KRCD
Kings River Conservation District

DOCKET
07-AFC-7
DATE OCT 10 2007
RECD. OCT 17 2007

4886 East Jensen Avenue
Fresno, California 93725

Tel: 559-237-5567
Fax: 559-237-5560

www.krcd.org

October 10, 2007

Dave Warner, Chief – Permits Section
San Joaquin Valley Air Pollution Control District
1990 E. Gettysburg Avenue
Fresno, CA 93726

Re: Application for a Determination of Compliance for the Kings River Conservation District Community Power Plant

Dear Mr. Warner:

The Kings River Conservation District (KRCD) is pleased to submit the enclosed Determination of Compliance (DOC) permit application to the San Joaquin Valley Air Pollution Control District (SJVAPCD) for the Kings River Conservation District Community Power Plant (KRCD CPP). The proposed KRCD CPP is a combined cycle natural gas-fired electrical power generation facility that will consist of two General Electric (GE) 7F or Siemens 501F type combustion turbines along with two associated heat recovery steam generators, one or two steam turbine generators and balance of plant support equipment. The KRCD CPP will have a combined nominal output of approximately 565 megawatts (MW) and be located near the City of Parlier, in Fresno County.

On September 27, 2007, KRCD filed an Application for Certification (AFC) with the California Energy Commission (CEC) for the KRCD CPP. This AFC, particularly the Air Quality, Public Health and Hazardous Materials sections, will serve as the primary document for the SJVAPCD evaluation of the KRCD CPP and its potential impacts.

Enclosed as part of the DOC application are the following:

- One (Authority To Construct - ATC) Permit Application Form, which is being used as the DOC application form;
- Two (Gas Turbine) Supplemental Application Forms – One for each of the KRCD CPP combustion turbine prime movers;

- Two (Emergency/Low-Use IC Engines for Non-Agricultural Operations) Supplemental Application Forms – One for the natural gas-fired emergency generator and one for the diesel driven fire pump;
- One (Boilers, Steam Generators, Dryers, Process Heaters) Supplemental Application Form – For the KRCD CPP natural gas-fired auxiliary boiler;
- Additional Information which accompanies the forms listed above;
- A compact disc copy of the KRACD CPP AFC, and
- A check in the amount of $300.00 made payable to the SJVAPCD to cover the necessary application filing fees. (It is our understanding that each of the five pieces of equipment, i.e., two combustion turbines, one emergency generator, on diesel fire pump & one auxiliary boiler, and their associated supplemental applications each require a $60.00 filing fee.)

As you are aware, the CEC requires confirmation that the enclosed application is complete and adequate for you to start your review. The CEC will need your confirmation in order to deem the AFC to be "data adequate", a determination that is critical to KRCD to begin the CEC permit process. KRCD appreciates the attention the District will give to this review and look forward to your determination in the next few weeks that the application is complete. If during your review, you require clarification or additional information, please contact our consultant Thor Hibbeler at (415) 831-4121 or me at (559) 237-5567, as early as possible. We look forward to working with you to complete the DOC process and demonstrating that the project has been designed to comply with all applicable District rules..

Sincerely,

David Orth
General Manager

DO/as

Enclosures: As Stated

Cc: Thor Hibbeler
Amy Cuellar, Navigant Consulting

File: 536.02.05
L07-0303

Statement of Compliance of Facilities within California
Owned or Operated by
Kings River Conservation District (KRCD)

All facilities within California, which are subject to air pollution laws and regulations and are either owned or operated by the KRCD, are in compliance with their respective permits as well as the applicable air laws and regulations. The only facility included in this category is the Kings River Conservation District Malaga Peaking Plant, which is located in Malaga near Fresno, CA.

Signature of Responsible KRCD Official:

Signature

David Orth, General Manager
Printed Name/Title

10/12/07
Date

San Joaquin Valley Air Pollution Control District

www.valleyair.org

Permit Application For:

[X] AUTHORITY TO CONSTRUCT (ATC) - New Emission Unit
[ ] AUTHORITY TO CONSTRUCT (ATC) - Modification Of Emission Unit With Valid PTO/Valid ATC
[ ] AUTHORITY TO CONSTRUCT (ATC) - Renewal of Valid Authority to Construct
[ ] PERMIT TO OPERATE (PTO) - Existing Emission Unit Now Requiring a Permit to Operate

1. PERMIT TO BE ISSUED TO:
KINGS RIVER CONSERVATION DISTRICT

2. MAILING ADDRESS:
STREET/P.O. BOX: **4886 East Jensen Avenue**
CITY: **Fresno** STATE: **CA** 9-DIGIT ZIP CODE: **93725**

3. LOCATION WHERE THE EQUIPMENT WILL BE OPERATED:
STREET: **9664 South Bethel Avenue** CITY: **Selma , CA 93662**
South ½ of North ½ of Southwest 1/4
_____/4 SECTION **27** TOWNSHIP **15** RANGE **22**

WITHIN 1,000 FT OF A SCHOOL? [ ] YES [X] NO

S.I.C. CODE(S) OF FACILITY (*If known*):

4. GENERAL NATURE OF BUSINESS: **Power Generation**

INSTALL DATE: **2011**

5. TITLE V PERMIT HOLDERS ONLY: Do you request a COC (EPA Review) prior to receiving your ATC (*If yes, please complete and attach a Compliance Certification form (TVFORM-009)*)? [ ] YES [ ] NO
Not Applicable

6. DESCRIPTION OF EQUIPMENT OR MODIFICATION FOR WHICH APPLICATION IS MADE (include Permit #'s if known, and use additional sheets if necessary)
See Attached Additional Information

