San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

FEB 26 2013

Mr. Jody Butler
MacPherson Oil Company
PO Box 5368
Bakersfield, CA 9338

Re: Notice of Preliminary Decision – ATC / Certificate of Conformity (Title V Significant Modification)
Facility # S-1703
Project # 1124232

Dear Mr. Butler:

Enclosed for your review is the District's engineering evaluation of an application for Authorities to Construct for MacPherson Oil Company's operation in the Midway Sunset oilfield, CA, which has been issued a Title V permit. MacPherson Oil Company is requesting that Certificates of Conformity, with the procedural requirements of 40 CFR Part 70, be issued with this project. The proposed ATCs are subject to the requirements of Rule 2201 – New and Modified Stationary Source Review and Rule 2410 – Prevention of Significant Deterioration.

MacPherson Oil Company is requesting Authorities to Construct (ATCs) for two new oilfield steam generators and to lower the CO emission limit for nine steam generators

After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the Authorities to Construct will be issued to the facility with Certificates of Conformity. Prior to operating with modifications authorized by the Authorities to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

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

If you have any questions, please contact Mr. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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Central Region (Main Office)
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Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

www.valleyair.org www.healthyairliving.com

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

Enclosures

cc: distribution list

Distribution List

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**NOTICE OF PRELIMINARY DECISION
FOR THE ISSUANCE OF AUTHORITY TO CONSTRUCT AND
THE PROPOSED SIGNIFICANT MODIFICATION OF FEDERALLY
MANDATED OPERATING PERMIT AND PREVENTION OF SIGNIFICANT
DETERIORATION NOTIFICATION**

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Air Pollution Control District solicits public comment on the proposed issuance of Authority To Construct to MacPherson Oil Company for its heavy crude oil production operation at its Round Mountain Oil Field within the SE ¼ Section 18, Township 28S, Range 29E, California, which has been issued a Title V permit. MacPherson Oil Company is requesting that Certificates of Conformity, with the procedural requirements of 40 CFR Part 70, be issued with this project. The proposed ATCs are subject to the requirements of Rule 2201 – New and Modified Stationary Source Review and Rule 2410 – Prevention of Significant Deterioration.

MacPherson Oil Company is requesting Authorities to Construct (ATC) for two new oilfield steam generators and to lower the CO emission limit for nine steam generators. The proposed modifications will result in a significant emission increase, subject to the requirements of Rule 2410, of 87,118 ton/year of CO2e. There is no increment consumption of any attainment pollutant.

The analysis of the regulatory basis for these proposed actions, Project #1124232, is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and the District office at the address below. If requested by the public, the District will hold a public hearing regarding the proposed issuance of the subject ATCs.

Written comments on the proposed initial permit must be submitted within 30 days of the publication date of this notice to **DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, 34946 FLYOVER COURT, BAKERSFIELD, CA 93308.**

San Joaquin Valley Air Pollution Control District

Authority to Construct Application Review

Steam Generators

Facility Name:	MacPherson Oil Company		
Mailing Address:	PO Box 5368 Bakersfield, CA 93388	Engineer: Lead Engineer:	David Torii Allan Phillips
Contact Person:	Jody Butler		
Telephone:	661-393-3204 x 108		
Application #(s):	S-1703-157-14, '158-12, '159-17, '160-14, '161-17, '162-13, '180-16, '181-12, '192-3, '212-0 and '213-0		
Project #:	1124232		
Deemed Complete:	1/14/13		

I. Proposal

Macpherson Oil Company (MOC) currently operates a thermally enhanced crude oil production operation in the Round Mountain Oil Field. Steam for this operation is currently provided by an existing steam plant. MOC has determined that additional steam is required to maintain current production of the field.

MOC has determined that the installation of two new steam generators along with previously approved steam generators will be required to meet these steam requirements. Therefore, MOC has requested Authorities to Construct (ATC) authorizing the installation of two new 85.0 MMBtu/hr natural gas-fired steam generators. The proposed steam generators will be equipped with a Coen QLN-II Ultra Low-NOx (or equivalent) natural gas-fired burner and a flue gas recirculation (FGR) system. The proposed steam generators will be fired on PUC quality natural gas.

Based on source test results, and in the interest of having consistent emission factors for all steam generators, MOC is proposing to modify the CO emission rates of nine 62.5 MM Btu/hr steam generator to a level of 25 ppmv @ 3% O2 (0.018 lb/MM Btu).

The locations on PTO s S-1703-159, '162 and '181 were listed incorrectly. Therefore, the proposed ATCs will list the correct location of SE/4 section 18, T28S, R29E.

The names of steam generators S-1703-157, '180 and '192 were changed as follows:

- S-1703-157: name changed from "610" to "710"
- S-1703-180: name changed from "670 to "730"
- S-1703-192: name changed from "690" to "720"

MOC received their Title V Permit on 5/31/01. This modification can be classified as a Title V minor modification pursuant to Rule 2520, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. MOC must apply to administratively amend their Title V permit.

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (4/21/11)
Rule 2410	Prevention Of Significant Deterioration (11/26/12)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4201	Particulate Matter Concentration (12/17/92)
Rule 4301	Fuel Burning Equipment (12/17/92)
Rule 4305	Boilers, Steam Generators and Process Heaters – Phase II (8/21/03)
Rule 4306	Boilers, Steam Generators and Process Heaters – Phase III (3/17/05)
Rule 4320	Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr (10/16/08)
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 proposed steam generators will be located in MOC's Heavy Oil Central Stationary Source within the Round Mountain Oil Field within the SE ¼ Section 18, Township 28S, Range 29E. 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 project location map and facility plot plan are shown in Appendix B.

IV. Process Description

Steam generators are used to provide high quality steam for injection into heavy crude oil production zones. The heat added by the steam reduces the viscosity of the crude oil making it easier to produce.

Well head casing vapor collection systems and storage tank vapor recovery systems collect vapors from the well head or tank battery, condense out the entrained liquids and route the non-condensable vapors to DOGGR-approved disposal wells for re-injection into the formation or to sulfur removal systems and then to selected steam generators for incineration.

Steam generators are designed to operate 24 hours per day every day of the year.

V. Equipment Listing

Pre-Project Equipment Description (see current PTOs in Appendix C):

S-1703-157-4: 62.5 MM BTU/HR NATURAL GAS-FIRED STEAM GENERATOR #610 WITH COEN QLN LOW-NO_X BURNER AND FGR, FIRING TEOR GAS AND TVR GAS FROM S-1703-143 AND/OR TANK VAPOR CONTROL GAS FROM S-1703-139, -144, AND -184

S-1703-158-4: 62.5 MM BTU/HR NATURAL GAS-FIRED STEAM GENERATOR #620 WITH COEN QLN LOW-NO_X BURNER AND FGR, FIRING TEOR GAS AND TVR GAS FROM S-1703-143 AND/OR TANK VAPOR CONTROL GAS FROM S-1703-139, -144, AND -184

S-1703-159-16: 62.5 MM BTU/HR NATURAL GAS-FIRED STEAM GENERATOR #630 WITH COEN QLN LOW-NO_X BURNER AND FGR, FIRING TEOR GAS AND TVR GAS FROM S-1703-143 AND/OR TANK VAPOR CONTROL GAS FROM S-1703-139, -144, AND -184

S-1703-160-6: 62.5 MM BTU/HR NATURAL GAS-FIRED STEAM GENERATOR #640 WITH COEN QLN LOW-NO_X BURNER AND FGR, FIRING TEOR GAS AND TVR GAS FROM S-1703-143 AND/OR TANK VAPOR CONTROL GAS FROM S-1703-139, -144, AND -184

S-1703-161-6: 62.5 MM BTU/HR NATURAL GAS-FIRED STEAM GENERATOR #650 WITH COEN QLN LOW-NO_X BURNER AND FGR, FIRING TEOR GAS AND TVR GAS FROM S-1703-143 AND/OR TANK VAPOR CONTROL GAS FROM S-1703-139, -144, AND -184

S-1703-162-4: 62.5 MM BTU/HR NATURAL GAS-FIRED STEAM GENERATOR #660 WITH COEN QLN LOW-NO_X BURNER AND FGR, FIRING TEOR GAS AND TVR GAS FROM S-1703-143 AND/OR TANK VAPOR CONTROL GAS FROM S-1703-139, -144, AND -184

S-1703-180-15: 62.5 MM BTU/HR THERMOTICS NATURAL GAS-FIRED STEAM GENERATOR #670 WITH LO-NO_X BURNER, OXYGEN CONTROLLER/ANALYZER

S-1703-181-4: 62.5 MM BTU/HR THERMOTICS NATURAL GAS-FIRED STEAM GENERATOR #680 WITH LO-NO_X BURNER, OXYGEN CONTROLLER/ANALYZER

S-1703-192-2: 62.5 MM BTU/HR STEAM GENERATOR #690 WITH COEN MODEL QLN LOW NOX BURNER, FGR, AND O2 CONTROLLER

S-1703-212-0: 85.0 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH COEN QLN-II ULTRA LOW-NOX BURNER (OR EQUIVALENT), AND FLUE GAS RECIRCULATION (FGR)

S-1703-213-0: 85.0 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH COEN QLN-II ULTRA LOW-NOX BURNER (OR EQUIVALENT), AND FLUE GAS RECIRCULATION (FGR)

Proposed ATCs:

S-1703-157-14: MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR #710 WITH COEN QLN LOW NOX BURNER AND FGR, FIRING TEOR GAS AND TVR GAS FROM S-1703-143 AND/OR TANK VAPOR CONTROL GAS FROM S-1703-139, '-144 OR '-184: LOWER CO LIMIT TO 25 PPMV @3% O2 AND CHANGE STEAM GENERATOR'S NUMBER TO "710"

S-1703-158-12: MODIFICATION OF 62.5 MM BTU/HR NATURAL GAS-FIRED STEAM GENERATOR #620 WITH COEN QLN LOW-NO_X BURNER AND FGR, FIRING TEOR GAS AND TVR GAS FROM S-1703-143 AND/OR TANK VAPOR CONTROL GAS FROM S-1703-139, -144, AND -184: LOWER CO LIMIT TO 25 PPMV @3% O2

S-1703-159-17: MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS FIRED STEAM GENERATOR #630 WITH GIDEON MGW 63V2 LOW NOX BURNER, FIRING TEOR GAS AND TVR GAS FROM S-1703-143 AND/OR TANK VAPOR CONTROL GAS FROM S-1703-139, '-144, AND '-184: LOWER CO LIMIT TO 25 PPMV @3% O2 AND CORRECT LOCATION TO "SECTION SE18, T28S, R29E"

S-1703-160-14: MODIFICATION OF 62.5 MM BTU/HR NATURAL GAS-FIRED STEAM GENERATOR #640 WITH COEN QLN LOW-NO_X BURNER AND FGR, FIRING TEOR GAS AND TVR GAS FROM S-1703-143 AND/OR TANK VAPOR CONTROL GAS FROM S-1703-139, -144, AND -184: LOWER CO LIMIT TO 25 PPMV @3% O2

S-1703-161-17: MODIFICATION OF 62.5 MM BTU/HR NATURAL GAS-FIRED STEAM GENERATOR #650 WITH COEN QLN LOW-NO_X BURNER AND FGR, FIRING TEOR GAS AND TVR GAS FROM S-1703-143 AND/OR TANK VAPOR CONTROL GAS FROM S-1703-139, -144, AND -184: LOWER CO LIMIT TO 25 PPMV @3% O2

S-1703-162-13: MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS FIRED STEAM GENERATOR #660 WITH COEN QLN LOW NOX BURNER AND FGR, FIRING TEOR GAS AND TVR GAS FROM S-1703-143 AND/OR TANK VAPOR CONTROL GAS FROM S-1703-139, -144, AND -184: LOWER CO LIMIT TO 25 PPMV @3% O2 AND CORRECT LOCATION TO "SECTION SE18, T28S, R29E"

S-1703-180-16: MODIFICATION OF 62.5 MMBTU/HR C.E. NATURAL GAS FIRED STEAM GENERATOR #730 WITH COEN QLN LOW NOX BURNER AND FGR (C-5, DIS# 27554-74): LOWER CO LIMIT TO 25 PPMV @3% O2 AND CHANGE STEAM GENERATOR'S NUMBER TO "730"

S-1703-181-12: MODIFICATION OF 62.5 MMBTU/HR THERMOTICS GAS/CASING GAS-FIRED STEAM GENERATOR #680 WITH LO-NOX BURNER AND FGR, O2 CONTROLLER/ ANALYZER (B-1, DIS# 27529-71): LOWER CO LIMIT TO 25 PPMV @3% O2 AND CORRECT LOCATION TO "SECTION SE18,

T28S, R29E"

S-1703-192-3: MODIFICATION OF 62.5 MMBTU/HR STEAM GENERATOR #690 WITH COEN MODEL QLN LOW NOX BURNER, FGR, AND O2 CONTROLLER: LOWER CO LIMIT TO 25 PPMV @3% O2 AND CHANGE STEAM GENERATOR'S NUMBER TO "720"

S-1703-212-0: 85.0 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH COEN QLN-II ULTRA LOW-NOX BURNER (OR EQUIVALENT), AND FLUE GAS RECIRCULATION (FGR)

S-1703-213-0: 85.0 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH COEN QLN-II ULTRA LOW-NOX BURNER (OR EQUIVALENT), AND FLUE GAS RECIRCULATION (FGR)

Post Project Equipment Description:

S-1703-157-14: 62.5 MM BTU/HR NATURAL GAS-FIRED STEAM GENERATOR #710 WITH COEN QLN LOW-NO_X BURNER AND FGR, FIRING TEOR GAS AND TVR GAS FROM S-1703-143 AND/OR TANK VAPOR CONTROL GAS FROM S-1703-139, -144, AND -184

S-1703-158-12: 62.5 MM BTU/HR NATURAL GAS-FIRED STEAM GENERATOR #620 WITH COEN QLN LOW-NO_X BURNER AND FGR, FIRING TEOR GAS AND TVR GAS FROM S-1703-143 AND/OR TANK VAPOR CONTROL GAS FROM S-1703-139, -144, AND -184

S-1703-159-17: 62.5 MM BTU/HR NATURAL GAS-FIRED STEAM GENERATOR #630 WITH COEN QLN LOW-NO_X BURNER AND FGR, FIRING TEOR GAS AND TVR GAS FROM S-1703-143 AND/OR TANK VAPOR CONTROL GAS FROM S-1703-139, -144, AND -184

S-1703-160-14: 62.5 MM BTU/HR NATURAL GAS-FIRED STEAM GENERATOR #640 WITH COEN QLN LOW-NO_X BURNER AND FGR, FIRING TEOR GAS AND TVR GAS FROM S-1703-143 AND/OR TANK VAPOR CONTROL GAS FROM S-1703-139, -144, AND -184

S-1703-161-17: 62.5 MM BTU/HR NATURAL GAS-FIRED STEAM GENERATOR #650 WITH COEN QLN LOW-NO_X BURNER AND FGR, FIRING TEOR GAS AND TVR GAS FROM S-1703-143 AND/OR TANK VAPOR CONTROL GAS FROM S-1703-139, -144, AND -184

S-1703-162-13: 62.5 MM BTU/HR NATURAL GAS-FIRED STEAM GENERATOR #660 WITH COEN QLN LOW-NO_X BURNER AND FGR, FIRING TEOR GAS AND TVR GAS FROM S-1703-143 AND/OR TANK VAPOR CONTROL GAS FROM S-1703-139, -144, AND -184

S-1703-180-16: 62.5 MM BTU/HR THERMOTICS NATURAL GAS-FIRED STEAM GENERATOR #730 WITH LO-NO_X BURNER, OXYGEN CONTROLLER/ANALYZER

S-1703-181-12: 62.5 MM BTU/HR THERMOTICS NATURAL GAS-FIRED STEAM GENERATOR #680 WITH LO-NO_X BURNER, OXYGEN CONTROLLER/ANALYZE

S-1703-192-3: 62.5 MM BTU/HR STEAM GENERATOR #720 WITH COEN MODEL QLN LOW NOX BURNER, FGR, AND O2 CONTROLLER

S-1703-212-0: 85.0 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH COEN QLN-II ULTRA LOW-NOX BURNER (OR EQUIVALENT), AND FLUE GAS RECIRCULATION (FGR)

S-1703-213-0: 85.0 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH COEN QLN-II ULTRA LOW-NOX BURNER (OR EQUIVALENT), AND FLUE GAS RECIRCULATION (FGR)

VI. Emission Control Technology Evaluation

Emissions from natural gas-fired steam generators include NO_X, CO, VOC, PM_{10}, and SO_X. NO_X is the major pollutant of concern when burning natural gas. NO_X formation is either due to thermal fixation of atmospheric nitrogen in the combustion air (thermal NO_X) or due to conversion of chemically bound nitrogen in the fuel (fuel NO_X). Due to the low fuel nitrogen content of natural gas, nearly all NO_X emissions are thermal NO_X. Formation of thermal NO_X is affected by four furnace zone factors: (1) nitrogen concentration, (2) oxygen concentration, (3) peak temperature, and (4) time of exposure at peak temperature.

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.

Flue gas recirculation (FGR) reduces NO_X emissions by recirculating a percentage of the exhaust gas back into the windbox. This reduces the oxygen concentration in the air-fuel mixture and regulates the combustion process, lowering the combustion temperature. The lowered availability of oxygen in conjunction with lowered combustion temperature reduces the formation of NO_X.

VII. General Calculations

A. Assumptions

- Steam generators operate 24 hours/day, 365 days/yr.
- The new steam generators will be fired exclusively on PUC regulated natural gas (applicant, 2/13/13 email).

- Natural gas HHV = 1000 Btu/scf
- Natural gas F-Factor = 8,578 dscf/MMBtu (corrected to 60 °F)
- Natural gas sulfur content = 1 grain per 100 standard cubic feet
- The GHG emission factor for natural gas combustion is 117 lb-CO_2e/MMBtu (per CCAR document)[1]

B. Emission Factors

Emission Factors ppmv CO @ 3% O2 (lb-CO/MMBtu)		
	Pre-Project	Post-Project
S-1703-157-4	38 (0.028)	25 (0.019)
S-1703-158-4	38 (0.028)	
S-1703-159-16	38 (0.028)	
S-1703-160-6	38 (0.028)	
S-1703-161-6	38 (0.028)	
S-1703-162-4	38 (0.028)	
S-1703-180-15	38 (0.028)	
S-1703-181-4	41 (0.030)	
S-1703-192-2	35 (0.026)	

S-1703-212-0 and '213-0 Emission Factors			
	lb/MMBtu	ppmv @ 3% O2	Source
NO_X	0.007	6	Burner Manufacturer's Guarantee
SO_X	0.00285	2.0	District Policy APR-1720
PM_{10}	0.003		Applicant Proposed *
CO	0.019	25	Applicant Proposed
VOC	0.0055		Ap-42 (7/98), Table 1.4-2

* Based on emissions testing documenting that natural gas fired steam generators have a PM_{10} emission rate of 0.001 lb/MM Btu.

C. Calculations

1. Pre-Project Potential to Emit (PE1)

Since S-1703-212-0 and '213-0 are new emissions units, PE1 = 0 for all pollutants.

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

PE2co = (0.028 lb-CO/MMBtu) * (62.5 MMBtu/hr) * (24 hr/day)
= 42.0 lb-CO/day

= (0.028 lb-CO/MMBtu) * (62.5 MMBtu/hr) * (24 hr/day) * (365 day/year)
= 15,330 lb-COyear

PE1										
Permit Unit	NO_x		SO_x		PM_{10}		CO		VOC	
	lb/day	lb/yr	lb/day	lb/yr	lb/day	lb/yr	lb/day	lb/yr	lb/day	lb/yr
S-1703-157-4							42.0	15,330		
S-1703-158-4							42.0	15,330		
S-1703-159-16							42.0	15,330		
S-1703-160-6							42.0	15,330		
S-1703-161-6							42.0	15,330		
S-1703-162-4							42.0	15,330		
S-1703-180-15							42.0	15,330		
S-1703-181-4							42.1	16,589		
S-1703-192-2							42.1	14,235		
							Total:	138,134		

2. Post Project Potential to Emit (PE2)

The potential to emit for the units is calculated as follows, and summarized in the tables below:

PE2 = (0.019 lb-CO/MMBtu) * (62.5 MMBtu/hr) * (24 hr/day)
= 28.5 lb-CO/day

= (0.019 lb-CO/MMBtu) * (62.5 MMBtu/hr) * (24 hr/day) * (365 day/year)
= 10,403 lb-COyear

PE2										
Permit Unit	NO_x		SO_x		PM_{10}		CO		VOC	
	lb/day	lb/yr	lb/day	lb/yr	lb/day	lb/yr	lb/day	lb/yr	lb/day	lb/yr
S-1703-157-14							28.5	10,403		
S-1703-158-12							28.5	10,403		
S-1703-159-17							28.5	10,403		
S-1703-160-14							28.5	10,403		
S-1703-161-17							28.5	10,403		
S-1703-162-13							28.5	10,403		
S-1703-180-16							28.5	10,403		
S-1703-181-12							28.5	10,403		
S-1703-192-3							28.5	10,403		
							Total:	93,627		

PE2											
Permit Unit	NO_x		SO_x		PM_{10}		CO		VOC		CO_2e
	lb/day	lb/yr	lb/day	lb/yr	lb/day	lb/yr	lb/day	lb/yr	lb/day	lb/yr	ton/yr
S-1703-212-0	14.3	5,212	5.8	2,122	6.1	2,234	38.8	14,147	11.2	4,095	43,559
S-1703-213-0	14.3	5,212	5.8	2,122	6.1	2,234	38.8	14,147	11.2	4,095	43,559
Total PE2		10,424		4,244		4,468		28,294		8,190	87,118

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

Pursuant to District Rule 2201, the 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 (AER) that have occurred at the source, and which have not been used on-site.

