



APR 02 2012

Mr. Joe Rossi
San Joaquin Valley Concentrates
5610 E Olive Ave
Fresno, CA 93727

**Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # C-3275
Project # C-1120258**

Dear Mr. Rossi:

Enclosed for your review is the District's analysis of an application for Authority to Construct for the facility identified above. The applicant is requesting that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. The applicant proposes to install one 33.66 MMBtu/hr natural gas-fired boiler.

After addressing any EPA comments made during the 45-day comment period, the Authority to Construct will be issued to the facility with a Certificate of Conformity. Prior to operating with modifications authorized by the Authority 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.

If you have any questions, please contact Mr. Jim Swaney, Permit Services Manager, at (559) 230-5900.

Thank you for your cooperation in this matter.

Sincerely,



David Warner
Director of Permit Services

Enclosures

c: Stanley Tom, Permit Services

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
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APR 02 2012

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

**Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # C-3275
Project # C-1120258**

Dear Mr. Rios:

Enclosed for your review is the District's engineering evaluation of an application for Authority to Construct for San Joaquin Valley Concentrates at 5631 E Olive Ave, Fresno, which has been issued a Title V permit. San Joaquin Valley Concentrates is requesting that a Certificate of Conformity, with the procedural requirements of 40 CFR Part 70, be issued with this project. The applicant proposes to install one 33.66 MMBtu/hr natural gas-fired boiler.

Enclosed is the engineering evaluation of this application with a copy of the current Title V permit and proposed Authority to Construct # ATC # C-3275-3-0 with Certificate of Conformity. After demonstrating compliance with the Authority to Construct, the conditions will be incorporated into the facility's Title V permit through an administrative amendment.

Please submit your written comments on this project within the 45-day comment period that begins on the date you receive this letter. If you have any questions, please contact Mr. Jim Swaney, Permit Services Manager, at (559) 230-5900.

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

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c: Stanley Tom, Permit Services

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APR 02 2012

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

**Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # C-3275
Project # C-1120258**

Dear Mr. Tollstrup:

Enclosed for your review is the District's analysis of an application for Authority to Construct for the facility identified above. The applicant is requesting that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. The applicant proposes to install one 33.66 MMBtu/hr natural gas-fired boiler.

Enclosed is the engineering evaluation of this application with a copy of the current Title V permit and proposed Authority to Construct # ATC # C-3275-3-0 with Certificate of Conformity. After demonstrating compliance with the Authority to Construct, the conditions will be incorporated into the facility's Title V permit through an administrative amendment.

Please submit your written comments on this project within the 30-day comment period that begins on the date you receive this letter. If you have any questions, please contact Mr. Jim Swaney, Permit Services Manager, at (559) 230-5900.

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

Enclosures

c: Stanley Tom, Permit Services

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Executive Director/Air Pollution Control Officer

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Fresno Bee

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

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Air Pollution Control District solicits public comment on the proposed significant modification of San Joaquin Valley Concentrates for its winery at 5631 E Olive Ave, Fresno, California. The applicant proposes to install one 33.66 MMBtu/hr natural gas-fired boiler.

The District's analysis of the legal and factual basis for this proposed action, project #C-1120258, is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and the District office at the address below. There are emission increases associated with this proposed action. This will be the public's only opportunity to comment on the specific conditions of the modification. If requested by the public, the District will hold a public hearing regarding issuance of this modification. For additional information, please contact Mr. Jim Swaney, Permit Services Manager, at (559) 230-5900. 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, 1990 E. GETTYSBURG AVE, FRESNO, CA 93726-0244.

Rule 4320 Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr (10/16/08)
Rule 4351 Boilers, Steam Generators and Process Heaters – Phase 1 (08/21/03)
Rule 4801 Sulfur Compounds (12/17/92)
40 CFR Part 64 Compliance Assurance Monitoring (CAM)
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 facility is located at 5631 E Olive Avenue in Fresno, CA. 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.

IV. PROCESS DESCRIPTION

San Joaquin Valley Concentrates will operate this natural gas-fired boiler to provide heat and steam for their wine production operations at this location. The facility is requesting to install a selective catalytic reduction system on the exhaust of the boiler.