7. PERMIT REVIEW PERIOD: Do you request a three- or ten-day period to review the draft Authority to Construct permit? Please note that checking "YES" will delay issuance of your final permit by a corresponding number of working days. See instructions for more information on this review process.
[ ] 3-day review
[X] 10-day review
[ ] No review requested

8. HAVE YOU EVER APPLIED FOR AN ATC OR PTO IN THE PAST? [X] YES [ ] NO
If yes, ATC/PTO #: **C-4305-1-0**, **C-4305-2-0**

9. HAVE ALL NECESSARY LAND-USE AUTHORIZATIONS BEEN OBTAINED? (*If "No" is checked, please attach explanation*) [X] YES [ ] NO

10. IS THIS APPLICATION SUBMITTED AS THE RESULT OF EITHER A NOTICE OF VIOLATION OR A NOTICE TO COMPLY? [ ] YES [X] NO
If yes, NOV/NTC #:

Optional Section

11. CHECK WHETHER YOU ARE A PARTICIPANT IN EITHER OF THESE VOLUNTARY PROGRAMS:
"SPARE THE AIR"
[ ]Yes [ ]No [ ]Send info
"INSPECT"
[ ]Yes [ ]No [ ]Send info

12. TYPE OR PRINT NAME OF APPLICANT: David Orth
TITLE OF APPLICANT: General Manager

13. SIGNATURE OF APPLICANT: David Orth DATE: 10/10/07
PHONE #: (559) 237-556
FAX #: ( ) 237-5560
E-MAIL: dorth@krcd.org

FOR APCD USE ONLY:

DATE STAMP:

FILING FEE RECEIVED: $_____ CHECK #:_____

DATE PAID: _____

PROJECT #: _____ FACILITY ID:_____

Form is for Combustion Turbine 1

San Joaquin Valley Air Pollution Control District
Supplemental Application Form

Gas Turbines

Please complete one form for each gas turbine.

This form must be accompanied by a completed Application for Authority to Construct and Permit to Operate form

PERMIT TO BE ISSUED TO: KINGS RIVER CONSERVATION DISTRICT

EQUIPMENT DESCRIPTION

☒ Industrial Frame ☐ Aero Derivative ☐ Other: _____

Manufacturer: To Be Determined | Model: To Be Determined | Serial Number: To Be Determined

☐ Simple Cycle ☒ Combined Cycle ☐ Co-generation ☐ Other: _____

Total Rated Shaft Output Power: To Be Determined MW

Is the unit equipped with an auxiliary/duct burner? ☐ Yes ☒ No
(Note: If yes, please complete a *Boiler, Steam Generator, Dryer, and Process Heater Supplemental Application form* for the unit.)

☐ Peaking Unit - limited to no more than 877 hrs/yr of operation

☐ Emergency Standby - limited to less than 200 hrs/yr of operation

☒ Full Time - must have either a Continuous Emission Monitoring System (CEMS) or an alternate emissions monitoring plan (must be approved by the APCO)

☒ CEMS, please specify all pollutants monitored: ☒ NO_x ☒ CO ☒ O_2 ☐ Other: _____

☐ Alternate Emissions Monitoring Plan (please provide details in additional documentation)

☒ Gaseous Fuel Meter ☐ Liquid Fuel Meter ☐ None

Will this unit be used in an electric utility rate reduction program? ☐ Yes ☐ No TBD

Manufacturer: To Be Determined | Model: To Be Determined | Number of Combustors: TBD

Maximum Heat Input Rating (for all combustors @ ISO standard conditions): TBD Btu/hr

Water Injection: ☐ Yes ☒ No | Dry Low NO_x Technology: ☒ Yes ☐ No

Steam Injection: ☐ Yes ☒ No | Other NO_x Control Technology: SCR

EMISSIONS DATA

Fuel Type: ☒ Natural Gas ☐ LPG/Propane ☐ Diesel ☐ Other: _____

Higher Heating Value: _____ Btu/gal or 1,032 Btu/scf | Sulfur Content: _____ % by weight or 3/100 gr/scf

Maximum Fuel Use @ HHV: TBD scf/hr or _____ gal/hr | Rated Efficiency (EFF_{Mfg}): TBD %

	Steady State (ppmv)	Steady State (lb/MMBtu)	Start-up (ppmv)	Start-up (lb/hr)	Shutdown (ppmv)	Shutdown (lb/hr)
	See	Attached				
			_____ hr/day	_____ hr/yr	_____ hr/day	_____ hr/yr

% O_2, dry basis, if corrected to other than 15%: _____ %

information

EMISSIONS DATA (continued)

Secondary Fuel	When will the secondary fuel be used? ☐ Primary fuel curtailment ☐ Simultaneously with primary fuel ☒ Other: N/A No secondary fuel					
	Fuel Type: ☐ Natural Gas ☐ LPG/Propane ☐ Diesel ☐ Other: _____					
	Higher Heating Value: _____ Btu/gal or _____ Btu/scf		Sulfur Content: _____ % by weight or _____ gr/scf			
	Maximum Fuel Use @ HHV: _____ scf/hr or _____ gal/hr		Rated Efficiency (EFF_{Mfg}): _____ %			
Secondary Fuel Emissions Data	Operating Mode	Steady State (ppmv)	Steady State (lb/MMBtu)	Start-up (ppmv)	Start-up (lb/hr)	Shutdown (ppmv) / (lb/hr)
	Nitrogen Oxides					
	Carbon Monoxide					
	Volatile Organic Compounds					
	Operating Hours (provide justification)			_____ hr/day	_____ hr/yr	_____ hr/day / _____ hr/yr
	% O_2, dry basis, if corrected to other than 15%: _____ %					
Source of Data	☐ Manufacturer's Specifications ☐ Emission Source Test ☐ Other _____ (please provide copies)					

