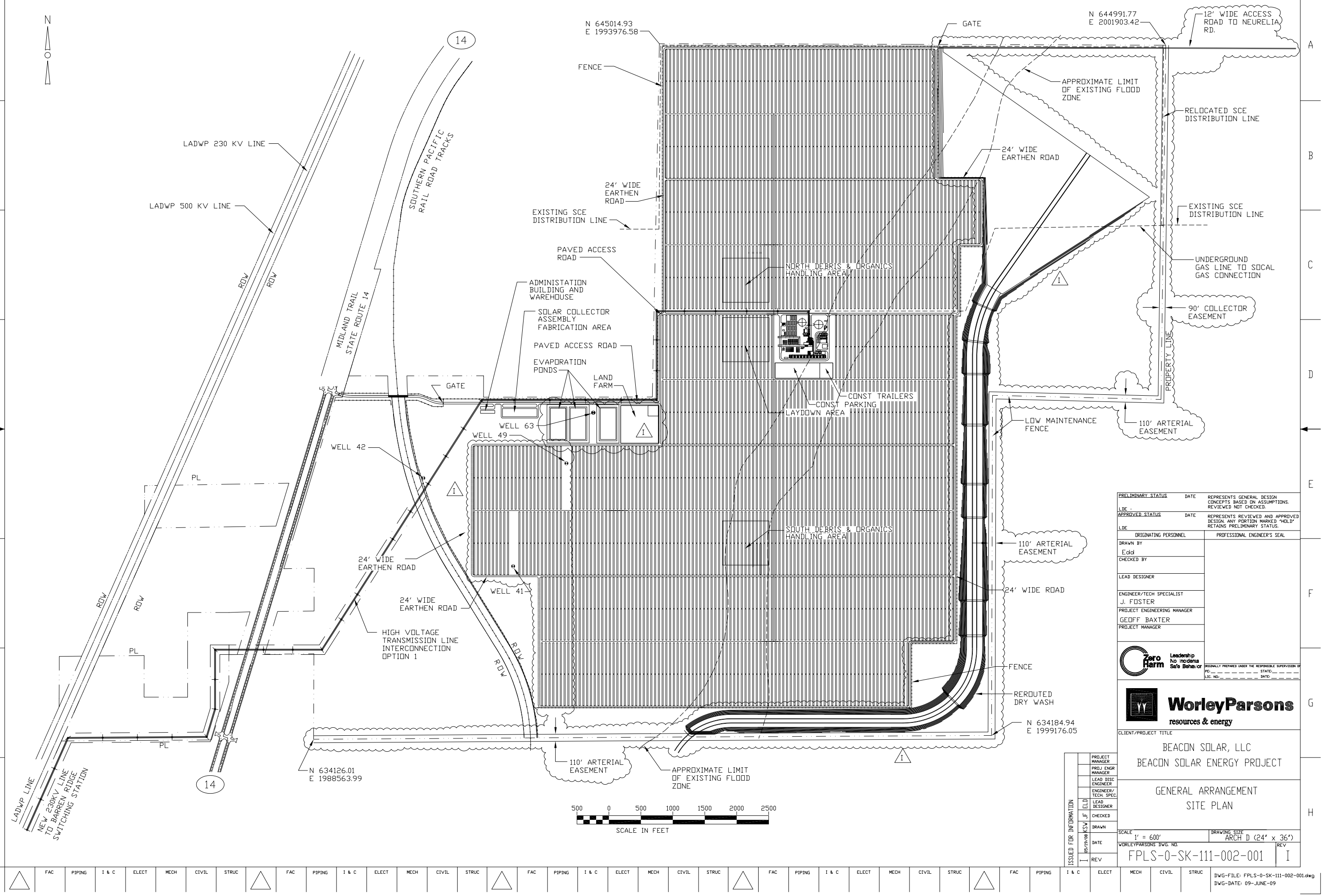
Emissions rate of each air contaminant from this unit shall not exceed following limits:

Volatile Organic Compounds (VOC):	0.10	lb/day
(as defined in Rule 210.1)	0.02	ton/yr

