San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

MAY 16 2011

Jerry Frost
Vintage Production California, LLC
9000 Ming Avenue, Suite 300
Bakersfield, CA 93311

Re: Notice of Preliminary Decision - Authority to Construct
Project Number: S-1110750

Dear Mr. Frost:

Enclosed for your review and comment is the District's analysis of Vintage Production California, LLC's application for an Authority to Construct for 5 new 85 MMBtu/hr natural gas-fired steam generators, at the heavy oil production stationary source in the western Kern County fields.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. Please submit your written comments on this project within the 30-day public comment period which begins on the date of publication of the public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Richard Edgehill of Permit Services at (661) 392-5617.

Sincerely,

David Warner
Director of Permit Services

DW:RUE/dg

Enclosures

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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4800 Enterprise Way
Modesto, CA 95356-8718
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www.valleyair.org www.healthyairliving.com

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

MAY 16 2011

Mike Tollstrup, Chief
Project Assessment Branch
Stationary Source Division
California Air Resources Board
PO Box 2815
Sacramento, CA 95812-2815

Re: Notice of Preliminary Decision - Authority to Construct
Project Number: S-1110750

Dear Mr. Tollstrup:

Enclosed for your review and comment is the District's analysis of Vintage Production California, LLC's application for an Authority to Construct for 5 new 85 MMBtu/hr natural gas-fired steam generators, at the heavy oil production stationary source in the western Kern County fields.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. Please submit your written comments on this project within the 30-day public comment period which begins on the date of publication of the public notice.

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www.valleyair.org www.healthyairliving.com

Bakersfield Californian

**NOTICE OF PRELIMINARY DECISION
FOR THE PROPOSED ISSUANCE OF
AN AUTHORITY TO CONSTRUCT**

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Unified Air Pollution Control District solicits public comment on the proposed issuance of Authority to Construct to Vintage Production California, LLC for 5 new 85 MMBtu/hr natural gas-fired steam generators, at the heavy oil production stationary source in the western Kern County fields.

The analysis of the regulatory basis for this proposed action, Project #S-1110750, is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and the District office at the address below. Written comments on this project must be submitted within 30 days of the publication date of this notice to **DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 34946 FLYOVER COURT, BAKERSFIELD, CA 93308.**

San Joaquin Valley Air Pollution Control District
Authorities to Construct
5 new 85 MMBtu/hr natural gas-fired steam generators

Facility Name:	Vintage Production California, LLC	Date:	05/10/11
Mailing Address:	9000 Ming Avenue, Suite 300 Bakersfield, CA 93311	Engineer: Lead Engineer:	Richard Edgehill Allan Phillips
Contact Person:	Jerry Frost and Nick Diercks (Enviro Tech Consultants, Inc)		
Telephone:	661 869-8000 (JF), 661 377-0073 x13 (ND)		
Fax:	661 868-8170 (JF) and 661 377-0074 (ND)		
E-Mail:	Jerry_Frost@oxy.com and ndiercks@ix.netcom.com		
Application #(s):	S-1327-141-0 through '-145-0		
Project #:	S1110750		
Deemed Complete:	April 13, 2011		

I. PROPOSAL

Vintage Production California, LLC (VPC) recently purchased Nations Petroleum USA and is requesting partial reauthorization of project S-4073, 1093857 which authorized 5 new 85 MMBtu/hour steam generators equipped with North American model 4231-85-GLE Ultra Low NOx burners (or equivalent), flue gas recirculation (FGR) and oxygen controllers. The new steam generators will be limited to 87% of the maximum heat input.

To partially mitigate emissions, the applicant proposes to surrender permits for 4 steam generators (S-1327-116, '-120, '-137, and 138) and 3 tanks (S-1327-107, '-111, and '-115), and to lower the NOx emissions for 4 existing 85 MMBtu/hr steam generators. The steam generators have been constructed under ATCs S-1327-155-0 through '-158-0 authorizing 9 ppmv NOx @3% O2 and the units are fully offset (ERC were withdrawn). ATCs S-1327-155-1 through '-158-1 authorizing 7 ppmv NOx @3% O_2 (Rule 4320 compliance) will be implemented prior to the proposed ATCs. Please note that this approval is part of the same permitting action as project S1327, 1110574 , which reissued ATCs S-1327-155-0 through '-158-0 and S-1327-155-1 through '-158-1 to VPC.

Disposition of Outstanding ATCs

PTOs S-1327-107-0, '-111-0, '-115-0, '-116-0, '-120-0, '-137-0, and '-138-0 (to be surrendered) are included in **Attachment I.**

The project requires BACT, offsets and is a Federal Major Modification. Therefore public notice is also required.

The facility does not have a Title V PTO and therefore is not subject to Rule 2520.

II. APPLICABLE RULES

District Rule 2201 New and Modified Stationary Source Review Rule (6/10/10)

District Rule 4001 New Source Performance Standards (4/14/99)
District Rule 4101 Visible Emissions (2/17/05)
District Rule 4102 Nuisance (12/17/92)
District Rule 4201 Particulate Matter Concentration (12/17/92)
District Rule 4301 Fuel Burning Equipment (12/17/92)
District Rule 4304 Equipment Tuning Procedure for Boilers, Steam Generators and Process Heaters (10/19/95)
District Rule 4305 Boilers, Steam Generators and Process Heaters – Phase 2 (8/21/03)
District Rule 4306 Boilers, Steam Generators and Process Heaters – Phase 3 (10/16/08)
District Rule 4320 Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr (10/16/08)
District Rule 4351 Boilers, Steam Generators and Process Heaters – Phase 1 (8/21/03)--**not applicable** – facility is located west of Highway 5
District Rule 4801 Sulfur Compounds (12/17/92)
CH&SC 41700 Health Risk Assessment
CH&SC 42301.6 School Notice
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

III. PROJECT LOCATION

The steam generators will be authorized at the following two locations within VPC's HOWSS:

PTO#	Location
S-1327-141 through '-145	SW1/4 of the SE1/4 of the NE1/4 of Section 11, T26S, R20E
	NW 1/4 of Section 2, T26S, R20E

The equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

A location map is included in **Attachment II**.

IV. PROCESS DESCRIPTION

In thermally enhanced oil recovery (TEOR) operations, steam generators produce steam for injection into heavy crude oil bearing strata via injection wells to reduce the viscosity of the crude oil, thereby facilitating thermally enhanced oil production.

Proposed Project
Five new steam generators equipped with ultra low NOx burners capable of achieving 7 ppmv NOx @ 3% O_2 and 25 ppmv @3% O_2 CO will also be installed. The new steam generators will utilize PUC-quality natural gas with a sulfur content no greater than 1.0 gr S/100scf.

V. EQUIPMENT LISTING

Pre-Project Equipment Description:

Permits to be Deleted

~~PTO S-1327-107-0: 1,500 BBL FIXED ROOF WASH TANK (WILLIAMSON LEASE)~~
~~PTO S-1327-111-0: 1,000 BBL FIXED ROOF CRUDE OIL STORAGE TANK (ENRON-UNITED LEASE)~~

~~PTO S-1327-115-0: 1,000 BBL FIXED ROOF CRUDE OIL STORAGE TANK WITH A P/V RELIEF VALVE~~

~~PTO S-1327-116-0: NON-COMPLIANT DORMANT 25 MMBTU/HR NATURAL GAS/LPG FIRED STEAM GENERATOR, WITH MAXON KINEDIZER LOW NOX BURNER AND SMARTFIRE CONTROLLER~~

~~PTO S-1327-120-0: 23.0 MMBTU/HR NATCO SERIAL #S8709 NATURAL GAS/LPG/WASTE GAS-FIRED STEAM GENERATOR (HSG #45, DIS# 21088-66) WITH A NORTH AMERICAN MODEL 6121 BURNER, DIFFUSER PLATE, AND FGR~~

~~PTO S-1327-137-0: 25 MMBTU/HR NATURAL GAS/LPG/WASTE GAS-FIRED STEAM GENERATOR EQUIPPED WITH GIDEON MODEL MGW-25 LOW NOX BURNER, FGR, AND AIR/FUEL RATIO CONTROLLER~~

~~PTO S-1327-138-0: 25 MMBTU/HR NATURAL GAS/LPG/WASTE GAS-FIRED STEAM GENERATOR EQUIPPED WITH GIDEON MODEL MGW-25 LOW NOX BURNER, FGR, AND AIR/FUEL RATIO CONTROLLER~~

Post Project Equipment Description:

PTO S-1327-141-0 through '-145-0: 85 MMBTU/HR NATURAL/TEOR GAS-FIRED STEAM GENERATOR EQUIPPED WITH NORTH AMERICAN MODEL 4231-85-GLE ULTRA LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR) AND OXYGEN CONTROLLER (OR EQUIVALENT)

As per District policy APR 1035 Flexibility in Equipment Descriptions in ATCs, some flexibility in the final specifications of the equipment is requested and will be allowed as stated in the following ATC conditions:

The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201]

The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2010]

Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]

No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201]

VI. EMISSION CONTROL TECHNOLOGY EVALUATION

Emissions from natural gas-fired steam generators include NO_X, CO, VOC, PM_{10}, and SO_X.

Low-NO_X burners reduce NO_X formation by producing lower flame temperatures (and longer flames) than conventional burners. Conventional burners thoroughly mix all the fuel and air in a single stage just prior to combustion, whereas low-NO_X burners delay the mixing of fuel and air by introducing the fuel (or sometimes the air) in multiple stages. Generally, in the first combustion stage, the air-fuel mixture is fuel rich. In a fuel rich environment, all the oxygen will be consumed in reactions with the fuel, leaving no excess oxygen available to react with nitrogen to produce thermal NO_X. In the secondary and tertiary stages, the combustion zone is maintained in a fuel-lean environment. The excess air in these stages helps to reduce the flame temperature so that the reaction between the excess oxygen with nitrogen is minimized.

The use of flue gas re-circulation (FGR) can reduce nitrogen oxides (NO_X) emissions by 60 - 70%. In an FGR system, a portion of the flue gas is re-circulated back to the inlet air. As flue gas is composed mainly of nitrogen and the products of combustion, it is much lower in oxygen than the inlet air and contains virtually no combustible hydrocarbons to burn. Thus, flue gas is practically inert. The addition of an inert mass of gas to the combustion reaction serves to absorb heat without producing heat, thereby lowering the flame temperature. Since thermal NO_X is formed by high flame temperatures, the lower flame temperatures produced by FGR serve to reduce thermal NO_X.

Manufacturer's information on the low NOx burner were provided in project S4073, 1093857.

VII. GENERAL CALCULATIONS

A. Assumptions

- The maximum operating schedule is 24 hours per day (per applicant)
- New and existing steam generators are fired on natural, field, and TEOR (waste) gas.
- Maximum Heat Input: 85.0 MMBtu/hr (per applicant)
- Annual heat input for existing units S-1327-155 through '-158 is limited to 655,248 MMBtu each, equivalent to 88% utilization (throttle & use)
- Annual heat input for and new units S-1327-141 through '-145 is limited to 647,802 MMBtu each (public notice threshold), equivalent to 87% utilization (throttle & use)
- Daily heat input limited to 528 MMBtu for unit S-1327-116 (to be deleted)
- EPA F-factor for natural gas is 8,578 dscf/MMBtu (40 CFR 60, Appendix B)

- Molar Specific Volume of a gas @ 60 °F is 379.5 ft^3/lb-mol
- Natural Gas Heating Value: 1,000 Btu/scf (District Practice)
- VOC content of hydrocarbons in vapors from separators associated with tanks S-1327-107 and '-111 (to be deleted): 50% by wt (S-1339-4, project 1031414)

B. Emission Factors

Pre-Project Emission Factors (EF1)

Tanks S-1327-107 and '-111 (to be deleted)

Fugitive emission factors are taken from Table 2-4, Oil and Gas Production Operations Average Emission Factors, EPA Protocol for Equipment Leak Emission Estimates, November 1995 (EPA-453/R-95-017) – calculations for separators done for project S-1339-4, project 1031414

Tank Emissions are estimated using the District's "Tank Emissions - Fixed Roof Crude Oil less than 26 API" spreadsheet – **Attachment III**.

Tank S-1327-115 (to be deleted)

(Tank emissions calculations done for project S-4073, 1084278 **Attachment III**)

S-1327-116 (to be deleted)

Pollutant	Pre-Project Emission Factors (EF1)			Source
NO_X	36.0 lb-NO_X/MMscf	0.036 lb-NO_X/MMBtu	30 ppmvd NO_X (@ 3%O_2)	Current PTO
SO_X		0.0164 lb SO2/MMBtu*		Current Permit
PM10**				
CO	81.3 lb-CO/MMscf	0.0813 lb-CO/MMBtu	110 ppmv CO @3% O2	Current Permit
VOC	5.5 lb-VOC/MMscf	0.0055 lb-VOC/MMBtu		Current Permit

* SOx = 0.1(S), where S = sulfur content in gr/100 scf = 0.1 (15) = 1.5 lb/1000 gal => (1.5 lb/1000 gal ÷ 0.0915 MMBtu/gal) = 0.0164 lb/MMBtu where, maximum sulfur content of LPG is 15 gr/100 scf (CRC Handbook of Tables for Applied Engineering Science, 2nd Edition, page 390).

** 4 lb/day – listed in PTO S-4073-17-4 permit condition #6

S-1327-120 (to be deleted)

Pollutant	Pre-Project Emission Factors (EF1)			Source
NO_X	18.0 lb-NO_X/MMscf	0.018 lb-NO_X/MMBtu	15 ppmvd NO_X (@ 3%O_2)	Current PTO
SO_X		0.0164 lb SO2/MMBtu*		Current Permit
PM10	7.6 lb-PM10/MMscf	0.0076 lb-PM10/MMBtu		Current Permit
CO	36.0 lb-CO/MMscf	0.036 lb-CO/MMBtu	50 ppmv CO @3% O2	Current Permit
VOC	3.0 lb-VOC/MMscf	0.003 lb-VOC/MMBtu		Current Permit

* SOx = 0.1(S), where S = sulfur content in gr/100 scf = 0.1 (15) = 1.5 lb/1000 gal => (1.5 lb/1000 gal ÷ 0.0915 MMBtu/gal) = 0.0164 lb/MMBtu where, maximum sulfur content of LPG is 15 gr/100 scf (CRC Handbook of Tables for Applied Engineering Science, 2nd Edition, page 390).

S-1327-137 and '-138 (to be deleted):

Pollutant	Pre-Project Emission Factors (EF1)			Source
NO_X	18.0 lb-NO_X/MMscf	0.018 lb-NO_X/MMBtu	15 ppmvd NO_X (@ 3%O_2)	Current PTO
SO_X		0.0164 lb SO2/MMBtu*		Current Permit
PM10	7.6 lb-PM10/MMscf	0.0076 lb-PM10/MMBtu		Current Permit
CO	36 lb-CO/MMscf	0.036 lb-CO/MMBtu	50 ppmv CO @3% O2	Current Permit
VOC	3.0 lb-VOC/MMscf	0.003 lb-VOC/MMBtu		Current Permit

* SOx = 0.1(S), where S = sulfur content in gr/100 scf = 0.1 (15) = 1.5 lb/1000 gal => (1.5 lb/1000 gal ÷ 0.0915 MMBtu/gal) = 0.0164 lb/MMBtu where, maximum sulfur content of LPG is 15 gr/100 scf (CRC Handbook of Tables for Applied Engineering Science, 2nd Edition, page 390).

S-1327-155-1 through '-158-1:

Pollutant	Pre-Project Emission Factors (EF1)			Source
NO_X	11.0 lb-NO_X/MMscf	0.011 lb-NO_X/MMBtu	9 ppmvd NO_X (@ 3%O_2)	Current Permit
SO_X	2.85 SO2/day	0.00285 lb SO2/MMBtu		Current Permit
PM10	3.5 lb-PM10/MMscf	0.0035 lb-PM10/MMBtu		Current Permit
CO	18 lb-CO/MMscf	0.018 lb-CO/MMBtu	25 ppmv CO @3% O2	Current Permit
VOC	5.5 lb-VOC/MMscf	0.0055 lb-VOC/MMBtu	13 ppmv VOC @3% O2	Current Permit

Post-Project Emission Factors (EF2)

S-1327-141-0 through '-145-0:

Pollutant	Post-Project Emission Factors (EF2)			Source
NO_X	8.0 lb-NO_X/MMscf	0.008 lb-NO_X/MMBtu	7 ppmvd NO_X (@ 3%O_2)	Rule 4320 limit
SO_X	2.85 lb-SO_X/MMscf	0.00285 lb SO2/MMBtu		project S-4073, 1093857
PM10	3.5 lb-PM10/MMscf	0.0035 lb-PM10/MMBtu		"
CO	18 lb-CO/MMscf	0.018 lb-CO/MMBtu	25 ppmv CO @3% O2	"
VOC	5.5 lb-VOC/MMscf	0.0055 lb-VOC/MMBtu	13 ppmv VOC @3% O2	"

C. Calculations

1. Pre-Project Potential to Emit (PE1)

Pre-project emissions for SSIPE calculation

Tank S-1327-107 (to be deleted)

Separator Vessel:

Equipment Type	Service	Components	Emission Factor (lb/hr) TOG	hr/day	VOC = 50%TOG	VOCs (lb/day)
Valve	Gas	34	9.92E-03	24	0.5	4.0
Flange	Gas	131	8.59E-04	24	0.5	1.4
Connectors	Gas	272	4.41E-04	24	0.5	1.4
Other	Gas	21	1.94E-02	24	0.5	4.9
					Total	**11.7**

63,000 Gallon Wash Tank:

Tanks Emissions (See Appendix F)		
	Daily (lb/day)	Annual (lb/yr)
Standing Storage Loss	1.1	399
Working Loss	N/A	N/A
Flashing Loss	N/A	N/A

Total Emissions:

	Fugitive Components	Tank	PE2
Daily (lb/day)	11.7	1.1	**12.8**
Annual (lb/yr)	4,271	399	**4,670**

S-1327-111 (to be deleted)

Separator Vessel:

Equipment Type	Service	Components	Emission Factor (lb/hr) TOG	hr/day	VOC = 50%TOG	VOCs (lb/day)
Valve	Gas	34	9.92E-03	24	0.5	4.0
Flange	Gas	127	8.59E-04	24	0.5	1.3
Connectors	Gas	275	4.41E-04	24	0.5	1.5
Other	Gas	21	1.94E-02	24	0.5	4.8
					Total	**11.6**

42,000 Gallon Wash Tank:

Tanks Emissions (See Appendix F)		
	Daily (lb/day)	**Annual (lb/yr)**
Standing Storage Loss	1.0	380
Working Loss	N/A	N/A
Flashing Loss	N/A	N/A

Total Emissions

	Fugitive Components	Tank	PE2
Daily (lb/day)	11.6	1.0	**12.2**
Annual (lb/yr)	4,234	380	**4,614**