EMISSIONS CONTROL – See attached additional information

Emissions Control Equipment (Check all that apply)	☐ Inlet Air Filter/Cooler ☐ Lube Oil Vent Coalescer
	☒ Selective Catalytic Reduction - Manufacturer: To Be Determined Model: To Be Determined ☒ Ammonia (NH_3) ☐ Urea ☐ Other: _____
	☒ Oxidation Catalyst - Manufacturer: To Be Determined Model: To Be Determined
	Control Efficiencies: NO_x _____ %, SO_x _____ %, PM_{10} _____ %, CO _____ %, VOC _____ %
	☐ Other (please specify): SEE ATTACHED INFORMATION
	For units equipped with exhaust gas NO_x control equipment and rated < 10 MW, or rated ≥ 10 MW but operated < 4,000 hr/yr, one may choose at least one of the following alternate emission monitoring schemes in lieu of a CEMS (each option below must be approved by APCO on a case-by-case basis. Please include a detailed proposal for each option chosen): ☐ Periodic NO_x emission concentration ☐ Turbine exhaust O_2 concentration ☐ Air-to-Fuel ratio ☐ Flow rate of reducing agents added to turbine exhaust ☐ Catalyst inlet and outlet temperature ☐ Catalyst inlet and exhaust O_2 conc. ☐ Other operational characteristics as approved by the APCO (specify on attached sheet)

HEALTH RISK ASSESSMENT DATA – See attached additional information

Operating Hours	Maximum Operating Schedule: _____ hours per day, and _____ hours per year		
Receptor Data	Distance to nearest [illegible]	_____ feet	Distance is measured from the proposed stack location to the nearest boundary of the nearest apartment, house, dormitory, etc.
	[illegible]	_____	Direction from the stack to the receptor, i.e. Northeast or South.
	[illegible]	_____ feet	Distance is measured from the proposed stack location to the nearest boundary of the nearest office building, factory, store, etc.
	[illegible]	_____	Direction from the stack to the receptor, i.e. North or Southwest.
Exhaust Data	[illegible]	_____ feet above grade	
	[illegible]	_____ inches at point of release	
	[illegible]	☐ Flapper-type ☐ Fixed-type ☐ None ☐ Other: _____	
	[illegible]	☐ Vertically Upward ☐ Horizontal ☐ Other: _____° from vert. or _____° from horiz.	
	Flowrate: _____ acfm	Temperature: _____ °F	
Facility Location	☐ Urban (area of dense population) ☐ Rural (area of sparse population)		

FOR DISTRICT USE ONLY

Date:	**FID:**	**Project:**	**Public Notice: [ ] Yes [ ] No**
Comments:			

Form is for Combustion Turbine 2

San Joaquin Valley Air Pollution Control District
Supplemental Application Form

Gas Turbines

Please complete one form for each gas turbine.

This form must be accompanied by a completed Application for Authority to Construct and Permit to Operate form

PERMIT TO BE ISSUED TO:	KINGS RIVER CONSERVATION DISTRICT

EQUIPMENT DESCRIPTION

Equipment Details	☒ Industrial Frame ☐ Aero Derivative ☐ Other: ________		
	Manufacturer: To Be Determined	Model: To Be Determined	Serial Number: To Be Determined
	☐ Simple Cycle ☒ Combined Cycle ☐ Co-generation ☐ Other: ________		
	Total Rated Shaft Output Power: To Be Determined MW		
	Is the unit equipped with an auxiliary/duct burner? ☐ Yes ☒ No (Note: If yes, please complete a *Boiler, Steam Generator, Dryer, and Process Heater Supplemental Application form* for the unit.)		
Rule 4703 Type of Use and Emissions Monitoring Provisions	☐ **Peaking Unit** - limited to no more than 877 hrs/yr of operation		
	☐ **Emergency Standby** - limited to less than 200 hrs/yr of operation		
	☒ **Full Time** - must have either a Continuous Emission Monitoring System (CEMS) or an alternate emissions monitoring plan (must be approved by the APCO) ☒ CEMS, please specify all pollutants monitored: ☒ NO_x ☒ CO ☒ O_2 ☐ Other: ________ ☐ Alternate Emissions Monitoring Plan (please provide details in additional documentation)		
Fuel Use Meter	☒ Gaseous Fuel Meter ☐ Liquid Fuel Meter ☐ None		
[illegible] Data	Will this unit be used in an electric utility rate reduction program? ☐ Yes ☐ No TBD		
Combustor(s)	Manufacturer: To Be Determined	Model: To Be Determined	Number of Combustors: TBD
	Maximum Heat Input Rating (for all combustors @ ISO standard conditions): TBD Btu/hr		
	Water Injection: ☐ Yes ☒ No	Dry Low NO_x Technology: ☒ Yes ☐ No	
	Steam Injection: ☐ Yes ☒ No	Other NO_x Control Technology: SCR	

EMISSIONS DATA

Note: See District BACT and District Rule 4703 Requirements for applicability to proposed unit at [illegible] http://www.valleyair.org/[illegible]chapter[illegible].pdf and http://www.valleyair.org/rules/[illegible]/4703.pdf

Primary Fuel	Fuel Type: ☒ Natural Gas ☐ LPG/Propane ☐ Diesel ☐ Other: ________	
	Higher Heating Value: ______ Btu/gal or 1,032 Btu/scf	Sulfur Content: ______ % by weight or .3/100 gr/scf
	Maximum Fuel Use @ HHV: TBD scf/hr or ______ gal/hr	Rated Efficiency (EFF_{MB}): TBD %