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

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

APPENDIX C
Facility Layout Diagram



PRELIMINARY STATUS	DATE	REPRESENTS GENERAL DESIGN CONCEPTS BASED ON ASSUMPTIONS. REVIEWED NOT CHECKED.
LDE :		
APPROVED STATUS	DATE	REPRESENTS REVIEWED AND APPROVED DESIGN. ANY PORTION MARKED "HOLD" RETAINS PRELIMINARY STATUS.
LDE		

ORIGINATING PERSONNEL	PROFESSIONAL ENGINEER'S SEAL
DRAWN BY: Edd	
CHECKED BY:	
LEAD DESIGNER:	
ENGINEER/TECH SPECIALIST: J. FOSTER	
PROJECT ENGINEERING MANAGER: GEOFF BAXTER	
PROJECT MANAGER:	

Zero Harm — Leadership No Incidents Safe Behavior

ORIGINALLY PREPARED UNDER THE RESPONSIBLE SUPERVISION OF
PE: _____ STATE: _____
LIC. NO.: _____ DATE: _____

WorleyParsons resources & energy

CLIENT/PROJECT TITLE

BEACON SOLAR, LLC
BEACON SOLAR ENERGY PROJECT

GENERAL ARRANGEMENT
SITE PLAN

SCALE	DRAWING SIZE
1' = 600'	ARCH D (24" x 36")

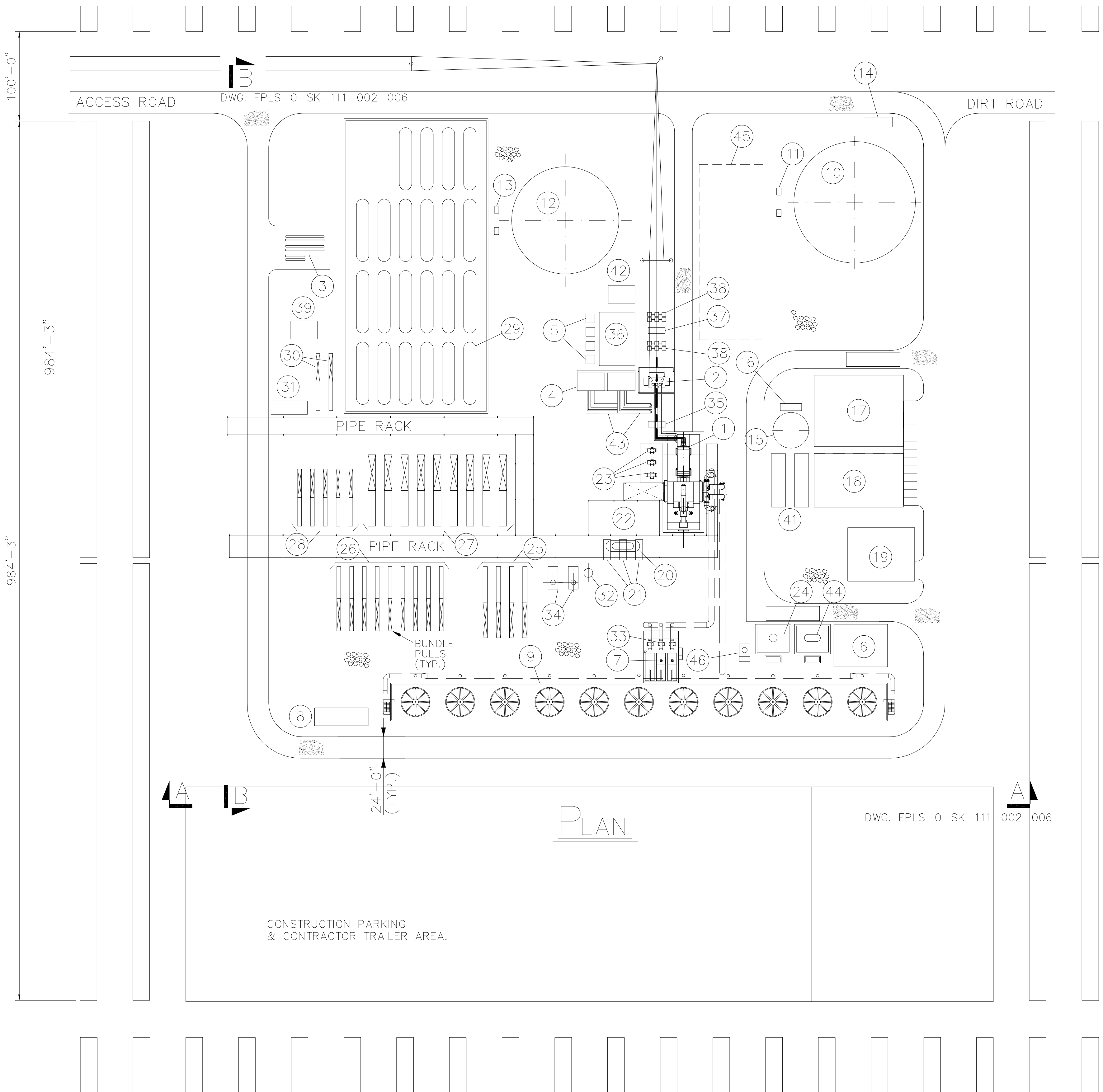
WORLEYPARSONS DWG NO. FPLS-0-SK-111-002-001 | REV I