S-1327-115 (to be deleted)

PE1 15.2 lb/day (5,556 lb/yr)

S-1327-116 (to be deleted)

Pollutant	Daily PE1		
	EF1 (lb/MMBtu)	Heat Input (MMBtu/day)	Daily PE1 (lb/day)
NO_X	0.036	528	19.0
SO_X	0.01640	528	8.7
PM_{10}	see below	528	
CO	0.081	528	42.9
VOC	0.0055	528	2.9

Pollutant	Annual PE			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/day)	Operating Schedule (day/year)	Annual PE1 (lb/year)
NO_X	0.036	528	365	6,938
SO_X	0.01640	528	365	3,161
PM_{10}	see below			
CO	0.081	528	365	15,668
VOC	0.0055	528	365	1,060

4 lb/day, 1460 lb/yr

S-1327-120 (to be deleted)

Pollutant	Daily PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE1 (lb/day)
NO_X	0.018	23	24	9.9
SO_X	0.01640	23	24	9.1
PM_{10}	0.008	23	24	4.2
CO	0.036	23	24	19.9
VOC	0.003	23	24	1.7

Pollutant	Annual PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE1 (lb/year)
NO_X	0.018	23	8,760	3,627
SO_X	0.01640	23	8,760	3,304
PM_{10}	0.0076	23	8,760	1,531
CO	0.036	23	8,760	7,253
VOC	0.003	23	8,760	604

S-1327-137 and '-138 (to be deleted)

Pollutant	Daily PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE1 (lb/day)
NO_X	0.018	25	24	10.8
SO_X	0.01640	25	24	9.8
PM_{10}	0.0076	25	24	4.6
CO	0.036	25	24	21.6
VOC	0.0030	25	24	1.8

Pollutant	Annual PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE1 (lb/year)
NO_X	0.018	25	8,760	3,942
SO_X	0.01640	25	8,760	3,592
PM_{10}	0.0076	25	8,760	1,664
CO	0.036	25	8,760	7,884
VOC	0.0030	25	8,760	657

S-1327-155 through '-158

Pollutant	Daily Pre-Project Potential to Emit (PE1)											
	Emission Factors			Heat input			Hours per day			Daily PE1		
NO_X	0.0110	(lb-NO_X/MMBtu)	x	85	(MMBtu/hr)	x	24	(hr/day)	=	22.4	(lb-NO_X/day)
SO_X	0.00285	(lb-SO_X/MMBtu)	x	85	(MMBtu/hr)	x	24	(hr/day)	=	5.8	(lb-SO_X/day)
PM_{10}	0.0035	(lb-PM_{10}/MMBtu)	x	85	(MMBtu/hr)	x	24	(hr/day)	=	7.1	(lb-PM_{10}/day)
CO	0.0180	(lb-CO/MMBtu)	x	85	(MMBtu/hr)	x	24	(hr/day)	=	36.7	(lb-CO/day)
VOC	0.0055	(lb-VOC/MMBtu)	x	85	(MMBtu/hr)	x	24	(hr/day)	=	11.2	(lb-VOC/day)

Pollutant	Annual Pre-Project Potential to Emit (PE1)						
	Emission Factors			Annual Max Heat input		Annual PE1	
NO_X	0.0110	(lb-NO_X/MMBtu)	x	655.2	(billion Btu/year)	= 7,208	(lb-NO_X/year)
SO_X	0.00285	(lb-SO_X/MMBtu)	x	655.2	(billion Btu/year)	= 1,867	(lb-SO_X/year)
PM_{10}	0.0035	(lb-PM_{10}/MMBtu)	x	655.2	(billion Btu/year)	= 2,293	(lb-PM_{10}/year)
CO	0.0180	(lb-CO/MMBtu)	x	655.2	(billion Btu/year)	= 11,794	(lb-CO/year)
VOC	0.0055	(lb-VOC/MMBtu)	x	655.2	(billion Btu/year)	= 3,604	(lb-VOC/year)

Annual Emissions (lb/year)					
	NO_X	SO_X	PM_{10}	CO	VOC
S-1327-107					4,670
S-1327-111					4,614
S-1327-115					5,556
S-1327-116	6,938	3,161	1,460	15,668	1,060
S-1327-120	3,627	3,304	1,531	7,253	604
S-1327-137	3,942	3,592	1,664	7,864	657
S-1327-138	3,942	3,592	1,664	7,864	657
S-1326-155 through '-158	4 x 7208 = 28,832	4 x 1867 = 7468	4 x 2293 = 9172	4 x 11,794 = 47,176	4 x 3604 = 14,416
Total	47,281	21,117	15,491	85,825	32,234

New steam generators S-1327-141-0 through '-145-0

Since these are a new emissions unit, PE1 = 0 for all pollutants.

2. Post Project Potential to Emit (PE2)

The potential to emit for each steam generator is calculated as follows, and summarized in the table below:

New steam generators S-1327-141-0 through '-145-0

Pollutant	Daily Post-Project Potential to Emit (PE2)										
	Emission Factors			Heat input			Hours per day			Daily PE2	
NO_X	0.0080	(lb-NO_X/MMBtu)	x	85	(MMBtu/hr)	x	24	(hr/day)	=	16.3	(lb-NO_X/day)
SO_X	0.00285	(lb-SO_X/MMBtu)	x	85	(MMBtu/hr)	x	24	(hr/day)	=	5.8	(lb-SO_X/day)
PM_{10}	0.0035	(lb-PM_{10}/MMBtu)	x	85	(MMBtu/hr)	x	24	(hr/day)	=	7.1	(lb-PM_{10}/day)
CO	0.0180	(lb-CO/MMBtu)	x	85	(MMBtu/hr)	x	24	(hr/day)	=	36.7	(lb-CO/day)
VOC	0.0055	(lb-VOC/MMBtu)	x	85	(MMBtu/hr)	x	24	(hr/day)	=	11.2	(lb-VOC/day)

Pollutant	Annual Post-Project Potential to Emit (PE2						
	Emission Factors			Annual Max Heat input		Annual PE2	
NO_X	0.0080	(lb-NO_X/MMBtu)	x	647.8	(billion Btu/year)	= 5,182	(lb-NO_X/year)
SO_X	0.00285	(lb-SO_X/MMBtu)	x	647.8	(billion Btu/year)	= 1,846	(lb-SO_X/year)
PM_{10}	0.0035	(lb-PM_{10}/MMBtu)	x	647.8	(billion Btu/year)	= 2,267	(lb-PM_{10}/year)
CO	0.0180	(lb-CO/MMBtu)	x	647.8	(billion Btu/year)	= 11,660	(lb-CO/year)
VOC	0.0055	(lb-VOC/MMBtu)	x	647.8	(billion Btu/year)	= 3,563	(lb-VOC/year)

Post project emissions for SSIPE calculation

S-1327-155-1 through '-158-1

Pollutant	Daily Post-Project Potential to Emit (PE2)										
	Emission Factors			Heat input			Hours per day			Daily PE2	
NO_X	0.0080	(lb-NO_X/MMBtu)	x	85	(MMBtu/hr)	x	24	(hr/day)	=	16.3	(lb-NO_X/day)
SO_X	0.00285	(lb-SO_X/MMBtu)	x	85	(MMBtu/hr)	x	24	(hr/day)	=	5.8	(lb-SO_X/day)
PM_{10}	0.0035	(lb-PM_{10}/MMBtu)	x	85	(MMBtu/hr)	x	24	(hr/day)	=	7.1	(lb-PM_{10}/day)
CO	0.0180	(lb-CO/MMBtu)	x	85	(MMBtu/hr)	x	24	(hr/day)	=	36.7	(lb-CO/day)
VOC	0.0055	(lb-VOC/MMBtu)	x	85	(MMBtu/hr)	x	24	(hr/day)	=	11.2	(lb-VOC/day)

Pollutant	Annual Post-Project Potential to Emit (PE2						
	Emission Factors			Annual Max Heat input		Annual PE2	
NO_X	0.0080	(lb-NO_X/MMBtu)	x	655.2 (billion Btu/year)	=	5,242	(lb-NO_X/year)
SO_X	0.00285	(lb-SO_X/MMBtu)	x	655.2 (billion Btu/year)	=	1,867	(lb-SO_X/year)
PM_{10}	0.0035	(lb-PM_{10}/MMBtu)	x	655.2 (billion Btu/year)	=	2,293	(lb-PM_{10}/year)
CO	0.0180	(lb-CO/MMBtu)	x	655.2 (billion Btu/year)	=	11,794	(lb-CO/year)
VOC	0.0055	(lb-VOC/MMBtu)	x	655.2 (billion Btu/year)	=	3,604	(lb-VOC/year)

Annual Emissions (lb/year)					
	NO_X	SO_X	PM_{10}	CO	VOC
ATCs S-1327-155-1 through '-158-1	4 x 5242 = 20,968	4 x 1867 = 7468	4 x 2293 = 9172	4 x 11,794 = 47,176	4 x 3604 = 14,416
5 proposed SGs S-1372-141-0 through '-145-0	5 x 5182 = 25,912	5 x 1846 = 9230	2267 x 5 = 11,335	11,660 x 5 = 58,300	3,563 x 5 = 17,815
Total	46,880	16,698	20,507	105,476	32,231

Stationary Source Increase in Potential to Emit (SSIPE)

The SSIPE is equal to PE2 – PE1 for the proposed project.

SSIPE(lb/year)					
	NO_X	SO_X	PM_{10}	CO	VOC
Post Project PE	46,880	16,698	20,507	105,476	32,231
Pre-Project PE	47,281	21,117	15,491	85,825	32,234
Post – Pre-Project PEs	-401	-4419	5016	19,651	-3

Greenhouse Gas Emissions (District Policy APR 2015)

CO2 53.06 kg/MMBtu (HHV) natural gas (116.7 lb/MMBtu)

The net increase in heat input rating is calculated in the table below:

Permit Unit	MMBtu/hr
'-116	-25
'-120	-23
'-137	-25
'-138	-25
'-141 through '-145	5 x 85 x 0.87
Total	**272**

Hourly Emissions

CO2 Emissions = 272 MMBtu/hr x 116.7 lb/MMBtu = 31,742 lb-CO2e/hour

31,742 lb-CO2e/hour x 8760 hr/year ÷ 2,000 lb/ton = 139,032 tons-CO2e/year

139,032 short tons-CO2e/year x 0.9072 metric tons/short ton = **126,129 metric tons**

Emissions profiles are included in **Attachment IV**.

3. Pre-Project Stationary Source Potential to Emit (SSPE1)

Pursuant to Section 4.9 of District Rule 2201, the Pre-Project Stationary Source Potential to Emit (SSPE1) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site. The facility has no ERC s for onsite reductions.

Pre-Project Stationary Source Potential to Emit [SSPE1] (lb/year)					
PTOs except where indicated	NO_X	SO_X	PM_{10}	CO	VOC
Tanks and TEOR operations					>20,000
S-1327-32	3469	899	2387	11,668	-
S-1327-34	3657	574	1531	6678	-
S-1327-35	4380	1560	5475	38,325	-
ATC S-1327-71-0	6329	2122	5619	14,147	-
ATC S-1327-72-0	6329	2122	5659	14,147	-
S-1327-83 (flare)	9898	438	1169	53,911	-
S-1327-116	6,938	3,161	1,460	15,668	-
S-1327-120	3,627	3,304	1,531	7,253	-
S-1327-130 through '-136	5242 x 7 = 36,694	1867 x 7 = 13,069	2293 x 7 = 16,051	11794 x 7 = 82,558	-
S-1327-137	3,942	3,592	1,664	7,864	-
S-1327-138	3,942	3,592	1,664	7,864	-
ATCs S-1326-155-0 through '-158-0	4 x 7208 = 28,832	4 x 1867 = 7468	4 x 2293 = 9172	4 x 11,794 = 47,176	-
Pre-Project SSPE (SSPE1)	>20,000	41,901	53,382	307,259	>20,000

4. Post Project Stationary Source Potential to Emit (SSPE2)

Pursuant to Section 4.10 of District Rule 2201, the Post Project Stationary Source Potential to Emit (SSPE2) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

Post-Project Stationary Source Potential to Emit [SSPE2] (lb/year)					
	NO_X	SO_X	PM_{10}	CO	VOC
SSPE1	>20,000	41,903	53,382	307,261	>20,000
SSIPE	-401	-4419	5016	19,651	-3
SSPE2	>20,000	37,484	58,398	326,912	>20,000

5. Major Source Determination

Pursuant to Section 3.24 of District Rule 2201, a Major Source is a stationary source with post-project emissions or a Post Project Stationary Source Potential to Emit (SSPE2), equal to or exceeding one or more of the following threshold values. However, Section 3.24.2 states, "for the purposes of determining major source status, the SSPE2 shall not include the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site."

Major Source Determination (lb/year)					
	NO_X	SO_X	PM_{10}	CO	VOC
Pre-Project SSPE (SSPE1)	>20,000	41,903	53,382	307,261	>20,000
Post Project SSPE (SSPE2)	>20,000	37,484	58,398	326,912	>20,000
Major Source Threshold	20,000	140,000	140,000	200,000	20,000
Major Source?	Yes	No	No	Yes	Yes

This source is an existing Major Source for NO_X CO, and VOC emissions and will remain a Major Source for these air contaminants.

6. Baseline Emissions (BE)

Pursuant to Section 3.7 of District Rule 2201, BE = Pre-project Potential to Emit for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, located at a Major Source.

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to Section 3.22 of District Rule 2201.

As shown in Section VII.C.5 above, the facility is not a Major Source for SOx, and PM10. Therefore Baseline Emissions (BE) are equal to the Pre-Project Potential to Emit (PE1) for these air contaminants.

Clean Emissions Units, located at a Major Source
Pursuant to Rule 2201, Section 3.12, a Clean Emissions Unit is defined as an emissions unit that is "equipped with an emissions control technology with a minimum control efficiency of at least 95% or is equipped with emission control technology that meets the requirements for achieved-in-practice BACT as accepted by the APCO during the five years immediately prior to the submission of the complete application.

Steam Generators S-1327-120, '-137, and '-138 (to be surrendered)
Units S-1327-120, '-137, and '-138 meet the following achieved-in-practice requirements for NOx, CO, and VOC of District BACT Guideline 1.2.1 which was applicable in the past 5 years:

NO_X: 14 ppmvd @ 3% O_2
CO: 50 ppmv @3% O2
VOC: gaseous fuel

* S-1327-120, '-137, and '-138 permit limit is 15 ppmv @ 3% O2. However source testing has shown that these units meet 14 ppmv @ 3% O2. Therefore, they qualify as Clean Emissions Units.

Please note that unit S-1327-116 meets only the achieved-in-practice requirement for VOC of Current District BACT Guideline 1.2.1 (see **Attachment V**) but not the emissions limit requirement for NOx or CO.

Tanks S-1327-107, '-111, and '-115 (to be surrendered)
Tanks '-107, '-111, and '-115 are equipped with pressure vacuum relief valves and therefore meet the requirement of current BACT Guideline 7.3.1, Petroleum and Petrochemical Production – Fixed Roof Organic Liquid Storage or Processing Tank, < 5,000 bbl tank capacity (see **Attachment VI**).

Fully Offset Emissions Units, located at a Major Source
Offsets have previously been provided ATCs S-1327-155-0 through 158-0. Therefore, pursuant to District Rule 2201, Section 3.19, these permitted units are considered as a Fully Offset Emissions Units.

Therefore Baseline Emissions (BE) for NOx CO, and VOC are equal to the Pre-Project Potential to Emit (PE1) for S-1327-120, '-137, '-138, and '-155 though '-158. Baseline emissions for unit S-1327-116 are PE1 for VOC and historical actual emissions (HAE) for NOx and CO. However, unit '-116 is a dormant emissions unit and therefore HAE is assumed to be equal to zero for NOx and CO.

BE (lb/year)					
Units	NO_X	SO_X	PM_{10}	CO	VOC
S-1327-107	0	0	0	0	4670
'111	0	0	0	0	4614
'115	0	0	0	0	5556
'-116	0	3161	1460	0	1060
'-120	3627	3304	1531	7253	604
'-137	3942	3592	1664	7864	657
'-138	3942	3592	1664	7864	657
'-155 through '-158	28,832	7468	9172	47,176	28,832

S-1327-141 through '-145
Since these are new emissions units, BE = PE1 = 0 for all criteria pollutants.

7. SB 288 Major Modification

SB 288 Major Modification is defined in 40 CFR Part 51.165 as "*any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act.*"

As discussed in Section VII.C.5 above, the facility is not a Major Source for SOx and PM10 emissions; therefore, the project does not constitute a SB 288 Major Modification for SOx and PM10.

As discussed in Section VII.C.5 above, the facility is an existing Major Source for NOx, and VOC; however, the project by itself would need to be a significant increase in order to trigger a Major Modification. The emissions units within this project have a total potential to emit for NOx and VOC which is less than SB 288 Major Modification thresholds (see table below). Therefore, the project is not a SB 288 Major Modification.

SB 288 Major Modification Thresholds (Existing Major Source)			
Pollutant	Project PE (lb/year)	Threshold (lb/year)	Major Modification?
NO_x	25,912	50,000	No
SO_x	Not applicable	80,000	No
PM_{10}	Not applicable	30,000	No
VOC	17,815	50,000	No

8. Federal Major Modification

SOx and PM10
As discussed in Section VII.C.5 above, the facility is not a Major Source for SOx and PM10 emissions; therefore, the project does not constitute a Federal Major Modification for SOx and PM10.

NOx and VOCs
District Rule 2201, Section 3.17 states that Federal Major Modifications are the same as "Major Modification" as defined in 40 CFR 51.165 and part D of Title I of the CAA. SB 288 Major Modifications are not Federal Major Modifications if they meet the criteria of the "Less-Than-Significant Emissions Increase" exclusion.

A Less-Than-Significant Emissions Increase exclusion is for an emissions increase for the project, or a Net Emissions Increase for the project (as defined in 40 CFR 51.165 (a)(2)(ii)(B) through (D), and (F)), that is not significant for a given regulated NSR pollutant, and therefore is not a Federal Major Modification for that pollutant.

- To determine the post-project projected actual emissions from existing units, the provisions of 40 CFR 51.165 (a)(1)(xxviii) shall be used.
- To determine the pre-project baseline actual emissions, the provisions of 40 CFR 51.165 (a)(1)(xxxv)(A) through (D) shall be used.
- If the project is determined not to be a Federal Major Modification pursuant to the provisions of 40 CFR 51.165 (a)(2)(ii)(B), but there is a reasonable possibility that the project may result in a significant emissions increase, the owner or operator shall comply with all of the provisions of 40 CFR 51.165 (a)(6) and (a)(7).
- Emissions increases calculated pursuant to this section are significant if they exceed the significance thresholds specified in the table below.