Primary Fuel Emissions Data	[illegible]	Steady State (ppmv)	Steady State (lb/MMBtu)	Start-up (ppmv)	Start-up (lb/hr)	Shutdown (ppmv)	Shutdown (lb/hr)
	[illegible]	See	Attached				
	[illegible]						
	[illegible] Organic Compounds						
	Duration			______ hr/day	______ hr/yr	______ hr/day	______ hr/yr
	% O_2, dry basis, if corrected to other than 15%: ______ %						

EMISSIONS DATA (continued)

Secondary Fuel	When will the secondary fuel be used? ☐ Primary fuel curtailment ☐ Simultaneously with primary fuel ☒ Other: N/A No secondary fuel					
	Fuel Type: ☐ Natural Gas ☐ LPG/Propane ☐ Diesel ☐ Other: _____					
	Higher Heating Value: _____ Btu/gal or _____ Btu/scf		Sulfur Content: _____ % by weight or _____ gr/scf			
	Maximum Fuel Use @ HHV: _____ scf/hr or _____ gal/hr		Rated Efficiency (EFF_{Mfg}): _____ %			
Secondary Fuel Emissions Data		Steady State (ppmv)	Steady State (lb/MMBtu)	Start-up (ppmv)	Start-up (lb/hr)	Shutdown (ppmv)	Shutdown (lb/hr)
	Nitrogen Oxides						
	Carbon Monoxide						
	Volatile Organic Compounds						
	Duration (please provide clarification)			_____ hr/day	_____ hr/yr	_____ hr/day	_____ hr/yr
	% O_2, dry basis, if corrected to other than 15%: _____ %						
Source of Data	☐ Manufacturer's Specifications ☐ Emission Source Test ☐ Other _____ (please provide copies)						

EMISSIONS CONTROL – See attached additional information

Emissions Control Equipment	☐ Inlet Air Filter/Cooler ☐ Lube Oil Vent Coalescer
	☒ Selective Catalytic Reduction - Manufacturer: To Be Determined Model: To Be Determined ☒ Ammonia (NH_3) ☐ Urea ☐ Other: _____
	☒ Oxidation Catalyst - Manufacturer: To Be Determined Model: To Be Determined
	Control Efficiencies: NO_x _____ %, SO_x _____ %, PM_{10} _____ %, CO _____ %, VOC _____ %
	☐ Other (please specify): SEE ATTACHED INFORMATION
	For units equipped with exhaust gas NO_x control equipment and rated < 10 MW, or rated ≥ 10 MW but operated < 4,000 hr/yr, one may choose at least one of the following alternate emission monitoring schemes in lieu of a CEMS (each option below must be approved by APCO on a case-by-case basis. Please include a detailed proposal for each option chosen): ☐ Periodic NO_x emission concentration ☐ Turbine exhaust O_2 concentration ☐ Air-to-Fuel ratio ☐ Flow rate of reducing agents added to turbine exhaust ☐ Catalyst inlet and outlet temperature ☐ Catalyst inlet and exhaust O_2 conc. ☐ Other operational characteristics as approved by the APCO (specify on attached sheet)

HEALTH RISK ASSESSMENT DATA – See attached additional information

Operating Hours	Maximum Operating Schedule: _____ hours per day, and _____ hours per year		
Receptor Data	Distance to nearest Residence	_____ feet	Distance is measured from the proposed stack location to the nearest boundary of the nearest apartment, house, dormitory, etc.
	Direction to nearest Residence	_____	Direction from the stack to the receptor, i.e. Northeast or South.
	Distance to nearest Business	_____ feet	Distance is measured from the proposed stack location to the nearest boundary of the nearest office building, factory, store, etc.
	Direction to nearest Business	_____	Direction from the stack to the receptor, i.e. North or Southwest.
Stack Parameters	Stack Height	_____ feet above grade	
	Stack Diameter	_____ inches at point of release	
	Stack Flapper Valve	☐ Flapper-type ☐ Fixed-type ☐ None ☐ Other: _____	
	Stack Orientation	☐ Vertically Upward ☐ Horizontal ☐ Other: _____° from vert. or _____° from horiz.	
Exhaust Data	Flowrate: _____ acfm	Temperature: _____ °F	
Facility Location	☐ Urban (area of dense population) ☐ Rural (area of sparse population)		

FOR DISTRICT USE ONLY

Date:	**FID:**	**Project:**	**Public Notice: [ ] Yes [ ] No**
Comments:			

Form is for KRCD CPP Natural Gas-Fired Emergency Generator

San Joaquin Valley Air Pollution Control District
Supplemental Application Form

Emergency/Low-Use IC Engines for Non-Agricultural Operations

Please complete one form for each engine.

This form must be accompanied by a completed Application for Authority to Construct and Permit to Operate form

PERMIT TO BE ISSUED TO: KINGS RIVER CONSERVATION DISTRICT

LOCATION WHERE THE EQUIPMENT WILL BE OPERATED: SEE ATTACHED PROJECT INFORMATION

EQUIPMENT DESCRIPTION

Engine Manufacturer: TO BE DETERMINED (TBD)	Number of Cylinders: TBD
Engine Model: TBD	Engine Year of Manufacture: TBD
Engine Serial Number: TBD	Engine Tier Rating: TBD

Engine Certification Family Number: TBD

Engine's Type of Combustion: ☐ Rich-Burn ☒ Lean-Burn ☒ 4-Stroke ☐ 2-Stroke

Engine Manufacturer's Maximum Rated Power Output (per the data plate): TBD bhp

Engine's Rated Power Output for the Process the Engine Serves: TBD bhp

Process the Engine Serves: EMERGENCY POWER

Generator Manufacturer: TBD	Model: TBD
Power Output: 1800 bhp kW	

Will this equipment be used in an electric utility rate reduction program? ☐ Yes ☒ No