V. EQUIPMENT LISTING

C-3275-3-0

33.66 MMBTU/HR CLEAVER-BROOKS MODEL NBI-800-250-LN-SKID NATURAL GAS-FIRED BOILER EQUIPPED WITH A CLEAVER-BROOKS MODEL CBI.700.800.250 LOW NOX BURNER, FLUE GAS RECIRCULATION SYSTEM, AND O2 CONTROLLER SERVED BY A NATIONWIDE MODEL CATASTAK SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM

VI. EMISSION CONTROL TECHNOLOGY EVALUATION

The boiler is equipped with a Low-NOx burner that reduces NO 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-NOx 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 NOx. In the secondary and tertiary stages, the combustion zone is maintained in a fuel-lean environment. The excess air in these stages helps to reduce the flame temperature so that the reaction between the excess oxygen with nitrogen is minimized.

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

The boiler is equipped with a Selective Catalytic Reduction System (SCR). Selective Catalytic Reduction systems selectively reduce NO_x emissions by injecting ammonia (NH₃) into the exhaust gas stream upstream of a catalyst. Nitrogen oxides, NH₃, and O₂ react on the surface of the catalyst to form molecular nitrogen (N₂) and H₂O. SCR is capable of over 90 percent NO_x reduction. Titanium oxide is the SCR catalyst material most commonly used, though vanadium pentoxide, noble metals, or zeolites are also used. The ideal operating temperature for a conventional SCR catalyst is 600 to 750 °F. Exhaust gas temperatures greater than the upper limit (750 °F) will cause NO_x and NH₃ to pass through the catalyst unreacted. Ammonia slip will be limited to 10 ppmvd @ 3% O₂ for the boiler.

VII. GENERAL CALCULATIONS

A. Assumptions

- Natural Gas Heating Value: 1,000 Btu/scf. (District Practice)
- F-Factor for Natural Gas: 8,578 dscf/MMBtu corrected to 60°F. (40 CFR 60, Appendix B)
- Total duration of start-up time will not exceed 2.0 hr/day, nor 2.0 hr/start-up event. (Per Applicant)
- Total duration of shut-down time will not exceed 2.0 hr/day, nor 2.0 hr per shutdown event. (Per Applicant)

B. Emission Factors

Boiler C-3275-3-0 (Steady State)		
EF2		Source
NO _x	5 ppmvd @ 3% O ₂ or 0.006 lb/MMBtu	Applicant
SO _x	0.00285 lb/MMBtu	District Policy APR 1720
PM ₁₀	0.0076 lb/MMBtu	AP-42 (07/98) Table 1.4-2
CO	200 ppmvd CO @ 3% O ₂ or 0.147 lb/MMBtu	Applicant
VOC	0.0055 lb/MMBtu	AP-42 (07/98) Table 1.4-2
NH ₃	10 ppmvd @ 3% O ₂	Applicant
Boiler C-3275-3-0 (Startup/Shutdown)		
Emission rate		Source
NO _x	0.1 lb/MMBtu	AP-42 (07/98) Table 1.4-1

C. Calculations

1. Pre-Project Potential to Emit (PE1)

Since this is a new emissions unit, PE1 = 0 for all pollutants.

2. Post-Project Potential to Emit (PE2)

The highest NOx emission rate occurs when operating the boiler in startup and shutdown modes for the maximum permitted time during each day. Startup and shutdown emissions are limited to 4.0 hr/day (2.0 hr/day startup and 2.0 hr/day shutdown) and 0.1 lb-NOx/MMBtu. Therefore, daily startup and shutdown emissions will be equal to:

$$\text{Startup/Shutdown NOx} = 0.1 \text{ lb/MMBtu} \times 33.66 \text{ MMBtu/hr} \times 4.0 \text{ hr/day} = 13.46 \text{ lb-NOx}$$

Steady-state NOx emissions for the remaining 20 hours of the day will be based on the 33.66 MMBtu/hr boiler rating and an emissions factor of 0.006 lb-NOx/MMBtu.

$$\text{Steady State NOx} = 20 \text{ hr/day} \times 0.006 \text{ lb/MMBtu} \times 33.66 \text{ MMBtu/hr} = 4.04 \text{ lb-NOx}$$

$$\text{Total Daily Emissions} = 13.46 \text{ lb-NOx} + 4.04 \text{ lb-NOx} = 17.5 \text{ lb-NOx/day}$$

$$\text{Total Annual Emissions} = 17.5 \text{ lb-NOx/day} \times 365 \text{ days/year} = 6,388 \text{ lb-NOx/year}$$

Ammonia (NH₃) from SCR:

The proposed daily NH₃ emissions can be calculated as follows:

$$\text{PE} = \text{ppm} \times \text{MW} \times (2.64 \times 10^{-9}) \times \text{ff} \times \text{BR} \times [20.9 / (20.9 - \text{O}_2\%)] \times 24 \text{ hour/day}$$