ISSUED FOR INFORMATION

REV	DATE		
1	05/19/09	KSW	DRAWN
		SF	CHECKED
		ELD	LEAD DESIGNER
			ENGINEER/ TECH. SPEC.
			LEAD DISC ENGINEER
			PROJ ENGR MANAGER
			PROJECT MANAGER

FAC | PIPING | I & C | ELECT | MECH | CIVIL | STRUC

DWG-FILE: FPLS-0-SK-111-002-001.dwg
DWG-DATE: 09-JUNE-09



EQUIPMENT DESCRIPTIONS

1 STEAM TURBINE/GENERATOR
2 GSU TRANSFORMER
3 GAS STORAGE AREA (NITROGEN, HYDROGEN AND CO2)
4 UNIT AUXILIARY TRANSFORMERS
5 SUS TRANSFORMERS
6 COOLING TOWER CHEMICAL FEED/STORAGE
7 COOLING TOWER AUXILIARY PUMPS
8 COOLING TOWER ELECTRICAL EQUIPMENT
9 COOLING TOWER
10 RAW & FIRE WATER STORAGE TANK (2,840,000 GALLONS)
11 PROCESS WATER PUMP SKID
12 PROCESS WATER STORAGE TANK (2,350,000 GALLONS)
13 PROCESS WATER PUMP SKID
14 FIREWATER PUMP HOUSE
15 DEMIN WATER STORAGE TANK (150,000 GALLONS)
16 DEMIN WATER PUMP SKID
17 POST WATER TREATMENT BUILDING
18 CONTROL ROOM/ADMIN BUILDING
19 WAREHOUSE
20 DEAERATOR/STORAGE TANK
21 FEEDWATER PUMPS
22 FEEDWATER HEATERS (AREA)
23 CONDENSATE PUMPS
24 SODIUM HYPOCHLORITE
25 ECONOMIZERS (4)
26 REHEATERS (18) STACKED TWO HIGH
27 EVAPORATORS (9)
28 SUPERHEATERS (5)
29 EXPANSION STORAGE TANKS (22)
30 HTF FREEZE PROTECTION HEAT EXCHANGERS (2)
31 HTF CIRCULATING PUMPS (6)
32 STEAM BLOWDOWN TANK
33 CIRCULATING WATER PUMPS
34 START-UP BOILERS (20,000 LB/HR) (2)
35 GENERATOR CIRCUIT BREAKER
36 MAIN ELECTRICAL BUILDING
37 MAIN CIRCUIT BREAKER
38 MAIN DISCONNECT
39 HTF PUMP PDC
40 CHEMICAL & HAZARDOUS MATERIAL STORAGE
41 DEMINERALIZED WATER TREATMENT TRAILERS
42 SCE STEP-DOWN TRANSFORMER (IF REQ'D)
43 ISOLATED PHASE BUS DUCT
44 SULFURIC ACID STORAGE TANK
45 PRE-TREATMENT AREA
46 NOT USED