Fuel Type: ☐ Diesel ☒ Natural Gas ☐ LPG/Propane ☐ Gasoline ☐ Other: _____

For "Other" fuels only: Higher Heating Value: _____ Btu/scf, or _____ Btu/gal,
For "Other" fuels only: An Ultimate Fuel Analysis or the combustion F-Factor _____dscf/MMBtu

Sulfur Content: .3/100 gr/100 scf (gaseous fuel) or _____ % by weight (liquid fuel)

Fuel Consumption at Maximum Rated Output: _____ gal/hr, or TBD scf/hr

☒ Emergency Standby - Limited exclusively to power primary mechanical or an electrical generator during periods of unscheduled power outages beyond the control of the operator, and limited from 20 to 100 hrs/yr (depending on the engine's PM_{10} emission factor) for maintenance and testing purposes only.

- ☐ This engine is specifically used to power a pump for a municipal water supply.
  - ☐ I request the higher opacity limit of 40% with the corresponding operational limits of 30 minutes per week and 2 hours per month for maintenance and testing. (CH&SC 41701.6)
  - ☐ I request the lower opacity limit of 20%.
- ☐ This engine is specifically used to provide power at a health care facility. (CH&SC 1250)
  - ☐ This engine is subject to Office of Statewide Health Planning and Development (OSHPD) requirements.

☐ Special Case Emergency - Limited exclusively to preserve or protect property, human life, or public health during a disaster or a state emergency (e.g. fire or flood) and limited to 20 to 100 hrs/yr (depending on the engine's PM_{10} emission factor) for maintenance and testing purposes only.

- ☐ This engine is specifically used to power a direct-drive firewater pump.
  - ☐ This firewater pump engine is subject to National Fire Protection Association (NFPA) requirements.

☐ Low Use - Limited to ≤ 200 hrs/yr of operation for ALL purposes combined, including maintenance and testing.

Note: All engines are required to have either a nonresettable elapsed time meter or an alternate device, method, or technique, approved by the APCO, for determining elapsed operating time.

☐ Equipped with a Nonresettable Elapsed Operating Time Meter
☐ Alternate Method (please provide details): TBD

EMISSIONS CONTROL - See attached additional information

☐ Positive Crankcase Ventilation System	☐ 90% Efficient crankcase emission control device
☐ Turbocharger	☐ Intercooler/Aftercooler
☐ Automatic Air/Fuel Ratio or O_2 Controller - Manufacturer: _____	
☐ Non-Selective Catalytic Reduction: Manufacturer: _____ Model: _____	
Control Efficiencies: NO_X ____ %, SO_X ____ %, PM_{10} ____ %, CO ____ %, VOC ____ %	
☐ Particulate Filter - Manufacturer: _____ Model: _____	
Control Efficiency: _____ %	
☐ Other (please specify):	

EMISSIONS DATA - See attached additional information

	(g/bhp-hr)	(g/kW-hr)	(ppmvd)

% O_2, dry basis, if corrected to other than 15%: _____ %

☐ Manufacturer's Specifications ☐ Emissions Source Test ☐ CARB/EPA Certification
☐ Other _____ **Note: please provide copies of all sources of emissions data.**

HEALTH RISK ASSESSMENT DATA - See attached additional information

Maximum Operating Schedule: _____ hours per day, and _____ hours per year

	_____ feet	Distance is measured from the proposed stack location to the nearest boundary of the nearest apartment, house, dormitory, etc.
	_____	Direction from the stack to the receptor, i.e. Northeast or South.
	_____ feet	Distance is measured from the proposed stack location to the nearest boundary of the nearest office building, factory, store, etc.
	_____	Direction from the stack to the receptor, i.e. North or Southwest.
	_____ feet above grade	
	_____ inches at point of release	
	☐ Flapper-type ☐ Fixed-type ☐ None ☐ Other: _____	
	☐ Vertically Upward ☐ Horizontal ☐ Other: _____ ° from vert. or _____ ° from horiz.	

Flowrate: _____ acfm	Temperature: _____ °F

Is this engine transportable? ☐ Yes ☐ No Note: This is used for health risk assessment purposes only.

☐ Urban (area of dense population) ☐ Rural (area of sparse population)

Form is for KRCD CPP Diesel-Driven Fire Pump

San Joaquin Valley Air Pollution Control District
Supplemental Application Form

Emergency/Low-Use IC Engines for Non-Agricultural Operations

Please complete one form for each engine.

This form must be accompanied by a completed Application for Authority to Construct and Permit to Operate form

PERMIT TO BE ISSUED TO: KINGS RIVER CONSERVATION DISTRICT

LOCATION WHERE THE EQUIPMENT WILL BE OPERATED: SEE ATTACHED PROJECT INFORMATION

EQUIPMENT DESCRIPTION

Engine Details

Engine Manufacturer: TO BE DETERMINED (TBD)	Number of Cylinders: TBD
Engine Model: TBD	Engine Year of Manufacture: TBD
Engine Serial Number: TBD	Engine Tier Rating: TBD

Engine Certification Family Number: TBD

Engine's Type of Combustion: ☐ Rich-Burn ☐ Lean-Burn ☐ 4-Stroke ☐ 2-Stroke

Engine Manufacturer's Maximum Rated Power Output (per the data plate): TBD bhp

Engine's Rated Power Output for the Process the Engine Serves: TBD bhp

Process Data

Process the Engine Serves: FIRE PROTECTION

Electrical Power Generation Only: Generator Manufacturer: ____ Model: ____

Power Output: ____ kW

Will this equipment be used in an electric utility rate reduction program? ☐ Yes ☒ No