Pollutant	Threshold (lb/year)
VOC	0
NOx	0
PM10	30,000
SOx	80,000

The Net Emissions Increases (NEIs) for purposes of determination of a "Less-Than-Significant Emissions Increase" exclusion will be calculated below to determine if this project qualifies for such an exclusion.

Net Emission Increase for New Unit (NEI)

Per 40 CFR 51.165 (a)(2)(ii)(D) for new emissions unit in this project,

NEI = PE2 - BAE

BAE = 0 for the new emissions unit; therefore,

NEI = PE2

Units S-1327-141 through 145 are new units, and baseline actual emissions are equal to zero, and therefore, pursuant to 40 CFR 51.165 (a)(2)(ii)(D), the Net Emissions Increases for NOx and VOCs are equal to the post-project potential to emit which exceeds the significance thresholds for NOx and VOC, 0 lb/yr, listed in the above table. Therefore the project is a Federal Major Modification.

9. Quarterly Net Emissions Change (QNEC)

The QNEC is calculated solely to establish emissions that are used to complete the District's PAS emissions profile screen. The QNEC for the new emissions unit was calculated for each pollutant by dividing annual emissions by 4 quarters/year.

S-1327-141 through '-145

Pollutant	QNEC For each steam generator			
	Annual emissions (lb/year)	divided by	4 quarters/yr =	Quarterly emissions (lb/qtr)
NO_X	5,182	/	4 qtr/year	**1296**
SOx	1,846	/	4	**462**
PM_{10}	2,267	/	4	**567**
CO	11,660	/	4	**2915**
VOC	3,563	/	4	**891**

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis for the following*:

a. Any new emissions unit with a potential to emit exceeding two pounds per day,
b. The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
c. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIPE exceeding two pounds per day, and/or
d. Any new or modified emissions unit, in a stationary source project, which results in a Major Modification.

*Except for CO emissions from a new or modified emissions unit at a Stationary Source with an SSPE2 of less than 200,000 pounds per year of CO.

a. New emissions units – PE > 2 lb/day

As seen in Section VII.C.2 of this evaluation, the applicant is proposing to install five new steam generators each with a PE greater than 2 lb/day for NO_X, SO_X, PM_{10}, CO, and VOC. BACT is triggered for NO_X, SO_X, PM_{10}, CO, and VOC.

b. Relocation of emissions units – PE > 2 lb/day

As discussed in Section I above, there are no emissions units being relocated from one stationary source to another; therefore BACT is not triggered.

c. Modification of emissions units – AIPE > 2 lb/day

As discussed in Section I above, there are no modified emissions units associated with this project; therefore BACT is not triggered.

d. Major Modification

As discussed in Section VII.C.7 above, this project is a Major Modification for NOx and VOCs; therefore BACT is triggered for these air contaminants.

2. BACT Guideline

Please note that BACT Guideline 1.2.1 [Steam Generator (≥ 5 MMBtu/hr, Oilfield] has been rescinded. The NO_X emission limit requirement of District Rule 4320 is lower than the Achieved-in-Practice requirement of BACT Guideline 1.2.1 (14 ppmv @ 3% O2) ; therefore a project specific BACT analysis will be performed to determine BACT for this project. More details regarding this are provided in **Attachment V**.

3. Top-Down BACT Analysis

Per Permit Services Policies and Procedures for BACT, a Top-Down BACT analysis shall be performed as a part of the application review for each application subject to the BACT requirements pursuant to the District's NSR Rule.

Pursuant to the attached Top-Down BACT Analysis (see **Attachment VI**), BACT has been satisfied with the following:

NO_X: 7 ppmvd @ 3% O_2
SO_X: Natural gas, LPG and waste gas treated to remove 95% by weight of sulfur compounds or treated such that the sulfur content does not exceed 1 gr of sulfur compounds (as S) per 100 scf, or use of a continuously operating SO_2 scrubber and either achieving 95% by weight control of sulfur compounds or achieving an emission rate of 30 ppmvd SO_2 at stack O_2.
PM_{10}: Natural gas, LPG and waste gas treated to remove 95% by weight of sulfur compounds or treated such that the sulfur content does not exceed 1 gr of sulfur compounds (as S) per 100 scf, or use of a continuously operating SO_2 scrubber and either achieving 95% by weight control of sulfur compounds or achieving an emission rate of 30 ppmvd SO_2 at stack O_2.
CO: 25 ppmvd @ 3% O_2
VOC: Gaseous fuel

B. Offsets

1. Offset Applicability

Pursuant to Section 4.5.3, offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the Post Project Stationary Source Potential to Emit (SSPE2) equals to or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

Offset Determination (lb/year)					
	NO_X	SO_X	PM_{10}	CO	VOC
Post Project SSPE (SSPE2)	>20,000	37,484	58,398	326,912	>20,000
Offset Threshold	20,000	54,750	29,200	200,000	20,000
Offsets calculations required?	Yes	No	Yes	Yes	Yes

2. Quantity of Offsets Required

As seen above, the SSPE2 is greater than the offset thresholds for NO_X, PM_{10}, CO, and VOC emissions; therefore offset calculations will be required for this project.

Per Sections 4.7.1 and 4.7.3, the quantity of offsets in pounds per year for NOX is calculated as follows for sources with an SSPE1 greater than the offset threshold levels before implementing the project being evaluated.

Offsets Required (lb/year) = (Σ[PE2 – BE] + ICCE) x DOR, for all new or modified emissions units in the project,

Where,
PE2 = Post Project Potential to Emit, (lb/year)
BE = Baseline Emissions, (lb/year)
ICCE = Increase in Cargo Carrier Emissions, (lb/year)
DOR = Distance Offset Ratio, determined pursuant to Section 4.8

BE = Pre-project Potential to Emit for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, Located at a Major Source.

otherwise,

BE = Historic Actual Emissions (HAE)

The facility is proposing to install a five new emissions units; therefore Baseline Emissions are equal to zero. There are no increases in cargo carrier emissions; therefore offsets can be determined as follows:

<u>NOx Offset Calculations:</u>

Offsets Required (lb/year) = ([PE2 – BE]) x DOR

NOx:

Unit	PE2 – BE (lb/yr)
'-116	- 0
'-120	- 3627
'-137	- 3942
'-138	- 3942
'-155 through '-159	20,968 - 28,831 = -7863
'-141 through '-145	5182 x 5 = + 25,910
Total	6536

The quarterly emissions to be offset at DOR = 1.0:1 is listed below:

Pollutant	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
NOx	1,634	1,634	1,634	1,634

ATCs S-1327-141-0 through '-145-0 will each include a 1634/5 = 327 lbs NOx/qtr offset requirement.

The project is a Federal Major Modification for NOx. Therefore the NOx ERCs are required at a DOR = 1.5

Pollutant	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
NOx	2,451	2,451	2,451	2,451

The applicant has stated that the facility plans to use ERC certificates S-3585-2 and S-3588-2 to offset the increases in NOx emissions associated with this project. The ERC certificates S-3585-2 and S-3588-2 have available quarterly NOx credits as follows:

Certificate	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
ERC #S-3585-2		9294	4654	9059
ERC #S-3588-2	1847			

Reserved in PAS

Certificate	1st Quarter	2nd Quarter*	3rd Quarter	4th Quarter
ERC #S-3585-2		2451 – 1847 + 2451 = **3055**	**2451**	**2451**
ERC #S-3588-2	**1847**			

*Rule 2201 Section 4.13.8: AER for NOx and VOC that occurred from April through November may be used to offset increases in NOx and VOC during any period of the year.

Offsets Enter in Emissions Profile at DOR = 1.5

Certificate	1st Quarter	2nd Quarter*	3rd Quarter	4th Quarter
Total	2451/5 = 490	2451/5 = 490	2451/5 = 490	2451/5 = 490

PM10:

Unit	PE2 – BE (lb/yr)
'-116	- 1460
'-120	- 1531
'-137	- 1664
'-138	- 1664
'-155 through '-159	0
'-141 through '-145	2267 x 5 = + 11,335
Total	5,016

The quarterly emissions to be offset is listed below:

Pollutant	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
PM10	1254	1254	1254	1254

ATCs S-1327-141-0 through '-145-0 will each include a 1254/5 = 251 lbs PM10/qtr offset requirement.

The applicant has stated that the facility plans to use ERC certificates N-949-5 and S-3593-5 to offset the increases in PM10 emissions associated with this project. PM10 may be offset using SOx at an interpollutant offset ratio of 1.0 tons SOx/ton PM10 (District Draft Policy APR 14XX).

ERC S-3593-5 is applied at DOR = 1.0:1 as the site of the reductions is S-1327. ERC N-949-5 is applied at DOR = 1.5:1 as the site of the reductions is greater than 15 miles from S-1327.

The ERC certificates N-949-5 and S-3593-5 have available quarterly SOx credits as follows:

Certificate	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
ERC #N-949-5	4000	4000	4000	4000
ERC #S-3593-5	494	494	492	492

As seen above, the facility has proposed sufficient credits to fully offset the quarterly emission increases associated with this project.

Reserved in PAS Certificate	1st Quarter	2nd Quarter*	3rd Quarter	4th Quarter
ERC #N-949-5	(1254-494) x1.5 x 1.0 = **1140**	(1254-494) x1.5 x 1.0 = **1140**	(1254-492) x1.5 x 1.0 = **1143**	(1254-492) x1.5 x 1.0 = **1143**
ERC #S-3593-5	494	494	492	492
Total	1634	1634	1635	1635

Offsets Enter in Emissions Profile at DOR = 1635/1254 = 1.3

Certificate Total	1st Quarter	2nd Quarter*	3rd Quarter	4th Quarter
	1634/5 = 327	1634/5 = 327	1635/5 = 327	1635/5 = 327

The following offset conditions are included on the ATCs:

Prior to operating under this Authority to Construct, permittee shall surrender emission reduction credits for the following quantities of emissions: NOx: 327 lb/quarter; and PM10: 251/quarter. Offset shall be provided at the applicable offset ratio specified in Section 4.8 of Rule 2201 (as amended 12/18/08). PM10 may be offset using SOx at an interpollutant offset ratio of 1.0 tons SOx/ton PM10. [District Rule 2201] N

ERC Certificate Numbers S-3585-2, S-3588-2, N-949-5 and S-3593-5 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] N

VOC:

Unit	PE2 – BE (lb/yr)
'-116	- 1060
'-120	- 604
'-137	- 657
'-138	- 657
'-155 through '-159	0
'-141 through '-145	3563 x 5 = + 17,815
Total	-3

No offsets are required for VOCs.

CO:

Unit	PE2 – BE (lb/yr)
'-116	- 0
'-120	-7,253
'-137	-7864
'-138	- 7864
'-155 through '-159	0
'-141 through '-145	58,300
Total	35,319

Notwithstanding the above, Section 4.6.1 of Rule 2201 states that emissions offsets are not required for increases in carbon monoxide in attainment areas provided the applicant demonstrates to the satisfaction of the APCO that the Ambient Air Quality Standards are not violated in the areas to be affected, and such emissions will be consistent with Reasonable Further Progress, and will not cause or contribute to a violation of Ambient Air Quality Standards. The District performed an Ambient Air Quality Analysis (discussed later) and determined that this project will not result in or contribute to a violation of an Ambient Air Quality Standard for CO (see **Attachment VII**). Therefore, CO offsets are not required for this project.

C. Public Notification

1. Applicability

Public noticing is required for:
a. New Major Sources, Federal Major Modifications, and SB288 Major Modifications,
b. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
c. Any project which results in the offset thresholds being surpassed, and/or
d. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.

a. New Major Sources, Federal Major Modifications, and SB288 Major Modifications

New Major Sources are new facilities, which are also Major Sources. Since this is not a new facility, public noticing is not required for this project for New Major Source purposes.

As demonstrated in VII.C.7, this project is a Federal Major Modification; therefore, public noticing for SB 288 or Federal Major Modification purposes is required.

b. PE > 100 lb/day

Applications which include a new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. As seen in Section VII.C.2 above, this project does not include a new emissions unit which has daily emissions greater than 100 lb/day for any pollutant, therefore public noticing for PE > 100 lb/day purposes is not required.

c. Offset Threshold

Offset Threshold				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO_X	>20,000	>20,000	20,000 lb/year	No
SO_X	41,903	37,484	54,750 lb/year	No
PM_{10}	53,382	58,398	29,200 lb/year	No
CO	307,261	326,912	200,000 lb/year	No
VOC	>20,000	>20,000	20,000 lb/year	No

As detailed above, there were no thresholds surpassed with this project; therefore public noticing is not required for offset purposes.

d. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a Stationary Source Increase in Permitted Emissions (SSIPE) of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE is calculated as the Post

Project Stationary Source Potential to Emit (SSPE2) minus the Pre-Project Stationary Source Potential to Emit (SSPE1), i.e. SSIPE = SSPE2 – SSPE1. The values for SSPE2 and SSPE1 are calculated according to Rule 2201, Sections 4.9 and 4.10, respectively. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table:

Stationary Source Increase in Permitted Emissions [SSIPE] – Public Notice					
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO_x	>20,000	>20,000	-400	20,000 lb/year	No
SO_x	41,903	37,484	-4419	20,000 lb/year	No
PM_{10}	53,382	58,398	5016	20,000 lb/year	No
CO	307,261	326,912	19,651	20,000 lb/year	No
VOC	>20,000	>20,000	-3	20,000 lb/year	No

As demonstrated above, the SSIPEs for all pollutants were less than 20,000 lb/year; therefore public noticing for SSIPE purposes is not required.

2. Public Notice Action

As discussed above, public noticing is required for this project as the project is a Federal Major Modification. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC for this equipment.

D. Daily Emission Limits (DELs)

Daily Emissions Limitations (DELs) and other enforceable conditions are required by Section 3.15 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. Per Sections 3.15.1 and 3.15.2, the DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT.

The DELs for the unit is based on the use of natural gas as a fuel, the rate heat input of the steam generator, and the emission factors as shown:

Proposed Rule 2201 (DEL) Conditions:

S-1327-141 through '-146

The unit shall only be fired on gaseous fuel that includes PUC quality natural gas, gas from thermally enhanced oil recovery (TEOR) operation, gas from tank vapor recovery system or a fuel mixture of any of these fuels. [District Rule 2201] N

Sulfur content in the gaseous fuel shall not exceed 1.0 grain per 100 dry standard cubic feet. [District Rule 2201] N

Heat input to this unit shall not exceed 647,802 MMBtu in any one calendar year. [District Rule 2201] N

Emission rates shall not exceed: PM10: 0.0035 lb/MMBtu, SOx (as SO2): 0.00285 lb/MMBtu, VOC: 0.0055 lb/MMBtu, NOx (as NO2): 7 ppmvd NOx @ 3% O2, or CO: 25 ppmv @ 3% O2. [District Rules 2201, 4305 and 4306] N

E. Compliance Assurance

1. Source Testing

PM10 Source Testing

PM10 source testing will be required for unit S-1327-141-0 i.e. as a "representative unit" for '-141 through '-145.

NOx and CO

This unit is subject to District Rule 4305, *Boilers, Steam Generators and Process Heaters, Phase 2*, District Rule 4306, *Boilers, Steam Generators and Process Heaters, Phase 3, and District Rule 4320 Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr* . Source testing requirements, in accordance with District Rules 4305, 4306, and 4320 will be discussed in Section VIII, District Rules 4305, 4306, and 4320 of this evaluation.

2. Monitoring

Sulfur Monitoring for Rule 4320 Compliance

The following conditions will be included on the ATCs for the steam generators which are authorized to combust natural/TEOR gas:

When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 1070, 4305, 4306, and 4320] N

Sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD, double GC for H2S and mercaptans, performed in the laboratory. Should the applicant decide to use different methodology, the methodology must be approved by the District prior to its use. [District Rules 1070, 4305, 4306, and 4320] N

If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 1070, 4305, 4306, and 4320] N

NOx and CO

As required by *District Rule 4305, Boilers, Steam Generators and Process Heaters, Phase 2, District Rule 4306, Boilers, Steam Generators and Process Heaters, Phase 3, and District Rule 4320 Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr*, this unit is subject to monitoring requirements. Monitoring requirements, in accordance with District Rules 4305, 4306, and 4320 will be discussed in Section VIII, District Rules 4305, 4306, and 4320 of this evaluation.

3. Recordkeeping

As required by *District Rule 4305, Boilers, Steam Generators and Process Heaters, Phase 2, District Rule 4306, Boilers, Steam Generators and Process Heaters, Phase 3, and District Rule 4320 Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr*, this unit is subject to recordkeeping requirements. Recordkeeping requirements, in accordance with District Rules 4305, 4306, and 4320 will be discussed in Section VIII, *District Rules 4305, 4306, and 4320* of this evaluation.

The following permit condition will be listed on permit as follows:

{2983} All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320]

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis

Section 4.14 of this Rule requires that an ambient air quality analysis (AAQA) be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. Technical Services Division performed modeling for criteria pollutants CO, NOx, SOx and PM10. The results from the Criteria Modeling are as follows:

Criteria Pollutant Modeling Results

The results from the Criteria Pollutant Modeling are as follows:

Values are in $\mu g/m^3$

Pollutant	1 Hour	3 Hours	8 Hours	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO_x	Pass	X	X	X	Pass
SO_x	Pass	Pass	X	Pass[1]	Pass
PM_{10}	X	X	X	Pass[1]	Pass[1]

[1]The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for NO_X, CO, PM10, or SO_X. Refer to **Attachment VII** of this document for the full AAQA report from Technical Services.

Rule 2520 Federally Mandated Operating Permits

Since this facility's emissions exceed the major source thresholds of District Rule 2201, this facility is a major source. However, this facility has elected to comply with Rule 2530, which, per Section 4.6 of Rule 2520, exempts it from the requirements of Rule 2520.

Rule 2530 Federally Enforceable Potential to Emit

The purpose of this rule is to restrict the emissions of a stationary source so that the source may elect to be exempt from the requirements of Rule 2520. Per Section 6.1 of Rule 2530, this facility has elected exemption from the requirements of Rule 2520 by ensuring actual emissions from the stationary source in every 12-month periods to not exceed the following: ½ the major source thresholds for NOx, VOCs, CO, and PM_{10}; 50 tons per year SO2; 5 tons per year of a single HAP; 12.5 tons per year of any combination of HAPs; 50 percent of any lesser threshold for a single HAP as the EPA may establish by rule; and 50 percent of the major source threshold for any other regulated air pollutant not listed in 6.1.1 and 6.1.6 of Rule 2530.

The ATCs for '-83 through '-87 include the following condition:

Permittee shall comply with Rule 2530 (Federally Enforceable Potential to Emit) or submit an application to comply with Rule 2520 (Federally Mandated Operating Permits) within twelve months from the date of the issuance of this ATC. [District Rules 2520 and 2530] N

Rule 4001 New Source Performance Standards

40 CFR Part 60, Subpart Dc applies to Small Industrial-Commercial-Industrial Steam Generators between 10 MMBtu/hr and 100 MMBtu/hr (post-6/9/89 construction, modification or, reconstruction).