STACK LOCATIONS	N	E
START-UP BOILER 1	640246.86	1996198.53
START-UP BOILER 2	640246.86	1996221.22
DIESEL FIRE PUMP	640675.45	1996578.25

PLANT NORTH

SCALE: 1" = 60'
60 0 60 120 180

LEGEND:
GRAVEL
ASPHALT
CONCRETE

REV	DATE	DRAWN	CHECKED	LEAD DESIGNER	ENGINEER/TECH. SPEC.	LEAD DISC ENGINEER	PROJ ENGR MANAGER	PROJECT MANAGER
D	06/10/09	ELD	JLF					GRB

ISSUED FOR REVIEW

PRELIMINARY STATUS — DATE — REPRESENTS GENERAL DESIGN CONCEPTS BASED ON ASSUMPTIONS. REVIEWED NOT CHECKED.
LDE
APPROVED STATUS — DATE — REPRESENTS REVIEWED AND APPROVED DESIGN. ANY PORTION MARKED "HOLD" RETAINS PRELIMINARY STATUS.
LDE

ORIGINATING PERSONNEL — PROFESSIONAL ENGINEER'S SEAL
DRAWN BY: SED
CHECKED BY: JLF
LEAD DESIGNER
ENGINEER/TECH SPECIALIST
PROJECT ENGINEERING MANAGER
PROJECT MANAGER: GRB

Zero Harm — Leadership No Incidents Safe Behavior

ORIGINALLY PREPARED UNDER THE RESPONSIBLE SUPERVISION OF
PE: STATE:
LIC. NO.: DATE:

WorleyParsons
resources & energy

CLIENT/PROJECT TITLE
BEACON SOLAR LLC
BEACON SOLAR ENERGY PROJECT

GENERAL ARRANGEMENT
POWER BLOCK
EQUIPMENT LAYOUT

SCALE: 1" = 60'
DRAWING SIZE: ARCH D (24" x 36")
WORLEYPARSONS DWG. NO.: FPLS-0-SK-111-002-003
REV: D

DWG-FILE: FPLS-0-SK-111-002-003.dgn
DWG-DATE: 30-Nov-07 08:30

APPENDIX D
Boiler Specification

Packaged Boiler Systems. . .

Proposal to

Worley Parsons

Attn: Jared Foster

For

The supply of

One (1) 24,000 lb/hr Boiler
(20,000#/hr net)
150 psig operation @ 460ºF±10ºF SH

Rentech Proposal No. DTB-HK-6709-0

June 8, 2009

Rentech Boiler Systems, Inc. • 5025 E. Business 20 • Abilene, TX 79601 • Phone: 325-672-3400 • Fax: 325-672-9996
Lincoln Office: 145 North 46th Street • Lincoln, NE 68503 • Phone: 402-474-4242 • Fax: 402-474-4243

General Design Parameters

The boiler systems described in this proposal have been designed for the following parameter:

Steam Conditions

Capacity …… 24,000 lbs/hr (20,000#/hr net)
Steam Pressure:…… 150 PSIG
Steam Temperature:…… 460 ±10 deg F.
Steam Purity:…….. 1.0 PPM TDS
Feedwater Temperature:…….. 228°

Fuels Fired:

Primary Fuels:..... Propane

Unit Design Pressures

Boiler:..... 250 PSIG

Technical Discussion

To meet your process and mechanical requirements, we are pleased to offer one (1) shop assembled, D-Style watertube boiler. The boiler will have a design pressure of 250 Psig and will generate 24000 lbs/hr of superheated steam at 460°F± 10° F at an operating pressure of 150 Psig with feedwater supplied at 228°F, and firing the indicated fuels.

The membrane wall construction of the furnace minimizes the need for refractory and refractory seals. By eliminating the refractory front and rear walls, faster start-up times are possible without costly refractory damage. This design is ideal for boilers that operate under adverse conditions such frequent start and stop operation. The design can also significantly reduce maintenance costs and extend the life expectancy of the unit.