Where:

- ppm is the emission concentration in ppmvd @ 3% O₂
- MW is the molecular weight of the pollutant (MW_{NH₃} = 17 lb/lb-mol)
- 2.64×10^{-9} is one over the molar specific volume (lb/MMscf, at 60 °F)
- ff is the F-factor for natural gas (8,578 scf/MMBtu, at 60 °F)
- BR is the rating of the boiler (MMBtu/hr)
- O₂ is the stack oxygen content to which the emission concentrations are corrected (3%)

$$\begin{aligned} \text{NH}_3 \text{ PE (lb/day)} &= 10 \times 17 \times (2.64 \times 10^{-9}) \text{ (lb-mol/MMscf)} \times 8,578 \text{ (scf/MMBtu)} \times \\ & 33.66 \text{ (MMBtu/hr)} \times [20.9 / (20.9 - 3.0)] \times 24 \text{ (hour/day)} \\ &= 3.6 \text{ lb-NH}_3\text{/day} \end{aligned}$$

$$\begin{aligned} \text{NH}_3 \text{ PE (lb/year)} &= (3.6 \text{ lb-NH}_3\text{/day}) \times (365 \text{ day/year}) \\ &= 1,314 \text{ lb-NH}_3\text{/year} \end{aligned}$$

Pollutant	Daily PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE2 (lb/day)
SO _x	0.00285	33.66	24	2.3
PM ₁₀	0.0076	33.66	24	6.1
CO	0.147	33.66	24	118.8
VOC	0.0055	33.66	24	4.4

Pollutant	Annual PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE1 (lb/year)
SO _x	0.00285	33.66	8,760	840
PM ₁₀	0.0076	33.66	8,760	2,241
CO	0.147	33.66	8,760	43,345
VOC	0.0055	33.66	8,760	1,622

Boiler C-3275-3-0 Post-Project Emissions		
Pollutant	PE2 (lb/day)	PE2 (lb/year)
NO _x	17.5	6,388
SO _x	2.3	840
PM ₁₀	6.1	2,241
CO	118.8	43,345
VOC	4.4	1,622
NH ₃	3.6	1,344

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

Pursuant to Section 4.9 of District Rule 2201, the Pre-Project Stationary Source Potential to Emit (SSPE1) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

Facility emissions are already above the Offset and Major Source Thresholds for VOC emissions; therefore, SSPE1 calculations are not necessary for VOC.

From project C-1102399,

Pre-Project Stationary Source Potential to Emit [SSPE1] (lb/year)					
Permit Unit	NO _x	SO _x	PM ₁₀	CO	VOC
Pre-Project SSPE (SSPE1 _{PERMIT UNITS})	55,468	14,904	10,770	313,048	---
ERC C-37-3	---	---	---	84,488	---
ERC C-1095-2	960	---	---	---	---
Pre Project SSPE (SSPE1 _{total})	56,428	14,904	10,770	397,536	---

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

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

Post Project Stationary Source Potential to Emit [SSPE2] (lb/year)					
Permit Unit	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE1 _{total}	56,428	14,904	10,770	397,536	---
C-3275-3-0	6,388	840	2,241	43,345	---
Post Project SSPE (SSPE2 _{total})	62,816	15,744	13,011	440,881	---

5. Major Source Determination

A Major Source is a source with an SSPE2 that equals or exceeds any of the following Major Source thresholds. The following table compares the pre-project and post-project facility-wide annual emissions in order to determine if the facility is already an existing Major Source or if the facility is becoming a Major Source as the result of this project. For the purpose of determining the Major Source status of a facility, the SSPE2 does not include the quantity of ERC's which were banked since September 19, 1991 for emission reductions that occurred at this source, and which have not been used on-site (District Rule 2201 Section 3.24.2).

The SSPE1 and SSPE2 calculations excluding the ERCs are summarized in the table below:

Major Source Determination (lb/year)					
	NO_x	SO_x	PM₁₀	CO	VOC
Pre-Project SSPE (SSPE1)	55,468	14,904	10,770	313,048	> 20,000
Post Project SSPE (SSPE2)	61,856	15,744	13,011	356,393	> 20,000
Major Source Threshold	20,000	140,000	140,000	200,000	20,000
Major Source?	Yes	No	No	Yes	Yes

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.