The SSPE1 can be calculated by adding the PE1 from all units with valid ATCs or PTOs and the sum of the ERCs that have been banked at the source and which have not been used on-site ($Total_{ERC}$).

$SSPE1_{Total} = SSPE1_{Permit\ Unit} + Total_{ERC}$

SSPE1 (lb/year)*					
	NO_X	SO_X	PM_{10}	CO	VOC
SSPE1	96,229	25,267	43,899	197,768	> 20,000

*Per project 1120718

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

The SSPE2 can be calculated by adding the PE2 from all units with valid ATCs or PTOs and the sum of the ERCs that have been banked at the source and which have not been used on-site ($Total_{ERC}$).

$SSPE2_{Total} = SSPE2_{Permit\ Unit} + Total_{ERC}$

SSPE2 (lb/year)					
	NO_X	SO_X	PM_{10}	CO	VOC
SSPE1	96,229	25,267	43,899	197,768	> 20,000
CO PE1				-138,134	
CO PE2				+93,627	
S-1703-212-0	5,212	2,122	2,234	14,147	4,095
S-1703-213-0	5,212	2,122	2,234	14,147	4,095
SSPE2	106,471	28,511	48,367	181,555	>20,000

5. Major Source Determination

Rule 2201 Major Source Determination:

Pursuant to District Rule 2201, a Major Source is a stationary source with a SSPE2 equal to or exceeding one or more of the following threshold values. For the purposes of determining major source status the following shall not be included:

- any ERCs associated with the stationary source
- Emissions from non-road IC engines (i.e. IC engines at a particular site at the facility for less than 12 months)

- Fugitive emissions, except for the specific source categories specified in 40 CFR 51.165

This source is an existing Major Source for NOx and VOC emissions and will remain so. No change in other pollutants are proposed or expected as a result of this project.

Rule 2410 Major Source Determination:

The facility or the equipment evaluated under this project is listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). Therefore the following PSD Major Source thresholds are applicable.

PSD Major Source Determination (tons/year)							
	NO2	VOC	SO2	CO	PM	PM10	CO2e
Estimated Facility PE before Project Increase	na	na	na	na	na	na	>100,000
PSD Major Source Thresholds	100	100	100	100	100	100	100,000
PSD Major Source ? (Y/N)	na	na	na	na	na	na	yes

As shown above, the facility is an existing major source for PSD for at least one pollutant. Therefore the facility is an existing major source for PSD.

6. Baseline Emissions (BE)

The BE calculation (in lbs/year) is performed pollutant-by-pollutant for each unit within the project to determine the amount of offsets required.

Pursuant to District Rule 2201, BE = PE1 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 District Rule 2201.

As shown in Section VIII.B.1 below, this project triggers offsets for NOx, PM10 and VOC. The facility is not a Major Source for PM10; therefore, BE = PE1 for PM10.

Pursuant to Rule 2201, 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. Current achieved-in-practice BACT for NOx and VOC for the existing units is 7 ppmv NOx and natural gas

firing. The existing units meet these requirements; therefore, they are Clean Emission units and their BE = PE1 for NOx and VOC.

Therefore BE=PE1 for this project's existing units

Since S-1703-212 and '213 are new emissions units, BE = PE1 = 0 for all 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."

Therefore this project is not an SB 288 Major Modification.

Since this facility is a major source for NOx and VOC, the project's PE2 is compared to the SB 288 Major Modification Thresholds in the following table in order to determine if the SB 288 Major Modification calculation is required.

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
NO_x	10,424	50,000	No
SO_x	4244	80,000	No
PM_{10}	4468	30,000	No
VOC	8190	50,000	No

Since none of the SB 288 Major Modification Thresholds are surpassed with this project, this project does not constitute an SB 288 Major Modification.

8. Federal Major Modification

District Rule 2201 states that a Federal Major Modification is the same as a "Major Modification" as defined in 40 CFR 51.165 and part D of Title I of the CAA.

The determination of Federal Major Modification is based on a two-step test. For the first step, only the emission *increases* are counted. Emission decreases may not cancel out the increases for this determination.

Step 1

For new emissions units, the increase in emissions is equal to the PE2 for each new unit included in this project.

The project's combined total emission increases are compared to the Federal Major Modification Thresholds in the following table.

Federal Major Modification Thresholds for Emission Increases			
Pollutant	Total Emissions Increases (lb/yr)	Thresholds (lb/yr)	Federal Major Modification?
NO_x*	10,424	0	Yes
VOC*	8,190	0	Yes
PM_{10}	4468	30,000	No
$PM_{2.5}$	4468	20,000	No
SO_x	4244	80,000	No

*If there is any emission increases in NO_x or VOC, this project is a Federal Major Modification and no further analysis is required.

Since none of the Federal Major Modification Thresholds are being surpassed with this project, this project does not constitute a Federal Major Modification and no further analysis is required.

9. Rule 2410 – Prevention of Significant Deterioration (PSD) Applicability Determination

Rule 2410 applies to pollutants for which the District is in attainment or for unclasssified, pollutants. The pollutants addressed in the PSD applicability determination are listed as follows:

- NO2 (as a primary pollutant)
- SO2 (as a primary pollutant)
- CO
- PM
- PM10
- Greenhouse gases (GHG): CO2, N2O, CH4, HFCs, PFCs, and SF6

The first step of this PSD evaluation consists of determining whether the facility is an existing PSD Major Source or not (See Section VII.C.5 of this document).

In the case the facility is an existing PSD Major Source, the second step of the PSD evaluation is to determine if the project results in a PSD significant increase.

In the case the facility is NOT an existing PSD Major Source but is an existing source, the second step of the PSD evaluation is to determine if the project, by itself, would be a PSD major source.

In the case the facility is new source, the second step of the PSD evaluation is to determine if this new facility will become a new PSD major Source as a result of the project and if so, to determine which pollutant will result in a PSD significant increase.

I. Project Location Relative to Class 1 Area

As demonstrated in the "PSD Major Source Determination" Section above, the facility was determined to be a existing major source for PSD. Because the project is not located within 10 km of a Class 1 area – modeling of the emission increase is not required to determine if the project is subject to the requirements of Rule 2410.

II. Significance of Project Emission Increase Determination

a. Potential to Emit of attainment/unclassified pollutant for New or Modified Emission Units vs PSD Significant Emission Increase Thresholds

As a screening tool, the potential to emit from all new and modified units is compared to the PSD significant emission increase thresholds, and if total potential to emit from all new and modified units is below this threshold, no futher analysis will be needed.

PSD Significant Emission Increase Determination: Potential to Emit (tons/year)						
	NO2	SO2	CO	PM	PM10	CO2e
Total PE from New and Modified Units	na	na	na	na	na	>75,000
PSD Significant Emission Increase Thresholds	40	40	100	25	15	75,000
PSD Significant Emission Increase?						Y

As demonstrated above, because the project has a total CO2e potential to emit from all new and modified emission units greater than PSD significant emission increase thresholds, further analysis is required to determine if the project has an emission increase greater than the PSD significant emission increase thresholds, see step below.

b. Emission Increase for Each Attainment/Unclassified Pollutant with a Significant Emission Increase vs PSD Significant Emission Increase Thresholds

In this step, the emission increase for each attainment/unclassified pollutant is compared to the PSD significant emission increase thresholds, and if emission increase for each attainment pollutant is below this threshold, no futher analysis is needed.

In this step only emission increases are counted. Any emission decreases, including those associated with the "project" are not considered in this step

For new emissions units, the increase in emissions is equal to the PE2 for each new unit included in this project.

There are no increases for the existing emissions units, therefore only emissions from the new units are calculated.

The project's combined total emission increases are compared to the PSD significant emission increase thresholds in the following table.

PSD Significant Emission Increase Determination: Emission Increase (tons/year)						
	NO2	SO2	CO	PM	PM10	CO2e
Emission Increases (only)	5	2	14	2	2	87,118
PSD Significant Emission Increase Thresholds	40	40	100	25	15	75,000
PSD Significant Emission Increase?	n	n	n	n	n	y

As demonstrated in the table above, the project emission increases exceed the PSD significant emission increase thresholds for CO2e. Therefore further analysis is required to determine if the project has a net emission increase greater than the PSD sigificant emission increase threshold for this (these) specific pollutant(s).

c. Net Emission Increase for Each Attainment/Unclassified Pollutant with a Significant Emission Increase vs PSD Significant Emission Increase Thresholds

The net emission increase needs to be calculated only for those pollutants with a PSD significant emission increase. As shown above, the project results in a significant net emission increase for CO2e emissions only.

Conclusion

This project is subject to Rule 2410 requirements for CO2e only and BACT is required for CO2e.

10. 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. Detailed QNEC calculations are included in Appendix A.

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. Unless specifically exempted by Rule 2201, BACT shall be required for the following actions*:

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 an SB 288 Major Modification or a Federal Major Modification, as defined by the rule.

*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 proposal, MOC is proposing to install new steam generators with a PE greater than 2 lb/day for NO_X, SO_X, PM_{10}, CO, and VOC. BACT is not triggered for CO since the SSPE2 for CO is not greater than 200,000 lbs/year, as demonstrated in Section VII.C.5 of this proposal.

Therefore, BACT is triggered for NO_X, SO_X, PM_{10}, 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

AIPE = PE2 – HAPE

Where,
AIPE = Adjusted Increase in Permitted Emissions, (lb/day)
PE2 = Post-Project Potential to Emit, (lb/day)
HAPE = Historically Adjusted Potential to Emit, (lb/day)

HAPE = PE1 x (EF2/EF1)

Where,
PE1 = The emissions unit's PE prior to modification or relocation, (lb/day)
EF2 = The emissions unit's permitted emission factor for the pollutant after modification or relocation. If EF2 is greater than EF1 then EF2/EF1 shall be set to 1
EF1 = The emissions unit's permitted emission factor for the pollutant before the modification or relocation

AIPE = PE2 – (PE1 * (EF2 / EF1))

Since the existing emission units' ratings (R) will not change in this project and EF2 is less than EF1:

PE1 = EF1(R)(24 hr/day)

PE2 = EF2(R)(24 hr/day)

and AIPE = EF2(R)(24 hr/day) –(EF1(R)(24 hr/day) x (EF2/EF1))

therefore: AIPE = EF2(R)(24 hr/day) - EF2(R)(24 hr/day) = 0

Therefore, BACT is not required for the existing units.

d. SB 288/Federal Major Modification

As discussed in Section VII.C.7 above, this project does constitute a Federal Major Modification for NO_X and VOC emissions. Therefore BACT is triggered for NO_X and VOC for all emissions units in the project for which there is an emission increase (S-1703-212 and '213).

2. BACT Guideline

BACT is not required for units

3. Top-Down BACT Analysis

Pursuant to the attached Top-Down BACT Analysis (see Appendix D), BACT has been satisfied with the following:

NO_X: 6 ppmv @ 3% O_2.
SO_X: Gaseous fuel with sulfur content not to exceed 1 grain per 100 scf.
PM_{10}: Gaseous fuel with sulfur content not to exceed 1 grain per 100 scf.
VOC: Gaseous fuel.

B. Offsets

1. Offset Applicability

Offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the SSPE2 equals to or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

The SSPE2 is compared to the offset thresholds in the following table.

Offset Determination (lb/year)					
	NO_X	SO_X	PM_{10}	CO	VOC
SSPE2	106,471	28,511	48,367	181,555	>20,000
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	yes	no	yes	no	yes

2. Quantity of Offsets Required

As seen above, the SSPE2 is greater than the offset thresholds for NO_X, PM10 and VOC only. Therefore offset calculations will be required for this project.

The quantity of offsets in pounds per year 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 = PE1 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 = HAE

As shown above in section VII.C.6 BE = PE1 for all of this project's units for the pollutants triggering offsets Also, there are no increases in cargo carrier emissions; therefore offsets can be determined as follows:

Offsets Required (lb/year) = ([PE2 – PE1] + ICCE) x DOR

For the existing units PE1 = PE2; therefore, no offsets are required for the existing units and the amount of offsets required is based on emissions for the new units.

S-1703-212-0 and '213-0:

NOx:

PE2 (NO_X) = 10,424 lb/year
BE (NO_X) = 0 lb/year
ICCE = 0 lb/year

The project is a Federal Major Modification and therefore the correct offset ratio for NO_x and VOCs is 1.5:1.

Assuming an offset ratio of 1.5:1, the amount of NO_X ERCs that need to be withdrawn is:

Offsets Required (lb/year) = ([10,424 – 0] + 0) x 1.5
= 10,424 x 1.5
= 15,636 lb NO_X/year

Calculating the appropriate quarterly emissions to be offset for both S-1703-212-0 and '213-0 combined is as follows:

1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
3909	3909	3909	3909

Calculating the appropriate quarterly emissions to be offset for S-1703-212-0 and '213-0 individually is as follows:

1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
1955	1955	1955	1955

The applicant has stated that the facility plans to use ERC certificate S-3940-2 to offset the increases in NO_X emissions associated with this project. The above certificate has available quarterly NO_X credits as follows:

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
ERC #S-3940-2	4055	4055	4055	4055

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

Proposed Rule 2201 (offset) Conditions:

- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender NO_X emission reduction credits for the following quantity of emissions: 1st quarter - 1955 lb, 2nd quarter - 1955 lb, 3rd quarter - 1955 lb, and fourth quarter - 1955 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]

- ERC Certificate Number S-3940-2 (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]

PM10:

PE2 (PM10) = 4468 lb/year
BE (PM10) = 0 lb/year
ICCE = 0 lb/year

Assuming an offset ratio of 1.5:1, the amount of PM10 ERCs that need to be withdrawn is:

Offsets Required (lb/year) = ([4468 – 0] + 0) x 1.5
= 4468 x 1.5
= 6702 lb NO_X/year

Calculating the appropriate quarterly emissions to be offset for both S-1703-212-0 and '213-0 combined is as follows:

1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
1675	1675	1675	1675

Calculating the appropriate quarterly emissions to be offset for S-1703-212-0 and '213-0 individually is as follows:

1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
838	838	838	838

Interpollutant offset ratios for trades between SO_X and PM_{10} are allowed pursuant to Rule 2201, Section 4.13.3.1.2. Pursuant to draft District policy APR 1430, SOx ERCs may be used to offset PM10 at an interpollutant ratio of 1.0 : 1.0. An interpollutant ratio of 1.0 : 1.0 for SO_X to PM_{10} will be applied

The applicant has stated that the facility plans to use ERC certificate S-3938-5 to offset the increases in PM10 emissions associated with this project. The above certificate has available quarterly SO_X credits as follows:

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
ERC #S-3938-5	1675	1675	1675	1675

As seen above, the facility has sufficient credits to fully offset the quarterly PM10 emissions increases associated with this project.

Proposed Rule 2201 (offset) Conditions:

- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter - 838 lb, 2nd quarter - 838 lb, 3rd quarter - 838 lb, and fourth quarter - 838 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]

- ERC Certificate Number S-3938-5 (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]

VOC:

PE2 (VOC) = 8190 lb/year
BE (VOC) = 0 lb/year
ICCE = 0 lb/year

The project is a Federal Major Modification and therefore the correct offset ratio for VOC and VOCs is 1.5:1.

Assuming an offset ratio of 1.5:1, the amount of NO_X ERCs that need to be withdrawn is:

Offsets Required (lb/year) = ([8190 – 0] + 0) x 1.5
= 8190 x 1.5
= 12,285 lb VOC/year

Calculating the appropriate quarterly emissions to be offset for both S-1703-212-0 and '213-0 combined is as follows:

1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
3071	3071	3071	3071

Calculating the appropriate quarterly emissions to be offset for S-1703-212-0 and '213-0 individually is as follows:

1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
1536	1536	1536	1536

The applicant has stated that the facility plans to use ERC certificates S-1065-1 and '3942-1 to offset the increases in VOC emissions associated with this project. The above certificate has available quarterly NO_X credits as follows:

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
ERC #S-1065-1	0	0	123	0
ERC #S-3942-1	3075	3075	2952	3075
Total	3075	3075	3075	3075

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

Proposed Rule 2201 (offset) Conditions:

- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 1536 lb, 2nd quarter - 1536 lb, 3rd quarter - 1536 lb, and fourth quarter - 1536 lb. These amounts include the applicable offset ratio specified

in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERCs specified below. [District Rule 2201]

- ERC Certificate Numbers S-1065-1 and S-3942-1 (or a certificate split from these certificates) 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]

C. Public Notification

1. Applicability

Public noticing is required for:
a. New Major Sources, Federal Major Modifications, and SB 288 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 SB 288 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 Federal Major Modification purposes is required.

b. PE > 100 lb/day

Applications which include a new emissions unit with a PE 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

The SSPE1 and SSPE2 are compared to the offset thresholds in the following table.

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO_X	96,229	106,471	20,000 lb/year	No
SO_X	25,267	27,511	54,750 lb/year	No
PM_{10}	43,899	48,367	29,200 lb/year	No
CO	197,768	181,555	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 SSIPE of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE = SSPE2 – SSPE1. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table.

SSIPE Public Notice Thresholds					
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO_x	96,229	106,471	10,242	20,000 lb/year	No
SO_x	25,267	27,511	2,244	20,000 lb/year	No
PM_{10}	43,899	48,367	4,468	20,000 lb/year	No
CO	197,768	181,555	-16,213	20,000 lb/year	No
VOC	>20,000	>20,000	8190	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 for NO_X and VOC emissions triggering 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)

DELs and other enforceable conditions are required by Rule 2201 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. 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.

For these steam generators, the DELs are stated in the form of emission factors (lb/MMBtu), the maximum heat input rating, and the maximum operational time of 24 hours per day.

Proposed Rule 2201 (DEL) Conditions:

S-1703-157-14:

- Emission rates shall not exceed any of the following: NOx (as NO2) - 7 ppmv @ 3% 02 or 0.008 lb/MMBtu; CO - 25 ppmv @ 3% 02; or PM10 - 0.006 lb/MMBtu; VOC - 0.003 lb/MMBtu. [District Rules 2201, 4305, 4306 ,4320 and 4351] Y

S-1703-158-12:

- Emission rates shall not exceed any of the following: NOx (as NO2) - 7 ppmv @ 3% O2 or 0.008 lb/MMBtu; CO - 25 ppmv @ 3% O2; or SOx (as SO2) - 0.0057 lb/MMBtu; PM10 - 0.0076 lb/MMBtu; or VOC - 0.003 lb/MMBtu. [District Rules 2201, 4305, 4306 ,4320 and 4351] Y

S-1703-159-17:

- Emissions from the natural gas-fired unit shall not exceed any of the following limits: 7 ppmvd NOX @ 3% O2 or 0.008 lb-NOX/MMBtu; 0.00285 lb-SOX/MMBtu; 0.006 lb-PM10/MMBtu; 25 ppmvd CO @ 3% O2 or 0.019 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 ,4320 and 4351] Y

S-1703-160-14:

- Emissions from the natural gas-fired unit shall not exceed any of the following limits: 7 ppmvd NOX @ 3% O2 or 0.008 lb-NOX/MMBtu, 0.00285 lb-SOX/MMBtu, 0.006 lb-PM10/MMBtu, 25 ppmvd CO @ 3% O2 or 0.019 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 ,4320 and 4351] Y

S-1703-161-17:

- Emissions from the natural gas-fired unit shall not exceed any of the following limits: 7 ppmvd NOX @ 3% O2 or 0.0085 lb-NOX/MMBtu, 0.00285 lb-SOX/MMBtu, 0.006 lb-PM10/MMBtu, 25 ppmvd CO @ 3% O2 or 0.019 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 ,4320 and 4351] Y

S-1703-162-13:

- Emission rates shall not exceed any of the following: NOx (as NO2): 0.0085 lb/MMBtu or 7 ppmv @ 3% O2, Sox (as SO2): 0.00285 lb/MMBtu, PM10: 0.0076 lb/MMBtu, CO: 0.019 lb/MMBtu or 25 ppmv @ 3% O2, or VOC: 0.003 lb/MMBtu. [District Rules 2201, 4305, 4306 ,4320 and 4351] Y

S-1703-180-16:

- Emission rates shall not exceed any of the following: NOx (as NO2): 0.0085 lb/MMBtu or 7 ppmv @ 3% O2, Sox (as SO2): 0.00285 lb/MMBtu, PM10: 0.009 lb/MMBtu, CO: 0.019 lb/MMBtu or 25 ppmv @ 3% O2, or VOC: 0.003 lb/MMBtu. [District Rules 2201, 4305, 4306 ,4320 and 4351] Y

S-1703-181-12:

- Emission rates shall not exceed any of the following: NOx (as NO2) - 7 ppmv @ 3% O2 or 0.008 lb/MMBtu; SOx - 0.00285 lb/MMBtu; CO - 25 ppmv @ 3% O2; PM10 - 0.0076 lb/MMBtu; or VOC - 0.007 lb/MMBtu. [District Rules 2201, 4305, 4306 ,4320 and 4351] Y

S-1703-192-3:

- Emissions from this unit shall not exceed any of the following limits: 7 ppmvd NOx @ 3% O2 or 0.008 lb-NOX/MMBtu, 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 25 ppmvd CO @ 3% O2 or 0.019 lb-CO/MMBtu, or 0.006 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 ,4320 and 4351] Y

S-1703-212-0:

- Emissions from the natural gas-fired unit shall not exceed any of the following limits: 6 ppmvd NOx @ 3% O2 or 0.007 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.003 lb-PM10/MMBtu, 25 ppmvd CO @ 3% O2 or 0.019 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 ,4320 and 4351] Y

S-1703-213-0:

- Emissions from the natural gas-fired unit shall not exceed any of the following limits: 6 ppmvd NOx @ 3% O2 or 0.007 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.003 lb-PM10/MMBtu, 25 ppmvd CO @ 3% O2 or 0.019 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 ,4320 and 4351] Y

E. Compliance Assurance

1. Source Testing

The steam generator 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 MMBtu/hr.* Source testing requirements, in accordance with these rules will be discussed in Section VIII of this evaluation.