The proposed boiler has been carefully designed for your specific application with regard to:

- Membrane wall construction
- Conservative furnace size to assure long equipment life
- Tube thickness Convection (0.120" min. wall)
- Tube thickness Membrane (0.135" min. wall)
- Boiler design for low maintenance and long life expectancy

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Scope of Supply

Each Boiler furnished by Rentech will be equipped as follows:

Scope of Supply	Included	Not Included	Option
Packaged Boiler	X		
Steam Trim			
Safety Valves	X		
Main Steam Stop Valve	X		
Main Steam Non-Return Valve	X		
Water Column w/ gauge glass	X		
Auxiliary low water cutout	X		
Steam Gauge	X		
Continuous Blowdown Stop & Control valves	X		
Blowoff Valves	X		
Chemical Feed Stop & Check	X		
Vent	X		
Feedwater Trim			
Stop Valve	X		
Check Valve	X		
Flow Control Valve	X		
Feedwater control valve bypass	X		
Super heater Assembly			
Integral Convection-type superheater rated for 460°F ± 10°F.	X		
Interconnecting superheater piping from boiler outlet to superheater inlet.	X		
Safety valve, vent valve and drain valve.	X		
Burner Assembly :			
Burner Register and Windbox	X		
Fuel Trains	X		
Flame Safety (Burner Management) System	X		
Combustion Control System with 3 element feedwater control (Utilizing AB compactlogix)	X		
Fan Assembly:			
Electric Motor	X		
Fan Silencer	X		
Structural Support with outlet duct	X		
Economizer Assembly			
Breeching into economizer	X		
Structural Support	X		
Outlet Transition to stub stack	X		
Feedwater piping w/ 3-valve bypass	X		
Deaerator Assembly:			
One (1) 100% capacity feedwater pump	X		
Two (2) Feedwater pumps	X		
Platforms and ladders.		X	
Trim including safety valve and gauge	X		

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glass.			

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Stack Assembly	Included	Not Include	Option
30" diameter by 40 ft. high economizer top mounted stack, fabricated of 1/4" carbon steel plate.	X		
All necessary nuts, bolts and gaskets as required for flanged bolt field erection.	X		
Platforms & ladders to access EPA ports.	X		
Auxiliary's)			
SCR system (AFCU, vaporization skid, storage etc. to be by others)		X	
Chemical Dosing System		X	
Blowdown Tank		X	
Special Tools		X	
Spare parts		X	
Gas PRV	X		
Insulation of Ducts, Stack, drum heads		X	
Commissioning Spares	X		
Motor controls & Starters		X	
Miscellaneous			
Freight To Jobsite		X	
Field Engineering Service (per diem)		X	
Equipment off loading or Installation		X	
Interconnecting Piping, Wiring &Tubing between skid mounted equipment		X	

Terminal Points

The terminal points list is intended to define the limits of the scope of supply included in this proposal. Rentech will furnish the equipment and materials inside these terminal points as defined further in this proposal.

Steam

- At the outlet of the superheater outlet.

Water

- At the inlet of the FW control valve station. (piping between deaerator and FW control valve station by others)

Fuel

- Inlet to burner main gas fuel train

Electrical

- Inlet to miscellaneous connections for electrical equipment..

Structural

- Foundations and anchor bolts provided by others.

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Exhaust Gas
- Stack outlet

Combustion Air
- Forced draft fan inlet

Instrument Air
- Inlet to miscellaneous connections for control equipment.

Predicted Performance

The performance of each packaged boiler is as detailed below:

Fuel Fired		**Propane**
DESCRIPTION	**UNITS**	
System Performance		
Steam Flow	Lb/hr	20,000 (net)
Steam Pressure	PSIG	150
Steam Purity @ Drum Outlet	PPM TDS	1
Steam Temperature (100% - 25% MCR)	°F	460
System Efficiency	%	83.5
Emissions		
NOx	PPM @ 3% O2	9
CO	PPM @ 3% O2	50
VOC	PPM @ 3% O2	3
PM10	lb/mmbtu	0.005

Notes:

1. System performance guarantees are at 100% MCR only.
2. Feedwater temperature to boiler is 228°F.
3. Ambient temperature is 80°F.
4. The blowdown rate is as defined in the attached Predicted Operating Performance Tables.
5. Feedwater analysis must meet suggested Water Quality Limits per latest edition of ASME.
6. Boiler performance will be measured by a performance test based upon the principles of ASME PTC 4.1. Testing is to be by others.
7. The steam conditions are at the Rentech terminal points.
8. Emission guarantees are from 25% to 100% MCR. Refer to the attached burner proposal for other qualifications that apply to the above emission guarantees.