BE = Pre-project Potential to Emit for:

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

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to Section 3.21

Since this is a new emissions unit, 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.*"

As discussed in Section VII.C.5 above, the facility is an existing Major Source for NO_x, CO and VOC emissions; however, there is not a SB 288 Major Modification threshold for CO emissions. Therefore, the project can only trigger a SB 288 Major Modification for NO_x and VOC emissions. The emissions unit within this project does not have a total potential to emit greater than SB 288 Major Modification threshold for any pollutant (see table below). Therefore, the project cannot be a significant increase and does not trigger a SB 288 Major Modification for any pollutant.

SB 288 Major Modification Thresholds (Existing Major Source)			
Pollutant	Project PE (lb/year)	Threshold (lb/year)	Major Modification?
NO _x	6,388	50,000	No
VOC	1,622	50,000	No

8. Federal Major Modification

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

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

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

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

Significant Threshold (lb/year)	
Pollutant	Threshold (lb/year)
NO _x	0
VOC	0

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

Net Emission Increase for New Units (NEI_N)

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

$$NEI_N = PE2_N - BAE$$

BAE = 0 for the new unit therefore $NEI_N = PE2_N$

$$NEI_N (\text{NO}_x) = 6,388 \text{ lb/year}$$

$$NEI_N (\text{VOC}) = 1,622 \text{ lb/year}$$

The NEI for this project is thus calculated as follows:

$$NEI = NEI_N$$

$$NEI (\text{NO}_x) = 6,388 \text{ lb-NO}_x/\text{year}$$

$$NEI (\text{VOC}) = 1,622 \text{ lb-VOC/year}$$

The NEI for this project will be greater than the federal Major Modification threshold of 0 lb/year for NO_x and VOC. Therefore, this project does not qualify for a “Less-Than-Significant Emissions Increase” exclusion and is thus determined to be a Federal Major Modification for NO_x and VOC.

VIII. COMPLIANCE

District Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

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

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

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

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

As seen in Section VII.C.2 of this evaluation, the applicant is proposing to install a new natural gas-fired boiler with a PE greater than 2 lb/day for NO_x, SO_x, PM₁₀, CO, and VOC. BACT is triggered for NO_x, SO_x, PM₁₀, CO, and VOC since the PEs are greater than 2 lbs/day.

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

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

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

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

d. 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.

2. BACT Guideline

The District adopted District Rule 4320 on October 16, 2008. The NO_x emission limit requirements in District Rule 4320 are lower than the limits contained within BACT Guideline 1.1.2 which has since been rescinded; therefore a project specific BACT analysis will be performed to determine BACT for this project. District Rule 4320 limits natural gas boilers with heat input ratings greater than 20 MMBtu/hr to 7 ppmv @ 3% O₂. Since this emission limit is required by the rule, it will be considered the Achieved in Practice control technology for the BACT analysis. District Rule 4320 also contains an enhanced schedule option that allows applicants additional time to meet the requirements of the rule. The enhanced schedule NO_x emission limit requirement is 5 ppmv @ 3% O₂. Since this is an enhanced option in the rule, it will be considered the Technologically Feasible control technology for the BACT analysis. (See Appendix A)

3. Top-Down BACT Analysis

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

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

- NO_x: 5 ppmvd @ 3% O₂ (0.006 lb/MMBtu)
- SO_x: Natural gas fuel with LPG backup
- PM₁₀: Natural gas fuel with LPG backup
- CO: 200 ppmvd @ 3% O₂ (0.147 lb/MMBtu)
- VOC: Natural gas fuel with LPG backup

B. Offsets

1. Offset Applicability

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

The following table compares the post-project facility-wide annual emissions in order to determine if offsets will be required for this project.

Offset Determination (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
Post Project SSPE (SSPE2)	62,816	15,744	13,011	440,881	> 20,000
Offset Threshold	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	Yes	No	No	Yes	Yes

2. Quantity of Offsets Required

As seen above, the SSPE2 is greater than the offset thresholds for NO_x, CO, and VOC only; therefore offset calculations will be required for this project.

Quantity of CO Offsets Required

Increases in CO emissions in attainment areas are exempt from offsets per District Rule 2201 Section 4.6.1, if the applicant demonstrates to the satisfaction of the APCO, that the Ambient Air Quality Standards are not violated in the areas to be affected, and such emissions will be consistent with Reasonable Further Progress, and will not cause or contribute to a violation of the Ambient Air Quality Standards. The District has performed an Ambient Air Quality Analysis for CO (see Appendix D) and determined that this project will not cause Ambient Air Quality Standards to be violated. Therefore, this project will qualify for the CO emissions offset exemption.