2. Monitoring

The steam generator 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 MMBtu/hr.* Monitoring requirements, in accordance with these rules will be discussed in Section VIII of this evaluation.

3. Recordkeeping

The steam generator 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 MMBtu/hr.* Recordkeeping, in accordance with these rules will be discussed in Section VIII of this evaluation.

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

An AAQA shall 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. The District's Technical Services Division conducted the required analysis. Refer to Appendix E of this document for the AAQA summary sheet.

The proposed location is in an attainment area for NO_X, CO, and SO_X. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for NO_X, CO, or SO_X.

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*
Values are in $\mu g/m^3$

Steam Generator	1 Hour	3 Hours	8 Hours.	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO_x	Pass[1]	X	X	X	Pass
SO_x	Pass[2]	Pass	X	Pass	Pass
PM_{10}	X	X	X	Pass[3]	Pass[3]
PM2.5	X	X	X	Pass[3]	Pass[3]

*Results were taken from the attached PSD spreadsheet.
[1]The project was compared to the 1-hour NO2 National Ambient Air Quality Standard that became effective on April 12, 2010 using the District's approved procedures. The criteria pollutant 1-hour value passed using TIER I NO_2 NAAQS modeling
[2]The project was compared to the 1-hour SO2 National Ambient Air Quality Standard that became effective on August 23, 2010 using the District's approved procedures.
[3]The maximum predicted concentration for emissions of these criteria pollutants from the proposed unit are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

The emissions from the proposed equipment will not cause or contribute significantly to a violation of the State and National AAQS.

G. Compliance Certification

Section 4.15.2 of this Rule requires the owner of a new Major Source or a source undergoing a Title I Modification to demonstrate to the satisfaction of the District that all other Major Sources owned by such person and operating in California are in compliance or are on a schedule for compliance with all applicable emission limitations and standards. As discussed in Section VIII above, this facility is a new major source and this project does constitute a Title I modification, therefore this requirement is applicable. MOC compliance certification is included in Appendix F.

H. Alternate Siting Analysis

The current project occurs at an existing facility. The applicant proposes to install a two new steam generators.

Since the project will provide steam to be used at the same location, the existing site will result in the least possible impact from the project. Alternative sites would involve the relocation and/or construction of various support structures on a much greater scale, and would therefore result in a much greater impact.

Rule 2410 Prevention of Significant Deterioration

As shown in Section VII C.9 above the project result in a Significant Emissions Increase for CO2e. Therefore, Rule 2410 is applicable. As explained above, the project requires public notice and BACT for GHG emissions. A BACT Analysis for GHG follows.

Below is a listing of the requirements of Rule 2410, and demonstration that compliance with the requirements is expected.

A. Best Available Control Technology (BACT)

Currently, there is no BACT CO_2E Guideline for a Steam Generator > 5 MMBtu/hr, Oilfield. However, the District has created a draft Top-Down Steam Generator Rule 2410 BACT Analysis for GHGS. (See **Attachment IX**)

BACT for GHGs has been satisfied with the following:

Pollutant	*BACT*
CO_2e	*Variable frequency drive high efficiency electrical motors driving the blower and water pump;* ***and,*** *When Firing On:* • *PUC quality natural gas, commercial propane, and/or LPG: 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%; or,* • *<50% PUC quality natural gas, commercial propane, and/or LPG: split flow dual pass water feed configuration, a convection section having at least 128 square feet of heat transfer surface area per MMBtu/hr of maximum rated heat input (verified by the manufacturer) and at least six inches of castable refractory or a manufacturer's overall thermal efficiency rating of at least 85%*

B. Ambient air quality impact analysis

40 CFR 52.21(k) (as referenced in Rule 2410) requires that applications with significant emission increases would not cause or contribute to a violation of and Federal Ambient air quality standard or any applicable maximum allowable increase over baseline concentration (increment consumption).

EPA's March 2011 guidance titled "PSD and Title V Permitting Guidance for Greenhouse Gases" (pages 47 and 48) states that because there are no ambient air quality standards for GHGs that EPA does not recommend that sources be required to model the impacts of GHG emissions due to a project.

The District concurs with this recommendation. Therefore, no modeling of GHG emission increases is required.

C. Ambient air quality monitoring,

40 CFR 52.21(m) (as referenced in Rule 2410) requires that applications with significant emission increases contain an analysis of air ambient air quality in the area that the project would affect, i.e. ambient air quality monitoring.

EPA's March 2011 guidance titled "PSD and Title V Permitting Guidance for Greenhouse Gases" (pages 47 and 48) states that there is an exemption from ambient air quality monitoring in 40 CFR 52.(i)(5)(iii) for pollutants for which there is not an ambient air quality standard (AAQS), i.e. GHGs. Additionally, notwithstanding the provisions of 40 CFR 52.21 (m)(1)(i) that allows the Administrator to require ambient air monitoring for pollutants for which an AAQS does not exist, EPA does not consider it necessary or appropriate for applicants to perform ambient monitoring of GHGs.

The District concurs with this recommendation. Therefore, no ambient monitoring of GHGs is required.

D. Additional impact analyses, including visibility, soils, vegetation

40 CFR 52.21(o) (as referenced in Rule 2410) requires that applications prepare an analysis on the impairment to visibility, soils, and vegetation that would occur as a result of the proposed modification and the general commercial, residential, industrial, or other growth associated with the project.

EPA's March 2011 guidance titled "PSD and Title V Permitting Guidance for Greenhouse Gases" (pages 47 and 48) states that it is not necessary for applicants to assess impacts due to GHG emission increases as there is no method to quantify project level on visibility, soils, and vegetation. The only modeling techniques available for emission increases several orders of magnitude greater than project level emission increases.

The District concurs with this recommendation. Therefore, no additional impact analysis for visibility, soils, vegetation or other related growth is required.

E. Public noticing requirements

District Rule 2410 requires that the project's preliminary decision undergo a 30-day public notification process prior to issuance of ATC(s). Therefore, notification of the preliminary decision shall be given by the following methods:

The notice shall state the emissions change and the degree of increment consumption that is expected from the proposed project. The notice shall also state the ability for the public to make a request for a public hearing.

A list of entities to receive the notification is included in Appendix G:

Compliance with this Rule is expected.

Rule 2520 Federally Mandated Operating Permits

This facility is subject to this Rule, and has received their Title V Operating Permit. A significant permit modification is defined as a "permit amendment that does not qualify as a minor permit modification or administrative amendment."

As discussed above, the facility has applied for a Certificate of Conformity (COC); therefore, the facility must apply to modify their Title V permit with an administrative amendment, prior to operating with the proposed modifications. Continued compliance with this rule is expected. The facility may construct/operate under the ATC upon submittal of the Title V administrative amendment/minor modification application.

Rule 4001 New Source Performance Standards (NSPS)

This rule incorporates NSPS from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR); and applies to all new sources of air pollution and modifications of existing sources of air pollution listed in 40 CFR Part 60.

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)

These steam generators have a rating of between 10 and 85 MMBtu/hr and are fired on natural gas. Subpart Dc has no standards for gas-fired steam generators. Therefore 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). Visible emissions are not anticipated from properly operating steam generators that are fired on pipeline quality natural gas; therefore, compliance with the requirements of Rule 4101 is expected.

Rule 4102 Nuisance

Rule 4102 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 Assessment)

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 one. According to the Technical Services Memo for this project (**Appendix E**), the total facility prioritization score including this project was greater than one. Therefore, an HRA was required to determine the short-term acute and long-term chronic exposure from this project.

The cancer risk for this project is shown below:

Categories	Units 212-0 and 213-0 NG Steam Generators	Project Totals	Facility Totals
Prioritization Score	**0.0**	0.0	>1
Acute Hazard Index	**0.01**	**0.01**	0.02
Chronic Hazard Index	**0.01**	**0.01**	0.02
Maximum Individual Cancer Risk (10^{-6})	**0.35**	**0.35**	4.3
T-BACT Required?	**No**		
Special Permit Conditions?	**Yes**		

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

Units # 212-0 and 213-0

{1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102] N

Discussion of T-BACT

BACT for toxic emission control (T-BACT) is required if the cancer risk exceeds one in one million. As demonstrated above, T-BACT is not required for this project because the HRA indicates that the risk is not above the District's thresholds for triggering T-BACT requirements; therefore, compliance with the District's Risk Management Policy 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. Gaseous-

fueled equipment, similar to the steam generators, typically operates within compliance of this rule.

$$\left(\frac{0.003\,lb\,\mathrm{PM}}{MMBtu}\right)\left(\frac{1\,MMBtu}{8710\,dscf}\right)\left(\frac{7000\,grain}{1\,lb}\right)=\left(\frac{0.0024\,grain}{dscf}\right)$$

Since 0.0024 grain/dscf is less than 0.1 grain/dscf, compliance with this rule is expected.

Rule 4301 Fuel Burning Equipment

This rule specifies maximum emission rates in lb/hr for SO_2, NO_2, and combustion contaminants (defined as total PM in Rule 1020). This rule also limits combustion contaminants to ≤ 0.1 gr/scf. According to AP-42 (Table 1.4-2, footnote c), all PM emissions from natural gas combustion are less than 1 μm in diameter.

District Rule 4301 Limits (lb/hr)			
Pollutant	NO_2	Total PM	SO_2
S-1703-212-0 and '213-0	0.51	0.26	0.24
Rule Limit	140	10	200

The above table indicates compliance with the maximum lb/hr emissions in this rule; therefore, continued compliance is expected.

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

Pursuant to Rule 4305, Section 2.0, the proposed new unit will be subject to Rule 4305. Also, the proposed new unit will also be subject to Rule 4306. Since emissions limits of Rule 4306 and all other requirements are equivalent to or more stringent than Rule 4305 requirements, compliance with Rule 4320 requirements will satisfy requirements of Rule 4305.

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

Pursuant to Rule 4306, Section 2.0, the proposed unit will be subject to Rule 4306. Also, the proposed unit will also be subject to Rule 4320. Since emissions limits of Rule 4320 and all other requirements are equivalent to or more stringent than Rule 4306 requirements, compliance with Rule 4320 requirements will satisfy requirements of Rule 4306.

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

This rule limits NOx, CO, SO2 and PM10 emissions from boilers, steam generators and process heaters rated greater than 5 MMBtu/hr. This rule also provides a compliance option of payment of fees in proportion to the actual amount of NOx emitted over the previous year.

The steam generator is rated at greater than 5 MMBtu/hr heat input. Therefore this rule applies.

The existing steam generators are currently in compliance with this rule and their proposed modification is not expected to affect their compliance status. Therefore this discussion is limited to new units S-1703-212-0 and '213-0.

Section 5.1 NOx Emission Limits

Section 5.1 states that an operator of a unit(s) subject to this rule shall comply with all applicable requirements of the rule and one of the following, on a unit-by-unit basis:

- Operate the unit to comply with the emission limits specified in Sections 5.2 and 5.4; or
- Pay an annual emissions fee to the District as specified in Section 5.3 and comply with the control requirements specified in Section 5.4; or
- Comply with the applicable Low-use Unit requirements of Section 5.5.

Section 5.2.1 states that on and after the indicated Compliance Deadline units shall not be operated in a manner which exceeds the applicable NO_x limit specified in Table 1 of this rule.

The units have a maximum heat input of 85.0 MMBtu/hr; therefore, the applicable emission limit category Section 5.2, Table 1, Category C.2 from District Rule 4320 applies as follows:

C. Oilfield Steam Generators			
Category	NO_X Limit	Authority to Construct	Compliance Deadline
2. Units with a total rated heat input >20.0 MMBtu/hr	a) Standard Schedule 7 ppmv or 0.008 lb/MMBtu; or	July 1, 2009	July 1, 2010
	b) Staged Enhanced Schedule Initial Limit 9 ppmv or 0.011 lb/MMBtu; and	July 1, 2011	July 1, 2012
	Final Limit 5 ppmv or 0.0062 lb/MMBtu	January 1, 2013	January 1, 2014

MOC has proposed to comply with Rule 4320 by limiting the burner to 6 ppm-NO_X @ 3% O_2 (or 0.007 lb-NO_X/MMBtu). The following condition will be listed on the ATC to ensure compliance:

- Emissions from the natural gas-fired unit shall not exceed any of the following limits: 6 ppmvd NOx @ 3% O2 or 0.007 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.003 lb-PM10/MMBtu, 25 ppmvd CO @ 3% O2 or 0.019 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 ,4320 and 4351] Y

Section 5.4 Particulate Matter Control Requirements

5.4.1 To limit particulate matter emissions, an operator shall comply with one of the following requirements:

5.4.1.1 On and after the applicable NOx Compliance Deadline specified in Section 5.2 Table 1, operators shall fire units exclusively on PUC-quality natural gas, commercial propane, butane, or liquefied petroleum gas, or a combination of such gases;

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; or

5.4.1.3 On and after the applicable NOx Compliance Deadline specified in Section 5.2 Table 1, operators shall 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.

5.4.1.4 Notwithstanding the compliance deadlines indicated in Sections 5.4.1.1 through 5.4.1.3, 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.

MOC has addressed the particulate matter requirement by proposing to fire the units on PUC quality natural gas:

- The unit shall only be fired on PUC-quality natural gas. [District Rules 2201 and 4320] Y

Compliance with section 5.4 is expected.

Section 5.6 Startup and Shutdown Provisions

Section 5.6 states that on and after the full compliance deadline specified in Section 5.0, the applicable emission limits of Sections 5.2 Table 1 and 5.5.2 shall not apply during start-up or shutdown provided an operator complies with the requirements specified in Sections 5.6.1 through 5.6.5.

Emissions during start-up and shutdown will not be subject to the emission limits in Sections 5.2 and 5.2.2. The following conditions will be listed on the ATC:

- MOC is not proposing low use status and does not request addition of startup or shutdown provisions.

Section 5.7 Monitoring Provisions

Section 5.7.1 requires that permit units subject to District Rule 4320, Section 5.2 shall both install and maintain an operational APCO approved Continuous Emission Monitoring System (CEMS) for NO_X, CO and O_2, or implement an APCO-approved alternate monitoring.

MOC proposes to use 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 ATCs to ensure compliance with the requirements of the proposed alternate monitoring plan:

- {4063} 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 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 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, 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 NOX, 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]

Section 5.7.6 requires operators complying with Sections 5.4.1.1 or 5.4.1.2 to 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.

- When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320]

The following condition will be listed on the ATCs to ensure compliance with the reporting section of this requirement:

- 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 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).

Therefore, the following condition will be listed on the ATCs as follows:

- {2976} The source test 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 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.

Therefore, the following permit condition will be listed on the ATCs as follows:

- {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. 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. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306, and 4320]

Section 5.8.4 requires that for emissions monitoring pursuant to Sections 5.7.1 and 6.3.1 using a portable NO_X 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 (5) readings evenly spaced out over the 15-consecutive-minute period.

Therefore, the following previously listed permit condition will be on the ATCs as follows:

- {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]

Section 5.8.5 requires that 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 (3) 30-consecutive-minute test runs shall apply. If two (2) of three (3) runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. Therefore, the following permit condition will be listed on the permit as follows:

- {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:

- 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 6.2, 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

The following permit conditions will be listed on the permit as follows:

- 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, 4306 and 4320] Y

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

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

- Fuel sulfur content shall be determined using EPA Method 11 or Method 15. [District Rule 4320] Y

Section 6.3, Compliance Testing

Section 6.3.1 requires that this unit be tested to determine compliance with the applicable requirements of section 5.1 and 5.2.3 not less than once every 12 months. Upon demonstrating compliance on two consecutive compliance source tests, the following source test may be deferred for up to thirty-six months.

The following permit conditions will be listed on the ATC:

- A source test to demonstrate compliance with NOx and CO emission limits shall be performed within 60 days of startup of this unit. [District Rules 220, 4305, 4306 and 4320]
- Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). 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]
- The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

Section 7.0, Compliance Schedule

Section 7.0 identifies the dates by which the operator shall submit an application for an ATC and the date by which the owner shall demonstrate compliance with this rule.

The unit 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 7.0 of District Rule 4320, are satisfied. No further discussion is required.

Conclusion

Conditions will be incorporated into the permit in order to ensure compliance with each section of this rule. Therefore, compliance with District Rule 4320 requirements is expected.

Rule 4351 Boilers, Steam Generators and Process Heaters – Phase 1

This rule applies to boilers, steam generators, and process heaters at NO_x Major Sources that are not located west of Interstate 5 in Fresno, Kings, or Kern counties. If applicable, the emission limits, monitoring provisions, and testing requirements of this rule are satisfied when the unit is operated in compliance with Rule 4306. Therefore, compliance with this rule 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. As the combustion equipment associated with this project will be fired on PUC-quality natural gas, continued compliance with the requirements of this rule is expected.

California Health & Safety Code 42301.6 (School Notice)

The District has verified that this site is not located within 1,000 feet of a school. Therefore, pursuant to California Health and Safety Code 42301.6, a school notice is not required.

California Environmental Quality Act (CEQA)

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 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 proposed steam generators will satisfy the draft best performance standards for oil field steam generators by utilizing high efficiency variable speed drive electric motors and a bare tube area exceeding 235 ft^2/MM Btu of heat input (as shown in Attachment D the unit will have 290 ft^2/MM Btu of heat input). . 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)).

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue ATCs S-1703-157-14, '158-12, '159-17, '160-14, '161-17, '162-13, '180-16, '181-12, '192-3, '212-0 and '213-0 subject to the permit conditions on the attached draft ATCs in **Appendix H**.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-1703-157-4	3020-02-H	62.5 MMBtu/hr	$1030
S-1703-158-4	3020-02-H	62.5 MMBtu/hr	$1030
S-1703-159-16	3020-02-H	62.5 MMBtu/hr	$1030
S-1703-160-6	3020-02-H	62.5 MMBtu/hr	$1030
S-1703-161-6	3020-02-H	62.5 MMBtu/hr	$1030
S-1703-162-4	3020-02-H	62.5 MMBtu/hr	$1030
S-1703-180-15	3020-02-H	62.5 MMBtu/hr	$1030
S-1703-181-4	3020-02-H	62.5 MMBtu/hr	$1030
S-1703-192-2	3020-02-H	62.5 MMBtu/hr	$1030
S-1703-212-0	3020-02-H	85 MMBtu/hr	$1030
S-1703-213-0	3020-02-H	85 MMBtu/hr	$1030

APPENDIX A
Quarterly Net Emissions Change (QNEC)

Quarterly Net Emissions Change (QNEC)

The Quarterly Net Emissions Change is used to complete the emission profile screen for the District's PAS database. The QNEC shall be calculated as follows:

QNEC = PE2 - PE1, where:

QNEC = Quarterly Net Emissions Change for each emissions unit, lb/qtr.
PE2 = Post Project Potential to Emit for each emissions unit, lb/qtr.
PE1 = Pre-Project Potential to Emit for each emissions unit, lb/qtr.