ASME Heating Surface

Convection Heating Surface	2160 sq. ft.
Radiant Heating Surface	684 sq. ft.
Total Heating Surface	2844 sq. ft.
Furnace Volume	1100 cu. ft

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COMMERCIAL INFORMATION

Price, FCA manufacturing plant Abilene, Texas

Capacity / Operating Pressure	Qty	Budget Price
24,000 lbs/hr @ 150psig	**1**	**$1,575,000.00**

Refer to attached project notes and clarifications. Prices quoted do not include applicable taxes. Pricing is valid for 30 days from the date of this proposal.

Terms of Payment

10% With receipt of Purchase Order
10% Upon submittal of General Arrangement Drawings
30% Upon receipt of boiler tubes
20% Upon receipt of drum cylinders
10% Upon stabbing first tube
20% Upon shipment

Payment Terms: Net 30 from receipt of invoice.

Warranty: 12 months from acceptance, not to exceed 18 months from shipment
The design and workmanship of the membrane water cooled furnace front wall will be warranted for five (5) years from date of acceptance.

Shipment:

The following preliminary schedule is provided in full accordance with your specifications:

- Submittal of General Arrangement drawing with loadings and anchor bolt locations, ASME Code Calculations 8 weeks after receipt of purchase order. Drawings will consist of one set of prints and one diskette containing the drawings, in AutoCAD Release 12.
- Remaining submittal drawings submitted approximately 8-10 weeks after receipt of purchase order.
- Return of approved drawings 2 weeks after receipt of drawings.

- Shipment 36 weeks after drawing approval with authorization to purchase major materials upon receipt of purchase order
- The equipment as offered will be shipped FCA rail Natchez Adams County, Mississippi (subject to clearance availability).

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Approximate Unit Dimensions and Weight

Height to Steam Outlet	13'-4"
Width	11'-2"
Length Including Burner Windbox	25'-6"
Boiler Dry Weight, lbs.	56,000

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Appendix E
Emission Calculations

Boiler Criteria Pollutant Emission Calculations

Table E1-a LPG Boiler Reference Data

Parameter	Value	Units
Heater Capacity	30	MMBtu/hr
Daily Operating Hours	14	hrs/day
Annual Operating Hours	1,000	hrs/yr
Conversion lb to tons	2,000	lb/ton
Conversion lb to metric tons	2,205	lb/ metric ton
Heating Value LPG	2,522	Btu/scf
	91.5	MMBtu/1000 gal
F-factor	8,710	scf/MMBtu
Molecular Weight NOx	46	lb/mol
Molecular Weight CO	28	lb/mol
Molecular Volume	379	scf/mol

Table E1-b Emissions for the One Propane Fired Boiler

Pollutant	Emission Factor	Units	Emission Factor (lb/MMBtu)	Emissions		
				lb/hr	lb/day	tons/yr
NOx	9.0	ppm @ 3% O_2	1.11E-02	0.33	4.67	0.17
VOC	5.5	lb/MMscf	5.24E-03	0.16	2.20	0.08
CO	50	ppm @ 3% O_2	3.76E-02	1.13	15.78	0.56
SOx	0.0113	lb/MMBtu	1.13E-02	0.34	4.75	0.17
PM10	0.005	lb/MMBtu	5.00E-03	0.15	2.10	0.08

Notes:

1. For NOx and CO, EF = (ppm/10^6) * f-factor * MW/ MV
2. VOC and PM10 emission factors are vendor guarantees
3. Sulfur emission factor taken from SBAPCD Technical Information and References
http://www.sbcapcd.org/eng/tech/sulfur01.htm