Fuel Data

Fuel Type: ☒ Diesel ☐ Natural Gas ☐ LPG/Propane ☐ Gasoline ☐ Other:

For "Other" fuels only: Higher Heating Value: ____ Btu/scf, or ____ Btu/gal,
For "Other" fuels only: An Ultimate Fuel Analysis or the combustion F-Factor ____ dscf/MMBtu

Sulfur Content: ____ gr/100 scf (gaseous fuel) or 0.05 % by weight (liquid fuel)

Fuel Consumption at Maximum Rated Output: 17-18 gal/hr, or ____ scf/hr

Rule 4702 Type of Use

☐ Emergency Standby - Limited exclusively to power primary mechanical or an electrical generator during periods of unscheduled power outages beyond the control of the operator, and limited from 20 to 100 hrs/yr (depending on the engine's PM_{10} emission factor) for maintenance and testing purposes only.

- ☐ This engine is specifically used to power a pump for a municipal water supply.
  - ☐ I request the higher opacity limit of 40% with the corresponding operational limits of 30 minutes per week and 2 hours per month for maintenance and testing. (CH&SC 41701.6)
  - ☐ I request the lower opacity limit of 20%.
- ☐ This engine is specifically used to provide power at a health care facility. (CH&SC 1250)
  - ☐ This engine is subject to Office of Statewide Health Planning and Development (OSHPD) requirements.

☒ Special Case Emergency - Limited exclusively to preserve or protect property, human life, or public health during a disaster or a state emergency (e.g. fire or flood) and limited to 20 to 100 hrs/yr (depending on the engine's PM_{10} emission factor) for maintenance and testing purposes only.

- ☒ This engine is specifically used to power a direct-drive firewater pump.
  - ☒ This firewater pump engine is subject to National Fire Protection Association (NFPA) requirements.

☐ Low Use - Limited to ≤ 200 hrs/yr of operation for **ALL** purposes combined, including maintenance and testing.

Hour Meter	Note: All engines are required to have either a nonresettable elapsed time meter or an alternate device, method, or technique, approved by the APCO, for determining elapsed operating time. ☐ Equipped with a Nonresettable Elapsed Operating Time Meter ☐ Alternate Method (please provide details):

EMISSIONS CONTROL

Emissions Control Equipment (Check all that apply)	☒ Positive Crankcase Ventilation	☐ 90% Efficient crankcase emission control device
	☐ Turbocharger	☐ Intercooler/Aftercooler
	☐ Automatic Air/Fuel Ratio or O_2 Controller - Manufacturer: _____	
	☐ Non-Selective Catalytic Reduction: Manufacturer: _____ Model: _____ Control Efficiencies: NO_X _____ %, SO_X _____ %, PM_{10} _____ %, CO _____ %, VOC _____ %	
	☐ Particulate Filter - Manufacturer: _____ Model: _____ Control Efficiency: _____ %	
	☐ Other (please specify):	

EMISSIONS DATA

Note: See District BACT and District Rule 4702 requirements for applicability to proposed engine at http://www.valleyair.org/busind/pto/bact/chapter3.pdf and http://www.valleyair.org/rules/currntrules/r4702.pdf

	Pollutant	(g/bhp-hr)	(g/kW-hr)	(ppmvd)
Emissions Data	Nitrogen Oxides (NO_x)			
	Volatile Organic Compounds (VOC)			
	NO_x + NMHC			
	Particulate Matter (PM_{10})			
	Carbon Monoxide			
	% O_2, dry basis, if corrected to other than 15%: _____ %			
Source of Data	☐ Manufacturer's Specifications ☐ Emissions Source Test ☐ CARB/EPA Certification ☐ Other _____ **Note: please provide copies of all sources of emissions data.**			

HEALTH RISK ASSESSMENT DATA

Operating Hours	Maximum Operating Schedule: _____ hours per day, and _____ hours per year		
Receptor Data	Distance to nearest	_____ feet	Distance is measured from the proposed stack location to the nearest boundary of the nearest apartment, house, dormitory, etc.
	Direction to nearest	_____	Direction from the stack to the receptor, i.e. Northeast or South.
	Distance to nearest Business	_____ feet	Distance is measured from the proposed stack location to the nearest boundary of the nearest office building, factory, store, etc.
	Direction to nearest Business	_____	Direction from the stack to the receptor, i.e. North or Southwest.
Stack Parameters	Release Height	_____ feet above grade	
	Stack Diameter	_____ inches at point of release	
	Rain Cap	☐ Flapper-type ☐ Fixed-type ☐ None ☐ Other: _____	
	Direction of	☐ Vertically Upward ☐ Horizontal ☐ Other: _____ ° from vert. or	
Exhaust Data	Flowrate: _____ acfm	Temperature: _____ °F	
Transportable	Is this engine transportable? ☐ Yes ☐ No Note: This is used for health risk assessment purposes only.		
Facility Location	☐ Urban (area of dense population) ☐ Rural (area of sparse population)		

Form is for KRCD CPP Auxiliary Boiler

San Joaquin Valley Air Pollution Control District
Supplemental Application Form

Boilers, Steam Generators, Dryers, and Process Heaters

Please complete one form for each different piece of equipment.

This form must be accompanied by a completed Application for Authority to Construct and Permit to Operate form

PERMIT TO BE ISSUED TO: KINGS RIVER CONSERVATION DISTRICT

LOCATION WHERE THE EQUIPMENT WILL BE OPERATED: SEE ATTACHED INFORMATION

EQUIPMENT DESCRIPTION

Equipment Details

☒ Boiler ☐ Steam Generator ☐ Dryer ☐ Process Heater ☐ Refinery Unit ☐ Other: ________

Manufacturer: TO BE DETERMINED (TBD)

Model: TBD | Serial Number: TBD

Steam: 45,000 pph, at 160 psig __________ bhp

Is this a "Load-Following" unit? ☐ Yes ☒ No

(Note: A load following unit is a unit with normal operational load fluctuations and requirements which exceed the operational response range of an Ultra-Low NO_X burner system operating at 9 ppmv NO_X.)