Using the values in Sections VII.C.2 and VII.C.6 in the evaluation above, quarterly PE2 and quarterly PE1 can be calculated as follows:

CO Quarterly NEC [QNEC]					
	PE2 (lb/yr)	PE2 (lb/qtr)	PE1 (lb/yr)	PE1 (lb/qtr)	QNEC (lb/qtr)
S-1703-157-4	15330	3833	10403	2601	-1232
S-1703-158-4	15330	3833	10403	2601	-1232
S-1703-159-16	15330	3833	10403	2601	-1232
S-1703-160-6	15330	3833	10403	2601	-1232
S-1703-161-6	15330	3833	10403	2601	-1232
S-1703-162-4	15330	3833	10403	2601	-1232
S-1703-180-15	15330	3833	10403	2601	-1232
S-1703-181-4	16589	4147	10403	2601	-1547
S-1703-192-2	14235	3559	10403	2601	-958

S-1703-212-0 and '213-0 Quarterly NEC [QNEC]					
	PE2 (lb/yr)	PE2 (lb/qtr)	PE1 (lb/yr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO_X	5212	1303	0	0	1303
SO_X	2122	531	0	0	531
PM_{10}	2234	559	0	0	559
CO	13,711	3428	0	0	3428
VOC	4095	1024	0	0	1024

Permit #: S-1703-157-14	**Last Updated**
Facility: MACPHERSON OIL COMPANY	01/21/2013 TORID

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	4380.0	3121.0	4161.0	10403.0	1643.0
Daily Emis. Limit (lb/Day)	12.0	8.6	11.4	28.5	4.5
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	-1232.0	0.0
Q2:	0.0	0.0	0.0	-1232.0	0.0
Q3:	0.0	0.0	0.0	-1232.0	0.0
Q4:	0.0	0.0	0.0	-1232.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Application Emissions

Permit #: S-1703-158-12 **Last Updated**
Facility: MACPHERSON OIL COMPANY 01/21/2013 TORID

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	4380.0	3121.0	4161.0	10403.0	1643.0
Daily Emis. Limit (lb/Day)	12.0	8.6	11.4	28.5	4.5
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	-1232.0	0.0
Q2:	0.0	0.0	0.0	-1232.0	0.0
Q3:	0.0	0.0	0.0	-1232.0	0.0
Q4:	0.0	0.0	0.0	-1232.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Permit #: S-1703-159-17	**Last Updated**
Facility: MACPHERSON OIL COMPANY	01/21/2013 TORID

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	4380.0	1560.0	3285.0	10403.0	1643.0
Daily Emis. Limit (lb/Day)	12.0	4.3	9.0	28.5	4.5
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	-1232.0	0.0
Q2:	0.0	0.0	0.0	-1232.0	0.0
Q3:	0.0	0.0	0.0	-1232.0	0.0
Q4:	0.0	0.0	0.0	-1232.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Application Emissions

Permit #: S-1703-160-14	**Last Updated**
Facility: MACPHERSON OIL COMPANY	01/21/2013 TORID

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	4380.0	1560.0	3285.0	10403.0	1643.0
Daily Emis. Limit (lb/Day)	12.0	4.3	9.0	28.5	4.5
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	-1232.0	0.0
Q2:	0.0	0.0	0.0	-1232.0	0.0
Q3:	0.0	0.0	0.0	-1232.0	0.0
Q4:	0.0	0.0	0.0	-1232.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Permit #: S-1703-161-17	**Last Updated**
Facility: MACPHERSON OIL COMPANY	01/21/2013 TORID

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	4654.0	1560.0	3285.0	10403.0	1643.0
Daily Emis. Limit (lb/Day)	12.8	4.3	9.0	28.5	4.5
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	-1232.0	0.0
Q2:	0.0	0.0	0.0	-1232.0	0.0
Q3:	0.0	0.0	0.0	-1232.0	0.0
Q4:	0.0	0.0	0.0	-1232.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Application Emissions

Permit #: S-1703-162-13	Last Updated
Facility: MACPHERSON OIL COMPANY	01/21/2013 TORID

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	4654.0	1560.0	4161.0	10403.0	3011.0
Daily Emis. Limit (lb/Day)	12.8	4.3	11.4	28.5	8.3
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	-1232.0	0.0
Q2:	0.0	0.0	0.0	-1232.0	0.0
Q3:	0.0	0.0	0.0	-1232.0	0.0
Q4:	0.0	0.0	0.0	-1232.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Application Emissions

Permit #: S-1703-180-16	Last Updated
Facility: MACPHERSON OIL COMPANY	01/21/2013 TORID

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	4654.0	1560.0	4928.0	10403.0	1643.0
Daily Emis. Limit (lb/Day)	12.8	4.3	13.5	28.5	4.5
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	-1232.0	0.0
Q2:	0.0	0.0	0.0	-1232.0	0.0
Q3:	0.0	0.0	0.0	-1232.0	0.0
Q4:	0.0	0.0	0.0	-1232.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Application Emissions

Permit #: S-1703-181-12 **Last Updated**
Facility: MACPHERSON OIL COMPANY 01/21/2013 TORID

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	4380.0	1560.0	4161.0	10403.0	3833.0
Daily Emis. Limit (lb/Day)	12.0	4.3	11.4	28.5	10.5
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	-1547.0	0.0
Q2:	0.0	0.0	0.0	-1547.0	0.0
Q3:	0.0	0.0	0.0	-1547.0	0.0
Q4:	0.0	0.0	0.0	-1547.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Application Emissions

Permit #: S-1703-192-3 **Last Updated**
Facility: MACPHERSON OIL COMPANY 01/21/2013 TORID

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	4380.0	1560.0	4161.0	10403.0	3285.0
Daily Emis. Limit (lb/Day)	12.0	4.3	11.4	28.5	9.0
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	-958.0	0.0
Q2:	0.0	0.0	0.0	-958.0	0.0
Q3:	0.0	0.0	0.0	-958.0	0.0
Q4:	0.0	0.0	0.0	-958.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Permit #: S-1703-212-0	**Last Updated**
Facility: MACPHERSON OIL COMPANY	01/23/2013 TORID

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	5212.0	2122.0	2234.0	13711.0	4095.0
Daily Emis. Limit (lb/Day)	14.3	5.8	6.1	37.6	11.2
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	1303.0	531.0	559.0	3428.0	1024.0
Q2:	1303.0	531.0	559.0	3428.0	1024.0
Q3:	1303.0	531.0	559.0	3428.0	1024.0
Q4:	1303.0	531.0	559.0	3428.0	1024.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio	1.5		1.5		1.5
Quarterly Offset Amounts (lb/Qtr)					
Q1:	1955.0		838.0		1536.0
Q2:	1955.0		838.0		1536.0
Q3:	1955.0		838.0		1536.0
Q4:	1955.0		838.0		1536.0

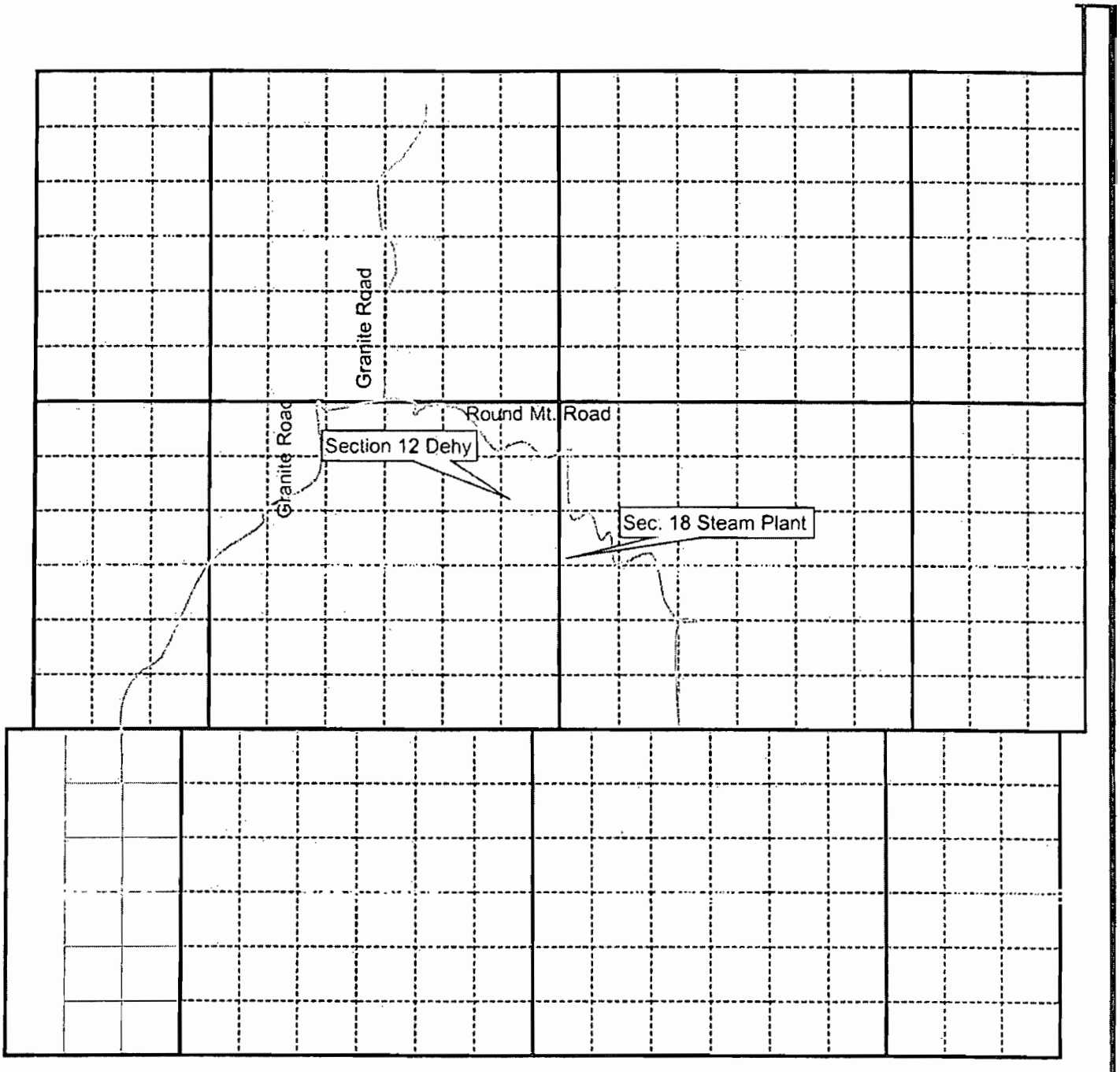
Application Emissions

Permit #: S-1703-213-0 **Last Updated**
Facility: MACPHERSON OIL COMPANY 01/23/2013 TORID

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	5212.0	2122.0	2234.0	13711.0	4095.0
Daily Emis. Limit (lb/Day)	14.3	5.8	6.1	37.6	11.2
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	1303.0	531.0	559.0	3428.0	1024.0
Q2:	1303.0	531.0	559.0	3428.0	1024.0
Q3:	1303.0	531.0	559.0	3428.0	1024.0
Q4:	1303.0	531.0	559.0	3428.0	1024.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio	1.5		1.5		1.5
Quarterly Offset Amounts (lb/Qtr)					
Q1:	1955.0		838.0		1536.0
Q2:	1955.0		838.0		1536.0
Q3:	1955.0		838.0		1536.0
Q4:	1955.0		838.0		1536.0

APPENDIX B
Project Location Map and Facility Plot Plan



- N -

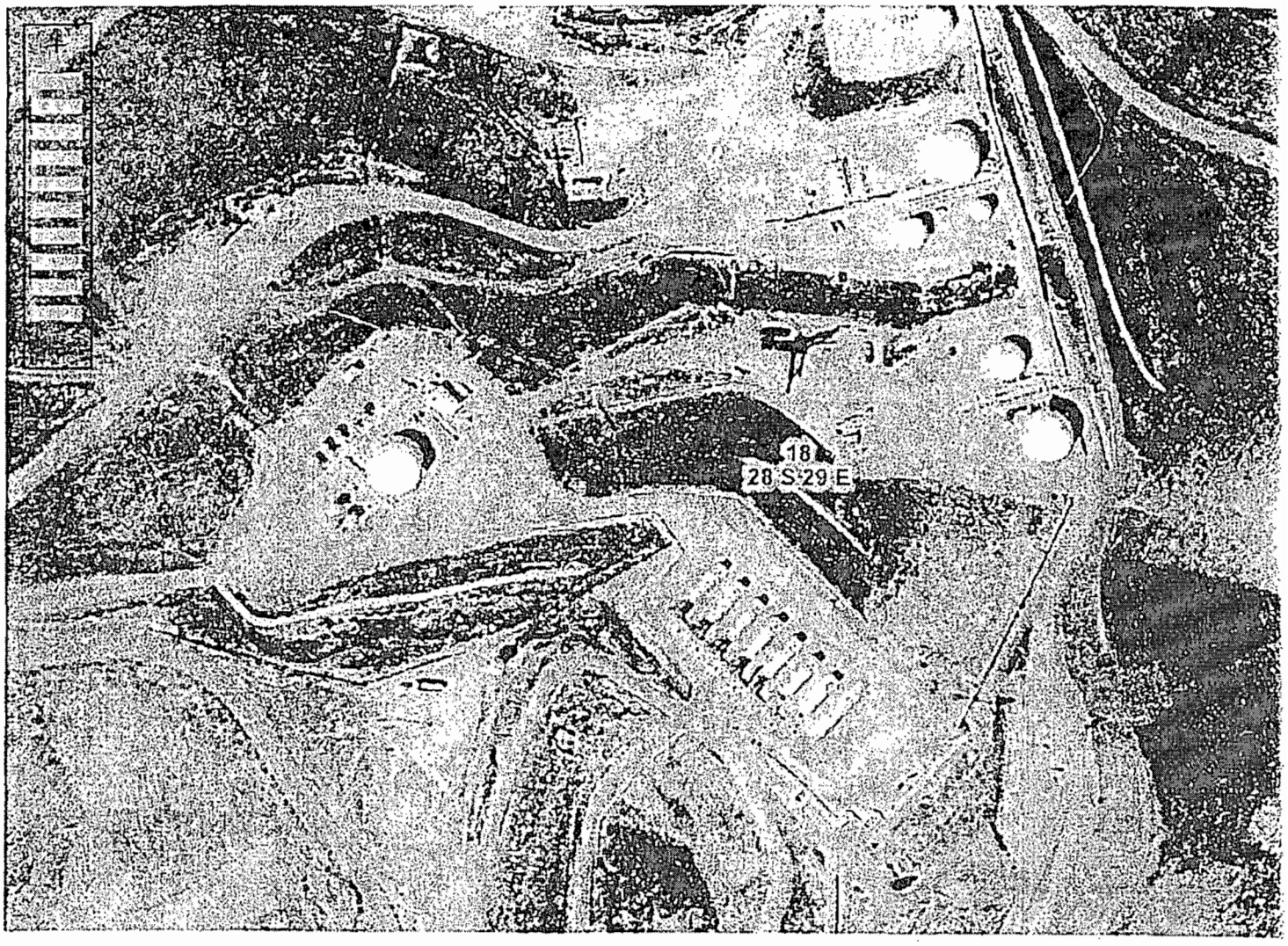
Macpherson Oil Company

Round Mountain Field

Prepared by:

Insight
Environmental Consultants

June 2007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28 S 29 E

APPENDIX C
Current PTOs

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-1703-157-4 **EXPIRATION DATE:** 07/31/2016

SECTION: SE12 **TOWNSHIP:** 28S **RANGE:** 28E

EQUIPMENT DESCRIPTION:
62.5 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR #610 WITH COEN QLN LOW NOX BURNER AND FGR, FIRING TEOR GAS AND TVR GAS FROM S-1703-143 AND/OR TANK VAPOR CONTROL GAS FROM S-1703-139, '-144 OR '-184

PERMIT UNIT REQUIREMENTS

1. Burner shall be equipped with fuel gas volume flowmeter (a master meter for a group of generators is acceptable upon District approval). [District Rule 4351, 5.6.1; District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
2. Emission rates shall not exceed any of the following: NOx (as NO2) - 7 ppmv @ 3% 02 or 0.008 lb/MMBtu; CO - 38 ppmv @ 3% 02; or PM10 - 0.006 lb/MMBtu; VOC - 0.003 lb/MMBtu. [District Rule 4320 and 4351, 5.2] Federally Enforceable Through Title V Permit
3. Fuel gas sulfur content shall not exceed 1 grain of sulfur per 100 dscf. [District Rule 2201 and 4320] Federally Enforceable Through Title V Permit
4. Permittee shall conduct sample analysis of noncertified (non-PUC/FERC regulated) fuel gas monthly. [District Rule 2201] Federally Enforceable Through Title V Permit
5. 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. 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 of District Rule 4306. [District Rule 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
6. 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 Rule 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
7. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NOx and CO source testing requirement. [District Rule 4305, 6.3; District Rule 4351,6.3; District Rule 2520, 9.4.21] Federally Enforceable Through Title V Permit
8. Source testing shall be conducted by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
9. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
10. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rule 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

11. 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] Federally Enforceable Through Title V Permit

12. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit

13. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARE Method 100, NOx (lb/MMBtu) - EPA Method 19; CO (ppmv) - EPA Method 10 or ARB Method 100; stack gas oxygen - EPA Method 3 or 3A or ABS Method 100; and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans. [District Rule 1081; 4305, 6.2; 4320, and 4351, 6.2] Federally Enforceable Through Title V Permit

14. The permittee shall monitor and record the stack concentration of NOx, CO, and 02 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, 4306 and 4320] Federally Enforceable Through Title V Permit

15. If either the NOx or CO concentrations corrected to 3% 02, 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 I 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 I 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 Rule4305, 4306 and 4320] Federally Enforceable Through Title V Permit

16. 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 manufacturers 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, 4306 and 4320] Federally Enforceable Through Title V Permit

17. The permittee shall maintain records of: (I) the date and time of NOx, CO, and 02 measurements, (2) the 02 concentration in percent and the measured NOx and CO concentrations corrected to 3% 02, (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, 4306 and 4320] Federally Enforceable Through Title V Permit

18. Permittee shall maintain records of noncertified (non-PUC/FERC regulated) fuel gas sulfur content. [District NSR Rule] Federally Enforceable Through Title V Permit

19. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081, and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit

20. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s)combusted and all dates on which unit is fired on any noncertified fuel [District Rule 2520, 9.4.2 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

21. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as S02. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.4.2 and Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit

22. 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 monthly. If a monthly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

23. When complying with SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur precombustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

24. 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 1072-80, D 3031-81, D 4084-82, D 3246-81 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

25. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by ASTM D 1826-88 or D 1945-81 in conjunction with ASTM D 3588-89 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 6.2.1; and 4351, 6.2.1] Federally Enforceable Through Title V Permit

26. Test results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NOx limits for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. [District Rule 4305, 6.3.2 and 4351, 6.3; District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

27. The following conditions must be met for representative unit(s) used to demonstrate compliance for NOx limits for a group of units: I) all units are initially source tested and emissions from all units in group are similar, 2) all units in group are similar in terms of rated heat input, make and series, operation conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and gall units in the group shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rule 4305, 6.3.2; District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

28. The number of representative units source tested to demonstrate compliance for NOx limits shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that when 3 source test cycles have been completed, all units in the entire group will have been tested. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

29. Nitrogen oxide (N0x) emission concentrations in ppmv shall be referenced at dry stack gas conditions, and shall be calculated to 3.00 percent by volume stack gas oxygen and avenged over 60 minutes, and lb/MMBtu rates shall be calculated as lb NO2/MMBtu of heat input (hhv). [District Rule 4305, 5.0, 8.2 and/or 4351, 8.1; District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

30. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070, 4305, 4306 AND 4320] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-1703-158-4 **EXPIRATION DATE:** 07/31/2016

SECTION: SE18 **TOWNSHIP:** 28S **RANGE:** 29E

EQUIPMENT DESCRIPTION:
62.5 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR #620 WITH COEN QLN LOW NOX BURNER AND FGR, FIRING TEOR GAS AND TVR GAS FROM S-1703-143 AND/OR TANK VAPOR CONTROL GAS FROM S-1703-139, '-144 OR '-184

PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
2. Burner shall be equipped with fuel gas volume flowmeter (a master meter for a group of generators is acceptable upon District approval). [District Rule 4351, 5.6.1; District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
3. Fuel gas sulfur content shall not exceed 2.0 grains of sulfur per 100 dscf. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Emission rates shall not exceed any of the following: NOx (as NO2) - 7 ppmv @ 3% O2 or 0.008 lb/MMBtu; CO - 38 ppmv @ 3% O2; or SOx (as SO2) - 0.0057 lb/MMBtu; PM10 - 0.0076 lb/MMBtu; or VOC - 0.003 lb/MMBtu. [District Rules 4320 and 4351, 5.2] Federally Enforceable Through Title V Permit
5. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
6. Permittee shall conduct sample analysis of noncertified (non-PUC/FERC regulated) fuel gas monthly. [District Rule 2201]
7. 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] Federally Enforceable Through Title V Permit
8. Source testing to measure natural gas-combustion 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 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
9. 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] Federally Enforceable Through Title V Permit
10. 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. 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 of Rule 4320. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

11. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

12. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit

13. 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; stack gas oxygen - EPA Method 3 or 3A or ARB Method 100; and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans. [District Rules 1081, 4305, 4320 and 4351] Federally Enforceable Through Title V Permit

14. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NOx and CO emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx or CO emissions limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supercede a more stringent NSR or PSD permit testing requirement). [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

15. The following conditions must be met for representative unit(s) to be used to test for NOx and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

16. All units in a group for which representative units are source tested for NOx and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

17. All units in a group for which representative units are source tested to for NOx and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

18. The number of representative units source tested for NOx and CO emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

19. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO2. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rules 2201; 2520, 9.4.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit

20. 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 monthly. If a monthly fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2201 and 2520, 9.4.2] Federally Enforceable Through Title V Permit

21. When complying with SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

22. 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 1072-80, D 3031-81, D 4084-82, D 3246-81 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

23. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by ASTM D 1826-88 or D 1945-81 in conjunction with ASTM D 3588-89 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 6.2.1; and 4351, 6.2.1] Federally Enforceable Through Title V Permit

24. 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, 4306 and 4320] Federally Enforceable Through Title V Permit

25. 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 Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

26. 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] Federally Enforceable Through Title V Permit

27. 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, 4306 and 4320] Federally Enforceable Through Title V Permit

28. Permittee shall maintain records of fuel gas sulfur content. [District Rule 2201] Federally Enforceable Through Title V Permit

29. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit

30. 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] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-1703-159-16 **EXPIRATION DATE:** 07/31/2016

SECTION: SE12 **TOWNSHIP:** 28S **RANGE:** 28E

EQUIPMENT DESCRIPTION:
62.5 MMBTU/HR NATURAL GAS FIRED STEAM GENERATOR #630 WITH GIDEON MGW 63V2 LOW NOX BURNER, FIRING TEOR GAS AND TVR GAS FROM S-1703-143 AND/OR TANK VAPOR CONTROL GAS FROM S-1703-139, '-144, AND '-184:

PERMIT UNIT REQUIREMENTS

1. 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] Federally Enforceable Through Title V Permit
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
3. Emissions from the natural gas-fired unit shall not exceed any of the following limits: 7 ppmvd NOX @ 3% O2 or 0.008 lb-NOX/MMBtu; 0.00285 lb-SOX/MMBtu; 0.006 lb-PM10/MMBtu; 38 ppmvd CO @ 3% O2 or 0.028 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4301, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
4. Fuel gas sulfur content shall not exceed 1 grains of sulfur per 100 dscf. [District NSR Rule] Federally Enforceable Through Title V Permit
5. 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. 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 of District Rule 4320. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
6. Source testing to measure natural gas-combustion 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 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
7. Test results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NOx limits for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. [District Rules 2520, 9.4, 4305, 6.3.2, 4306, 6.3.2 and 4351, 6.3] Federally Enforceable Through Title V Permit
8. The following conditions must be met for representative unit(s) used to demonstrate compliance for NOx limits for a group of units: 1) all units are initially source tested and emissions from all units in group are similar, 2) all units in group are similar in terms of rated heat input, make and series, operation conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and 4) all units in the group shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rules 2520, 9.4.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

9. The number of representative units source tested to demonstrate compliance for NOx limits shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that when 3 source test cycles have been completed, all units in the entire group will have been tested. [District Rules 2520, 9.4.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit

10. 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] Federally Enforceable Through Title V Permit

11. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

12. 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, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans. [District Rules 1081, 4305, 4320 and 4351] Federally Enforceable Through Title V Permit

13. 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] Federally Enforceable Through Title V Permit

14. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit

15. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO2. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rules 2520, 9.4.2 and Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit

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 monthly. If a monthly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

17. When complying with SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

18. 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 1072-80, D 3031-81, D 4084-82, D 3246-81 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

19. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by ASTM D 1826-88 or D 1945-81 in conjunction with ASTM D 3588-89 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 6.2.1; and 4351, 6.2.1] Federally Enforceable Through Title V Permit

20. Permittee shall conduct sample analysis of noncertified (non-PUC/FERC regulated) fuel gas monthly. [District NSR Rule] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

21. 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, 4306 and 4320] Federally Enforceable Through Title V Permit

22. 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 Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

23. 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] Federally Enforceable Through Title V Permit

24. 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, 4306 and 4320] Federally Enforceable Through Title V Permit

25. Permittee shall maintain records of fuel gas sulfur content. [District NSR Rule] Federally Enforceable Through Title V Permit

26. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit

27. 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] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-1703-160-6 **EXPIRATION DATE:** 07/31/2016

SECTION: SE18 **TOWNSHIP:** 28S **RANGE:** 29E

EQUIPMENT DESCRIPTION:
62.5 MMBTU/HR NATURAL GAS FIRED STEAM GENERATOR #640 WITH COEN QLN LOW NOX BURNER AND FGR, FIRING TEOR GAS AND TVR GAS FROM S-1703-143 AND/OR TANK VAPOR CONTROL GAS FROM S-1703-139, '-144, AND '-184

PERMIT UNIT REQUIREMENTS

1. 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] Federally Enforceable Through Title V Permit
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
3. Burner shall be equipped with fuel gas volume flowmeter (a master meter for a group of generators is acceptable upon District approval). [District Rule 4351, 5.6.1; District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
4. Emissions from the natural gas-fired unit shall not exceed any of the following limits: 7 ppmvd NOX @ 3% O2 or 0.008 lb-NOX/MMBtu, 0.00285 lb-SOX/MMBtu, 0.006 lb-PM10/MMBtu, 38 ppmvd CO @ 3% O2 or 0.028 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4301, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
5. Fuel gas sulfur content shall not exceed 1 grains of sulfur per 100 dscf. [District NSR Rule] Federally Enforceable Through Title V Permit
6. 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. 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 of District Rule 4320. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
7. Source testing to measure natural gas-combustion 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 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
8. Test results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NOx limits for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. [District Rules 2520, 9.4, 4305, 6.3.2, 4306, 6.3.2 and 4351, 6.3] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

9. The following conditions must be met for representative unit(s) used to demonstrate compliance for NOx limits for a group of units: 1) all units are initially source tested and emissions from all units in group are similar, 2) all units in group are similar in terms of rated heat input, make and series, operation conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and 4) all units in the group shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rules 2520, 9.4.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit

10. The number of representative units source tested to demonstrate compliance for NOx limits shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that when 3 source test cycles have been completed, all units in the entire group will have been tested. [District Rules 2520, 9.4.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit

11. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

12. 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] Federally Enforceable Through Title V Permit

13. 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, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans. [District Rules 1081, 4305, 4320 and 4351] Federally Enforceable Through Title V Permit

14. 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] Federally Enforceable Through Title V Permit

15. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit

16. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO2. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rules 2520, 9.4.2 and Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit

17. 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 monthly. If a monthly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

18. When complying with SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

19. 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 1072-80, D 3031-81, D 4084-82, D 3246-81 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

20. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by ASTM D 1826-88 or D 1945-81 in conjunction with ASTM D 3588-89 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 6.2.1; and 4351, 6.2.1] Federally Enforceable Through Title V Permit

21. Permittee shall conduct sample analysis of noncertified (non-PUC/FERC regulated) fuel gas monthly. [District NSR Rule] Federally Enforceable Through Title V Permit

22. 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, 4306 and 4320] Federally Enforceable Through Title V Permit

23. 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 Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

24. 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] Federally Enforceable Through Title V Permit

25. 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, 4306 and 4320] Federally Enforceable Through Title V Permit

26. Permittee shall maintain records of fuel gas sulfur content. [District NSR Rule] Federally Enforceable Through Title V Permit

27. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit

28. 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] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-1703-161-6 **EXPIRATION DATE:** 07/31/2016

SECTION: SE18 **TOWNSHIP:** 28S **RANGE:** 29E

EQUIPMENT DESCRIPTION:
62.5 MMBTU/HR NATURAL GAS FIRED STEAM GENERATOR #650 WITH WITH COEN QLN LOW NOX BURNER AND FGR, FIRING TEOR GAS AND TVR GAS FROM S-1703-143 AND/OR TANK VAPOR CONTROL GAS FROM S-1703-139, -144, AND -184

PERMIT UNIT REQUIREMENTS

1. 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] Federally Enforceable Through Title V Permit
2. 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] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
4. Burner shall be equipped with fuel gas volume flowmeter (a master meter for a group of generators is acceptable upon District approval). [District Rule 4351, 5.6.1; District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
5. Emissions from the natural gas-fired unit shall not exceed any of the following limits: 7 ppmvd NOX @ 3% O2 or 0.0085 lb-NOX/MMBtu, 0.00285 lb-SOX/MMBtu, 0.006 lb-PM10/MMBtu, 38 ppmvd CO @ 3% O2 or 0.028 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
6. Fuel gas sulfur content shall not exceed 1 grains of sulfur per 100 dscf. [District NSR Rule] Federally Enforceable Through Title V Permit
7. 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] Federally Enforceable Through Title V Permit
8. 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] Federally Enforceable Through Title V Permit
9. Test results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NOx limits for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. [District Rules 2520, 9.4, 4305, 6.3.2, 4306, 6.3.2 and 4351, 6.3] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

10. The following conditions must be met for representative unit(s) used to demonstrate compliance for NOx limits for a group of units: 1) all units are initially source tested and emissions from all units in group are similar, 2) all units in group are similar in terms of rated heat input, make and series, operation conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and 4) all units in the group shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rules 2520, 9.4.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
11. The number of representative units source tested to demonstrate compliance for NOx limits shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that when 3 source test cycles have been completed, all units in the entire group will have been tested. [District Rules 2520, 9.4.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
12. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
13. 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] Federally Enforceable Through Title V Permit
14. 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] Federally Enforceable Through Title V Permit
15. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
16. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
17. 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] Federally Enforceable Through Title V Permit
18. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
19. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO2. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rules 2520, 9.4.2 and Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
20. 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 monthly. If a monthly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
21. When complying with SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
22. 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 1072-80, D 3031-81, D 4084-82, D 3246-81 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

23. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by ASTM D 1826-88 or D 1945-81 in conjunction with ASTM D 3588-89 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 6.2.1; and 4351, 6.2.1] Federally Enforceable Through Title V Permit

24. Permittee shall conduct sample analysis of fuel gas monthly. [District NSR Rule] Federally Enforceable Through Title V Permit

25. 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] Federally Enforceable Through Title V Permit

26. 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 Rules 4305 and 4306] Federally Enforceable Through Title V Permit

27. 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] Federally Enforceable Through Title V Permit

28. 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] Federally Enforceable Through Title V Permit

29. Permittee shall maintain records of fuel gas sulfur content. [District NSR Rule] Federally Enforceable Through Title V Permit

30. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit

31. 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] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-1703-162-4 **EXPIRATION DATE:** 07/31/2016

SECTION: SE12 **TOWNSHIP:** 28S **RANGE:** 28E

EQUIPMENT DESCRIPTION:
62.5 MMBTU/HR NATURAL GAS FIRED STEAM GENERATOR #660 WITH COEN QLN LOW NOX BURNER AND FGR, FIRING TEOR GAS AND TVR GAS FROM S-1703-143 AND/OR TANK VAPOR CONTROL GAS FROM S-1703-139, -144, AND -184

PERMIT UNIT REQUIREMENTS

1. 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] Federally Enforceable Through Title V Permit
2. 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] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
4. Burner shall be equipped with fuel gas volume flowmeter (a master meter for a group of generators is acceptable upon District approval). [District Rule 4351, 5.6.1; District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
5. Emission rates shall not exceed any of the following: NOx (as NO2): 0.0085 lb/MMBtu or 7 ppmv @ 3% O2, Sox (as SO2): 0.00285 lb/MMBtu, PM10: 0.0076 lb/MMBtu, CO: 0.0281 lb/MMBtu or 38 ppmv @ 3% O2, or VOC: 0.003 lb/MMBtu. [District Rules 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
6. 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] Federally Enforceable Through Title V Permit
7. 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] Federally Enforceable Through Title V Permit
8. Test results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NOx limits for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. [District Rules 2520, 9.4, 4305, 6.3.2, 4306, 6.3.2 and 4351, 6.3, and 4320] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

9. The following conditions must be met for representative unit(s) used to demonstrate compliance for NOx limits for a group of units: 1) all units are initially source tested and emissions from all units in group are similar, 2) all units in group are similar in terms of rated heat input, make and series, operation conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and 4) all units in the group shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rules 2520, 9.4.2, 4305, 6.3.2, and 4306, 6.3.2, and 4320] Federally Enforceable Through Title V Permit

10. The number of representative units source tested to demonstrate compliance for NOx limits shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that when 3 source test cycles have been completed, all units in the entire group will have been tested. [District Rules 2520, 9.4.2, 4305, 6.3.2, and 4306, 6.3.2, and 4320] Federally Enforceable Through Title V Permit

11. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

12. 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] Federally Enforceable Through Title V Permit

13. 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 10B or ARB Method 100, stack gas oxygen - EPA Method 3 or 3Aor ARB Method 100, SOx (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, fuel gas sulfur content - EPA Method 11 or 15, ASTM D3246 or double GC for H2S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

14. 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] Federally Enforceable Through Title V Permit

15. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit

16. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO2. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rules 2520, 9.4.2 and Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit

17. 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 monthly. If a monthly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

18. When complying with SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

19. 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 1072-80, D 3031-81, D 4084-82, D 3246-81 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

20. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by ASTM D 1826-88 or D 1945-81 in conjunction with ASTM D 3588-89 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 6.2.1; and 4351, 6.2.1] Federally Enforceable Through Title V Permit

21. 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 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] Federally Enforceable Through Title V Permit

22. 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 Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

23. 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] Federally Enforceable Through Title V Permit

24. The permittee shall maintain records of: (1) the date and time of NOX, 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] Federally Enforceable Through Title V Permit

25. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit

26. 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] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-1703-180-15 **EXPIRATION DATE:** 07/31/2016

SECTION: SE/12 **TOWNSHIP:** 28S **RANGE:** 28E

EQUIPMENT DESCRIPTION:
62.5 MMBTU/HR C.E. NATURAL GAS FIRED STEAM GENERATOR #670 WITH COEN QLN LOW NOX BURNER AND FGR (C-5, DIS# 27554-74)

PERMIT UNIT REQUIREMENTS

1. 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] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. 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] Federally Enforceable Through Title V Permit
4. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
5. Burner shall be equipped with fuel gas volume flowmeter (a master meter for a group of generators is acceptable upon District approval). [District Rule 4351] Federally Enforceable Through Title V Permit
6. Unit shall be fired on PUC-regulated quality natural gas only. No TEOR or TVR gas may be combusted. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Emission rates shall not exceed any of the following: NOx (as NO2): 0.0085 lb/MMBtu or 7 ppmv @ 3% O2, Sox (as SO2): 0.00285 lb/MMBtu, PM10: 0.009 lb/MMBtu, CO: 0.0281 lb/MMBtu or 38 ppmv @ 3% O2, or VOC: 0.003 lb/MMBtu. [District Rules 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
8. 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] Federally Enforceable Through Title V Permit
9. 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] Federally Enforceable Through Title V Permit
10. Test results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NOx limits for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. [District Rules 2520, 9.4, 4305, 6.3.2, 4306, 6.3.2 and 4351, 6.3, and 4320] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

11. The following conditions must be met for representative unit(s) used to demonstrate compliance for NOx limits for a group of units: 1) all units are initially source tested and emissions from all units in group are similar, 2) all units in group are similar in terms of rated heat input, make and series, operation conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and 4) all units in the group shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rules 2520, 9.4.2, 4305, 6.3.2, and 4306, 6.3.2, and 4320] Federally Enforceable Through Title V Permit
12. The number of representative units source tested to demonstrate compliance for NOx limits shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that when 3 source test cycles have been completed, all units in the entire group will have been tested. [District Rules 2520, 9.4.2, 4305, 6.3.2, and 4306, 6.3.2, and 4320] Federally Enforceable Through Title V Permit
13. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
14. 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] Federally Enforceable Through Title V Permit
15. 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 10B or ARB Method 100, stack gas oxygen - EPA Method 3 or 3Aor ARB Method 100, SOx (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, fuel gas sulfur content - EPA Method 11 or 15, ASTM D3246 or double GC for H2S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. 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] Federally Enforceable Through Title V Permit
17. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
18. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO2. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rules 2520, 9.4.2 and Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
19. 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 monthly. If a monthly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
20. When complying with SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
21. 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 1072-80, D 3031-81, D 4084-82, D 3246-81 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

22. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by ASTM D 1826-88 or D 1945-81 in conjunction with ASTM D 3588-89 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 6.2.1; and 4351, 6.2.1] Federally Enforceable Through Title V Permit

23. Permittee shall conduct sample analysis of noncertified gaseous fuel gas monthly. [District NSR Rule] Federally Enforceable Through Title V Permit

24. 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 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] Federally Enforceable Through Title V Permit

25. 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 Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

26. 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] Federally Enforceable Through Title V Permit

27. The permittee shall maintain records of: (1) the date and time of NOX, 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] Federally Enforceable Through Title V Permit

28. Permittee shall maintain records of sulfur content of noncertified gaseous fuel. [District NSR Rule] Federally Enforceable Through Title V Permit

29. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit

30. 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] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-1703-181-4 **EXPIRATION DATE:** 07/31/2016

SECTION: SW09 **TOWNSHIP:** 27S **RANGE:** 28E

EQUIPMENT DESCRIPTION:
62.5 MMBTU/HR THERMOTICS GAS/CASING GAS-FIRED STEAM GENERATOR #680 WITH LO-NOX BURNER AND FGR, O2 CONTROLLER/ ANALYZER (B-1, DIS# 27529-71)

PERMIT UNIT REQUIREMENTS

1. 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] Federally Enforceable Through Title V Permit
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
3. The unit shall only be fired on PUC-regulated natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Burner shall be equipped with fuel gas volume flowmeter (a master meter for a group of generators is acceptable upon District approval). [District Rule 4351, 5.6.1; District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
5. Emission rates shall not exceed any of the following: NOx (as NO2) - 7 ppmv @ 3% O2 or 0.008 lb/MMBtu; SOx - 0.00285 lb/MMBtu; CO - 41 ppmv @ 3% O2; PM10 - 0.0076 lb/MMBtu; or VOC - 0.007 lb/MMBtu. [District Rules 2201, 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
6. 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. 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 of District Rule 4320. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
7. 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] Federally Enforceable Through Title V Permit
8. Test results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NOx limits for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. [District Rules 2520, 9.4, 4305, 6.3.2, 4306, 6.3.2 and 4351, 6.3] Federally Enforceable Through Title V Permit
9. The following conditions must be met for representative unit(s) used to demonstrate compliance for NOx limits for a group of units: 1) all units are initially source tested and emissions from all units in group are similar, 2) all units in group are similar in terms of rated heat input, make and series, operation conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and 4) all units in the group shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rules 2520, 9.4.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

10. The number of representative units source tested to demonstrate compliance for NOx limits shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that when 3 source test cycles have been completed, all units in the entire group will have been tested. [District Rules 2520, 9.4.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit

11. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

12. 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] Federally Enforceable Through Title V Permit

13. 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; stack gas oxygen - EPA Method 3 or 3A or ARB Method 100; and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans. [District Rules 1081, 4305, 4320 and 4351] Federally Enforceable Through Title V Permit

14. 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] Federally Enforceable Through Title V Permit

15. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit

16. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO2. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rules 2520, 9.4.2 and Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit

17. 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 monthly. If a monthly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

18. When complying with SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

19. 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 1072-80, D 3031-81, D 4084-82, D 3246-81 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

20. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by ASTM D 1826-88 or D 1945-81 in conjunction with ASTM D 3588-89 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 6.2.1; and 4351, 6.2.1] Federally Enforceable Through Title V Permit

21. Permittee shall conduct sample analysis of noncertified gaseous fuel gas monthly. [District NSR Rule] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

22. 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, 4306 and 4320] Federally Enforceable Through Title V Permit

23. 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 Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

24. 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] Federally Enforceable Through Title V Permit

25. 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, 4306 and 4320] Federally Enforceable Through Title V Permit

26. Permittee shall maintain records of sulfur content of noncertified gaseous fuel. [District NSR Rule] Federally Enforceable Through Title V Permit

27. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit

28. 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] Federally Enforceable Through Title V Permit

29. Formerly S-1109-31.

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-1703-192-2 **EXPIRATION DATE:** 07/31/2016

EQUIPMENT DESCRIPTION:
62.5 MMBTU/HR STEAM GENERATOR #690 WITH COEN MODEL QLN LOW NOX BURNER, FGR, AND O2 CONTROLLER

PERMIT UNIT REQUIREMENTS

1. 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] Federally Enforceable Through Title V Permit
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
3. The unit shall only be fired on PUC-regulated natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Emissions from this unit shall not exceed any of the following limits: 7 ppmvd NOx @ 3% O2 or 0.008 lb-NOX/MMBtu, 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 35 ppmvd CO @ 3% O2 or 0.0259 lb-CO/MMBtu, or 0.006 lb-VOC/MMBtu. [District Rules 2201, 4301, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
5. 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. 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 of District Rule 4320. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
6. 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] Federally Enforceable Through Title V Permit
7. Test results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NOx limits for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. [District Rules 2520, 9.4, 4305, 6.3.2, 4306, 6.3.2 and 4351, 6.3] Federally Enforceable Through Title V Permit
8. The following conditions must be met for representative unit(s) used to demonstrate compliance for NOx limits for a group of units: 1) all units are initially source tested and emissions from all units in group are similar, 2) all units in group are similar in terms of rated heat input, make and series, operation conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and 4) all units in the group shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rules 2520, 9.4.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

9. The number of representative units source tested to demonstrate compliance for NOx limits shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that when 3 source test cycles have been completed, all units in the entire group will have been tested. [District Rules 2520, 9.4.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit

10. 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] Federally Enforceable Through Title V Permit

11. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

12. 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; stack gas oxygen - EPA Method 3 or 3A or ARB Method 100; and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans. [District Rules 1081, 4305, 4320 and 4351] Federally Enforceable Through Title V Permit

13. 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] Federally Enforceable Through Title V Permit

14. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit

15. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO2. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rules 2520, 9.4.2 and Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit

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 monthly. If a monthly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

17. When complying with SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

18. 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 1072-80, D 3031-81, D 4084-82, D 3246-81 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

19. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by ASTM D 1826-88 or D 1945-81 in conjunction with ASTM D 3588-89 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 6.2.1; and 4351, 6.2.1] Federally Enforceable Through Title V Permit

20. Permittee shall conduct sample analysis of noncertified gaseous fuel gas monthly. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

21. 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, 4306 and 4320] Federally Enforceable Through Title V Permit

22. 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 Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

23. 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] Federally Enforceable Through Title V Permit

24. 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, 4306 and 4320] Federally Enforceable Through Title V Permit

25. Permittee shall maintain records of sulfur content of noncertified gaseous fuel. [District Rule 2201] Federally Enforceable Through Title V Permit

26. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit

27. 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] Federally Enforceable Through Title V Permit

APPENDIX D
Top-Down BACT Analysis

Top Down BACT Analysis for NO_X Emissions

Step 1 - Identify All Control Technologies:

The following have been identified as "Achieved in Practice" BACT for NO_X emissions:

- 7 ppmvd @ 3% O_2

The following have been identified as "Technologically Feasible" BACT for NO_X emissions; no other technologically feasible options or alternate basic equipment is identified:

- 5 ppmvd @ 3% O_2 with SCR.