Summary of Criteria Pollutant Emissions

Table E2-a Summary of Hourly Emissions (lb/hr)

Source	NOx	SOx	CO	VOC	PM10	PM2.5
Boiler No. 1	0.33	0.34	1.13	0.16	0.15	0.15
Boiler No. 2	0.33	0.34	1.13	0.16	0.15	0.15
Cooling Tower	0.00	0.00	0.00	0.00	0.60	0.60
Emergency Fire Pump Engine	1.88	0.00	1.72	0.10	0.10	0.10
HTF Vent	0.00	0.00	0.00	0.23	0.00	0.00
Total	**2.55**	**0.68**	**3.97**	**0.65**	**1.00**	**1.00**

Table E2-b Summary of Daily Emissions (lb/day)

Source	NOx	SOx	CO	VOC	PM10	PM2.5
Boiler No. 1	4.67	4.75	15.78	2.20	2.10	2.10
Boiler No. 2	4.67	4.75	15.78	2.20	2.10	2.10
Cooling Tower	0.00	0.00	0.00	0.00	9.55	9.55
Emergency Fire Pump Engine	1.88	0.00	1.72	0.10	0.10	0.10
HTF Vent	0.00	0.00	0.00	0.47	0.00	0.00
Total	**11.21**	**9.50**	**33.27**	**4.96**	**13.85**	**13.85**

Table E2-c Summary of Annual Emissions (tons/yr)

Source	NOx	SOx	CO	VOC	PM10	PM2.5
Boiler No. 1	0.17	0.17	0.56	0.08	0.08	0.08
Boiler No. 2	0.17	0.17	0.56	0.08	0.08	0.08
Cooling Tower	0.00	0.00	0.00	0.00	1.74	1.74
Emergency Fire Pump Engine	0.05	0.00	0.04	0.00	0.00	0.00
HTF Vent	0.00	0.00	0.00	0.09	0.00	0.00
Total	**0.38**	**0.34**	**1.17**	**0.24**	**1.90**	**1.90**

Table E2-d Summary of Project Criteria Pollutant Emissions

Period	NOx	SOx	CO	VOC	PM10	PM2.5
Hourly Emissions (lb/hr)	2.55	0.68	3.97	0.65	1.00	1.00
Daily Emissions (lb/day)	11.21	9.50	33.27	4.96	13.85	13.85
Annual Emissions (tons/yr)	0.38	0.34	1.17	0.24	1.90	1.90

Notes:

1. Summary of emissions with LPG fired boilers, 1,600 ppm TDS in the cooling water, and 5,840 hours of operation per year for the cooling tower
2. Emissions for the cooling tower, emergency fire pump engine and HTF vent are unchanged from the emissions permitted in the DOC. These emissions are presented in these summary tables to show the facility-wide emission totals.
3. Cells are highlighted to emphasize the emissions that have changed relative to the emission limits permitted in the DOC. All other emissions are unchanged.

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

APPLICATION FOR CERTIFICATION FOR THE BEACON SOLAR ENERGY PROJECT	DOCKET NO. 08-AFC-2

PROOF OF SERVICE
(Revised 4/28/09)

APPLICANT	**COUNSEL FOR APPLICANT**	**ENERGY COMMISSION**
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Declaration of Service

I, Lois Navarrot, declare that on July 7, 2009, I served and filed copies of the **Application for Modification to Determination of Compliance for Beacon Solar Energy Project (between Beacon and Kern County Air Pollution Control District)**. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at: www.energy.ca.gov/sitingcases/beacon. The document has been sent to both the other parties in this proceeding (as shown on the Proof of Service List) and to the Commission's Docket Unit, in the following manner:

(check all that apply)

For Service to All Other Parties

__X__ sent electronically to all email addresses on the Proof of Service list;

__X__ by personal delivery or by depositing in the United States mail at Sacramento, California with first-class postage thereon fully prepaid and addressed as provided on the Proof of Service List above.

For Filing with the Energy Commission

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

OR

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

California Energy Commission
Attn: Docket No. 08-AFC-2
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512

docket@energy.state.ca.us

I declare under penalty of perjury that the foregoing is true and correct.

/s/
Lois Navarrot