☐ Indirect-Fired ☐ Direct-Fired TBD

Flue Gas Recirculation: ☐ Forced FGR ☐ Induced FGR ☐ None TBD

Is an O_2 Controller present? ☐ No ☐ Yes, Manufacturer: TBD

Rules 4305/4306 Type of Use and Emissions Monitoring Provisions

☐ Low Use - limited to less than 9 billion Btu/year, must have fuel use meter
- ☐ Tune the unit at least twice per calendar year in accordance with District Rule 4304
- ☐ Operate the unit in a manner that maintains exhaust O_2 concentration ≥ 3.00% by volume on a dry basis

☐ Limited Use - limited from 9 billion Btu/year to 30 billion Btu/year, must have fuel use meter

☒ Full Time - limited from greater than 30 billion Btu/year to full time operation (8,760 hrs/year)

Note: Low Use units must identify operational characteristics recommended by the manufacturer, which can be monitored on a monthly basis (please provide details in additional documentation).

Note: Limited Use or Full Time units must have either a Continuous Emission Monitoring System (CEMS) or one of the following alternate emissions monitoring plans
- ☒ CEMS, please specify all pollutants monitored: ☒ NO_x ☐ CO ☒ O_2 ☐ Other: ____________
- ☐ Monitoring of NO_x, CO, and O_2 concentrations
- ☐ Periodic determination of flue gas recirculation rate by temperature measurement
- ☐ Periodic determination of flue gas recirculation rate by O_2 measurement
- ☐ Monitoring of burner mechanical adjustments and O_2 concentration
- ☐ Monitoring of the flue gas recirculation valve(s) setting
- ☐ Other Alternate Monitoring Plan (approved on a case by case basis), attach details

☐ Dryer - No Alternate Monitoring Required

Note: See District policy (SSP-1105) for additional details of the approved alternate emissions monitoring plans [illegible]

Fuel Use Meter

☒ Gaseous Fuel Meter ☐ Liquid Fuel Meter ☐ None

Primary Burner

Manufacturer: TBD	Type: ☐ Standard ☐ Low NO_x ☒ Ultra Low NO_x
Model: TBD	Serial Number: TBD
Maximum Heat Input Rating: 62 MMBtu/hr	Annual Heat Input: 124 billion Btu/year

Secondary Burner

Manufacturer:	Type: ☐ Standard ☐ Low NO_x ☐ Ultra Low NO_x
Model:	Serial Number:
Maximum Heat Input Rating: ________ MMBtu/hr	Annual Heat Input: ________ billion Btu/year

EMISSIONS DATA - See attached additional information

Primary Fuel

Fuel Type: ☒ Natural Gas ☐ LPG/Propane ☐ Diesel ☐ Other: _____

Higher Heating Value: _____ Btu/gal or _____ Btu/scf | Sulfur Content: _____ % by weight or _____ gr/scf

Primary Fuel Emissions Data

Operational Mode	Steady State (ppmv)	Steady State (lb/MMBtu)	Start-up (ppmv)	Start-up (lb/hr)	Shutdown (ppmv)	Shutdown (lb/hr)
Nitrogen Oxides						
Carbon Monoxide						
Volatile Organic Compounds						
Duration (if not steady state, please provide justification)			_____ hr/day	_____ hr/yr	_____ hr/day	_____ hr/yr

% O_2, dry basis, if corrected to other than 3%: _____ %

Secondary Fuel

Fuel Type: ☐ Natural Gas ☐ LPG/Propane ☐ Diesel ☐ Other: _____

Higher Heating Value: _____ Btu/gal or _____ Btu/scf | Sulfur Content: _____ % by weight or _____ gr/scf

How will the secondary fuel be used?

☐ Secondary full-time fuel ☐ Backup for primary fuel ☐ Other: NA - NO SECONDARY FUEL

Secondary Fuel Emissions Data

Operational Mode	Steady State (ppmv)	Steady State (lb/MMBtu)	Start-up (ppmv)	Start-up (lb/hr)	Shutdown (ppmv)	Shutdown (lb/hr)
Nitrogen Oxides						
Carbon Monoxide						
Volatile Organic Compounds						
Duration (if not steady state, please provide justification)			_____ hr/day	_____ hr/yr	_____ hr/day	_____ hr/yr

% O_2, dry basis, if corrected to other than 3%: _____ %

Source of Data

☐ Manufacturer's Specifications ☐ Emission Source Test ☐ Other _____ (please provide copies)

Additional Emissions Control Equipment

☐ Selective Catalytic Reduction - Manufacturer: _____ Model: _____

☐ Ammonia (NH_3) ☐ Urea ☐ Other: _____

☐ Non-Selective Catalytic Reduction - Manufacturer: _____ Model: _____

Control Efficiencies: NO_x _____ %, SO_x _____ %, PM_{10} _____ %, CO _____ %, VOC _____ %

☐ Other (please specify):

HEALTH RISK ASSESSMENT DATA - See attached additional information

Operating Hours

Maximum Operating Schedule: _____ hours per day, and _____ hours per year

Receptor Data

Distance to nearest residence	_____ feet	Distance is measured from the proposed stack location to the nearest boundary of the nearest apartment, house, dormitory, etc.
Direction to nearest residence	_____	Direction from the stack to the receptor, i.e. Northeast or South.
Distance to nearest commercial/industrial building	_____ feet	Distance is measured from the proposed stack location to the nearest boundary of the nearest office building, factory, store, etc.
Direction to nearest commercial/industrial building	_____	Direction from the stack to the receptor, i.e. North or Southwest.