Step 2 - Eliminate Technologically Infeasible Options

All identified options are technologically feasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

- 5 ppmvd @ 3% O_2 with SCR.
- 7 ppmvd @ 3% O_2.

Step 4 - Cost Effectiveness Analysis

Technologically Feasible Cost Analysis for a Selective Catalytic Control System to serve as an additional control device on a 85.0 MM Btu/hr steam generator

PLC in a quotation to install SCR on a 85 MMBtu/hr Steam Generator

Capital Costs:

Purchased Equipment Cost (PEC):

SCR System for an 85 MMBtu/hr Steam Generator	$745,000.00
TOTAL PEC	$745,000.00

Direct Installation Costs (DIC):

Foundation and supports (8% of PEC)	*Included*
Equipment erection (14% of PEC)	*Included*
Electrical (4% of PEC)	*Included*
Painting, Insulation, & Piping (4% of PEC)	*Included*
TOTAL DIC	$0.00
TOTAL DIRECT COST (TDC)	$745,000.00

Indirect costs (IC):

Engineering (20% of PEC)	*Included*
Construction and field expenses (10% of PEC)	*Included*
Contractor fees (10% of PEC)	*Included*
Start-up expenses (4% of PEC)	*Included*
Performance tests (2% of PEC)	*Included*
TOTAL IC	$0.00
Contingency (20% of (TDC + IC)) (Cont.)	*Included*
TOTAL Capital Investment - TCI (PEC + TDC + IC + Cont.)	$745,000.00

Pursuant to the District's BACT Policy, Section X. (Revised 11/09/99), the capital cost of the SCR system will be amortized as follows. The cost will be spread over the expected life of the system which is estimated at 10 years and using the capital recovery equation (Equation 1). A 10% interest rate is assumed in this equation and the assumption will be made that the equipment has no salvage value at the end of the ten-year cycle.

Equation 1: $A = [P * i(i + 1)^n] / (i + 1)^n - 1$

Where: A = annual cost P = Present Value
i = Interest rate (10%) n = Equipment (10 years)

Interest Rate % (i)	10
Equipment Life (n)	10
Present Value of Control Equipment (TCI)	$745,000.00
Amortized Capital Cost (ACC)	$121,245.32

Annual Direct Costs: (ADC)

Operating Maintenance & Labor (1 hour per day at prevailing rate of $39.15/hr)	$125,000.00
Chemical use	included
Parts Replacement (per year) 3 layers	
Electricity	
TOTAL Direct Costs (ADC)	$125,000.00

Annual Indirect Costs: (AIC)

Overhead (60% of operating, maintenance & labor)	*Included*
Administrative charges (2% of TCI)	*Included*
Taxes and Insurance (2% of TCI)	*Included*
Total Indirect Costs (AIC)	$0.00
TOTAL ANNUALIZED COST (ACC + ADC + AIC)	$246,245.32

Industry standard NOx emissions (9 ppmv @ 3% O2):	8,116 4.06	lb/year Ton/yr
Controlled Emissions (5 ppmv @ 3% O2)	4542 2.27	lb/year Ton/yr
Maximum Expected Emission Reduction =	1.8	ton/yr
Cost Effectiveness =		$137,567
NOx Cost Effectiveness Threshold =		$24,500.00

As shown in the top down cost analysis it is not cost effective to utilize SCR to reduce NOx emissions to 5 ppmv.

Step 5 - Select BACT

The applicant has proposed the remaining Technologically Feasible BACT:

- 6.0 ppmvd NO_X @ 3% O_2.

Top Down BACT Analysis for VOC Emissions

Step 1 - Identify All Control Technologies:

The following have been identified as "Achieved in Practice" BACT for VOC emissions; no other technologically feasible options or alternate basic equipment are identified:

- Gaseous fuel.

Step 2 - Eliminate Technologically Infeasible Options

The identified option is technologically feasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

- Gaseous fuel.

Step 4 - Cost Effectiveness Analysis

Only one technologically feasible option is identified and it has been established as "Achieved in Practice" for VOC emissions. A cost-effectiveness analysis is therefore not appropriate or required.

Step 5 - Select BACT

The applicant has proposed the only BACT:

- Gaseous fuel.

Top Down BACT Analysis for SO_X Emissions

Step 1 - Identify All Control Technologies:

The following has been identified as "Achieved in Practice" BACT for SO_X emissions:

- Gaseous fuel treated to remove 95% by weight of sulfur compounds or treated such that the sulfur content does not exceed 1 grain of sulfur (as S) per 100 scf, or
- Gaseous fuel treated by 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.

Step 2 - Eliminate Technologically Infeasible Options

The identified options are technologically feasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

- Gaseous fuel treated to remove 95% by weight of sulfur compounds or treated such that the sulfur content does not exceed 1 grain of sulfur (as S) per 100 scf (achieved in practice), or
- Gaseous fuel treated by 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 (achieved in practice).

Step 4 - Cost Effectiveness Analysis

MOC is proposing 0.00285 lb SO_X/MMBtu (or 2 ppmv SO_X (as SO_2) @ 3% O_2, or 1 grain S/100 scf), which meets or exceeds Achieved-In-Practice BACT. No cost-effectiveness analysis is needed.

Step 5 - Select BACT

- Gaseous fuel treated to remove 95% by weight of sulfur compounds or treated such that the sulfur content does not exceed 1 grain of sulfur (as S) per 100 scf.

Top Down BACT Analysis for PM_{10} Emissions

Step 1 - Identify All Control Technologies:

The following has been identified as "Achieved in Practice" BACT for PM_{10} emissions:

- Gaseous fuel treated to remove 95% by weight of sulfur compounds or treated such that the sulfur content does not exceed 1 grain of sulfur (as S) per 100 scf (achieved in practice), or
- Gaseous fuel treated by 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 (achieved in practice).

Step 2 - Eliminate Technologically Infeasible Options

The above-identified options are technologically feasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

- Gaseous fuel treated to remove 95% by weight of sulfur compounds or treated such that the sulfur content does not exceed 1 grain of sulfur (as S) per 100 scf (achieved in practice), or
- Gaseous fuel treated by 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 (achieved in practice).

Step 4 - Cost Effectiveness Analysis

MOC is proposing 0.00285 lb SO_X/MMBtu (or 2 ppmv SO_X (as SO_2) @ 3% O_2, or 1 grain S/100 scf), which meets or exceeds Achieved-In-Practice BACT. No cost-effectiveness analysis is needed.

Step 5 - Select BACT

- Gaseous fuel treated to remove 95% by weight of sulfur compounds or treated such that the sulfur content does not exceed 1 grain of sulfur (as S) per 100 scf.

PSD BACT Analysis for GHG Emissions

GHG emissions are emitted due to the combustion of fuel and may be emitted indirectly, as a result of electrical power usage.

The USEPA's PSD program issues permits to sources for attainment pollutants and includes GHG as a regulated pollutant. Since the USEPA has not established a national ambient air quality standard for GHG, it is not considered a nonattainment pollutant and is, therefore, considered an attainment pollutant and regulated under the PSD program. Since GHG is regulated under the PSD program the BACT process will follow the steps outlined in the Clean Air Act (CAA) discussed in this section.

The CAA § 169(3) defines BACT as:

> ...an emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under the Clean Air Act which would be emitted from any proposed major stationary source or major modification which the Administrator, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility through application of production processes and available methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques for control of each such pollutant...

Pursuant to USEPA's "PSD and Title V Permitting Guidance for Greenhouse Gases" the "Top-Down BACT Process" consists of these five basic steps:

1. Identify all available control technologies;
2. Eliminate all technically infeasible options;
3. Rank remaining control technologies by control effectiveness;
4. Evaluate most effective controls and document results;
   a. The energy, environmental, and economic impacts are evaluated starting with the top ranked option.

5. Select BACT based on economic, environmental, and/or energy impacts.

   a. The highest ranked option not eliminated from step 4 is selected as BACT.

Since greenhouse gas is comprised of multiple gases, the objective of this analysis will be to identify control technologies with the lowest emission of a CO_2 equivalent (CO_2e) using the Global Warming Potentials (GWP) identified for the Intergovernmental Panel on Climate Change (IPCC) in the 1996 Second Assessment Report[1].

Though it is recognized that reductions in GHG from fossil fuel fired equipment will result in reductions of other criteria pollutants, as the products of combustion, evaluation of GHG control measures will not include the effect on other criteria pollutants except in cases where an increase in criteria pollutants may be expected as a consequence of the proposed measure (e.g. elimination of FGR which would reduce the fuel demand for a steam generator but with

[1] The Kyoto Protocol fixed the use of GWP values published by the IPCC in 1996 in its SAR, which remains the internationally recognized values today and are used to calculate GHG reductions in the SJVAPCD Best Performance Standards for oilfield steam generators.

the consequence of increasing NO_X emissions, that is a precursor to ozone, which the SJVAPCD is in extreme non-attainment for).

Step 1 - Identify All Possible Control Technologies

When fired on >50% PUC-quality natural gas, commercial propane, and/or LPG:

- A convection section with at least 235 square feet of heat transfer surface area per MMBtu/hr of maximum rated heat input (verified by the manufacturer) or a manufacturer's overall thermal efficiency rating of 88% – Achieved in Practice
- Variable frequency drive high efficiency electrical motors driving the blower and water pump – Achieved in Practice
- Additional economizer – Technologically Feasible
- Reduced FGR rate and SCR – Technologically Feasible

When fired on <50% PUC-quality natural gas, commercial propane, and/or LPG:

- Split flow dual pass water feed configuration, a convection section having at least 128 square feet of heat transfer surface area per MMBtu/hr of maximum rated heat input (verified by the manufacturer) and at least six inches of castable refractory or a manufacturer's overall thermal efficiency rating of at least 85% – Achieved in Practice
- Variable frequency drive high efficiency electrical motors driving the blower and water pump – Achieved in Practice
- Additional economizer – Technologically Feasible
- Reduced FGR rate and SCR – Technologically Feasible

Step 2 - Eliminate Technologically Infeasible Options

- Additional economizer – Technologically Feasible

  Additional waste-heat can be transferred from the exhaust gasses to the steam by installing an extra economizer, further increasing the thermal efficiency of the steam generator.

  Economizers are useful in steam generators that produce a higher quality and lower volume steam. With purified, de-ionized highly filtered water, high quality steam is possible. In oilfield operations neither clean nor de-ionized water is available nor is high quality steam used or useful.

  An additional economizer will lower the exhaust gas temperature by transferring the heat energy from exhaust gas to produced steam to increase the quality. However, exhaust gas temperatures must be maintained sufficiently high enough to minimize condensation that can result in exhaust stack corrosion; therefore, adding an economizer to a steam generator is technologically infeasible for oilfield applications.

- Reduced FGR rate and SCR – Technologically Feasible

  Flue gas recirculation mixes a portion of the exhaust gas with the oxygen-rich incoming air in the burner's combustion zone. The added exhaust gas absorbs heat from the combustion process, lowering the peak combustion temperature below the threshold where excessive NO_X is formed. Proven FGR technology has been used in steam generators for years to meet the District's standards for low NO_X emissions. While FGR clearly lowers NO_X levels, additional fuel is required to produce the same amount of steam, which reduces the overall thermal efficiency of the unit and creates more GHG emissions per unit of steam output. Therefore, limiting the FGR rate might be a means of reducing GHG emissions.

  While reducing the FGR rate on a steam generator will decrease GHG emissions, it will also increase NO_X emissions. Since maintaining reductions in criteria pollutants, and specifically NO_X for which the SJVAPCD is in extreme non-attainment, the reduction of GHG will not be considered for an increase in NO_X emissions. Any increase in NO_X emissions must be mitigated.

  The only alternative method for reducing NOx emissions might be SCR, which could make a reduction in the FGR rate feasible. SCR reduces NOx emissions without the need for such extensive FGR. However the SCR system itself results in higher exhaust stack resistance and electric power to operate ammonia or urea injection pumps that offset the energy efficiency gains attributed to the reduced FGR requirement. Therefore, this equipment is not technologically feasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

Since an oilfield steam generator can operate simultaneously with a minimum convection section heat transfer area requirement (or thermal efficiency rating) and variable frequency drive, high efficiency, electric motors driving the blower and water pump, these options will be combined and listed as follows:

<u>When fired on >50% PUC-quality natural gas, commercial propane, and/or LPG:</u>

- Variable frequency drive high efficiency electrical motors driving the blower and water pump; **and,** 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%

<u>When fired on <50% PUC-quality natural gas, commercial propane, and/or LPG:</u>

- Variable frequency drive high efficiency electrical motors driving the blower and water pump; **and,** split flow dual pass water feed configuration, a convection section having at least 128 square feet of heat transfer surface area per MMBtu/hr of maximum rated heat input (verified by the manufacturer) and at least six inches of castable refractory or a manufacturer's overall thermal efficiency rating of at least 85%

Since there is only one option remaining for each type of fuel burned, ranking the control technologies isn't necessary.

Step 4 – Evaluate Controls

The only control technology in the ranking list from Step 3 has been achieved in practice. Therefore, an evaluation of controls is not required.

Step 5 - Select BACT

The following is a summary of the District's BACT determination for CO_2e control:

Pollutant	BACT
CO_2e	Variable frequency drive high efficiency electrical motors driving the blower and water pump; **and,** <u>When Firing On:</u> • PUC quality natural gas, commercial propane, and/or LPG: 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%; or, • <50% PUC quality natural gas, commercial propane, and/or LPG: split flow dual pass water feed configuration, a convection section having at least 128 square feet of heat transfer surface area per MMBtu/hr of maximum rated heat input (verified by the manufacturer) and at least six inches of castable refractory or a manufacturer's overall thermal efficiency rating of at least 85%

APPENDIX E
HRA/AAQA

San Joaquin Valley Air Pollution Control District
Risk Management Review

To:	Richard Edgehill, AQE – Permit Services
From:	Trevor Joy, AQS – Technical Services
Date:	January 16, 2013
Facility Name:	MacPherson Oil Company
Location:	Heavy Oil Central
Application #(s):	S-1703-212-0 and -213-0
Project #:	1124232

A. RMR SUMMARY

Categories	Units 212-0 and 213-0 NG Steam Generators	Project Totals	Facility Totals
Prioritization Score	**0.0**	0.0	>1
Acute Hazard Index	**0.01**	**0.01**	0.02
Chronic Hazard Index	**0.01**	**0.01**	0.02
Maximum Individual Cancer Risk (10^{-6})	**0.35**	**0.35**	4.3
T-BACT Required?	**No**		
Special Permit Conditions?	**Yes**		

Proposed Permit Conditions

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

Units # 212-0 and 213-0

{1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102] N

B. RMR REPORT

I. Project Description

Technical Services received a revised request on January 14, 2013 to perform an Ambient Air Quality Analysis and a Risk Management Review for the installation of two new 85 MMBtu/hr steam generators (units 212-0 and 213-0) as well as to lower the CO limit for 9 existing steam generators. Since the lowering of the CO emissions limit doesn't involve any (equipment modification/change to the emission parameters) no review was required.

II. Analysis

Technical Services performed a prioritization using the District's HEARTs database. Emissions were calculated using "Petroleum Steam Generators Natural Gas" emission factors. 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 the facility was greater than 1.0 (see RMR Summary Table). Therefore, a refined analysis was required and performed. AERMOD was used, with the parameters outlined below and concatenated meteorological data for Bakersfield 2005 to 2009 to determine the maximum dispersion factor at the nearest residential and business receptors. These dispersion factors were input into the HARP model to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.*

The following parameters were used for the review:

Analysis Parameter Units 212-0 and 213 [each]			
Closest Receptor - Business (m)	**1610**	**Closest Receptor – Resident (m)**	**1610**
Natural Gas Usage (MMBtu/hr)	**85**	**Natural Gas Usage (MMBtu/yr)**	**744600**
Effective Release Height (m)	**4.6**	**Gas Exit Temperature (K)**	**450**
Stack Inside Diameter (m)	**0.9**	**Gas Exit Velocity (acfm)**	**6100**

Technical Services also performed modeling for criteria pollutants CO, NOx, SOx and PM_{10}; as well as a RMR. The emission rates used for criteria pollutant modeling were (each)

	NOx	Sox	CO	PM10	PM2.5
Lbs/hr	0.6	0.24	2.2	0.25	0.25
Lbs/yr	5,212	2,122	13,403	2,234	2,234

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

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

Steam Generator	1 Hour	3 Hours	8 Hours.	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO_x	Pass[1]	X	X	X	Pass
SO_x	Pass[2]	Pass	X	Pass	Pass
PM_{10}	X	X	X	Pass[3]	Pass[3]
PM2.5	X	X	X	Pass[3]	Pass[3]

*Results were taken from the attached PSD spreadsheet.

[1]The project was compared to the 1-hour NO2 National Ambient Air Quality Standard that became effective on April 12, 2010 using the District's approved procedures. The criteria pollutant 1-hour value passed using TIER I NO_2 NAAQS modeling

[2]The project was compared to the 1-hour SO2 National Ambient Air Quality Standard that became effective on August 23, 2010 using the District's approved procedures.

[3]The maximum predicted concentration for emissions of these criteria pollutants from the proposed unit are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

III. *Conclusion*

The acute and chronic hazard indices were below 1.0; and the cancer risk is less than or equal to 1.0 in a million. **In accordance with the District's Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).**

To ensure that human health risks will not exceed District allowable levels; the permit conditions listed on page 1 of this report must be included for this proposed unit.

The emissions from the proposed equipment will not cause or contribute significantly to a violation of the State and National AAQS.

These conclusions are based on the data provided by the applicant and the project engineer. Therefore, this analysis is valid only as long as the proposed data and parameters do not change.

Attachments:

A. RMR request from the project engineer
B. Prioritization score with toxic emissions summary
C. HEARTS – Facility Summary
D. AAQA spreadsheet

APPENDIX F
Compliance Certification

CERTIFICATION

Macpherson Oil Company hereby certifies as follows:

1. Macpherson Oil Company (MOC) owns or operates certain major stationary sources in the State of California. Such sources are comprised of a vast number of emission points. As used in this certification, the term "major stationary source" shall, with respect to MOC's stationary sources in the SJVUAPCD, have the meaning ascribed thereto in SJVUAPCD Rule 2201, Section 3.23, and shall, with respect to all of MOC's other stationary sources in the State of California, have the meaning ascribed thereto in section 302(J) of the Clean Air Act (42 U.S.C. Section 7602 (J)).