Per Sections 4.7.1 and 4.7.3, the quantity of offsets in pounds per year for NO_x and VOC 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) = $([PE2 - BE] + ICCE) \times DOR$, for all new or modified emissions units in the project,

Where,

PE2 = Post Project Potential to Emit, (lb/year)

BE = Baseline Emissions, (lb/year)

ICCE = Increase in Cargo Carrier Emissions, (lb/year)

DOR = Distance Offset Ratio, determined pursuant to Section 4.8

BE = Pre-project Potential to Emit for:

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

otherwise,

BE = Historic Actual Emissions (HAE)

The facility is proposing to install a new emissions unit; therefore Baseline Emissions are equal to zero. Also, there is only one emissions unit associated with this project and there are no increases in cargo carrier emissions; therefore offsets can be determined as follows:

Offsets Required (lb/year) = $([PE2 - BE] + ICCE) \times DOR$

NO_x

PE2 = 6,388 lb/year

BE = 0 lb/year

ICCE = 0 lb/year

Offsets Required (lb/year) = $([6,388 - 0] + 0) \times DOR$
= 6,388 x DOR
= 6,388 lb NO_x/year

Calculating the appropriate quarterly emissions to be offset is as follows:

<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
1,597	1,597	1,597	1,597

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

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

$$\begin{aligned} \text{Offsets Required (lb/year)} &= ([6,388 - 0] + 0) \times 1.5 \\ &= 6,388 \times 1.5 \\ &= 9,582 \text{ lb NO}_x\text{/year} \end{aligned}$$

Calculating the appropriate quarterly emissions to be offset is as follows:

<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
2,395	2,395	2,396	2,396

The applicant has stated that the facility plans to use ERC certificates C-1095-2 and N-972-2 to offset the increases in NO_x emissions associated with this project. The above certificates have available quarterly NO_x credits as follows:

	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
ERC #C-1095-2	0	0	960	0
ERC #N-972-2	12,375	12,375	12,375	12,375
Total	12,375	12,375	13,335	12,375

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

VOC

$$\begin{aligned} \text{PE2} &= 1,622 \text{ lb/year} \\ \text{BE} &= 0 \text{ lb/year} \\ \text{ICCE} &= 0 \text{ lb/year} \end{aligned}$$

$$\begin{aligned} \text{Offsets Required (lb/year)} &= ([1,622 - 0] + 0) \times \text{DOR} \\ &= 1,622 \times \text{DOR} \\ &= 1,622 \text{ lb VOC/year} \end{aligned}$$

Calculating the appropriate quarterly emissions to be offset is as follows:

<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
405	405	406	406

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

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

$$\begin{aligned} \text{Offsets Required (lb/year)} &= ([1,622 - 0] + 0) \times 1.5 \\ &= 1,622 \times 1.5 \\ &= 2,433 \text{ lb VOC/year} \end{aligned}$$

Calculating the appropriate quarterly emissions to be offset is as follows:

<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
608	608	608	609

The applicant has stated that the facility plans to use ERC certificate S-3714-1 to offset the increases in VOC emissions associated with this project. The above certificates have available quarterly VOC credits as follows:

	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
ERC #S-3714-1	79,800	79,800	79,800	79,796

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:

- 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 – 1,597 lb, 2nd quarter – 1,597 lb, 3rd quarter – 1,597 lb, and fourth quarter – 1,597 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 04/21/11). [District Rule 2201]
- Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 405 lb, 2nd quarter – 405 lb, 3rd quarter – 406 lb, and fourth quarter – 406 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 04/21/11). [District Rule 2201]
- ERC Certificate Numbers C-1095-2, N-972-2, S-3714-1 (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 SB288 Major Modifications,
- b. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
- c. Any project which results in the offset thresholds being surpassed, and/or
- d. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.

a. New Major Source

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 does constitute Federal Major Modification for NO_x and VOC; therefore, public noticing for Federal Major Modification purposes is required.

b. PE > 100 lb/day

The PE2 for this new unit is compared to the daily PE Public Notice thresholds in the following table:

PE > 100 lb/day Public Notice Thresholds			
Pollutant	PE2 (lb/day)	Public Notice Threshold	Public Notice Triggered?
NO _x	17.5	100 lb/day	No
SO _x	2.3	100 lb/day	No
PM ₁₀	6.1	100 lb/day	No
CO	118.8	100 lb/day	Yes
VOC	4.4	100 lb/day	No

Therefore, public noticing for PE > 100 lb/day purposes is required.

c. Offset Threshold

The following table compares the SSPE1 with the SSPE2 in order to determine if any offset thresholds have been surpassed with this project.