Stack Parameters

Release Height	_____ feet above grade
Stack Diameter	_____ inches at point of release
Stack Type	☐ Flapper-type ☐ Fixed-type ☐ None ☐ Other: _____
Exit Orientation	☐ Vertically Upward ☐ Horizontal ☐ Other: _____° from vert. or _____° from horiz.

Exhaust Data | Flowrate: _____ acfm | Temperature: _____ °F

Facility Location ☐ Urban (area of dense population) ☐ Rural (area of sparse population)

FOR DISTRICT USE ONLY

Date:	FID:	Project:	Public Notice: [ ] Yes [ ] No
Comments:			

ADDITIONAL INFORMATION TO SUPPORT THE SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT AUTHORITY TO CONSTRUCT (DETERMINATION OF COMPLIANCE) PERMIT APPLICATION FORM AND SUPPLEMENTAL (GAS TURBINE; EMERGENCY/LOW-USE IC ENGINES FOR NON-AGRICULTURAL OPERATIONS; & BOILERS, STEAM GENERATORS, DRYERS AND PROCESS HEATERS) APPLICATION FORMS

Determination of Compliance (DOC) Application Form

The Kings River Conservation District (KRCD) is proposing to develop the Kings River Conservation District Community Power Plant (KRCD CPP), a nominal 565 megawatt (MW) natural gas-fired combined cycle base load power plant. The KRCD CPP will be located near the City of Parlier, in Fresno County, and within the service territory of KRCD on an approximately 32 acre parcel in size. The KRCD CPP will be arranged with two trains of combustion turbine generators (CTGs) and Heat Recovery Steam Generators (HRSGs) connected to one Steam Turbine Generator (STG) (two-on-one configuration). The two (2) advanced natural gas-fired turbines will be "F" class units supplied by either General Electric Power Systems (GE) or Siemens.

On September 27, 2007, KRCD submitted an Application for Certification (AFC) to the California Energy Commission (CEC) for the KRCD CPP. The AFC contains detailed information regarding the KRCD CPP. The KRCD CPP AFC is intended for use as the main source of information for San Joaquin Valley Air Pollution Control District (SJVAPCD) processing of this DOC application. A compact disc copy of the KRCD CPP AFC is attached.

Specific information regarding the equipment description is included in KRCD CPP AFC Chapter 2, Project Description section of the AFC. Specific information regarding emissions data and emissions control equipment is included in KRCD CPP AFC Section 8.1, Air Quality. Specific information regarding the health risk assessment is included in KRCD CPP AFC Section 8.7, Public Health and Section 8.8, Hazardous Materials.

Gas Turbines - Supplemental Application Forms

The KRCD CPP will use two natural gas-fired combustion turbines as its prime movers. These units will be either General Electric 7F or Siemens 501F type combustion turbines. The decision on the turbine type will likely not be made until after issuance of the DOC.

Specific information regarding the equipment description is included in KRCD CPP AFC Chapter 2, Project Description section of the AFC. Specific information regarding emissions data and emissions control equipment is included in KRCD CPP AFC Section 8.1, Air Quality. Specific information regarding the health risk assessment is included in KRCD CPP AFC Section 8.7, Public Health and Section 8.8, Hazardous Materials.

Emergency/Low-Use IC Engines for Non-Agricultural Operations – Supplemental Application Forms

Emergency Generator

The KRCD CPP will include a natural gas-fired emergency generator to provide power for critical in-house loads, as necessary. Although the supplier for this piece of equipment will likely not specified until after issuance of the DOC, the emergency generator will be sized along the lines of a Caterpillar G3516B LE.

Specific information regarding the equipment description is included in KRCD CPP AFC Chapter 2, Project Description section of the AFC. Specific information regarding emissions data and emissions control equipment is included in KRCD CPP AFC Section 8.1, Air Quality. Specific information regarding the health risk assessment is included in KRCD CPP AFC Section 8.7, Public Health and Section 8.8, Hazardous Materials.

Diesel Fire Pump

The KRCD CPP will also include a fire pump as part of its fire protection system. This pump will be driven by a diesel-fired engine. Although the supplier for this piece of equipment will likely not specified until after issuance of the DOC, the diesel fire pump will be sized along the lines of a 275-300 horsepower unit.

Specific information regarding the equipment description is included in KRCD CPP AFC Chapter 2, Project Description section of the AFC. Specific information regarding emissions data and emissions control equipment is included in KRCD CPP AFC Section 8.1, Air Quality. (Note the use of positive crankcase ventilation is contingent on not voiding the manufacturer's guarantees.) Specific information regarding the health risk assessment is included in KRCD CPP AFC Section 8.7, Public Health and Section 8.8, Hazardous Materials.

Boilers, Steam Generators, Dryers & Process Heaters – Supplemental Application Form

Auxiliary Boiler

The KRCD CPP will use an auxiliary boiler to provide low pressure steam (approximately 45,000 pounds per hour at 160 pounds per square inch gage saturated) for process functions, including main steam system startup and shutdown.

Specific information regarding the equipment description is included in KRCD CPP AFC Chapter 2, Project Description section of the AFC. Specific information regarding emissions data and emissions control equipment is included in KRCD CPP AFC Section 8.1, Air Quality. (Note the use of positive crankcase ventilation is contingent on not voiding the manufacturer's guarantees.) Specific information regarding the health risk assessment is included in KRCD CPP AFC Section 8.7, Public Health and Section 8.8, Hazardous Materials.