2. Subject to paragraphs 3 and 4 below, all major stationary sources owned or operated by MOC in the State of California are either in compliance, or on an approved schedule of compliance, with all applicable emission limitations and standards under the Clean Air Act and all of the State Implementation Plan approved by the Environmental Protection Agency.

3. This certification is made on information and belief and is based upon a review of MOC major stationary sources in the State of California by those employees of MOC who have operational responsibility for compliance. In conducting such reviews, MOC and its employees have acted in good faith and have exercised best efforts to identify any exceedance of the emission limitations and standards referred to in paragraph 2 thereof.

4. This certification shall speak as of the time and date of its execution.

CERTIFICATION

By: _____
Jody Butler

Title: Operations Superintendent Date: 11/13/12

APPENDIX G
PSD Affected Entities

Gerardo C. Rios, Chief
Permits Office
Air Division
U.S. EPA - Region IX
75 Hawthorne St.
San Francisco, CA 94105

Mike Tollstrup, Chief
Project Assessment Branch
Air Resources Board
P O Box 2815
Sacramento, CA 95812-2815

Lorelei H. Oviatt, AICP
County of Kern
2700 "M" Street, Suite 100
Bakersfield, CA 933301

Trent Procter
US Forest Service Land Management
Sequoia National Forest
1839 South Newcomb Street
Porterville, CA 93257-2035

Christine Lehnertz
Pacific West Region
National Park Service
333 Bush Street, Suite 500
San Francisco, CA 94104-2828

Neil Peyron
The Tule River Tribe Main Building
340 N Reservation Rd
Porterville, CA 93257

Ted Schade
Great Basin APCD
157 Short Street, Suite 6,
Bishop, CA 93514

Larry Allen
San Luis Obispo County APCD
3433 Roberto Court
San Luis Obispo, CA 93401

Glen Stephens
Eastern Kern APCD
2700 "M" Street, Suite 302
Bakersfield, CA 93301

Mike Villegas
Ventura County APCD
669 County Square Dr., 2nd Fl.
Ventura, CA 93003

Eldon Heaston
Antelope Valley AQMD
43301 Division Street, Suite 206
Lancaster, CA 93535

APPENDIX H
Draft ATCs

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1703-157-14 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: MACPHERSON OIL COMPANY
MAILING ADDRESS: PO BOX 5368
BAKERSFIELD, CA 93388

LOCATION: HEAVY OIL CENTRAL STATIONARY SOURCE
CA

SECTION: SE12 **TOWNSHIP:** 28S **RANGE:** 28E

EQUIPMENT DESCRIPTION:
MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR #710 WITH COEN QLN LOW NOX BURNER AND FGR, FIRING TEOR GAS AND TVR GAS FROM S-1703-143 AND/OR TANK VAPOR CONTROL GAS FROM S-1703-139, '-144 OR '-184: LOWER CO LIMIT TO 25 PPMV @3% O2 AND CHANGE STEAM GENERATOR'S NUMBER TO "710"

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Burner shall be equipped with fuel gas volume flowmeter (a master meter for a group of generators is acceptable upon District approval). [District Rule 4351, 5.6.1; District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
4. Emission rates shall not exceed any of the following: NOx (as NO2) - 7 ppmv @ 3% 02 or 0.008 lb/MMBtu; CO - 25 ppmv @ 3% 02; or PM10 - 0.006 lb/MMBtu; VOC - 0.003 lb/MMBtu. [District Rules 2201, 4305, 4306 ,4320 and 4351] Federally Enforceable Through Title V Permit
5. Fuel gas sulfur content shall not exceed 1 grain of sulfur per 100 dscf. [District Rule 2201 and 4320] Federally Enforceable Through Title V Permit

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-1703-157-14 : Feb 15 2013 9:05AM -- TORID : Joint Inspection NOT Required

6. Permittee shall conduct sample analysis of noncertified (non-PUC/FERC regulated) fuel gas monthly. [District Rule 2201] Federally Enforceable Through Title V Permit

7. 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. 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 of District Rule 4306. [District Rule 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

8. 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 Rule 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

9. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NOx and CO source testing requirement. [District Rule 4305, 6.3; District Rule 4351,6.3; District Rule 2520, 9.4.21] Federally Enforceable Through Title V Permit

10. Source testing shall be conducted by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit

11. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit

12. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rule 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

13. 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] Federally Enforceable Through Title V Permit

14. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit

15. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARE Method 100, NOx (lb/MMBtu) - EPA Method 19; CO (ppmv) - EPA Method 10 or ARB Method 100; stack gas oxygen - EPA Method 3 or 3A or ABS Method 100; and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans. [District Rule 1081; 4305, 6.2; 4320, and 4351, 6.2] Federally Enforceable Through Title V Permit

16. The permittee shall monitor and record the stack concentration of NOx, CO, and 02 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, 4306 and 4320] Federally Enforceable Through Title V Permit

17. If either the NOx or CO concentrations corrected to 3% 02, 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 I 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 I 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 Rule4305, 4306 and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

18. 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 manufacturers 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, 4306 and 4320] Federally Enforceable Through Title V Permit

19. The permittee shall maintain records of: (I) the date and time of NOx, CO, and 02 measurements, (2) the 02 concentration in percent and the measured NOx and CO concentrations corrected to 3% 02, (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, 4306 and 4320] Federally Enforceable Through Title V Permit

20. Permittee shall maintain records of noncertified (non-PUC/FERC regulated) fuel gas sulfur content. [District NSR Rule] Federally Enforceable Through Title V Permit

21. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081, and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit

22. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s)combusted and all dates on which unit is fired on any noncertified fuel [District Rule 2520, 9.4.2 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit

23. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as S02. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.4.2 and Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit

24. 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 monthly. If a monthly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

25. When complying with SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur precombustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

26. 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 1072-80, D 3031-81, D 4084-82, D 3246-81 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

27. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by ASTM D 1826-88 or D 1945-81 in conjunction with ASTM D 3588-89 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 6.2.1; and 4351, 6.2.1] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

28. Test results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NOx limits for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. [District Rule 4305, 6.3.2 and 4351, 6.3; District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

29. The following conditions must be met for representative unit(s) used to demonstrate compliance for NOx limits for a group of units: I) all units are initially source tested and emissions from all units in group are similar, 2) all units in group are similar in terms of rated heat input, make and series, operation conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and gall units in the group shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rule 4305, 6.3.2; District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

30. The number of representative units source tested to demonstrate compliance for NOx limits shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that when 3 source test cycles have been completed, all units in the entire group will have been tested. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

31. Nitrogen oxide (N0x) emission concentrations in ppmv shall be referenced at dry stack gas conditions, and shall bc calculated to 3.00 percent by volume stack gas oxygen and avenged over 60 minutes, and lb/MMBtu rates shall be calculated as lb NO2/MMBtu of heat input (hhv). [District Rule 4305, 5.0, 8.2 and/or 4351, 8.1; District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

32. All records shall be maintained and retained on-site for a period of at least 5 years and shall bc made available for District inspection upon request. [District Rule 1070, 4305, 4306 AND 4320] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1703-158-12 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: MACPHERSON OIL COMPANY
MAILING ADDRESS: PO BOX 5368
BAKERSFIELD, CA 93388

LOCATION: HEAVY OIL CENTRAL STATIONARY SOURCE
CA

SECTION: SE18 **TOWNSHIP:** 28S **RANGE:** 29E

EQUIPMENT DESCRIPTION:
MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR #620 WITH COEN QLN LOW NOX BURNER AND FGR, FIRING TEOR GAS AND TVR GAS FROM S-1703-143 AND/OR TANK VAPOR CONTROL GAS FROM S-1703-139, '-144 OR '-184: LOWER CO LIMIT TO 25 PPMV @3% O2

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
4. Burner shall be equipped with fuel gas volume flowmeter (a master meter for a group of generators is acceptable upon District approval). [District Rule 4351, 5.6.1; District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
5. Fuel gas sulfur content shall not exceed 2.0 grains of sulfur per 100 dscf. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Emission rates shall not exceed any of the following: NOx (as NO2) - 7 ppmv @ 3% O2 or 0.008 lb/MMBtu; CO - 25 ppmv @ 3% O2; or SOx (as SO2) - 0.0057 lb/MMBtu; PM10 - 0.0076 lb/MMBtu; or VOC - 0.003 lb/MMBtu. [District Rules 2201, 4305, 4306 ,4320 and 4351] Federally Enforceable Through Title V Permit

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-1703-158-12 : Feb 15 2013 9:05AM -- TORID : Joint Inspection NOT Required

7. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit

8. Permittee shall conduct sample analysis of noncertified (non-PUC/FERC regulated) fuel gas monthly. [District Rule 2201]

9. 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] Federally Enforceable Through Title V Permit

10. Source testing to measure natural gas-combustion 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 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

11. 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] Federally Enforceable Through Title V Permit

12. 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. 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 of Rule 4320. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

13. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

14. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit

15. 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; stack gas oxygen - EPA Method 3 or 3A or ARB Method 100; and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans. [District Rules 1081, 4305, 4320 and 4351] Federally Enforceable Through Title V Permit

16. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NOx and CO emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx or CO emissions limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supercede a more stringent NSR or PSD permit testing requirement). [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

17. The following conditions must be met for representative unit(s) to be used to test for NOx and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

18. All units in a group for which representative units are source tested for NOx and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

19. All units in a group for which representative units are source tested to for NOx and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

20. The number of representative units source tested for NOx and CO emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

21. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO2. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rules 2201; 2520, 9.4.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit

22. 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 monthly. If a monthly fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 2201 and 2520, 9.4.2] Federally Enforceable Through Title V Permit

23. When complying with SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

24. 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 1072-80, D 3031-81, D 4084-82, D 3246-81 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

25. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by ASTM D 1826-88 or D 1945-81 in conjunction with ASTM D 3588-89 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 6.2.1; and 4351, 6.2.1] Federally Enforceable Through Title V Permit

26. 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, 4306 and 4320] Federally Enforceable Through Title V Permit

27. 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 Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

28. 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] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

29. 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, 4306 and 4320] Federally Enforceable Through Title V Permit

30. Permittee shall maintain records of noncertified fuel gas sulfur content. [District Rule 2201] Federally Enforceable Through Title V Permit

31. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit

32. 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] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1703-159-17 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: MACPHERSON OIL COMPANY
MAILING ADDRESS: PO BOX 5368
BAKERSFIELD, CA 93388

LOCATION: HEAVY OIL CENTRAL STATIONARY SOURCE
CA

SECTION: SE18 **TOWNSHIP:** 28S **RANGE:** 29E

EQUIPMENT DESCRIPTION:
MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS FIRED STEAM GENERATOR #630 WITH GIDEON MGW 63V2 LOW NOX BURNER, FIRING TEOR GAS AND TVR GAS FROM S-1703-143 AND/OR TANK VAPOR CONTROL GAS FROM S-1703-139, '-144, AND '-184: LOWER CO LIMIT TO 25 PPMV @3% O2 AND CORRECT LOCATION TO "SECTION SE18, T28S, R29E"

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. 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] Federally Enforceable Through Title V Permit
4. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
5. Emissions from the natural gas-fired unit shall not exceed any of the following limits: 7 ppmvd NOX @ 3% O2 or 0.008 lb-NOX/MMBtu; 0.00285 lb-SOX/MMBtu; 0.006 lb-PM10/MMBtu; 25 ppmvd CO @ 3% O2 or 0.019 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 ,4320 and 4351] Federally Enforceable Through Title V Permit

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-1703-159-17 : Feb 15 2013 9:09AM -- TORID : Joint Inspection NOT Required

6. Fuel gas sulfur content shall not exceed 1 grains of sulfur per 100 dscf. [District NSR Rule] Federally Enforceable Through Title V Permit

7. 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. 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 of District Rule 4320. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

8. Source testing to measure natural gas-combustion 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 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

9. Test results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NOx limits for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. [District Rules 2520, 9.4, 4305, 6.3.2, 4306, 6.3.2 and 4351, 6.3] Federally Enforceable Through Title V Permit

10. The following conditions must be met for representative unit(s) used to demonstrate compliance for NOx limits for a group of units: 1) all units are initially source tested and emissions from all units in group are similar, 2) all units in group are similar in terms of rated heat input, make and series, operation conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and 4) all units in the group shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rules 2520, 9.4.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit

11. The number of representative units source tested to demonstrate compliance for NOx limits shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that when 3 source test cycles have been completed, all units in the entire group will have been tested. [District Rules 2520, 9.4.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit

12. 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] Federally Enforceable Through Title V Permit

13. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

14. 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, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans. [District Rules 1081, 4305, 4320 and 4351] Federally Enforceable Through Title V Permit

15. 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] Federally Enforceable Through Title V Permit

16. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit

17. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO2. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rules 2520, 9.4.2 and Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

18. 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 monthly. If a monthly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

19. When complying with SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

20. 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 1072-80, D 3031-81, D 4084-82, D 3246-81 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

21. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by ASTM D 1826-88 or D 1945-81 in conjunction with ASTM D 3588-89 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 6.2.1; and 4351, 6.2.1] Federally Enforceable Through Title V Permit

22. Permittee shall conduct sample analysis of noncertified (non-PUC/FERC regulated) fuel gas monthly. [District NSR Rule] Federally Enforceable Through Title V Permit

23. 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, 4306 and 4320] Federally Enforceable Through Title V Permit

24. 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 Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

25. 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] Federally Enforceable Through Title V Permit

26. 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, 4306 and 4320] Federally Enforceable Through Title V Permit

27. Permittee shall maintain records of noncertified fuel gas sulfur content. [District NSR Rule] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

28. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit

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, 4306 and 4320] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1703-160-14 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: MACPHERSON OIL COMPANY
MAILING ADDRESS: PO BOX 5368
BAKERSFIELD, CA 93388

LOCATION: HEAVY OIL CENTRAL STATIONARY SOURCE
CA

SECTION: SE18 **TOWNSHIP:** 28S **RANGE:** 29E

EQUIPMENT DESCRIPTION:
MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS FIRED STEAM GENERATOR #640 WITH COEN QLN LOW NOX BURNER AND FGR, FIRING TEOR GAS AND TVR GAS FROM S-1703-143 AND/OR TANK VAPOR CONTROL GAS FROM S-1703-139, '-144, AND '-184: LOWER CO LIMIT TO 25 PPMV @3% O2

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. 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] Federally Enforceable Through Title V Permit
4. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
5. Burner shall be equipped with fuel gas volume flowmeter (a master meter for a group of generators is acceptable upon District approval). [District Rule 4351, 5.6.1; District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

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

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585

6. Emissions from the natural gas-fired unit shall not exceed any of the following limits: 7 ppmvd NOX @ 3% O2 or 0.008 lb-NOX/MMBtu, 0.00285 lb-SOX/MMBtu, 0.006 lb-PM10/MMBtu, 25 ppmvd CO @ 3% O2 or 0.019 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 ,4320 and 4351] Federally Enforceable Through Title V Permit

7. Fuel gas sulfur content shall not exceed 1 grains of sulfur per 100 dscf. [District NSR Rule] Federally Enforceable Through Title V Permit

8. 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. 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 of District Rule 4320. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

9. Source testing to measure natural gas-combustion 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 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

10. Test results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NOx limits for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. [District Rules 2520, 9.4, 4305, 6.3.2, 4306, 6.3.2 and 4351, 6.3] Federally Enforceable Through Title V Permit

11. The following conditions must be met for representative unit(s) used to demonstrate compliance for NOx limits for a group of units: 1) all units are initially source tested and emissions from all units in group are similar, 2) all units in group are similar in terms of rated heat input, make and series, operation conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and 4) all units in the group shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rules 2520, 9.4.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit

12. The number of representative units source tested to demonstrate compliance for NOx limits shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that when 3 source test cycles have been completed, all units in the entire group will have been tested. [District Rules 2520, 9.4.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit

13. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

14. 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] Federally Enforceable Through Title V Permit

15. 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, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans. [District Rules 1081, 4305, 4320 and 4351] Federally Enforceable Through Title V Permit

16. 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] Federally Enforceable Through Title V Permit

17. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

18. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO2. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rules 2520, 9.4.2 and Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit

19. 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 monthly. If a monthly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

20. When complying with SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

21. 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 1072-80, D 3031-81, D 4084-82, D 3246-81 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

22. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by ASTM D 1826-88 or D 1945-81 in conjunction with ASTM D 3588-89 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 6.2.1; and 4351, 6.2.1] Federally Enforceable Through Title V Permit

23. Permittee shall conduct sample analysis of noncertified (non-PUC/FERC regulated) fuel gas monthly. [District NSR Rule] Federally Enforceable Through Title V Permit

24. 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, 4306 and 4320] Federally Enforceable Through Title V Permit

25. 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 Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

26. 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] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

27. 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, 4306 and 4320] Federally Enforceable Through Title V Permit

28. Permittee shall maintain records of noncertified fuel gas sulfur content. [District NSR Rule] Federally Enforceable Through Title V Permit

29. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit

30. 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] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1703-161-17 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: MACPHERSON OIL COMPANY
MAILING ADDRESS: PO BOX 5368
BAKERSFIELD, CA 93388

LOCATION: HEAVY OIL CENTRAL STATIONARY SOURCE
CA

SECTION: SE18 **TOWNSHIP:** 28S **RANGE:** 29E

EQUIPMENT DESCRIPTION:
MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS FIRED STEAM GENERATOR #650 WITH WITH COEN QLN LOW NOX BURNER AND FGR, FIRING TEOR GAS AND TVR GAS FROM S-1703-143 AND/OR TANK VAPOR CONTROL GAS FROM S-1703-139, -144, AND -184: LOWER CO LIMIT TO 25 PPMV @3% O2

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. 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] Federally Enforceable Through Title V Permit
4. 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] Federally Enforceable Through Title V Permit
5. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
6. Burner shall be equipped with fuel gas volume flowmeter (a master meter for a group of generators is acceptable upon District approval). [District Rule 4351, 5.6.1; District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

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-1703-161-17 : Feb 15 2013 9:09AM - TORID : Joint Inspection NOT Required

7. Emissions from the natural gas-fired unit shall not exceed any of the following limits: 7 ppmvd NOX @ 3% O2 or 0.0085 lb-NOX/MMBtu, 0.00285 lb-SOX/MMBtu, 0.006 lb-PM10/MMBtu, 25 ppmvd CO @ 3% O2 or 0.019 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 ,4320 and 4351] Federally Enforceable Through Title V Permit

8. Fuel gas sulfur content shall not exceed 1 grains of sulfur per 100 dscf. [District NSR Rule] Federally Enforceable Through Title V Permit

9. 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] Federally Enforceable Through Title V Permit

10. 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] Federally Enforceable Through Title V Permit

11. Test results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NOx limits for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. [District Rules 2520, 9.4, 4305, 6.3.2, 4306, 6.3.2 and 4351, 6.3] Federally Enforceable Through Title V Permit

12. The following conditions must be met for representative unit(s) used to demonstrate compliance for NOx limits for a group of units: 1) all units are initially source tested and emissions from all units in group are similar, 2) all units in group are similar in terms of rated heat input, make and series, operation conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and 4) all units in the group shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rules 2520, 9.4.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit

13. The number of representative units source tested to demonstrate compliance for NOx limits shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that when 3 source test cycles have been completed, all units in the entire group will have been tested. [District Rules 2520, 9.4.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit

14. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

15. 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] Federally Enforceable Through Title V Permit

16. 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] Federally Enforceable Through Title V Permit

17. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

18. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

19. 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] Federally Enforceable Through Title V Permit

20. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO2. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rules 2520, 9.4.2 and Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit

22. 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 monthly. If a monthly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

23. When complying with SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

24. 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 1072-80, D 3031-81, D 4084-82, D 3246-81 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

25. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by ASTM D 1826-88 or D 1945-81 in conjunction with ASTM D 3588-89 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 6.2.1; and 4351, 6.2.1] Federally Enforceable Through Title V Permit

26. Permittee shall conduct sample analysis of noncertified fuel gas monthly. [District NSR Rule] Federally Enforceable Through Title V Permit

27. 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] Federally Enforceable Through Title V Permit

28. 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 Rules 4305 and 4306] Federally Enforceable Through Title V Permit

29. 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] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

30. 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] Federally Enforceable Through Title V Permit

31. Permittee shall maintain records of fuel gas sulfur content of noncertified fuel gas. [District NSR Rule] Federally Enforceable Through Title V Permit

32. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit

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, 4305, and 4306] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1703-162-13 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: MACPHERSON OIL COMPANY
MAILING ADDRESS: PO BOX 5368
BAKERSFIELD, CA 93388

LOCATION: HEAVY OIL CENTRAL STATIONARY SOURCE
CA

SECTION: SE18 **TOWNSHIP:** 28S **RANGE:** 29E

EQUIPMENT DESCRIPTION:
MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS FIRED STEAM GENERATOR #660 WITH COEN QLN LOW NOX BURNER AND FGR, FIRING TEOR GAS AND TVR GAS FROM S-1703-143 AND/OR TANK VAPOR CONTROL GAS FROM S-1703-139, -144, AND -184: LOWER CO LIMIT TO 25 PPMV @3% O2 AND CORRECT LOCATION TO "SECTION SE18, T28S, R29E"