S-1327-141 through '-145
The subject steam generators have a rating of 85 MMBtu/hr and are fired on natural gas. Subpart Dc has no standards for gas-fired steam generators. Therefore the subject steam generators are not affected facilities and subpart Dc does not apply.

Rule 4101 Visible Emissions

Per Section 5.0, no person shall discharge into the atmosphere emissions of any air contaminant aggregating more than 3 minutes in any hour which is as dark as or darker than Ringelmann 1 (or 20% opacity). A condition will be placed on the ATCs to ensure compliance with the opacity limit.

Therefore, compliance with the requirements of this rule is expected.

Rule 4102 Nuisance

Section 4.0 prohibits discharge of air contaminants which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations, provided the equipment is well maintained. Therefore, compliance with this rule is expected.

California Health & Safety Code 41700 – Health Risk Analysis

District Policy APR 1905 – Risk Management Policy for Permitting New and Modified Sources specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite.

An HRA is not required for a project with a total facility prioritization score of less than or equal to one. According to the Technical Services Memo for this project (**Attachment VII**), the total facility prioritization score including this project was less than or equal to one. Therefore, no future analysis is required to determine the impact from this project and compliance with the District's Risk Management Policy is expected.

Therefore, compliance with the requirements of this rule is expected.

Rule 4201 Particulate Matter Concentration

Section 3.1 prohibits discharge of dust, fumes, or total particulate matter into the atmosphere from any single source operation in excess of 0.1 grain per dry standard cubic foot.

F-Factor for NG: 8,578 dscf/MMBtu at 60 °F
PM_{10} Emission Factor: 0.0076 lb-PM_{10}/MMBtu
Percentage of PM as PM_{10} in Exhaust: 100%
Exhaust Oxygen (O_2) Concentration: 3%

Excess Air Correction to F Factor = $\frac{20.9}{(20.9-3)} = 1.17$

$$GL = \left(\frac{0.0035\ lb-PM}{MMBtu} \times \frac{7{,}000\ grain}{lb-PM} \right) / \left(\frac{8{,}578\ ft^3}{MMBtu} \times\ 1.17 \right)$$

$$GL = 0.0024\ grain/dscf < 0.1\ grain/dscf$$

Therefore, continued compliance with the requirements of this rule is expected.

Rule 4301 Fuel Burning Equipment

Rule 4301 limits air contaminant emissions from fuel burning equipment as defined in the rule. Section 3.1 defines fuel burning equipment as "any furnace, boiler, apparatus, stack, and all appurtenances thereto, used in the process of burning fuel for the primary purpose of producing heat or power by indirect heat transfer".

Section 5.0 gives the requirements of the rule.

A person shall not discharge into the atmosphere combustion contaminants exceeding in concentration at the point of discharge, 0.1 grain per cubic foot of gas calculated to 12% of carbon dioxide at dry standard conditions.

A person shall not build, erect, install or expand any non-mobile fuel burning equipment unit unless the discharge into the atmosphere of contaminants will not and does not exceed any one or more of the following rates:

- 200 pound per hour of sulfur compounds, calculated as sulfur dioxide (SO_2)
- 140 pounds per hour of nitrogen oxides, calculated as nitrogen dioxide (NO_2)

- Ten pounds per hour of combustion contaminants as defined in Rule 1020 and derived from the fuel.

District Rule 4301 Limits			
Unit	**NO_2**	**Total PM**	**SO_2**
S-1327-141 through '-145	0.87 x 85 x 0.008 = 0.59	0.87 x 85 x 0.0035= 0.26	0.87 x 85 x 0.00285 = 0.21
Rule Limit (lb/hr)	140	10	200

The particulate emissions from the steam generators will not exceed 0.1 gr/dscf at 12% CO2 or 10 lb/hr. Further, the emissions of SOx and NOx will not exceed 200 lb/hr or 140 lb/hr, respectively.

Therefore, compliance with the requirements of this rule is expected.

District Rule 4305 Boilers, Steam Generators and Process Heaters – Phase 2

The units are natural gas-fired with a maximum heat input of 85 MMBtu/hr. Pursuant to Section 2.0 of District Rule 4305, the unit is subject to District Rule 4305, *Boilers, Steam Generators and Process Heaters – Phase 2.*

In addition, the unit is also subject to District Rule 4306, *Boilers, Steam Generators and Process Heaters – Phase 3.*

Since emissions limits of District Rule 4320 and all other requirements are equivalent or more stringent than District Rule 4305 requirements, compliance with District Rule 4320 requirements will satisfy requirements of District Rule 4305.

District Rule 4306 Boilers, Steam Generators and Process Heaters – Phase 3

The units are natural gas-fired with a maximum heat input of 85 MMBtu/hr. Pursuant to Section 2.0 of District Rule 4306, the unit is subject to District Rule 4306, *Boilers, Steam Generators and Process Heaters – Phase 3.*

Since emissions limits of District Rule 4320 and all other requirements are equivalent or more stringent than District Rule 4306 requirements, compliance with District Rule 4320 requirements will satisfy requirements of District Rule 4306.

Rule 4320 – Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr

Section 5.0 Requirements

Section 5.1 of the rule requires compliance with the NOx and CO emissions limits listed in Table 1 of Section 5.2 or payment of an annual emissions fee to the District as specified in

Section 5.3 and compliance with the control requirements specified in Section 5.4; or as stated in Section 5.1.3, comply with the applicable Low-use Unit requirements of Section 5.5.

Section 5.2 NOx and CO Emission Limits

C. Oilfield Steam Generators

VII. Rule 4320 Emissions Limits				
Category	**Operated on gaseous fuel**		**Operated on liquid fuel**	
	NO_X Limit	**CO Limit**	**NO_X Limit**	**CO Limit**
1. Units with a total rated heat input >20.0 MMBtu/hr	Standard Schedule 7 ppmv or 0.008 lb/MMBtu; or	400 ppmv @ 3% O2	40 ppmv or 0.052 lb/MMBtu	400 ppmv @ 3% O2
	Staged Enhanced Schedule Initial limit: 9 ppmv @ 3% O2, 0.011 lb/MMBtu			
	Final limit: 5 ppmv @ 3% O2, 0.0062 lb/MMBtu			

- the proposed NO_x emission factor is 7 ppmvd @ 3% O_2 (0.0108 lb/MMBtu), and
- the proposed CO emission factors for new and existing steam generators is 25 ppmvd @ 3% O_2 (0.018 lb/MMBtu).

Therefore, compliance with Section 5.1 of District Rule 4320 is expected.

A permit condition listing the emissions limits will be listed on permit as shown in the DEL section above.

Section 5.3 Annual Fee Calculation

Applicant has proposed to meet the emissions limits requirements of Section 5.1 and therefore this section is not applicable.

Section 5.4 Particulate Matter Control Requirements

Section 5.4 of the rule requires one of four options for control of particulate matter: 1) combustion of PUC-quality natural gas, commercial propane, butane, or liquefied petroleum gas, or a combination of such gases, 2) limit fuel sulfur content to no more than five (5) grains

of total sulfur per one hundred (100) standard cubic, 3) install and properly operate an emission control system that reduces SO_2 emissions by at least 95% by weight; or limit exhaust SO_2 to less than or equal to 9 ppmv corrected to 3.0% O2 or 4) refinery units, which require modification of refinery equipment to reduce sulfur emissions, shall be in compliance with the applicable requirement in Section 5.4.1 no later than July 1, 2013.

Units S-1327-141 through '-145 have a sulfur emission limit of 0.00285 lb SO2/MMBtu (1.0 gr S/100scf). Therefore all of the units are in compliance with the SOx/PM10 requirements of Section 5.4.1.2 of the rule which states the following:

5.4.1.2 On and after the applicable NOx Compliance Deadline specified in Section 5.2 Table 1, operators shall limit fuel sulfur content to no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet

Section 5.5 Low Use

Section 5.5 requires that units limited to less than or equal to 1.8 billion Btu per calendar year heat input pursuant to a District Permit to Operate Tune the unit at least twice per calendar year, or if the unit does not operate throughout a continuous six-month period within a calendar year, only one tune-up is required for that calendar year. No tune-up is required for any unit that is not operated during that calendar year; this unit may be test fired to verify availability of the unit for its intended use, but once the test firing is completed the unit shall be shutdown; or operate the unit in a manner that maintains exhaust oxygen concentrations at less than or equal to 3.00 percent by volume on a dry basis.

The subject steam generators are not low use units and therefore the requirements of Section 5.5 do not apply.

Section 5.6, Startup and Shutdown Provisions

Applicable emissions limits are not required during startup and shutdown provided the duration of each start-up or each shutdown shall not exceed two hours, the emission control system shall be in operation and emissions shall be minimized insofar as technologically feasible during start-up or shutdown or operator has submitted an application for a Permit to Operate condition to allow more than two hours for each start-up or each shutdown provided the operator meets all of the conditions specified in Sections 5.6.3.1 through 5.6.3.3. VPC has not requested that startup and shutdown provisions be added to the ATCs. Therefore this section is not applicable.

Section 5.7, Monitoring Provisions

Section 5.7 requires either use of a APCO approved Continuous Emissions Monitoring System (CEMS) for NOx, CO, and oxygen, or implementation of an APCO-approved Alternate Monitoring System consisting of:

5.7.1.1 Periodic NOx and CO exhaust emission concentrations,
5.7.1.2 Periodic exhaust oxygen concentration,
5.7.1.3 Flow rate of reducing agent added to exhaust,

5.7.1.4 Catalyst inlet and exhaust temperature,
5.7.1.5 Catalyst inlet and exhaust oxygen concentration,
5.7.1.6 Periodic flue gas recirculation rate, or
5.7.1.7 Other operational characteristics.

In order to satisfy the requirements of District Rule 4320, the applicant has proposed to use pre-approved alternate monitoring scheme A (pursuant to District Policy SSP-1105), which requires that monitoring of NO_X, CO, and O_2 exhaust concentrations shall be conducted at least once per month (in which a source test is not performed) using a portable analyzer. The following conditions will be incorporated into the permit in order to ensure compliance with the requirements of the proposed alternate monitoring plan:

{4063} The permittee shall monitor and record the stack concentration of NO_X, CO, and O2 at least once every month (in which a source test is not performed) using a portable analyzer that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320]

{4064} If either the NO_X or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320]

{4065} All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320]

{4066} The permittee shall maintain records of: (1) the date and time of NO_X, CO, and O2 measurements, (2) the O2 concentration in percent by volume and the measured NOX and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320]

5.7.6 Monitoring SOx Emissions

Section 5.7.6.1 Operators complying with Sections 5.4.1.1 or 5.4.1.2 shall provide an annual fuel analysis to the District unless a more frequent sampling and reporting period is included in the Permit To Operate. Sulfur analysis shall be performed in accordance with the test methods in Section 6.2.

Section 5.7.6.2 Operators complying with Section 5.4.1.3 by installing and operating a control device with 95% SOx reduction shall propose the key system operating parameters and frequency of the monitoring and recording. The monitoring option proposed shall be submitted for approval by the APCO.

Section 5.7.6.3 Operators complying with Section 5.4.1.3 shall perform an annual source test unless a more frequent sampling and reporting period is included in the Permit To Operate. Source tests shall be performed in accordance with the test methods in Section 6.2.

Sulfur Monitoring
The following conditions will be included on the ATCs:

When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 1070, 2201, 4305, 4306, and 4320] N

Sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD, double GC for H2S and mercaptans, performed in the laboratory. Should the applicant decide to use different methodology, the methodology must be approved by the District prior to its use. [District Rule 1070, 2201, 4305, 4306, and 4320] N

Section 5.8, Compliance Determination

Section 5.8.1 requires that the operator of any unit shall have the option of complying with either the applicable heat input (lb/MMBtu) emission limits or the concentration (ppmv) emission limits specified in Section 5.2. The emission limits selected to demonstrate compliance shall be specified in the source test proposal pursuant to Rule 1081 (Source Sampling) as stated in the following ATC condition:

{2976} The source plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320]

Section 5.8.2 requires that all emissions measurements be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the Permit to Operate, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0.

{2972} All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306, and 4320]

Section 5.8.3 Continuous Emissions Monitoring System (CEMS) emissions measurements shall be averaged over a period of 15 consecutive minutes to demonstrate compliance with the applicable emission limits. Any 15-consecutive-minute block average CEMS measurement exceeding the applicable emission limits shall constitute a violation. The steam generators are not equipped with CEMs and therefore this section is not applicable.

Section 5.8.4 For emissions monitoring pursuant to Sections 5.7.1, and 6.3.1 using a portable NOx analyzer as part of an APCO approved Alternate Emissions Monitoring

System, emission readings shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15-consecutive-minute sample reading or by taking at least five readings evenly spaced out over the 15-consecutive-minute period.

{2937} All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320]

Section 5.8.5 For emissions source testing performed pursuant to Section 6.3.1 for the purpose of determining compliance with an applicable standard or numerical limitation of this rule, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit.

{2980} For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320]

Section 6.1 Recordkeeping

Section 6.1 requires that the records required by Sections 6.1.1 through 6.1.5 shall be maintained for five calendar years and shall be made available to the APCO and EPA upon request. Failure to maintain records or information contained in the records that demonstrate noncompliance with the applicable requirements of this rule shall constitute a violation of this rule.

A permit condition will be listed on the permit as follows:

{2983} All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320]

Section 6.1.1 requires that a unit operated under the exemption of Section 4.2 shall shall monitor and record, for each unit, the cumulative annual hours of operation. The units are not Section 4.2 exempt and therefore these records are not required.

Section 6.1.2 requires the operator of any unit that is subject to the requirements of Section 5.5 shall record the amount of fuel use at least on a monthly basis for each unit. On and after the applicable compliance schedule specified in Section 7.0, in the event that such unit exceeds the applicable annual heat input limit specified in Section 5.5, the unit shall be brought into full compliance with this rule as specified in Section 5.2 Table 1. The units are not low use and therefore these records are not necessary.

Section 6.1.3 The operator of any unit subject to Section 5.5.1 or Section 6.3.1 shall maintain records to verify that the required tune-up and the required monitoring of the operational characteristics of the unit have been performed. The units are not low use and therefore this section is not applicable.

Section 6.1.4 The operator performing start-up or shutdown of a unit shall keep records of the duration of start-up or shutdown. Startup and shutdown provisions are not included on the ATCs. Therefore this section is not applicable.

Section 6.1.5 The operator of any unit firing on liquid fuel during a PUC-quality natural gas curtailment period pursuant to Section 5.4.2 shall record the sulfur content of the fuel, amount of fuel used, and duration of the natural gas curtailment period. The units are not authorized to combust liquid fuel. Therefore this section is not applicable.

Section 6.2, Test Methods

Section 6.2 identifies the following test methods as District-approved source testing methods for the pollutants listed:

Pollutant	Units	Test Method Required
NO_X	ppmv	EPA Method 7E or ARB Method 100
NO_X	lb/MMBtu	EPA Method 19
CO	ppmv	EPA Method 10 or ARB Method 100
Stack Gas O_2	%	EPA Method 3 or 3A, or ARB Method 100
Stack Gas Velocities	ft/min	EPA Method 2
Stack Gas Moisture Content	%	EPA Method 4
Oxides of sulfur		EPA Method 6C, EPA Method 8, or ARB Method 100
Total Sulfur as Hydrogen Sulfide (H_2S) Content		EPA Method 11 or EPA Method 15, as appropriate.
Sulfur Content of Liquid Fuel		ASTM D 6920-03 or ASTM D 5453-99
PM10		EPA Method 201 or 201A, and 202; or CARB Method 5 in combination with 501

The following test method conditions are included on the ATCs:

{2977} NO_X emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 4306, and 4320]

{2978} CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 4306, and 4320]

{2979} Stack gas oxygen (O_2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306, and 4320]

Section 6.2.8.2. The SOx emission control system efficiency shall be determined using the following:

% Control Efficiency = $[(C_{SO2,\ inlet} - C_{SO2,\ outlet}) / C_{SO2,\ inlet}] \times 100$

where:
$C_{SO2,\ inlet}$ = concentration of SOx (expressed as SO_2) at the inlet side of the SOx emission control system, in lb/dscf

$C_{SO2,\ outlet}$ = concentration of SOx (expressed as SO_2) at the outlet side of the SOx emission control system, in lb/dscf

The units are not equipped with a SO2 scrubber. Therefore this section is not applicable.

Section 6.3 Compliance Testing

Section 6.3.1 requires that this unit be tested to determine compliance with the applicable requirements of section 5.2 not less than once every 12 months (no more than 30 days before or after the required annual source test date). Upon demonstrating compliance on two consecutive compliance source tests, the following source test may be deferred for up to thirty-six months.

Section 6.3.1.1 Units that demonstrate compliance on two consecutive 12-month source tests may defer the following 12-month source test for up to 36 months (no more than 30 days before or after the required 36-month source test date). During the 36-month source testing interval, the operator shall tune the unit in accordance with the provisions of Section 5.5.1, and shall monitor, on a monthly basis, the unit's operational characteristics recommended by the manufacturer to ensure compliance with the applicable emission limits specified in Section 5.2.

Section 6.3.1.2 Tune-ups required by Sections 5.5.1 and 6.3.1 do not need to be performed for units that operate and maintain an APCO approved CEMS or an APCO approved Alternate Monitoring System where the applicable emission limits are periodically monitored. Applicant has proposed to monitor the emissions of NOx and CO Alternate Monitoring Scheme "A" and the units are not subject to Section 5.5.1, therefore tuning is not required.

Section 6.3.1.3 If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits specified in Section 5.2, the source testing frequency shall revert to at least once every 12 months.

The following conditions are included on the ATC:

{109} Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]

{3467} Source testing to measure NOx and CO emissions from this unit while fired on natural gas shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320]

{3466} Source testing to measure NOx and CO emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320]

{110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

Sections 6.3.2.1 through 6.3.2.7 address the requirements of group testing which is not applicable for this project.

Section 6.4, Emission Control Plan (ECP)

Section 6.4.1 requires that the operator of any unit shall submit to the APCO for approval an Emissions Control Plan according to the compliance schedule in Section 7.0 of District Rule 4320.

The proposed unit will be in compliance with the emissions limits listed in Table 1, Section 5.1 of this rule and with periodic monitoring and source testing requirements. Therefore, this current application for the new proposed unit satisfies the requirements of the Emission Control Plan, as listed in Section 6.4 of District Rule 4320. No further discussion is required.

Section 7.0, Compliance Schedule

Section 7.0 indicates that an operator with multiple units at a stationary source shall comply with this rule in accordance with the schedule specified in Table 1, Section 5.2 of District Rule 4320.