Offset Threshold				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO _x	56,428	62,816	20,000 lb/year	No
SO _x	14,904	15,744	54,750 lb/year	No
PM ₁₀	10,770	13,011	29,200 lb/year	No
CO	397,536	440,881	200,000 lb/year	No
VOC	> 20,000	> 20,000	20,000 lb/year	No

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

d. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a Stationary Source Increase in Permitted Emissions (SSIPE) of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE is calculated as the Post Project Stationary Source Potential to Emit (SSPE2) minus the Pre-Project Stationary Source Potential to Emit (SSPE1), i.e. $SSIPE = SSPE2 - SSPE1$. The values for SSPE2 and SSPE1 are calculated according to Rule 2201, Sections 4.9 and 4.10, respectively. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table:

Stationary Source Increase in Permitted Emissions [SSIPE] – Public Notice					
Pollutant	Project PE2 (lb/year)	Project PE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO _x	6,388	0	6,388	20,000 lb/year	No
SO _x	840	0	840	20,000 lb/year	No
PM ₁₀	2,241	0	2,241	20,000 lb/year	No
CO	43,345	0	43,345	20,000 lb/year	Yes
VOC	1,622	0	1,622	20,000 lb/year	No

As demonstrated above, the SSIPEs for CO was greater than 20,000 lb/year; therefore public noticing for SSIPE purposes is required.

2. Public Notice Action

As discussed above, public noticing is required for this project for CO emissions in excess of 100 lb/day, SSIPE greater than 20,000 lb/year for CO, and Federal Major Modification for NO_x and VOC. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB), US Environmental Protection Agency (EPA), and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC for this equipment.

D. Daily Emission Limits (DELs)

Daily Emissions Limitations (DELs) and other enforceable conditions are required by Section 3.16 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. Per Sections 3.16.1 and 3.16.2, the DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT.

- The unit shall only be fired on PUC-regulated natural gas. [District Rules 2201, 4305, 4306, and 4320]
- Except during start-up and shutdown, emissions from this unit shall not exceed any of the following limits: 5 ppmvd NO_x @ 3% O₂ or 0.006 lb-NO_x/MMBtu; 0.00285 lb-SO_x/MMBtu; 0.0076 lb-PM₁₀/MMBtu; 200 ppmvd CO @ 3% O₂ (equivalent to 0.147 lb-CO/MMBtu); or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]
- During start-up and shutdown, emissions from this unit shall not exceed any of the following limits: 0.1 lb-NO_x/MMBtu; 0.00285 lb-SO_x/MMBtu; 0.0076 lb-PM₁₀/MMBtu; 200 ppmvd CO @ 3% O₂ (equivalent to 0.147 lb-CO/MMBtu); or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]
- The total duration of start-up time shall not exceed 2.0 hours per day. [District Rules 2201, 4305, 4306, and 4320]
- The total duration of start-up time shall not exceed 2.0 hours per occurrence. [District Rules 2201, 4305, 4306, and 4320]
- The total duration of shutdown time shall not exceed 2.0 hours per day. [District Rules 2201, 4305, 4306, and 4320]
- The total duration of shutdown time shall not exceed 2.0 hours per occurrence. [District Rules 2201, 4305, 4306, and 4320]
- The ammonia emissions shall not exceed 10 ppmvd @ 3% O₂. [District Rule 4102]

E. Compliance Assurance

1. Source Testing

The boiler is subject to the source testing requirements of District Rule 4320. The source testing requirements will be discussed in Section VIII, *District Rule 4320*, of this evaluation.

2. Monitoring

The boiler is subject to the monitoring requirements of District Rule 4320. Therefore, the monitoring requirements will be discussed in Section VIII, *District Rule 4320*, of this evaluation.

3. Recordkeeping

The boiler is subject to the recordkeeping requirements of District Rule 4320. Therefore, the recordkeeping requirements will be discussed in Section VIII, *District Rule 4320*, of this evaluation.

In addition to the District Rule 4320 recordkeeping requirements, the following requirement will be included on the Authority to Construct:

- Records of the daily natural gas consumption shall be maintained on the premises. [District Rule 2201]

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis

Section 4.14.1 of this Rule requires that an ambient air quality analysis (AAQA) be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. The Technical Services Division of the SJVAPCD conducted the required analysis. Refer to Appendix D 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 proposed location is in a non-attainment area for PM₁₀. The increase in the ambient PM₁₀ concentration due to the proposed equipment is shown on the table titled Calculated Contribution. The levels of significance, from 40 CFR Part 51.165 (b)(2), are shown on the table titled Significance Levels.