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. 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] Federally Enforceable Through Title V Permit
4. 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] Federally Enforceable Through Title V Permit
5. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit

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-1703-162-13 : Feb 15 2013 9:09AM -- TORID : Joint Inspection NOT Required

6. Burner shall be equipped with fuel gas volume flowmeter (a master meter for a group of generators is acceptable upon District approval). [District Rule 4351, 5.6.1; District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

7. Emission rates shall not exceed any of the following: NOx (as NO2): 0.0085 lb/MMBtu or 7 ppmv @ 3% O2, Sox (as SO2): 0.00285 lb/MMBtu, PM10: 0.0076 lb/MMBtu, CO: 0.019 lb/MMBtu or 25 ppmv @ 3% O2, or VOC: 0.003 lb/MMBtu. [District Rules 2201, 4305, 4306 ,4320 and 4351] Federally Enforceable Through Title V Permit

8. 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] Federally Enforceable Through Title V Permit

9. 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] Federally Enforceable Through Title V Permit

10. Test results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NOx limits for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. [District Rules 2520, 9.4, 4305, 6.3.2, 4306, 6.3.2 and 4351, 6.3, and 4320] Federally Enforceable Through Title V Permit

11. The following conditions must be met for representative unit(s) used to demonstrate compliance for NOx limits for a group of units: 1) all units are initially source tested and emissions from all units in group are similar, 2) all units in group are similar in terms of rated heat input, make and series, operation conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and 4) all units in the group shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rules 2520, 9.4.2, 4305, 6.3.2, and 4306, 6.3.2, and 4320] Federally Enforceable Through Title V Permit

12. The number of representative units source tested to demonstrate compliance for NOx limits shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that when 3 source test cycles have been completed, all units in the entire group will have been tested. [District Rules 2520, 9.4.2, 4305, 6.3.2, and 4306, 6.3.2, and 4320] Federally Enforceable Through Title V Permit

13. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

14. 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] Federally Enforceable Through Title V Permit

15. 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 10B or ARB Method 100, stack gas oxygen - EPA Method 3 or 3Aor ARB Method 100, SOx (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, fuel gas sulfur content - EPA Method 11 or 15, ASTM D3246 or double GC for H2S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

16. 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] Federally Enforceable Through Title V Permit

17. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

18. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO2. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rules 2520, 9.4.2 and Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit

19. 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 monthly. If a monthly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

20. When complying with SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

21. 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 1072-80, D 3031-81, D 4084-82, D 3246-81 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

22. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by ASTM D 1826-88 or D 1945-81 in conjunction with ASTM D 3588-89 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 6.2.1; and 4351, 6.2.1] Federally Enforceable Through Title V Permit

23. 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 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] Federally Enforceable Through Title V Permit

24. 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 Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

25. 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] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

26. The permittee shall maintain records of: (1) the date and time of NOX, 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] Federally Enforceable Through Title V Permit

27. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit

28. 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] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1703-180-16 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: MACPHERSON OIL COMPANY
MAILING ADDRESS: PO BOX 5368
BAKERSFIELD, CA 93388

LOCATION: HEAVY OIL CENTRAL STATIONARY SOURCE
CA

SECTION: SE/12 **TOWNSHIP:** 28S **RANGE:** 28E

EQUIPMENT DESCRIPTION:
MODIFICATION OF 62.5 MMBTU/HR C.E. NATURAL GAS FIRED STEAM GENERATOR #730 WITH COEN QLN LOW NOX BURNER AND FGR (C-5, DIS# 27554-74): LOWER CO LIMIT TO 25 PPMV @3% O2 AND CHANGE STEAM GENERATOR'S NUMBER TO "730"

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. 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] Federally Enforceable Through Title V Permit
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. 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] Federally Enforceable Through Title V Permit
6. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit

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-1703-180-16 : Feb 15 2013 8:00AM -- TORID : Joint Inspection NOT Required

7. Burner shall be equipped with fuel gas volume flowmeter (a master meter for a group of generators is acceptable upon District approval). [District Rule 4351] Federally Enforceable Through Title V Permit

8. Unit shall be fired on PUC-regulated quality natural gas only. No TEOR or TVR gas may be combusted. [District Rule 2201] Federally Enforceable Through Title V Permit

9. Emission rates shall not exceed any of the following: NOx (as NO2): 0.0085 lb/MMBtu or 7 ppmv @ 3% O2, Sox (as SO2): 0.00285 lb/MMBtu, PM10: 0.009 lb/MMBtu, CO: 0.019 lb/MMBtu or 25 ppmv @ 3% O2, or VOC: 0.003 lb/MMBtu. [District Rules 2201, 4305, 4306 ,4320 and 4351] Federally Enforceable Through Title V Permit

10. 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] Federally Enforceable Through Title V Permit

11. 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] Federally Enforceable Through Title V Permit

12. Test results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NOx limits for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. [District Rules 2520, 9.4, 4305, 6.3.2, 4306, 6.3.2 and 4351, 6.3, and 4320] Federally Enforceable Through Title V Permit

13. The following conditions must be met for representative unit(s) used to demonstrate compliance for NOx limits for a group of units: 1) all units are initially source tested and emissions from all units in group are similar, 2) all units in group are similar in terms of rated heat input, make and series, operation conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and 4) all units in the group shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rules 2520, 9.4.2, 4305, 6.3.2, and 4306, 6.3.2, and 4320] Federally Enforceable Through Title V Permit

14. The number of representative units source tested to demonstrate compliance for NOx limits shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that when 3 source test cycles have been completed, all units in the entire group will have been tested. [District Rules 2520, 9.4.2, 4305, 6.3.2, and 4306, 6.3.2, and 4320] Federally Enforceable Through Title V Permit

15. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

16. 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] Federally Enforceable Through Title V Permit

17. 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 10B or ARB Method 100, stack gas oxygen - EPA Method 3 or 3Aor ARB Method 100, SOx (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, fuel gas sulfur content - EPA Method 11 or 15, ASTM D3246 or double GC for H2S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

18. 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] Federally Enforceable Through Title V Permit

19. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

20. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO2. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rules 2520, 9.4.2 and Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit

21. 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 monthly. If a monthly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

22. When complying with SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

23. 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 1072-80, D 3031-81, D 4084-82, D 3246-81 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

24. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by ASTM D 1826-88 or D 1945-81 in conjunction with ASTM D 3588-89 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 6.2.1; and 4351, 6.2.1] Federally Enforceable Through Title V Permit

25. Permittee shall conduct sample analysis of noncertified gaseous fuel gas monthly. [District NSR Rule] Federally Enforceable Through Title V Permit

26. 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 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] Federally Enforceable Through Title V Permit

27. 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 Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

28. 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] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

29. The permittee shall maintain records of: (1) the date and time of NOX, 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] Federally Enforceable Through Title V Permit

30. Permittee shall maintain records of sulfur content of noncertified gaseous fuel. [District NSR Rule] Federally Enforceable Through Title V Permit

31. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit

32. 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] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1703-181-12 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: MACPHERSON OIL COMPANY
MAILING ADDRESS: PO BOX 5368
BAKERSFIELD, CA 93388

LOCATION: HEAVY OIL CENTRAL STATIONARY SOURCE
CA

SECTION: SE18 **TOWNSHIP:** 28S **RANGE:** 29E

EQUIPMENT DESCRIPTION:
MODIFICATION OF 62.5 MMBTU/HR THERMOTICS GAS/CASING GAS-FIRED STEAM GENERATOR #680 WITH LO-NOX BURNER AND FGR, O2 CONTROLLER/ ANALYZER (B-1, DIS# 27529-71): LOWER CO LIMIT TO 25 PPMV @3% O2 AND CORRECT LOCATION TO "SECTION SE18, T28S, R29E"

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. 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] Federally Enforceable Through Title V Permit
4. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
5. The unit shall only be fired on PUC-regulated natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Burner shall be equipped with fuel gas volume flowmeter (a master meter for a group of generators is acceptable upon District approval). [District Rule 4351, 5.6.1; District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

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-1703-181-12 : Feb 15 2013 9:09AM – TORID : Joint Inspection NOT Required

7. Emission rates shall not exceed any of the following: NOx (as NO2) - 7 ppmv @ 3% O2 or 0.008 lb/MMBtu; SOx - 0.00285 lb/MMBtu; CO - 25 ppmv @ 3% O2; PM10 - 0.0076 lb/MMBtu; or VOC - 0.007 lb/MMBtu. [District Rules 2201, 4305, 4306 ,4320 and 4351] Federally Enforceable Through Title V Permit

8. 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. 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 of District Rule 4320. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

9. 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] Federally Enforceable Through Title V Permit

10. Test results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NOx limits for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. [District Rules 2520, 9.4, 4305, 6.3.2, 4306, 6.3.2 and 4351, 6.3] Federally Enforceable Through Title V Permit

11. The following conditions must be met for representative unit(s) used to demonstrate compliance for NOx limits for a group of units: 1) all units are initially source tested and emissions from all units in group are similar, 2) all units in group are similar in terms of rated heat input, make and series, operation conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and 4) all units in the group shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rules 2520, 9.4.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit

12. The number of representative units source tested to demonstrate compliance for NOx limits shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that when 3 source test cycles have been completed, all units in the entire group will have been tested. [District Rules 2520, 9.4.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit

13. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

14. 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] Federally Enforceable Through Title V Permit

15. 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; stack gas oxygen - EPA Method 3 or 3A or ARB Method 100; and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans. [District Rules 1081, 4305, 4320 and 4351] Federally Enforceable Through Title V Permit

16. 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] Federally Enforceable Through Title V Permit

17. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit

18. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO2. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rules 2520, 9.4.2 and Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

19. 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 monthly. If a monthly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

20. When complying with SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

21. 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 1072-80, D 3031-81, D 4084-82, D 3246-81 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

22. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by ASTM D 1826-88 or D 1945-81 in conjunction with ASTM D 3588-89 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 6.2.1; and 4351, 6.2.1] Federally Enforceable Through Title V Permit

23. Permittee shall conduct sample analysis of noncertified gaseous fuel gas monthly. [District NSR Rule] Federally Enforceable Through Title V Permit

24. 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, 4306 and 4320] Federally Enforceable Through Title V Permit

25. 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 Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

26. 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] Federally Enforceable Through Title V Permit

27. 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, 4306 and 4320] Federally Enforceable Through Title V Permit

28. Permittee shall maintain records of sulfur content of noncertified gaseous fuel. [District NSR Rule] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

29. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit

30. 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] Federally Enforceable Through Title V Permit

31. Formerly S-1109-31.

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1703-192-3

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: MACPHERSON OIL COMPANY
MAILING ADDRESS: PO BOX 5368
BAKERSFIELD, CA 93388

LOCATION: HEAVY OIL CENTRAL STATIONARY SOURCE
CA

EQUIPMENT DESCRIPTION:
MODIFICATION OF 62.5 MMBTU/HR STEAM GENERATOR #720 WITH COEN MODEL QLN LOW NOX BURNER, FGR, AND O2 CONTROLLER: LOWER CO LIMIT TO 25 PPMV @3% O2 AND CHANGE STEAM GENERATOR'S NUMBER TO "720"

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. 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] Federally Enforceable Through Title V Permit
4. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
5. The unit shall only be fired on PUC-regulated natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Emissions from this unit shall not exceed any of the following limits: 7 ppmvd NOx @ 3% O2 or 0.008 lb-NOX/MMBtu, 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 25 ppmvd CO @ 3% O2 or 0.019 lb-CO/MMBtu, or 0.006 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 ,4320 and 4351] Federally Enforceable Through Title V Permit

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

DAVID WARNER, Director of Permit Services
S-1703-192-3 : Feb 15 2013 9:09AM – TORID : Joint Inspection NOT Required

7. 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. 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 of District Rule 4320. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

8. 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] Federally Enforceable Through Title V Permit

9. Test results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NOx limits for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. [District Rules 2520, 9.4, 4305, 6.3.2, 4306, 6.3.2 and 4351, 6.3] Federally Enforceable Through Title V Permit

10. The following conditions must be met for representative unit(s) used to demonstrate compliance for NOx limits for a group of units: 1) all units are initially source tested and emissions from all units in group are similar, 2) all units in group are similar in terms of rated heat input, make and series, operation conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and 4) all units in the group shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rules 2520, 9.4.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit

11. The number of representative units source tested to demonstrate compliance for NOx limits shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that when 3 source test cycles have been completed, all units in the entire group will have been tested. [District Rules 2520, 9.4.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit

12. 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] Federally Enforceable Through Title V Permit

13. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

14. 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; stack gas oxygen - EPA Method 3 or 3A or ARB Method 100; and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans. [District Rules 1081, 4305, 4320 and 4351] Federally Enforceable Through Title V Permit

15. 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] Federally Enforceable Through Title V Permit

16. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit

17. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO2. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rules 2520, 9.4.2 and Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit

18. 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 monthly. If a monthly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

19. When complying with SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

20. 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 1072-80, D 3031-81, D 4084-82, D 3246-81 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

21. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by ASTM D 1826-88 or D 1945-81 in conjunction with ASTM D 3588-89 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 6.2.1; and 4351, 6.2.1] Federally Enforceable Through Title V Permit

22. Permittee shall conduct sample analysis of noncertified gaseous fuel gas monthly. [District Rule 2201] Federally Enforceable Through Title V Permit

23. 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, 4306 and 4320] Federally Enforceable Through Title V Permit

24. 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 Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

25. 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] Federally Enforceable Through Title V Permit

26. 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, 4306 and 4320] Federally Enforceable Through Title V Permit

27. Permittee shall maintain records of sulfur content of noncertified gaseous fuel. [District Rule 2201] Federally Enforceable Through Title V Permit

28. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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, 4306 and 4320] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1703-212-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: MACPHERSON OIL COMPANY
MAILING ADDRESS: PO BOX 5368
BAKERSFIELD, CA 93388

LOCATION: HEAVY OIL CENTRAL STATIONARY SOURCE
CA

EQUIPMENT DESCRIPTION:
85.0 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH COEN QLN-II ULTRA LOW-NOX BURNER (OR EQUIVALENT), AND FLUE GAS RECIRCULATION (FGR)

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. 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] Federally Enforceable Through Title V Permit
4. 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 2201] Federally Enforceable Through Title V Permit
5. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

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-1703-212-0: Feb 15 2013 9:09AM - TORID : Joint Inspection NOT Required

6. 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] Federally Enforceable Through Title V Permit
7. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102] Federally Enforceable Through Title V Permit
8. This unit shall be equipped with horizontal convection section with at least 235 square feet of bare tube surface area (or thermodynamically equivalent number of square feet of finned tube) per MMBtu/hr of heat input and variable frequency drive high efficiency electrical motors driving the blower and water pump. Documentation showing this unit is so equipped shall be retained on site. [District Rule 2410 and California Environmental Quality Act]
9. 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] Federally Enforceable Through Title V Permit
10. 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] Federally Enforceable Through Title V Permit
11. The unit shall only be fired on PUC-regulated natural gas. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
12. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320] Federally Enforceable Through Title V Permit
13. Emissions from the natural gas-fired unit shall not exceed any of the following limits: 6 ppmvd NOx @ 3% O2 or 0.007 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.003 lb-PM10/MMBtu, 25 ppmvd CO @ 3% O2 or 0.019 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 ,4320 and 4351] Federally Enforceable Through Title V Permit
14. A source test to demonstrate compliance with NOx and CO emission limits shall be performed within 60 days of startup of this unit. [District Rules 220, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
15. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). 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] Federally Enforceable Through Title V Permit
16. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. 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] Federally Enforceable Through Title V Permit
18. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
19. 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, 4306 and 4320] Federally Enforceable Through Title V Permit
20. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
21. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

22. Fuel sulfur content shall be determined using EPA Method 11 or Method 15. [District Rule 4320] Federally Enforceable Through Title V Permit

23. 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] Federally Enforceable Through Title V Permit

24. 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] Federally Enforceable Through Title V Permit

25. 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, 4306, and 4320] Federally Enforceable Through Title V Permit

26. 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 Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

27. 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] Federally Enforceable Through Title V Permit

28. 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, 4306, and 4320] Federally Enforceable Through Title V Permit

29. Copies of all fuel invoices, gas purchase contracts and supplier certifications shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted. [District Rules 2201, 2520, 9.4.2 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit

30. 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] Federally Enforceable Through Title V Permit

31. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 1955 lb, 2nd quarter - 1955 lb, 3rd quarter - 1955 lb, and fourth quarter - 1955 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

32. ERC Certificate Number S-3940-2 (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]

33. Prior to operating equipment under this Authority to Construct, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter - 838 lb, 2nd quarter - 838 lb, 3rd quarter - 838 lb, and fourth quarter - 838 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]

34. ERC Certificate Number S-3938-5 (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]

35. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 1536 lb, 2nd quarter - 1536 lb, 3rd quarter - 1536 lb, and fourth quarter - 1536 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERCs specified below. [District Rule 2201]

36. ERC Certificate Numbers S-1065-1 and S-3942-1 (or a certificate split from these certificates) 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]

37. ATCs S-1703-157-14, '158-12, '159-17, '160-14, '161-17, '162-13, '180-16, '181-12 and '192-3 shall be implemented prior to or concurrently with this ATC. [District Rule 2201]

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1703-213-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: MACPHERSON OIL COMPANY
MAILING ADDRESS: PO BOX 5368
BAKERSFIELD, CA 93388

LOCATION: HEAVY OIL CENTRAL STATIONARY SOURCE
CA

EQUIPMENT DESCRIPTION:
85.0 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH COEN QLN-II ULTRA LOW-NOX BURNER (OR EQUIVALENT), AND FLUE GAS RECIRCULATION (FGR)

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. 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] Federally Enforceable Through Title V Permit
4. 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 2201] Federally Enforceable Through Title V Permit
5. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

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-1703-213-0 : Feb 15 2013 9:08AM -- TORID : Joint Inspection NOT Required

6. 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] Federally Enforceable Through Title V Permit
7. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102] Federally Enforceable Through Title V Permit
8. This unit shall be equipped with horizontal convection section with at least 235 square feet of bare tube surface area (or thermodynamically equivalent number of square feet of finned tube) per MMBtu/hr of heat input and variable frequency drive high efficiency electrical motors driving the blower and water pump. Documentation showing this unit is so equipped shall be retained on site. [District Rule 2410 and California Environmental Quality Act]
9. 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] Federally Enforceable Through Title V Permit
10. 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] Federally Enforceable Through Title V Permit
11. The unit shall only be fired on PUC-regulated natural gas. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
12. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320] Federally Enforceable Through Title V Permit
13. Emissions from the natural gas-fired unit shall not exceed any of the following limits: 6 ppmvd NOx @ 3% O2 or 0.007 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.003 lb-PM10/MMBtu, 25 ppmvd CO @ 3% O2 or 0.019 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 ,4320 and 4351] Federally Enforceable Through Title V Permit
14. A source test to demonstrate compliance with NOx and CO emission limits shall be performed within 60 days of startup of this unit. [District Rules 220, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
15. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). 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] Federally Enforceable Through Title V Permit
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17. 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] Federally Enforceable Through Title V Permit
18. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
19. 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, 4306 and 4320] Federally Enforceable Through Title V Permit
20. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
21. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

22. Fuel sulfur content shall be determined using EPA Method 11 or Method 15. [District Rule 4320] Federally Enforceable Through Title V Permit

23. 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] Federally Enforceable Through Title V Permit

24. 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] Federally Enforceable Through Title V Permit

25. 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, 4306, and 4320] Federally Enforceable Through Title V Permit

26. 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 Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

27. 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] Federally Enforceable Through Title V Permit

28. 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, 4306, and 4320] Federally Enforceable Through Title V Permit

29. Copies of all fuel invoices, gas purchase contracts and supplier certifications shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted. [District Rules 2201, 2520, 9.4.2 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit

30. 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] Federally Enforceable Through Title V Permit

31. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 1955 lb, 2nd quarter - 1955 lb, 3rd quarter - 1955 lb, and fourth quarter - 1955 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

32. ERC Certificate Number S-3940-2 (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]

33. Prior to operating equipment under this Authority to Construct, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter - 838 lb, 2nd quarter - 838 lb, 3rd quarter - 838 lb, and fourth quarter - 838 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]

34. ERC Certificate Number S-3938-5 (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]

35. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 1536 lb, 2nd quarter - 1536 lb, 3rd quarter - 1536 lb, and fourth quarter - 1536 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERCs specified below. [District Rule 2201]

36. ERC Certificate Numbers S-1065-1 and S-3942-1 (or a certificate split from these certificates) 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]

37. ATCs S-1703-157-14, '158-12, '159-17, '160-14, '161-17, '162-13, '180-16, '181-12 and '192-3 shall be implemented prior to or concurrently with this ATC. [District Rule 2201]