The units will be in compliance with the emissions limits listed in Table 1, Section 5.2 of this rule, and periodic monitoring and source testing as required by District Rule 4320. Therefore, requirements of the compliance schedule, as listed in Section 7.1 of District Rule 4306, are satisfied. No further discussion is required.

Conclusion

Conditions are included on the ATCs in order to ensure compliance with each section of this rule, see attached draft permit(s). Therefore, compliance with District Rule 4320 requirements is expected.

Rule 4801 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: 0.2 % by volume calculated as SO_2, on a dry basis averaged over 15 consecutive minutes.

Using the ideal gas equation and the emission factors presented in Section VII, the sulfur compound emissions are calculated as follows:

$$\text{Volume } SO_2 = \frac{nRT}{P}$$

With:

N = moles SO_2
T (Standard Temperature) = 60°F = 520°R

P (Standard Pressure) = 14.7 psi

R (Universal Gas Constant) = $\frac{10.73 \text{psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot {}^\circ\text{R}}$

$$\frac{0.00285\ lb-SOx}{MMBtu} \times \frac{MMBtu}{8{,}578\ dscf} \times \frac{1\ lb \cdot mol}{64\ lb} \times \frac{10.73\ psi \cdot ft^3}{lb \cdot mol \cdot {}^\circ R} \times \frac{520 {}^\circ R}{14.7\ psi} \times \frac{1{,}000{,}000 \cdot parts}{million} = 2.0 \frac{parts}{million}$$

$SulfurConcentration = 2.0 \frac{parts}{million}$ < 2,000 ppmv (or 0.2%)

Therefore, compliance with the requirements of this rule is expected.

California Environmental Quality Act (CEQA)

The California Environmental Quality Act (CEQA) requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The San Joaquin Valley Unified Air Pollution Control District (District) adopted its *Environmental Review Guidelines* (ERG) in 2001. The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities;
- Identify the ways that environmental damage can be avoided or significantly reduced;
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

Greenhouse Gas (GHG) Significance Determination

It is determined that no other agency has or will prepare an environmental review document for the project. Thus the District is the Lead Agency for this project. Project specific impacts on global climate change were evaluated consistent with the adopted District policy – *Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency*. The District's engineering evaluation (this document – **Attachment VIII)** demonstrates that the project includes Best Performance Standards (BPS) for each class and category of greenhouse gas emissions unit. The District therefore concludes that the project would have a less than cumulatively significant impact on global climate change.

District CEQA Findings

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing

use. Furthermore, the District determined that the activity will not have a significant effect on the environment. The District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15031 (Existing Facilities), and finds that the project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

VIII. RECOMMENDATION

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue Authorities to Construct S-1327-141-0 through '-145-0 subject to the permit conditions on the attached draft Authorities to Construct in **Attachment IX**.

IX. BILLING INFORMATION

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-1327-141 through '-145	3020-02-H	85 MMBtu/hr	$1030.00

Attachments
I: PTOs S-1327-107-0, '-111-0, '-115-0, '-116-0, '-120-0, '-137-0, and '-138-0 (to be surrendered)
II: Location Map
III: Tank Emissions
IV: Emissions Profiles
V: BACT Guidelines 1.2.1 and 7.3.1
VI: BACT Analysis
VII: HRA and AAQA Analysis
VIII: Best Performance Standard
IX: Draft ATCs

ATTACHMENT I
PTOs S-1327-107-0, '-111-0, '-115-0, '-116-0, '-120-0, '-137-0,
and '-138-0 (to be surrendered)

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-1327-107-0 **EXPIRATION DATE:** 02/28/2014

SECTION: SE02 **TOWNSHIP:** 26S **RANGE:** 20E

EQUIPMENT DESCRIPTION:
1,500 BBL FIXED ROOF WASH TANK (WILLIAMSON LEASE)

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623]
3. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 4623]
4. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623]
5. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623]
6. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623]
7. VOC fugitive emissions from components in gas service shall not exceed 11.7 lb/day. Fugitive component count and leak emissions are to be calculated using "Oil and Gas Production Operations Average Emission Factors, EPA Protocol for Equipment Leak Emission Factors, November 1995 (EPA-453/R-95-017). [District Rule 2201]
8. Maximum VOC content of total organic gases (TOG) shall not exceed 50% by weight. [District Rule 2201]
9. Permittee shall maintain with the permit accurate fugitive component counts for the tank and associated equipment. [District Rule 2201]
10. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623]
11. The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623]
12. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-1327-111-0 **EXPIRATION DATE:** 02/28/2014

SECTION: SW02 **TOWNSHIP:** 26S **RANGE:** 20E

EQUIPMENT DESCRIPTION:
1,000 BBL FIXED ROOF CRUDE OIL STORAGE TANK (ENRON-UNITED LEASE)

PERMIT UNIT REQUIREMENTS

1. The tank shall be equipped with a fixed roof with no holes or openings. [District NSR Rule]
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. Tank shall operate at constant level. [District Rule 2201]
4. Throughput shall not exceed 2500 barrels per day. [District Rule 2201]
5. VOC fugitive emissions from components in gas service shall not exceed 11.6 lb/day. Fugitive component count and leak emissions are to be calculated using "Oil and Gas Production Operations Average Emission Factors, EPA Protocol for Equipment Leak Emission Factors, November 1995 (EPA-453/R-95-017). [District Rule 2201]
6. Maximum VOC content of total organic gases (TOG) shall not exceed 50% by weight. [District Rule 2201]
7. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623]
8. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 4623]
9. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623]
10. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623]
11. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623]
12. Permittee shall maintain with the permit accurate fugitive component counts for the tank and associated equipment. [District Rule 2201]
13. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623]
14. The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

15. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-1327-115-0 **EXPIRATION DATE:** 02/28/2014

SECTION: SE2 **TOWNSHIP:** 26S **RANGE:** 20E

EQUIPMENT DESCRIPTION:
1,000 BBL FIXED-ROOF CRUDE OIL STORAGE TANK WITH A P/V RELIEF VALVE

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. The tank shall be equipped with a fixed roof with no holes or openings. [District NSR Rule]
3. Tank shall be equipped with an accurate, operational stored liquid temperature indicator. [District Rule 2201]
4. Temperature of liquid stored shall not exceed 180 °F. [District Rule 2201]
5. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of 0.31 psia or less under all storage conditions. [District Rule 2201]
6. Crude oil throughput shall not exceed 435 barrels per day based on a monthly average. [District Rule 2201]
7. VOC emission rate from the tank shall not exceed 15.2 lb/day. [District Rule 2201]
8. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rules 2201 and 4623]
9. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rules 2201and 4623]
10. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rules 2201 and 4623]
11. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rules 2201 and 4623]
12. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rules 2201 and 4623]
13. Permittee shall maintain monthly records of average daily crude oil throughput and shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. Inspection log and all other records shall be retained on-site for a minimum of five (5) years and made available for APCO upon request, except for certain records that need to be submitted as specified in this permit. [District Rules 1070, 2201 and 4623, 6.3]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-1327-116-0 **EXPIRATION DATE:** 02/28/2014

SECTION: SE2 **TOWNSHIP:** 26S **RANGE:** 20E

EQUIPMENT DESCRIPTION:
NON-COMPLIANT DORMANT 25 MMBTU/HR NATURAL GAS/LPG FIRED STEAM GENERATOR, WITH MAXON KINEDIZER LOW NOX BURNER AND SMARTFIRE CONTROLLER

PERMIT UNIT REQUIREMENTS

1. No modification to this unit shall be performed without an Authority to Construct for such modification(s), except for changes specified in conditions below. [District Rule 2010]
2. The fuel supply line shall be physically disconnected from this unit. [District Rule 4306]
3. This equipment shall not be operated for any reason until an Authority to Construct permit is issued approving all necessary retrofits required to comply with the applicable requirements of District Rule 4306 and all other applicable District regulations. [District Rule 4306]
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. Daily heat input shall not exceed 528 MMBtu. Permittee shall maintain records of daily heat input and shall make such records available for District inspection. [District Rule 2201]
6. Emission rates shall not exceed the following: NOx (as NO2): 0.036 lb/MMBtu or 30 ppmv @ 3% O2, CO: 0.0813 lb/MMBtu or 110 ppmv @ 3% O2, VOC: 0.0055 lb/MMBtu, and PM10: 4.0 lb/day. [District Rules 2201 and 4305]
7. Source testing to demonstrate compliance with NOx and CO emission limits shall be conducted within 60 days of initial firing on natural gas. [District Rules 2201 and 4305]
8. Source testing to demonstrate compliance with NOx and CO emission limits shall be conducted within 60 days of initial firing on LPG. [District Rules 2201 and 4305]
9. Sulfur content of the natural gas and LPG shall not exceed 15 ppmv. [District Rule 2201]
10. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 1070]
11. If the unit is fired on noncertified gaseous fuel and compliance with SOx emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD, double GC for H2S and mercaptans, performed in the laboratory. [District Rule 1070]
12. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 4305, 6.2.1]
13. Emissions from this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (12/16/93), of three 30-minute test runs for NOx and CO. [District Rule 4305, 6.3]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

14. Source testing to measure NOx and CO emissions shall be conducted not less than once every 12 months, except as provided below. [District Rule 4305]
15. Source testing to measure NOx and CO emissions shall be conducted not less than once every 36 months if compliance is demonstrated on two consecutive annual tests. [District Rule 4305]
16. If permittee fails any compliance demonstration for NOx or CO emission limits when testing not less than once every 36 months, compliance with NOx and CO emission limits shall be demonstrated not less than once every 12 months. [District Rule 4305]
17. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081]
18. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
19. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, and stack gas oxygen - EPA Method 3 or 3A or ARB Method 100. [District Rules 1081 and 4305]
20. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rule 4305]
21. If either the NOx or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4305]
22. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4305]
23. The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4305]
24. Permittee shall maintain records of fuel gas sulfur concentration. [District Rule 1070]
25. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and 4305]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-1327-120-0 **EXPIRATION DATE:** 02/28/2014

SECTION: VAR **TOWNSHIP:** VAR **RANGE:** VAR

EQUIPMENT DESCRIPTION:
23.0 MMBTU/HR NATCO SERIAL #S8709 NATURAL GAS/LPG/WASTE GAS-FIRED STEAM GENERATOR (HSG #45, DIS# 21088-66) WITH A NORTH AMERICAN MODEL 6121 BURNER, DIFFUSER PLATE, AND FGR

PERMIT UNIT REQUIREMENTS

1. The steam generator is approved to be operated at the following locations: Sections 2, 3, 11, 12, T26S/R20E; and Sections 33, 34, T25S/R20E [District Rule 2201]
2. The unit shall not be located within 1,000 feet of any K-12 school. [District Rule 2201 and CH&SC 42301.6]
3. Permittee shall notify the District Compliance Division in writing of each location at which this steam generator is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 2201]
4. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201]
5. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
6. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
7. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
8. The unit shall only be fired on natural gas, LPG, or waste gas. [District Rule 2201]
9. Emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.018 lb-NOx/MMBtu, 0.00515 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 50 ppmvd CO @ 3% O2 or 0.036 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, and 4306]
10. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 1070]
11. If the unit is fired on noncertified gaseous fuel and compliance with SOx emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD, double GC for H2S and mercaptans, performed in the laboratory. [District Rule 1070]
12. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 4306, 6.2.1]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

13. If FGR system on unit is used intermittently, monitoring shall consist of use of a portable analyzer. If FGR system on unit is continuously used, monitoring shall consist of either use of a portable analyzer or monitoring of FGR rate based on parameters established during initial compliance source testing. If FGR system on unit is not used, monitoring shall consist of either use of a portable analyzer or monitoring of stack O2 and burner mechanical adjustments. The alternate monitoring scheme selected for this unit shall be established prior to implementation of this Authority to Construct. [District Rule 4306]

14. If periodic monitoring of NOX, CO, and O2 concentrations is utilized, the permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306]

15. If periodic monitoring of NOX, CO, and O2 concentrations is utilized and the NOx or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305 and 4306]

16. If periodic monitoring of NOX, CO, and O2 concentrations is utilized, all alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306]

17. If periodic monitoring of NOX, CO, and O2 concentrations is utilized, the permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306]

18. If periodic determination of FGR rate by O2 measurement is utilized, the flue gas recirculation rate shall be determined at least on a weekly basis by measuring the stack O2% by volume (Os), and windbox O2% by volume (Ow) using the following equation: FGR rate = {Ow - 20.9)/(Os - 20.9)} x 100%. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last week. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rules 4305 and 4306]

19. If periodic determination of FGR rate by O2 measurement is utilized, the minimum flue gas recirculation rate shall be established by source testing this unit or other representative units per Rule 4305 and as approved by the District. The normal range/level shall be no lower than the minimum flue gas recirculation rate with which compliance with applicable NOx and CO emission limits has been demonstrated through source testing at a similar firing rate. [District Rules 4305 and 4306]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

20. If periodic determination of FGR rate by O2 measurement is utilized, and the flue gas recirculation rate is less than the normal range/level, the permittee shall return the flue gas recirculation rate to the normal range/level as soon as possible, but no longer than 1 hour of operation after detection. If the flue gas recirculation rate is not returned to the normal range/level within 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a source test within 60 days of the first exceedance, to demonstrate compliance with the applicable emission limits at the new flue gas recirculation rate. A District-approved portable analyzer may be used in lieu of a source test to demonstrate compliance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305 and 4306]

21. If periodic determination of FGR rate by O2 measurement is utilized, the permittee shall maintain records of the date and time of oxygen concentration measurements, the measured oxygen concentrations, the calculated flue gas recirculation rate, and the firing rate at the time of the oxygen concentration measurements. The records shall also include a description of any corrective action taken to maintain the flue gas recirculation rate within the acceptable range. [District Rules 4305 and 4306]

22. If monitoring of burner mechanical adjustments and O2 concentration is utilized, the stack O2 concentration measurement and inspection of [list mechanical adjustments/settings] shall be conducted at least on a weekly basis. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last week. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rules 4305 and 4306]

23. If monitoring of burner mechanical adjustments and O2 concentration is utilized, the normal range/level of stack O2 concentration and visible mechanical burner settings shall be established by source testing this unit or other representative units per Rule 4305 and as approved by the District. The normal range/level shall be that for which compliance with applicable NOx and CO emission limits has been demonstrated through source testing at a similar firing rate. [District Rules 4305 and 4306]

24. If monitoring of burner mechanical adjustments and O2 concentration is utilized, normal range or level for the stack O2 concentration and burner mechanical settings shall be re-established during each source test required by this permit. [District Rules 4305 and 4306]

25. If monitoring of burner mechanical adjustments and O2 concentration is utilized, and either the stack O2 concentration or visible mechanical burner settings are less than the normal range/level, the permittee shall return the stack O2 concentration and visible mechanical burner settings to the normal range/level as soon as possible, but no longer than 1 hour of operation after detection. If the stack O2 concentration and visible mechanical burner settings are not returned to the normal range/level within 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour, and conduct a source test within 60 days of the first exceedance, to demonstrate compliance with the applicable emission limits at the new stack O2 concentration and visible mechanical burner settings. A District-approved portable analyzer may be used in lieu of a source test to demonstrate compliance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305 and 4306]

26. If monitoring of burner mechanical adjustments and O2 concentration is utilized, the permittee shall maintain records of the date and time of O2 measurements and burner adjustments, the measured O2 concentrations (% by volume) and firing rate at the time of O2 measurement, and the observed setting(s) for the burner. The records must also include a description of any corrective action taken to maintain the O2 concentration and the burner mechanical settings within the acceptable range. [District Rules 4305 and 4306]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

27. If periodic determination of FGR rate by O2 measurement or monitoring of burner mechanical adjustments and O2 concentration is utilized, during the 36-month source testing interval, the owner/operator shall have unit tuned at least twice each calendar year, from four to eight months apart, in which it operates, by a technician that is qualified, to the satisfaction of the APCO, in accordance with the procedure described in Rule 4304 (Equipment Tuning Procedure for Boilers, Steam Generators, and Process Heaters). Semi-annual tuning is not required if emissions are monitored monthly with a portable analyzer. [District Rule 4306]
28. If periodic determination of FGR rate by O2 measurement or monitoring of burner mechanical adjustments and O2 concentration is utilized, and the unit does not operate throughout a continuous six-month period within a calendar year, only one tune-up is required for that calendar year. No tune-up is required for any unit that is not operated during that calendar year; this unit may be test fired to verify availability of the unit for its intended use, but once the test firing is completed the unit shall be shutdown. [District Rule 4306]
29. During the 36-month source testing interval, the operator shall tune the unit at least twice per calendar year, (from four to eight months apart) by a qualified technician in accordance with the procedure described in Rule 4304, and shall monitor, on a monthly basis, the unit's operational characteristics recommended by the manufacturer. Semi-annual tuning is not required if emissions are monitored monthly with a portable analyzer. [District Rule 4306]
30. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306]
31. Source testing to demonstrate compliance with NOx and CO emission limits shall be conducted within 60 days of initial firing on natural gas or waste gas. [District Rules 2201, 4305, and 4306]
32. Source testing to demonstrate compliance with NOx and CO emission limits shall be conducted within 60 days of initial firing on LPG. [District Rules 2201, 4305, and 4306]
33. Source testing to measure NOx and CO emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306]
34. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306]
35. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
36. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305 and 4306]
37. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306]
38. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
39. The permittee shall notify the District of the alternative monitoring method selected prior to or concurrently with implementation of this ATC. [District Rule 2080]
40. The permittee shall maintain records of each location at which the equipment was operated, the dates operated at each location, and the hours of operation at each location. [District Rule 2201]
41. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, and 4306]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-1327-137-0 **EXPIRATION DATE:** 02/28/2014

EQUIPMENT DESCRIPTION:
25 MMBTU/HR NATURAL GAS/LPG/WASTE GAS-FIRED STEAM GENERATOR EQUIPPED WITH GIDEON MODEL MGW-25 LOW NOX BURNER, FGR, AND AIR/FUEL RATIO CONTROLLER

PERMIT UNIT REQUIREMENTS

1. The steam generator is approved to be operated at the following locations: Sections 2, 3, 11, 12, T26S/R20E; and Sections 33, 34, T25S/R20E [District Rule 2201]
2. The unit shall not be located within 1,000 feet of any K-12 school. [District Rule 2201 and CH&SC 42301.6]
3. Permittee shall notify the District Compliance Division in writing of each location at which this steam generator is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 2201]
4. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201]
5. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
6. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
7. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
8. The unit shall only be fired on natural gas, LPG, or waste gas. [District Rule 2201]
9. Emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.018 lb-NOx/MMBtu, 0.0164 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 50 ppmvd CO @ 3% O2 or 0.036 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, and 4306]
10. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 1070]
11. If the unit is fired on noncertified gaseous fuel and compliance with SOx emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD, double GC for H2S and mercaptans, performed in the laboratory. [District Rule 1070]
12. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 4306, 6.2.1]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

13. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306]

14. If either the NOx or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305 and 4306]

15. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306]

16. The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306]

17. During the 36-month source testing interval, the operator shall tune the unit at least twice per calendar year, (from four to eight months apart) by a qualified technician in accordance with the procedure described in Rule 4304, and shall monitor, on a monthly basis, the unit's operational characteristics recommended by the manufacturer. Semi-annual tuning is not required if emissions are monitored monthly with a portable analyzer. [District Rule 4306]

18. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306]

19. Source testing to demonstrate compliance with NOx and CO emission limits shall be conducted within 60 days of introduction of natural gas to steam generator. [District Rules 2201, 4305, and 4306]

20. Source testing to demonstrate compliance with NOx and CO emission limits shall be conducted within 60 days of introduction of waste gas to steam generator. [District Rules 2201, 4305, and 4306]

21. Source testing to demonstrate compliance with NOx and CO emission limits shall be conducted within 60 days of introduction of LPG to steam generator. [District Rules 2201, 4305, and 4306]

22. Source testing to measure NOx and CO emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306]

23. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

24. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
25. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305 and 4306]
26. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306]
27. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
28. The permittee shall maintain records of each location at which the equipment was operated, the dates operated at each location, and the hours of operation at each location. [District Rule 2201]
29. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, and 4306]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-1327-138-0 **EXPIRATION DATE:** 02/28/2014

EQUIPMENT DESCRIPTION:
25 MMBTU/HR NATURAL GAS/LPG/WASTE GAS-FIRED STEAM GENERATOR EQUIPPED WITH GIDEON MODEL MGW-25 LOW NOX BURNER, FGR, AND AIR/FUEL RATIO CONTROLLER

PERMIT UNIT REQUIREMENTS

1. The steam generator is approved to be operated at the following locations: Sections 2, 3, 11, 12, T26S/R20E; and Sections 33, 34, T25S/R20E [District Rule 2201]
2. The unit shall not be located within 1,000 feet of any K-12 school. [District Rule 2201 and CH&SC 42301.6]
3. Permittee shall notify the District Compliance Division in writing of each location at which this steam generator is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 2201]
4. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201]
5. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
6. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
7. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
8. The unit shall only be fired on natural gas, LPG, or waste gas. [District Rule 2201]
9. Emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.018 lb-NOx/MMBtu, 0.0164 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 50 ppmvd CO @ 3% O2 or 0.036 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, and 4306]
10. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 1070]
11. If the unit is fired on noncertified gaseous fuel and compliance with SOx emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD, double GC for H2S and mercaptans, performed in the laboratory. [District Rule 1070]
12. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 4306, 6.2.1]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

13. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306]

14. If either the NOx or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305 and 4306]

15. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306]

16. The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306]

17. During the 36-month source testing interval, the operator shall tune the unit at least twice per calendar year, (from four to eight months apart) by a qualified technician in accordance with the procedure described in Rule 4304, and shall monitor, on a monthly basis, the unit's operational characteristics recommended by the manufacturer. Semi-annual tuning is not required if emissions are monitored monthly with a portable analyzer. [District Rule 4306]

18. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306]

19. Source testing to demonstrate compliance with NOx and CO emission limits shall be conducted within 60 days of introduction of natural gas to steam generator. [District Rules 2201, 4305, and 4306]

20. Source testing to demonstrate compliance with NOx and CO emission limits shall be conducted within 60 days of introduction of waste gas to steam generator. [District Rules 2201, 4305, and 4306]

21. Source testing to demonstrate compliance with NOx and CO emission limits shall be conducted within 60 days of introduction of LPG to steam generator. [District Rules 2201, 4305, and 4306]

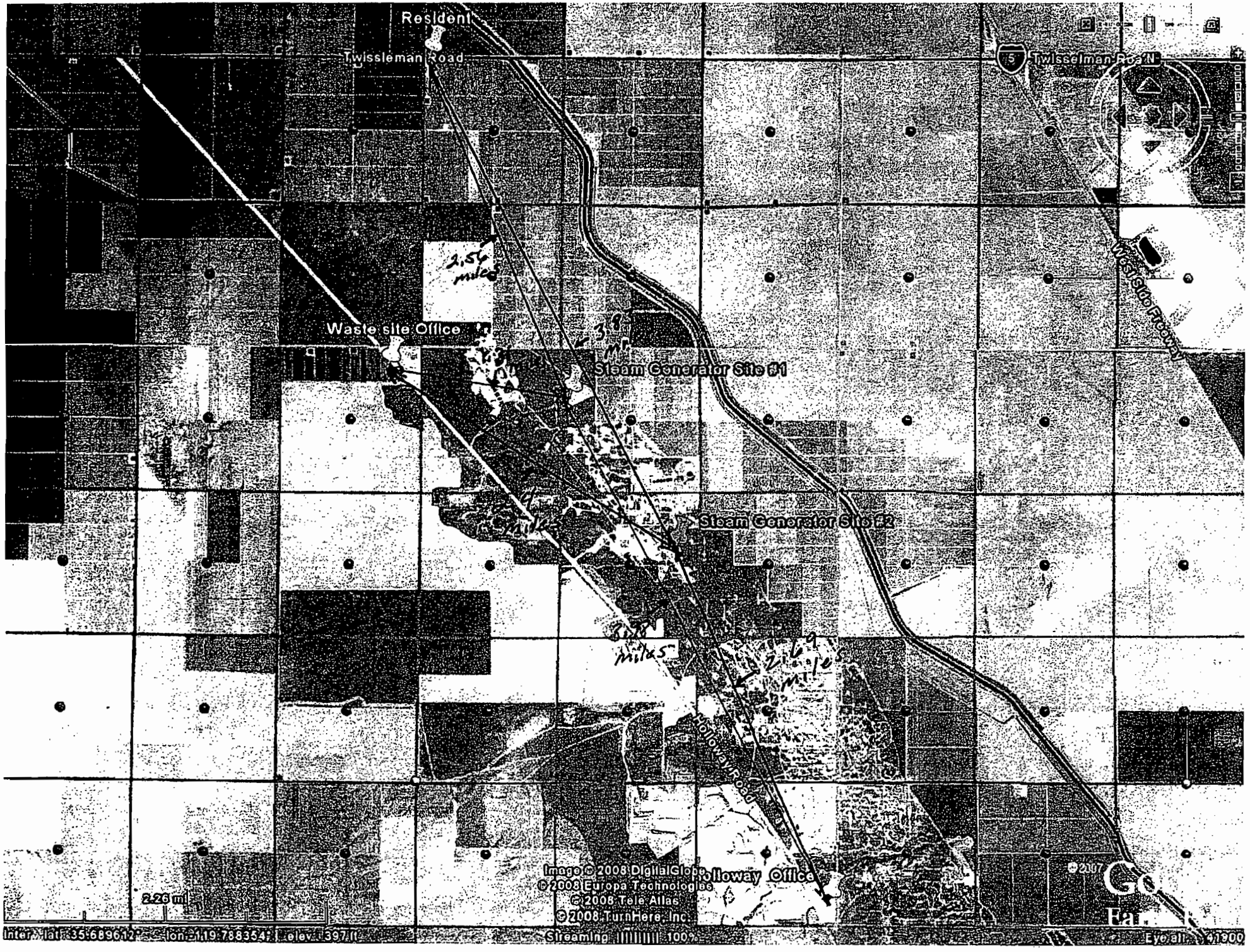
22. Source testing to measure NOx and CO emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306]

23. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

24. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
25. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305 and 4306]
26. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306]
27. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
28. The permittee shall maintain records of each location at which the equipment was operated, the dates operated at each location, and the hours of operation at each location. [District Rule 2201]
29. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, and 4306]

ATTACHMENT II
Location Map


Resident
Twissleman Road
Twisselman Road N
Waste site Office
Steam Generator Site #1
Steam Generator Site #2
Holloway Road
Holloway Office
Westside Freeway
2.26 mi
Image © 2008 DigitalGlobe
© 2008 Europa Technologies
© 2008 Tele Atlas
© 2008 TurnHere, Inc.
Streaming 100%

ATTACHMENT III
Tank Emissions

Post Project

Tank Input Data	
permit number (S-xxxx-xx-xx)	S-4073-12
facility tank I.D.	
nearest city {1: Bakersfield, 2: Fresno, 3: Stockton}	1
tank ROC vapor pressure (psia)	0.5
liquid bulk storage temperature, Tb (°F)	190
is this a constant-level tank? {yes, no}	yes
will flashing losses occur in this tank (only if first-line tank)? {yes, no}	no
breather vent pressure setting range (psi)	0.06
diameter of tank (feet)	21
capacity of tank (bbl)	1,000
conical or dome roof? {c, d}	c
shell height of tank (feet)	16
average liquid height (feet)	14
are the roof and shell the same color? {yes,no}	yes
For roof: color {1:Spec Al, 2:Diff Al, 3:Light, 4:Med, 5:Red, 6:White}	5
condition {1: Good, 2: Poor}	1
------This row only used if shell is different color from roof------	3
------This row only used if shell is different color from roof------	1

Liquid Input Data	A	B
maximum daily fluid throughput (bbl)		2,500
maximum annual fluid throughput (bbl)		912,500
------This row only used if flashing losses occur in this tank------		100
------This row only used if flashing losses occur in this tank------		36,500
molecular weight, Mw (lb/lb-mol)		100

Calculated Values	A	B
daily maximum ambient temperature, Tax (°F)		77.65
daily minimum ambient temperature, Tan (°F)		53.15
daily total solar insulation factor, I (Btu/ft^2-day)		1648.9
atmospheric pressure, Pa (psia)		14.47
(psia)	152.2	3.9429
(psia)	141.4	3.0065
water vapor pressure at average liquid surface temperature (Tla), Pva (psia)	146.8	3.4539
roof outage, Hro (feet)		0.2188
vapor space volume, Vv (cubic feet)		768.49
paint factor, alpha		0.89
vapor density, Wv (lb/cubic foot)		0.0077
daily vapor temperature range, delta Tv (degrees Rankine)		58.73
vapor space expansion factor, Ke		0.1763

Results	lb/year	lb/day
Standing Storage Loss	380	1.04
Working Loss	N/A	N/A
Flashing Loss	N/A	N/A
Total Uncontrolled Tank VOC Emissions	**380**	**1.0**

Summary Table	
Permit Number	S-4073-12
Facility Tank I.D.	---
Tank capacity (bbl)	1,000
Tank diameter (ft)	21
Tank shell height (ft)	16
Conical or Dome Roof	Conical
Maximum Daily Fluid Throughput (bbl/day)	2,500
Maximum Annual Fluid Throughput (bbl/year)	912,500
Maximum Daily Oil Throughput (bbl/day)	100
Maximum Annual Oil Throughput (bbl/year)	---
Total Uncontrolled Daily Tank VOC Emissions (lb/day)	1.0
Total Uncontrolled Annual Tank VOC Emissions (lb/year)	380

5541.7824 41452.53235 986.9651

Black

Post Project

Tank Input Data	
permit number (S-xxxx-xx-xx)	S-4073-8-0
facility tank I.D.	Williamson
nearest city {1: Bakersfield, 2: Fresno, 3: Stockton}	1
tank ROC vapor pressure (psia)	0.5
liquid bulk storage temperature, Tb (°F)	190
is this a constant-level tank? {yes, no}	Yes
will flashing losses occur in this tank (only if first-line tank)? {yes, no}	No
breather vent pressure setting range (psi)	0.06
diameter of tank (feet)	21.5
capacity of tank (bbl)	1,500
conical or dome roof? {c, d}	c
shell height of tank (feet)	24
average liquid height (feet)	22
are the roof and shell the same color? {yes,no}	Yes
For roof: color {1:Spec Al, 2:Diff Al, 3:Light, 4:Med, 5:Red, 6:White}	5
condition {1: Good, 2: Poor}	1
------This row only used if shell is different color from roof------	3
------This row only used if shell is different color from roof------	1

Liquid Input Data	A	B
maximum daily fluid throughput (bbl)		150
maximum annual fluid throughput (bbl)		54,750
------This row only used if flashing losses occur in this tank------		100
------This row only used if flashing losses occur in this tank------		36,500
molecular weight, Mw (lb/lb-mol)		100

Calculated Values	A	B
daily maximum ambient temperature, Tax (°F)		77.65
daily minimum ambient temperature, Tan (°F)		53.15
daily total solar insulation factor, I (Btu/ft^2-day)		1648.9
atmospheric pressure, Pa (psia)		14.47
(psia)	152.2	3.9429
(psia)	141.4	3.0065
water vapor pressure at average liquid surface temperature (Tla), Pva (psia)	146.8	3.4539
roof outage, Hro (feet)		0.2240
vapor space volume, Vv (cubic feet)		807.41
paint factor, alpha		0.89
vapor density, Wv (lb/cubic foot)		0.0077
daily vapor temperature range, delta Tv (degrees Rankine)		58.73
vapor space expansion factor, Ke		0.1763

Results	lb/year	lb/day
Standing Storage Loss	399	1.09
Working Loss	N/A	N/A
Flashing Loss	N/A	N/A
Total Uncontrolled Tank VOC Emissions	**399**	**1.1**

Summary Table	
Permit Number	S-4073-8-0
Facility Tank I.D.	Williamson
Tank capacity (bbl)	1,500
Tank diameter (ft)	21.5
Tank shell height (ft)	24
Conical or Dome Roof	Conical
Maximum Daily Fluid Throughput (bbl/day)	150
Maximum Annual Fluid Throughput (bbl/year)	54,750
Maximum Daily Oil Throughput (bbl/day)	100
Maximum Annual Oil Throughput (bbl/year)	---
Total Uncontrolled Daily Tank VOC Emissions (lb/day)	1.1
Total Uncontrolled Annual Tank VOC Emissions (lb/year)	399

8713.2276 65174.94245 1551.784

From project EE
- 4073, 1084278

Tank Input Data	
permit number (S-xxxx-xx-xx)	S-4073-16-1
facility tank I.D.	--
nearest city {1: Bakersfield, 2: Fresno, 3: Stockton}	1
tank ROC vapor pressure (psia)	0.31
liquid bulk storage temperature, Tb (°F)	200
is this a constant-level tank? {yes, no}	no
will flashing losses occur in this tank (only if first-line tank)? {yes, no}	no
breather vent pressure setting range (psi)	0.06
diameter of tank (feet)	21.2
capacity of tank (bbl)	1,000
conical or dome roof? {c, d}	c
shell height of tank (feet)	16
average liquid height (feet)	10
are the roof and shell the same color? {yes,no}	yes
For roof: color {1:Spec Al, 2:Diff Al, 3:Light, 4:Med, 5:Red, 6:White}	4
condition {1: Good, 2: Poor}	1
------This row only used if shell is different color from roof------	3
------This row only used if shell is different color from roof------	1

Liquid Input Data	A	B
maximum daily fluid throughput (bbl)		435
maximum annual fluid throughput (bbl)		158,775
------This row only used if flashing losses occur in this tank------		435
------This row only used if flashing losses occur in this tank------		158,775
molecular weight, Mw (lb/lb-mol)		100

Calculated Values	A	B
daily maximum ambient temperature, Tax (°F)		77.65
daily minimum ambient temperature, Tan (°F)		53.15
daily total solar insulation factor, I (Btu/ft^2-day)		1648.9
atmospheric pressure, Pa (psia)		14.47
water vapor pressure at daily maximum liquid surface temperature (Tlx), Pvx (psia	155.0	4.2359
water vapor pressure at daily minimum liquid surface temperature (Tln), Pvn (psia	144.2	3.2442
water vapor pressure at average liquid surface temperature (Tla), Pva (psia)	149.6	3.6916
roof outage, Hro (feet)		0.2208
vapor space volume, Vv (cubic feet)		2195.89
paint factor, alpha		0.68
vapor density, Wv (lb/cubic foot)		0.0047
daily vapor temperature range, delta Tv (degrees Rankine)		49.04
vapor space expansion factor, Ke		0.1669

Results	lb/year	lb/day
Standing Storage Loss	634	1.74
Working Loss	4,922	13.49
Flashing Loss	N/A	N/A
Total Uncontrolled Tank VOC Emissions	**5,556**	**15.2**

ATTACHMENT IV
Emissions Profiles

Application Emissions

Permit #: S-1327-141-0 **Last Updated**
Facility: VINTAGE PRODUCTION CALIFORNIA 04/28/2011 EDGEHILR

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	5182.0	1846.0	2267.0	11660.0	3563.0
Daily Emis. Limit (lb/Day)	16.3	5.8	7.1	33.7	11.2
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	1295.0	461.0	566.0	2915.0	890.0
Q2:	1295.0	461.0	567.0	2915.0	891.0
Q3:	1296.0	462.0	567.0	2915.0	891.0
Q4:	1296.0	462.0	567.0	2915.0	891.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio	1.5		1.3		
Quarterly Offset Amounts (lb/Qtr)					
Q1:	490.0		327.0		
Q2:	490.0		327.0		
Q3:	490.0		327.0		
Q4:	490.0		327.0		

Permit #: S-1327-142-0	**Last Updated**
Facility: VINTAGE PRODUCTION CALIFORNIA	04/28/2011 EDGEHILR

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	5182.0	1846.0	2267.0	11660.0	3563.0
Daily Emis. Limit (lb/Day)	16.3	5.8	7.1	33.7	11.2
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	1295.0	461.0	566.0	2915.0	890.0
Q2:	1295.0	461.0	567.0	2815.0	891.0
Q3:	1296.0	462.0	567.0	2915.0	891.0
Q4:	1296.0	462.0	567.0	2915.0	891.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio	1.5		1.3		
Quarterly Offset Amounts (lb/Qtr)					
Q1:	490.0		327.0		
Q2:	490.0		327.0		
Q3:	490.0		327.0		
Q4:	490.0		327.0		

Application Emissions

Permit #: S-1327-143-0	Last Updated
Facility: VINTAGE PRODUCTION CALIFORNIA	04/28/2011 EDGEHILR

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	5182.0	1846.0	2267.0	11660.0	3563.0
Daily Emis. Limit (lb/Day)	16.3	5.8	7.1	33.7	11.2
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	1295.0	461.0	566.0	2915.0	890.0
Q2:	1295.0	461.0	567.0	2915.0	891.0
Q3:	1296.0	462.0	567.0	2915.0	891.0
Q4:	1296.0	462.0	567.0	2915.0	891.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio	1.5		1.3		
Quarterly Offset Amounts (lb/Qtr)					
Q1:	490.0		327.0		
Q2:	490.0		327.0		
Q3:	490.0		327.0		
Q4:	490.0		327.0		

Application Emissions

Permit #: S-1327-144-0	Last Updated
Facility: VINTAGE PRODUCTION CALIFORNIA	04/28/2011 EDGEHILR

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	5182.0	1846.0	2267.0	11660.0	3563.0
Daily Emis. Limit (lb/Day)	16.3	5.8	7.1	33.7	11.2
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	1295.0	461.0	566.0	2915.0	890.0
Q2:	1295.0	461.0	567.0	2915.0	891.0
Q3:	1296.0	462.0	567.0	2915.0	891.0
Q4:	1296.0	462.0	567.0	2915.0	891.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio	1.5		1.3		
Quarterly Offset Amounts (lb/Qtr)					
Q1:	490.0		327.0		
Q2:	490.0		327.0		
Q3:	490.0		327.0		
Q4:	490.0		327.0		

Permit #: S-1327-145-0	**Last Updated**
Facility: VINTAGE PRODUCTION CALIFORNIA	04/28/2011 EDGEHILR

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	5182.0	1846.0	2267.0	11660.0	3563.0
Daily Emis. Limit (lb/Day)	16.3	5.8	7.1	33.7	11.2
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	1295.0	461.0	566.0	2915.0	890.0
Q2:	1295.0	461.0	567.0	2915.0	891.0
Q3:	1296.0	462.0	567.0	2915.0	891.0
Q4:	1296.0	462.0	567.0	2915.0	891.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio	1.5		1.3		
Quarterly Offset Amounts (lb/Qtr)					
Q1:	490.0		327.0		
Q2:	490.0		327.0		
Q3:	490.0		327.0		
Q4:	490.0		327.0		

ATTACHMENT V
BACT Guidelines 1.2.1 and 7.3.1

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 1.2.1*

Last Update: 3/11/2005

Steam Generator (> or = 5 MMBtu/hr, Oil Field)

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
CO	50 ppmvd @ 3% O2		
NOx	14 ppmvd @ 3% O2	7 ppmvd @ 3% O2 with SCR 9 ppmvd @ 3% O2	
PM10	Natural gas, LPG, waste gas treated to remove 95% by weight of sulfur compounds or treated such that the sulfur content does not exceed 1 gr of sulfur compounds (as S) per 100 scf, or use of a continuously operating SO2 scrubber and either achieving 95% by weight control of sulfur compounds or achieving an emission rate of 30 ppmvd SO2 at stack O2		
SOx	Natural gas, LPG, waste gas treated to remove 95% by weight of sulfur compounds or treated such that the sulfur content does not exceed 1 gr of sulfur compounds (as S) per 100 scf, or use of a continuously operating SO2 scrubber and either achieving 95% by weight control of sulfur compounds or achieving an emission rate of 30 ppmvd SO2 at stack O2		
VOC	Gaseous fuel		

BACT is the most stringent control technique for the emissions unit and class of source. Control techniques that are not achieved in practice or contained in s a state implementation plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is requried for all determinations that are not achieved in practice or contained in an EPA approved State Implementation Plan.