Significance Levels					
Pollutant	Significance Levels (µg/m ³) - 40 CFR Part 51.165 (b)(2)				
	Annual Avg.	24 hr Avg.	8 hr Avg.	3 hr Avg.	1 hr Avg.
PM ₁₀	1.0	5	N/A	N/A	N/A

Calculated Contribution					
Pollutant	Calculated Contributions (µg/m ³)				
	Annual Avg.	24 hr Avg.	8 hr Avg.	3 hr Avg.	1 hr Avg.
PM ₁₀	0.295	1.2	N/A	N/A	N/A

As shown, the calculated contribution of PM₁₀ will not exceed the EPA significance level. This project is not expected to cause or make worse a violation of an air quality standard.

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 Sections VIII-Rule 2201-C.1.a and VIII-Rule 2201-C.1.b, this facility is a major source and this project does constitute a Title I modification, therefore this requirement is applicable. Included in Appendix B is San Joaquin Valley Concentrates's compliance certification.

H. Alternate Siting Analysis

The current project occurs at an existing facility. The applicant proposes to install a 33.66 MMBtu/hr natural gas-fired boiler.

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.

District Rule 2520 Federally Mandated Operating Permits

This facility is subject to this Rule. Section 3.29 defines a significant permit modification as a “permit amendment that does not qualify as a minor permit modification or administrative amendment.”

Section 3.20.5 states that a minor permit modification is a permit modification that does not meet the definition of modification as given in Section 111 or Section 112 of the Federal Clean Air Act. Since this project is a Title I modification (i.e. Federal Major Modification), the proposed project is considered to be a modification under the Federal Clean Air Act. As a result, the proposed project constitutes a Significant Modification to the Title V Permit pursuant to Section 3.29.

As discussed above, the facility has applied for a Certificate of Conformity (COC) (see Appendix C); 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 shall not implement the changes requested until the final permit is issued.

District Rule 4001 New Source Performance Standards

40 CFR Part 60 Subpart Db Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

NSPS Subpart Db applies to steam generating units that are constructed, reconstructed, or modified after June 19, 1984 and have a maximum design heat input greater than 100 MMBtu/hr.

Boiler C-3275-3-0 is rated less than 100 MMBtu/hr; therefore, Subpart Db does not apply to the boiler.

40 CFR Part 60 Subpart Dc Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

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). Subpart Dc has standards for SO_x and PM₁₀. The 33.66 MMBtu/hr boiler is subject to Subpart Dc requirements.

60.42c – Standards for Sulfur Dioxide

Since coal is not combusted by the boiler in this project, the requirements of this section are not applicable.

60.43c – Standards for Particulate Matter

The boiler is not fired on coal, combusts mixtures of coal with other fuels, combusts wood, combusts mixture of wood with other fuels, or oil; therefore it will not be subject to the requirements of this section.

60.44c – Compliance and Performance Tests Methods and Procedures for Sulfur Dioxide.

Since the boiler in this project is not subject to the sulfur dioxide requirements of this subpart, no testing to show compliance is required. Therefore, the requirements of this section are not applicable to the boiler in this project.

60.45c – Compliance and Performance Test Methods and Procedures for Particulate Matter

Since the boiler in this project is not subject to the particulate matter requirements of this subpart, no testing to show compliance is required. Therefore, the requirements of this section are not applicable to the boiler in this project.

60.46c – Emission Monitoring for Sulfur Dioxide

Since the boiler in this project is not subject to the sulfur dioxide requirements of this subpart, no monitoring is required. Therefore, the requirements of this section are not applicable to the boiler in this project.

60.47c – Emission Monitoring for Particulate Matter

Since the boiler in this project is not subject to the particulate matter requirements of this subpart, no monitoring is required. Therefore, the requirements of this section are not applicable to the boiler in this project.

60.48c – Reporting and Recordingkeeping Requirements

Section 60.48c (a) states that the owner or operator of each affected facility shall submit notification of the date of construction or reconstruction, anticipated startup, and actual startup, as provided by §60.7 of this part. This notification shall include:

- (1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.

The design heat input capacity and type of fuel combusted at the facility will be listed on the unit's equipment description. No conditions are required to show compliance with this requirement.

- (2) If applicable, a copy of any Federally enforceable requirement that limits the annual capacity factor for any fuel mixture of fuels under §60.42c or §40.43c.

This requirement is not applicable since the unit is not subject to §60.42c or §40.43c.

- (3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.

The facility has not proposed an annual capacity factor; therefore one will not be required.