***This is a Summary Page for this Class of Source - Permit Specific BACT Determinations on Next Page(s)**

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 7.3.1*

Last Update: 10/1/2002

Petroleum and Petrochemical Production - Fixed Roof Organic Liquid Storage or Processing Tank, < 5,000 bbl Tank capacity **

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
VOC	PV-vent set to within 10% of maximum allowable pressure	99% control (Waste gas incinerated in steam generator, heater treater, or other fired equipment and inspection and maintenance program; transfer of noncondensable vapors to gas pipeline; reinjection to formation (if appropriate wells are available); or equal).	

** Converted from Determinations 7.1.11 (10/01/02).

BACT is the most stringent control technique for the emissions unit and class of source. Control techniques that are not achieved in practice or contained in s a state implementation plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is requried for all determinations that are not achieved in practice or contained in an EPA approved State Implementation Plan.

***This Is a Summary Page for this Class of Source - Permit Specific BACT Determinations on Next Page(s)**

ATTACHMENT VI
BACT Analysis

Top Down BACT Analysis for NOx Emissions:

Step 1 - Identify All Possible Control Technologies

The District adopted District Rule 4320 on October 16, 2008. The NO_X emission limit requirements in District Rule 4320 are lower than the current BACT limits listed above; therefore a project specific BACT analysis will be performed to determine BACT for this project. District Rule 4320 includes a compliance option that limits oilfield steam generators with heat input ratings greater than 20 MMBtu/hr to 7 ppm @ 3% O_2. This emission limit is Achieved in Practice control technology for the BACT analysis. District Rule 4320 also contains an enhanced schedule option that allows applicants additional time to meet the requirements of the rule. The enhanced schedule NO_X emission limit requirement is 5 ppmv @ 3% O_2. Since this is an enhanced option in the rule, it will be considered the Technologically Feasible control technology for the BACT analysis.

The SJVUAPCD BACT Clearinghouse Guideline 1.2.1 has been rescinded. Therefore a new BACT analysis is required. The following are possible control technologies:

- 7 ppmvd @ 3% O2 - Achieved in Practice.
- 5 ppmvd @ 3% O2 with SCR – Technologically Feasible

Step 2 - Eliminate Technologically Infeasible Options

None of the above listed technologies are technologically infeasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1. 7 ppmvd @ 3% O2 - Achieved in Practice.
2. 5 ppmvd @ 3% O2 with SCR – Technologically Feasible

Step 4 - Cost Effectiveness Analysis

A cost effective analysis is required for technologically feasible control options that are not proposed. The applicant has proposed 7 ppmvd NOx @ 3% O_2; therefore, a cost effective analysis is required for the 5 ppmvd NOx @ 3% O_2 with Selective Catalytic Reduction option.

Cost Analysis for 5 ppmv NOx @ 3% O2:

Capital Equipment Costs:

Applicant has provided the following cost estimate to purchase and install an SCR system for the 85 MMBtu/hr steam generators from PCL Construction Leader dated March 30, 2011. A detailed summary sheet follows.

Purchase and installations costs: $756, 000
Capital Recovery (interest rate period 10 years): 0.1627 x 756,000 = $123,001

Emission Reductions from Industry Standard:

The NOx emissions reductions, from the uncontrolled rate, will be calculated utilizing an industry standard of 0.018 lb/MMBtu or 15 ppmvd NOx @ 3% O_2 (Low-NOx Burner).

Industry Standard NOx Emissions = 85 MMBtu/hr x 8760 hr/year x 0.018 lb/MMBtu
Industry Standard NOx Emissions = 13,403 lb/year

Controlled NOx emissions are based on 5 ppmvd NOx @ 3% O_2 (Equivalent to 0.0061 lb-NOx/MMBtu).

Controlled NOx emissions = 85 MMBtu/hr x 8760 hr/year x 0.0061 lb/MMBtu
Controlled NOx emissions = 4,542 lb/year
Reduced NOx Emissions = Industry Standard NOx – Controlled NOx
Reduced NOx Emissions = (13,403 lb/year – 4,542 lb/year) x 1 ton/2000 lb
Reduced NOx Emissions = 4.4 tons/year

Cost of emission reductions for 5 ppmvd NOx SCR System:

Annualized Cost/ton: ($123,001/yr) ÷ (4.4 tons/yr) = $27,954/ton

The annualized capital cost alone with operational costs of an SCR system exceeds the $24,500/ton threshold for NOx; therefore, the control technology is ***not*** cost effective per the District BACT policy.
Step 5: Select BACT:

As shown in the previous section, the use of an SCR system capable of 5 ppmvd NOx @ 3% O2 is not cost effective. The applicant has proposed the next best control listed in the step 3, 7 ppmvd NOx @ 3% O_2. Therefore, the applicant's proposal meets BACT requirements for NOx emissions.

BACT is satisfied by the applicant's proposal to meet a NOx limit of 7 ppmvd @ 3% O_2 to be achieved with a Low NO_x burner and flue gas recirculation (FGR).

Top Down BACT Analysis for VOC Emissions:

Step 1 - Identify all control technologies

1. Gaseous fuel - achieved in practice

Step 2 - Eliminate Technologically Infeasible Options

The above listed technology is technologically feasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1. Gaseous fuel - achieved in practice

Step 4 - Cost Effectiveness Analysis

Only one control technology identified and this technology is achieved in practice, therefore, cost effectiveness analysis not necessary.

Step 5 - Select BACT for VOC

The use of gaseous fuel (natural gas) is selected as BACT for VOC emissions.

Top Down BACT Analysis for PM_{10} and SOx Emissions:

Step 1 - Identify all control technologies

1. Natural gas, LPG, waste gas treated to remove 95% by weight of sulfur compounds or treated such that the sulfur content does not exceed 1 gr of sulfur compounds (as S) per 100 scf, or use of a continuously operating SO2 scrubber and either achieving 95% by weight control of sulfur compounds or achieving an emission rate of 30 ppmvd SO2 at stack O2 - achieved in practice

Step 2 - Eliminate Technologically Infeasible Options

The above listed technology is technologically feasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1. Natural gas, LPG, waste gas treated to remove 95% by weight of sulfur compounds or treated such that the sulfur content does not exceed 1 gr of sulfur compounds (as S) per 100 scf, or use of a continuously operating SO2 scrubber and either achieving 95% by weight control of sulfur compounds or achieving an emission rate of 30 ppmvd SO2 at stack O2 - achieved in practice

Step 4 - Cost Effectiveness Analysis

Only one control technology identified and this technology is achieved in practice, therefore, cost effectiveness analysis not necessary.

Step 5 - Select BACT for SOx and PM10

For the new steam generators BACT is satisfied by the following ATC conditions::

S-1246-229 through '-331
12. The unit shall only be fired on PUC-quality natural gas with a maximum sulfur content of 1.0 gr S/100scf. [District Rule 2201] Y

S-1246-332
6. Sulfur content of TEOR gas combusted shall be reduced by at least 95% by weight prior to introduction into this unit or shall not exceed 1.0 gr S/100scf. [District Rule 2201] Y

Top Down BACT Analysis for CO Emissions:

Step 1 - Identify all control technologies

50 ppmv @ 3%O2 - achieved in practice

Step 2 - Eliminate Technologically Infeasible Options

The above listed technology is technologically feasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

50 ppmv @ 3%O2 - achieved in practice

Step 4 - Cost Effectiveness Analysis

Only one control technology identified and this technology is achieved in practice, therefore, cost effectiveness analysis not necessary.

Step 5 - Select BACT for CO

Applicant has proposed 35 ppmv CO @ 3% O2. Therefore BACT is satisfied for the new steam generators.

ATTACHMENT VII
HRA and AAQA Analysis

San Joaquin Valley Air Pollution Control District
Risk Management Review

To:	Richard Edgehill, AQE – Permit Services
From:	Trevor Joy, AQS – Technical Services
Date:	April 18, 2011
Facility Name:	Vintage Production Company, LLC
Location:	Heavy Oil Western Stationary Source NW Section 2 T26S
Application #(s):	S-1327-141-0 through 145-0
Project #:	1110750

A. RMR SUMMARY

Categories	Five 85 MMBtu/hr Steam Generators (Units 141 thru 145)	Project Totals	Facility Totals
Prioritization Score	**0.0**	**0.0**	**0.87**
Acute Hazard Index	**N/A[1]**	**N/A[1]**	**N/A[1]**
Chronic Hazard Index	**N/A[1]**	**N/A[1]**	**N/A[1]**
Maximum Individual Cancer Risk (10^{-6})	**N/A[1]**	**N/A[1]**	**N/A[1]**
T-BACT Required?	**No**		
Special Permit Conditions?	**No**		

1. The prioritization score is less than 1. No further analysis is required.

Proposed Permit Conditions

To ensure that human health risks will not exceed District allowable levels; the following permit conditions must be included for:

Units # 141 thru 145

No special conditions required.

B. RMR REPORT

I. Project Description

Technical Services received a request on April 12, 2011 to perform an Ambient Air Quality Analysis and a Risk Management Review for the proposed addition of five new waste gas steam generators (units 141 thru 145). Each generator shall be limited to 87% usage.

II. Analysis

Technical Services performed a prioritization using the District's HEARTs database. Emissions were calculated using the "Petroleum Steam Generators.xls" spreadsheet. In accordance with the District's *Risk Management Policy for Permitting New and Modified Sources* (APR 1905, March 2, 2001), risks from the proposed unit's toxic emissions were prioritized using the procedure in the 1990 CAPCOA Facility Prioritization Guidelines and incorporated in the District's HEARTs database. The prioritization score for this proposed unit was less than 1 (see RMR Summary Table). Therefore, no further analysis was necessary.

The following parameters were used for the review:

Analysis Parameter Units 141 thru 145 (each)			
Waste Gas (MMScf/hr)	**0.085**	**Business Receptor (m)**	**2013**
Waste Gas (MMScf/yr)	**647.8**	**Residence Receptor (m)**	**4026**
Release Ht (m)	**6.1**	**Stack Inside Diameter (m)**	**1.07**
Gas Exit Velocity (m/sec)	**17.4**	**Gas Exit Temperature (K)**	**388.7**
Hours Usage per Year	**7621**		

AAQA: In addition to the RMR, Technical Services performed AAQA modeling for NOx (3.4 lbs/hr and 25,912 lbs/yr), SOX (1.2 lbs/hr and 9230 lbs/yr), CO (13.84 lbs/hr), and PM10 (2.69 lbs/hr and 11,335 lbs/yr) using AERMOD. These emission are the totals for all five units.

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

Three LPG/Propane ICEs	1 Hour	3 Hours	8 Hours.	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO_x	Pass	X	X	X	Pass
SO_x	Pass	Pass	X	Pass	Pass
PM_{10}	X	X	X	Pass[1]	Pass[1]

*Results were taken from the attached PSD spreadsheet.
[1]The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

ATTACHMENT VIII
Best Performance Standard

San Joaquin Valley
Unified Air Pollution Control District

Best Performance Standard (BPS) x.x.xx

Date: 6/24/10

Class	**Steam Generators**
Category	**Oilfield**
Best Performance Standard	**Very High Efficiency Steam Generator Design With:** 1. A convection section with at least 235 square feet of heat transfer surface area per MMBtu/hr of maximum rated heat input (verified by manufacturer) or a manufacturer's overall thermal efficiency rating of 88%. **And** 2. Variable frequency drive high efficiency electrical motors driving the blower and water pump.
Percentage Achieved GHG Emission Reduction Relative to Baseline Emissions	13.0%

District Project Number	C-1100391
Evaluating Engineer	Steve Roeder
Lead Engineer	Arnaud Marjollet
Initial Public Notice Date	April 28, 2010
Final Public Notice Date	May 28, 2010
Determination Effective Date	June 24, 2010

ATTACHMENT IX
Draft ATCs

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1327-141-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: VINTAGE PRODUCTION CALIFORNIA LLC
MAILING ADDRESS: 9600 MING AVE, SUITE 300
BAKERSFIELD, CA 93311

LOCATION: HEAVY OIL WESTERN, KERN COUNTY
CA

SECTION: 2&11 **TOWNSHIP:** 26S **RANGE:** 20E

EQUIPMENT DESCRIPTION:
85 MMBTU/HR STEAM GENERATOR EQUIPPED WITH NORTH AMERICAN MODEL 4231-85-GLE ULTRA LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR) AND OXYGEN CONTROLLER (OR EQUIVALENT)

CONDITIONS

1. Steam generator shall be equipped with a convection section with at least 235 square feet of heat transfer surface area per MMBtu/hr of maximum rated heat input (verified by manufacturer) or a manufacturer's overall thermal efficiency rating of 88% and variable frequency drive electrical motors driving the blower and water pump. [Public Resources Code 21000-21177: California Environmental Quality Act]
2. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201]
3. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2010]
4. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]
5. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DRAFT

DAVID WARNER, Director of Permit Services
S-1327-141-0: May 10 2011 3:03PM – EDGEHILR : Joint Inspection NOT Required

6. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
7. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
8. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
9. This steam generator shall be located at SW1/4 of the SE1/4 of the NE1/4 of Section 11, T26S, R20E, or the NW 1/4 of Section 2, T26S, R20E. [District Rule 2201]
10. Permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 2201]
11. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of gas combusted in the unit shall be installed, utilized and maintained. [District Rules 2201, 4305, 4306, and 4320]
12. The unit shall only be fired on gaseous fuel that includes PUC quality natural gas, tank vapor recovery gas, and gas produced during thermally enhanced oil recovery (TEOR) operation or a mixture of any of these fuels. [District Rule 2201]
13. Sulfur content in the gaseous fuel shall not exceed 1.0 grain per 100 dry standard cubic feet. [District Rule 2201]
14. Heat input to this unit shall not exceed 647,802 MMBtu in any one calendar year. [District Rule 2201]
15. Emission rates shall not exceed: PM10: 0.0035 lb/MMBtu, VOC: 0.0055 lb/MMBtu, NOx (as NO2): 7 ppmvd NOx @ 3% O2, or CO: 25 ppmv @ 3% O2. [District Rules 2201, 4305, 4306, and 4320]
16. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 1070, 2201, 4305, 4306, and 4320]
17. Sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD, double GC for H2S and mercaptans, performed in the laboratory. Should the applicant decide to use different methodology, the methodology must be approved by the District prior to its use. [District Rule 1070, 2201, 4305, 4306, and 4320]
18. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2201, 4305, 4306, and 4320]
19. Source testing to measure fuel combustion NOx, CO and PM10 emissions from this unit shall be conducted within 60 days of initial start-up. Source test shall be conducted using a gas mixture including PUC-quality natural gas and the expected amounts of tank vapor recovery (TVR) gas and thermally enhanced oil recovery (TEOR) gas for PM10 emissions testing. [District Rules 2201, 4305, 4306, and 4320]
20. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2201, 4305, 4306, and 4320]

CONDITIONS CONTINUE ON NEXT PAGE

21. If either the NOx or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 2201, 4305, 4306, and 4320]

22. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 2201, 4305, 4306, and 4320]

23. The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 2201, 4305, 4306, and 4320]

24. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 2201, 4305, 4306, and 4320]

25. Source testing to measure NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2201, 4305, 4306, and 4320]

26. {109} Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]

27. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis. [District Rules 2201, 4305, 4306, and 4320]

28. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 2201, 4305, 4306, and 4320]

29. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 2201, 4305, 4306, and 4320]

30. Source testing to measure PM10 shall be conducted using either: EPA Method 201 or 201A, and 202; or CARB Method 5 in combination with 501. Should the applicant decided to use different methodology, the methodology must be approved by the District prior to its use. [District Rule 2201]

31. In lieu of performing a source test for PM10, the results of the total particulate test may be used for compliance with the PM10 emissions limit provided the results include both the filterable and condensable (back half) particulate, and that all particulate matter is assumed to be PM10. Source testing to measure concentrations of total particulate emissions shall be conducted using EPA method 5. [District Rule 2201]

32. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 2201, 4305, 4306, and 4320]

CONDITIONS CONTINUE ON NEXT PAGE

33. {110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
34. The permittee shall maintain cumulative monthly records of heat input in MMBtu to demonstrate compliance with the permitted annual heat input rate. [District Rules 2201, 4305, 4306, and 4320]
35. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 2201, 4305, 4306, and 4320]
36. Prior to operating under this Authority to Construct, permittee shall surrender emission reduction credits for the following quantities of emissions: NOx: 327 lb/quarter; and PM10: 251/quarter. Offset shall be provided at the applicable offset ratio specified in Section 4.8 of Rule 2201 (as amended 12/18/08). PM10 may be offset using SOx at an interpollutant offset ratio of 1.0 tons SOx/ton PM10. [District Rule 2201]
37. ERC Certificate Numbers (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]
38. ATC shall be implemented concurrently with or subsequent to ATCs S-1327-155-1 through '-158-1. [District Rule 2201]
39. PTOs S-1327-107-0, '-111-0, '-115-0, '-116-0, '-120-0, '-137-0, and '-138-0 shall be canceled upon implementation of this ATC. [District Rule 2201]

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1327-142-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: VINTAGE PRODUCTION CALIFORNIA LLC
MAILING ADDRESS: 9600 MING AVE, SUITE 300
BAKERSFIELD, CA 93311

LOCATION: HEAVY OIL WESTERN, KERN COUNTY
CA

SECTION: 2&11 **TOWNSHIP:** 26S **RANGE:** 20E

EQUIPMENT DESCRIPTION:
85 MMBTU/HR STEAM GENERATOR EQUIPPED WITH NORTH AMERICAN MODEL 4231-85-GLE ULTRA LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR) AND OXYGEN CONTROLLER (OR EQUIVALENT)

CONDITIONS

1. Steam generator shall be equipped with a convection section with at least 235 square feet of heat transfer surface area per MMBtu/hr of maximum rated heat input (verified by manufacturer) or a manufacturer's overall thermal efficiency rating of 88% and variable frequency drive electrical motors driving the blower and water pump. [Public Resources Code 21000-21177: California Environmental Quality Act]
2. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201]
3. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2010]
4. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]
5. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DRAFT

DAVID WARNER, Director of Permit Services
S-1327-142-0 : May 10 2011 3:03PM -- EDGEHILR : Joint Inspection NOT Required

6. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
7. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
8. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
9. This steam generator shall be located at SW1/4 of the SE1/4 of the NE1/4 of Section 11, T26S, R20E, or the NW 1/4 of Section 2, T26S, R20E. [District Rule 2201]
10. Permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 2201]
11. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of gas combusted in the unit shall be installed, utilized and maintained. [District Rules 2201, 4305, 4306, and 4320]
12. The unit shall only be fired on gaseous fuel that includes PUC quality natural gas, tank vapor recovery gas, and gas produced during thermally enhanced oil recovery (TEOR) operation or a mixture of any of these fuels. [District Rule 2201]
13. Sulfur content in the gaseous fuel shall not exceed 1.0 grain per 100 dry standard cubic feet. [District Rule 2201]
14. Heat input to this unit shall not exceed 647,802 MMBtu in any one calendar year. [District Rule 2201]
15. Emission rates shall not exceed: PM10: 0.0035 lb/MMBtu, VOC: 0.0055 lb/MMBtu, NOx (as NO2): 7 ppmvd NOx @ 3% O2, or CO: 25 ppmv @ 3% O2. [District Rules 2201, 4305, 4306, and 4320]
16. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 1070, 2201, 4305, 4306, and 4320]
17. Sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD, double GC for H2S and mercaptans, performed in the laboratory. Should the applicant decide to use different methodology, the methodology must be approved by the District prior to its use. [District Rule 1070, 2201, 4305, 4306, and 4320]
18. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2201, 4305, 4306, and 4320]
19. Source testing to measure fuel combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial start-up. Source test shall be conducted using a gas mixture including PUC-quality natural gas and the expected amounts of tank vapor recovery (TVR) gas and thermally enhanced oil recovery (TEOR) gas for PM10 emissions testing. [District Rules 2201, 4305, 4306, and 4320]
20. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2201, 4305, 4306, and 4320]

CONDITIONS CONTINUE ON NEXT PAGE

21. If either the NOx or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 2201, 4305, 4306, and 4320]
22. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 2201, 4305, 4306, and 4320]
23. The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 2201, 4305, 4306, and 4320]
24. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 2201, 4305, 4306, and 4320]
25. Source testing to measure NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2201, 4305, 4306, and 4320]
26. {109} Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
27. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis. [District Rules 2201, 4305, 4306, and 4320]
28. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 2201, 4305, 4306, and 4320]
29. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 2201, 4305, 4306, and 4320]
30. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 2201, 4305, 4306, and 4320]
31. {110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
32. The permittee shall maintain cumulative monthly records of heat input in MMBtu to demonstrate compliance with the permitted annual heat input rate. [District Rules 2201, 4305, 4306, and 4320]
33. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 2201, 4305, 4306, and 4320]

CONDITIONS CONTINUE ON NEXT PAGE

34. Prior to operating under this Authority to Construct, permittee shall surrender emission reduction credits for the following quantities of emissions: NOx: 327 lb/quarter; and PM10: 251/quarter. Offset shall be provided at the applicable offset ratio specified in Section 4.8 of Rule 2201 (as amended 12/18/08). PM10 may be offset using SOx at an interpollutant offset ratio of 1.0 tons SOx/ton PM10. [District Rule 2201]

35. ERC Certificate Numbers S-3585-2, S-3588-2, N-949-5 and S-3593-5 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

36. ATC shall be implemented concurrently with or subsequent to ATCs S-1327-155-1 through '-158-1. [District Rule 2201]

37. PTOs S-1327-107-0, '-111-0, '-115-0, '-116-0, '-120-0, '-137-0, and '-138-0 shall be canceled upon implementation of this ATC. [District Rule 2201]

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1327-143-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: VINTAGE PRODUCTION CALIFORNIA LLC
MAILING ADDRESS: 9600 MING AVE, SUITE 300
BAKERSFIELD, CA 93311

LOCATION: HEAVY OIL WESTERN, KERN COUNTY
CA

SECTION: 2&11 **TOWNSHIP:** 26S **RANGE:** 20E

EQUIPMENT DESCRIPTION:
85 MMBTU/HR STEAM GENERATOR EQUIPPED WITH NORTH AMERICAN MODEL 4231-85-GLE ULTRA LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR) AND OXYGEN CONTROLLER (OR EQUIVALENT)

CONDITIONS

1. Steam generator shall be equipped with a convection section with at least 235 square feet of heat transfer surface area per MMBtu/hr of maximum rated heat input (verified by manufacturer) or a manufacturer's overall thermal efficiency rating of 88% and variable frequency drive electrical motors driving the blower and water pump. [Public Resources Code 21000-21177: California Environmental Quality Act]
2. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201]
3. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2010]
4. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]
5. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director / APCO

DRAFT

DAVID WARNER, Director of Permit Services
S-1327-143-0 : May 10 2011 3:03PM -- EDGEHILR : Joint Inspection NOT Required

6. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
7. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
8. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
9. This steam generator shall be located at SW1/4 of the SE1/4 of the NE1/4 of Section 11, T26S, R20E, or the NW 1/4 of Section 2, T26S, R20E. [District Rule 2201]
10. Permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 2201]
11. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of gas combusted in the unit shall be installed, utilized and maintained. [District Rules 2201, 4305, 4306, and 4320]
12. The unit shall only be fired on gaseous fuel that includes PUC quality natural gas, tank vapor recovery gas, and gas produced during thermally enhanced oil recovery (TEOR) operation or a mixture of any of these fuels. [District Rule 2201]
13. Sulfur content in the gaseous fuel shall not exceed 1.0 grain per 100 dry standard cubic feet. [District Rule 2201]
14. Heat input to this unit shall not exceed 647,802 MMBtu in any one calendar year. [District Rule 2201]
15. Emission rates shall not exceed: PM10: 0.0035 lb/MMBtu, VOC: 0.0055 lb/MMBtu, NOx (as NO2): 7 ppmvd NOx @ 3% O2, or CO: 25 ppmv @ 3% O2. [District Rules 2201, 4305, 4306, and 4320]
16. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 1070, 2201, 4305, 4306, and 4320]
17. Sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD, double GC for H2S and mercaptans, performed in the laboratory. Should the applicant decide to use different methodology, the methodology must be approved by the District prior to its use. [District Rule 1070, 2201, 4305, 4306, and 4320]
18. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2201, 4305, 4306, and 4320]
19. Source testing to measure fuel combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial start-up. Source test shall be conducted using a gas mixture including PUC-quality natural gas and the expected amounts of tank vapor recovery (TVR) gas and thermally enhanced oil recovery (TEOR) gas for PM10 emissions testing. [District Rules 2201, 4305, 4306, and 4320]
20. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2201, 4305, 4306, and 4320]

CONDITIONS CONTINUE ON NEXT PAGE

21. If either the NOx or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 2201, 4305, 4306, and 4320]

22. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 2201, 4305, 4306, and 4320]

23. The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 2201, 4305, 4306, and 4320]

24. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 2201, 4305, 4306, and 4320]

25. Source testing to measure NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2201, 4305, 4306, and 4320]

26. {109} Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]

27. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis. [District Rules 2201, 4305, 4306, and 4320]

28. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 2201, 4305, 4306, and 4320]

29. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 2201, 4305, 4306, and 4320]

30. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 2201, 4305, 4306, and 4320]

31. {110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

32. The permittee shall maintain cumulative monthly records of heat input in MMBtu to demonstrate compliance with the permitted annual heat input rate. [District Rules 2201, 4305, 4306, and 4320]

33. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 2201, 4305, 4306, and 4320]

CONDITIONS CONTINUE ON NEXT PAGE

34. Prior to operating under this Authority to Construct, permittee shall surrender emission reduction credits for the following quantities of emissions: NOx: 327 lb/quarter; and PM10: 251/quarter. Offset shall be provided at the applicable offset ratio specified in Section 4.8 of Rule 2201 (as amended 12/18/08). PM10 may be offset using SOx at an interpollutant offset ratio of 1.0 tons SOx/ton PM10. [District Rule 2201]

35. ERC Certificate Numbers S-3585-2, S-3588-2, N-949-5 and S-3593-5 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

36. ATC shall be implemented concurrently with or subsequent to ATCs S-1327-155-1 through '-158-1. [District Rule 2201]

37. PTOs S-1327-107-0, '-111-0, '-115-0, '-116-0, '-120-0, '-137-0, and '-138-0 shall be canceled upon implementation of this ATC. [District Rule 2201]

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1327-144-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: VINTAGE PRODUCTION CALIFORNIA LLC
MAILING ADDRESS: 9600 MING AVE, SUITE 300
BAKERSFIELD, CA 93311

LOCATION: HEAVY OIL WESTERN, KERN COUNTY
CA

SECTION: 2&11 **TOWNSHIP:** 26S **RANGE:** 20E

EQUIPMENT DESCRIPTION:
85 MMBTU/HR STEAM GENERATOR EQUIPPED WITH NORTH AMERICAN MODEL 4231-85-GLE ULTRA LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR) AND OXYGEN CONTROLLER (OR EQUIVALENT)

CONDITIONS

1. Steam generator shall be equipped with a convection section with at least 235 square feet of heat transfer surface area per MMBtu/hr of maximum rated heat input (verified by manufacturer) or a manufacturer's overall thermal efficiency rating of 88% and variable frequency drive electrical motors driving the blower and water pump. [Public Resources Code 21000-21177: California Environmental Quality Act]
2. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201]
3. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2010]
4. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]
5. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DRAFT

DAVID WARNER, Director of Permit Services
S-1327-144-0: May 10 2011 3:03PM – EDGEHILR : Joint Inspection NOT Required

6. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
7. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
8. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
9. This steam generator shall be located at SW1/4 of the SE1/4 of the NE1/4 of Section 11, T26S, R20E, or the NW 1/4 of Section 2, T26S, R20E. [District Rule 2201]
10. Permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 2201]
11. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of gas combusted in the unit shall be installed, utilized and maintained. [District Rules 2201, 4305, 4306, and 4320]
12. The unit shall only be fired on gaseous fuel that includes PUC quality natural gas, tank vapor recovery gas, and gas produced during thermally enhanced oil recovery (TEOR) operation or a mixture of any of these fuels. [District Rule 2201]
13. Sulfur content in the gaseous fuel shall not exceed 1.0 grain per 100 dry standard cubic feet. [District Rule 2201]
14. Heat input to this unit shall not exceed 647,802 MMBtu in any one calendar year. [District Rule 2201]
15. Emission rates shall not exceed: PM10: 0.0035 lb/MMBtu, VOC: 0.0055 lb/MMBtu, NOx (as NO2): 7 ppmvd NOx @ 3% O2, or CO: 25 ppmv @ 3% O2. [District Rules 2201, 4305, 4306, and 4320]
16. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 1070, 2201, 4305, 4306, and 4320]
17. Sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD, double GC for H2S and mercaptans, performed in the laboratory. Should the applicant decide to use different methodology, the methodology must be approved by the District prior to its use. [District Rule 1070, 2201, 4305, 4306, and 4320]
18. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2201, 4305, 4306, and 4320]
19. Source testing to measure fuel combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial start-up. Source test shall be conducted using a gas mixture including PUC-quality natural gas and the expected amounts of tank vapor recovery (TVR) gas and thermally enhanced oil recovery (TEOR) gas for PM10 emissions testing. [District Rules 2201, 4305, 4306, and 4320]
20. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2201, 4305, 4306, and 4320]

CONDITIONS CONTINUE ON NEXT PAGE

21. If either the NOx or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 2201, 4305, 4306, and 4320]

22. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 2201, 4305, 4306, and 4320]

23. The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 2201, 4305, 4306, and 4320]

24. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 2201, 4305, 4306, and 4320]

25. Source testing to measure NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2201, 4305, 4306, and 4320]

26. {109} Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]

27. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis. [District Rules 2201, 4305, 4306, and 4320]

28. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 2201, 4305, 4306, and 4320]

29. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 2201, 4305, 4306, and 4320]

30. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 2201, 4305, 4306, and 4320]

31. {110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

32. The permittee shall maintain cumulative monthly records of heat input in MMBtu to demonstrate compliance with the permitted annual heat input rate. [District Rules 2201, 4305, 4306, and 4320]

33. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 2201, 4305, 4306, and 4320]

CONDITIONS CONTINUE ON NEXT PAGE

34. Prior to operating under this Authority to Construct, permittee shall surrender emission reduction credits for the following quantities of emissions: NOx: 327 lb/quarter; and PM10: 251/quarter. Offset shall be provided at the applicable offset ratio specified in Section 4.8 of Rule 2201 (as amended 12/18/08). PM10 may be offset using SOx at an interpollutant offset ratio of 1.0 tons SOx/ton PM10. [District Rule 2201]

35. ERC Certificate Numbers S-3585-2, S-3588-2, N-949-5 and S-3593-5 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

36. ATC shall be implemented concurrently with or subsequent to ATCs S-1327-155-1 through '-158-1. [District Rule 2201]

37. PTOs S-1327-107-0, '-111-0, '-115-0, '-116-0, '-120-0, '-137-0, and '-138-0 shall be canceled upon implementation of this ATC. [District Rule 2201]

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1327-145-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: VINTAGE PRODUCTION CALIFORNIA LLC
MAILING ADDRESS: 9600 MING AVE, SUITE 300
BAKERSFIELD, CA 93311

LOCATION: HEAVY OIL WESTERN, KERN COUNTY
CA

SECTION: 2&11 **TOWNSHIP:** 26S **RANGE:** 20E

EQUIPMENT DESCRIPTION:
85 MMBTU/HR STEAM GENERATOR EQUIPPED WITH NORTH AMERICAN MODEL 4231-85-GLE ULTRA LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR) AND OXYGEN CONTROLLER (OR EQUIVALENT)

CONDITIONS

1. Steam generator shall be equipped with a convection section with at least 235 square feet of heat transfer surface area per MMBtu/hr of maximum rated heat input (verified by manufacturer) or a manufacturer's overall thermal efficiency rating of 88% and variable frequency drive electrical motors driving the blower and water pump. [Public Resources Code 21000-21177: California Environmental Quality Act]
2. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201]
3. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2010]
4. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]
5. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DRAFT

DAVID WARNER, Director of Permit Services
S-1327-145-0 : May 10 2011 3:03PM – EDGEHILR : Joint Inspection NOT Required

6. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
7. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
8. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
9. This steam generator shall be located at SW1/4 of the SE1/4 of the NE1/4 of Section 11, T26S, R20E, or the NW 1/4 of Section 2, T26S, R20E. [District Rule 2201]
10. Permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 2201]
11. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of gas combusted in the unit shall be installed, utilized and maintained. [District Rules 2201, 4305, 4306, and 4320]
12. The unit shall only be fired on gaseous fuel that includes PUC quality natural gas, tank vapor recovery gas, and gas produced during thermally enhanced oil recovery (TEOR) operation or a mixture of any of these fuels. [District Rule 2201]
13. Sulfur content in the gaseous fuel shall not exceed 1.0 grain per 100 dry standard cubic feet. [District Rule 2201]
14. Heat input to this unit shall not exceed 647,802 MMBtu in any one calendar year. [District Rule 2201]
15. Emission rates shall not exceed: PM10: 0.0035 lb/MMBtu, VOC: 0.0055 lb/MMBtu, NOx (as NO2): 7 ppmvd NOx @ 3% O2, or CO: 25 ppmv @ 3% O2. [District Rules 2201, 4305, 4306, and 4320]
16. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 1070, 2201, 4305, 4306, and 4320]
17. Sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD, double GC for H2S and mercaptans, performed in the laboratory. Should the applicant decide to use different methodology, the methodology must be approved by the District prior to its use. [District Rule 1070, 2201, 4305, 4306, and 4320]
18. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2201, 4305, 4306, and 4320]
19. Source testing to measure fuel combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial start-up. Source test shall be conducted using a gas mixture including PUC-quality natural gas and the expected amounts of tank vapor recovery (TVR) gas and thermally enhanced oil recovery (TEOR) gas for PM10 emissions testing. [District Rules 2201, 4305, 4306, and 4320]
20. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2201, 4305, 4306, and 4320]

CONDITIONS CONTINUE ON NEXT PAGE

21. If either the NOx or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 2201, 4305, 4306, and 4320]
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23. The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 2201, 4305, 4306, and 4320]
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25. Source testing to measure NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2201, 4305, 4306, and 4320]
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CONDITIONS CONTINUE ON NEXT PAGE

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35. ERC Certificate Numbers S-3585-2, S-3588-2, N-949-5 and S-3593-5 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

36. ATC shall be implemented concurrently with or subsequent to ATCs S-1327-155-1 through '-158-1. [District Rule 2201]

37. PTOs S-1327-107-0, '-111-0, '-115-0, '-116-0, '-120-0, '-137-0, and '-138-0 shall be canceled upon implementation of this ATC. [District Rule 2201]