- (4) Notification if an emerging technology will be used for controlling SO₂ emissions. The Administrator will examine the description of the control device and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of §60.42c(a) or (b)(1), unless and until this determination is made by the Administrator

This requirement is not applicable since the unit will not be equipped with an emerging technology used to control SO₂ emissions.

Section 60.48 c (g) states that the owner or operator of each affected facility shall record and maintain records of the amounts of each fuel combusted during each day. The following conditions will be added to the permit to assure compliance with this section.

- A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted in the unit shall be installed, utilized and maintained. [District Rules 2201 and 40 CFR 60.48 (c)(g)]
- Permittee shall maintain daily records of the type and quantity of fuel combusted by the boiler. [District Rules 2201 and 40 CFR 60.48 (c)(g)]

Section 60.48 c (i) states that all records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record. District Rule 4320 requires that records be kept for five years.

40 CFR Part 64 – Compliance Assurance Monitoring (CAM):

Except for back-up utility units that are exempt under paragraph (b)(2), Section 64.2 states that the requirements of this subpart shall apply to a pollutant-specific emissions unit at a major source that is required to obtain a Part 70 or 71 permit if the unit satisfies all of the following criteria:

- 1) the unit must have an emission limit for the pollutant;
- 2) the unit must have add-on controls for the pollutant; these are devices such as flue gas recirculation (FGR), baghouses, catalytic oxidizers, etc; and
- 3) the unit must have a pre-control potential to emit of greater than the major source thresholds.

Pollutant	Major Source Threshold (lb/year)
VOC	20,000
NO _x	20,000
CO	200,000
PM ₁₀	140,000
SO _x	140,000

The permit for this boiler contains emission limits for NO_x, CO, VOC, PM₁₀ and SO_x emissions. However, this boiler is not equipped with any add on control devices for CO, VOC, PM₁₀ or SO_x emissions. Therefore, the CAM requirements of 40 CFR 64 are not applicable for these pollutants.

This boiler is equipped with a selective catalytic reduction (SCR) system and a flue gas recirculation (FGR) system. Both of these systems provide control for NO_x emissions. Typically the District assumes that an SCR system in combination with an FGR system will achieve a minimum of 90% control for the NO_x emissions generated in a natural gas fired boiler. Therefore, the uncontrolled NO_x emission rate from this boiler can be determined using the emission factor and maximum heat input rating of the boiler and the control efficiency of the SCR and FGR systems.

NO_x Emissions:

Controlled Emission Factor = 0.006 lb/MMBtu

Heat Input Rating = 33.66 MMBtu/hr

Maximum Operating Schedule = 8,760 hours/year

SCR + FGR System Control Efficiency = 90%

$$\text{Annual Uncontrolled PE} = \frac{[0.006 \text{ lb/MMBtu} \times 33.66 \text{ MMBtu/hour} \times 8,760 \text{ hours/year}]}{(1 - 0.90)}$$

$$\text{Annual Uncontrolled PE} = 17,692 \text{ lb/year}$$

As shown above, the uncontrolled PE for NO_x emissions is not greater than the major source thresholds. Therefore, the boiler is not subject to the requirements of 40 CFR 64.

This boiler is equipped with a selective catalytic reduction (SCR) system. SCR does not control CO or VOC emissions. The boiler will not be equipped with an oxidation catalyst.

District Rule 4101 Visible Emissions

District Rule 4101, Section 5.0, indicates that 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 dark or darker than Ringelmann 1 or equivalent to 20% opacity.

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

- 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]

District Rule 4102 Nuisance

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

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

- No air contaminant shall be released into the atmosphere, which causes a public nuisance. [District Rule 4102]

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 or equal to one. According to the Technical Services Memo for this project (Appendix D), the total facility prioritization score including this project was less than or equal to one. Therefore, no future analysis is required to determine the impact from this project and compliance with the District's Risk Management Policy is expected.

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.

District policy APR 1905 also specifies that the increase in emissions associated with a proposed new source or modification not have acute or chronic indices, or a cancer risk greater than the District's significance levels (i.e. acute and/or chronic indices greater than 1 and a cancer risk greater than 10 in a million). As outlined by the HRA Summary in Appendix D of this report, the emissions increases for this project was determined to be less than significant.

- 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]

District 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. The following analysis applies to each of the natural gas-fired boilers.

F-Factor for NG: 8,578 dscf/MMBtu at 60 °F
Maximum PM₁₀ Emission Factor: 0.0076 lb-PM₁₀/MMBtu
Percentage of PM as PM₁₀ in Exhaust: 100%
Exhaust Oxygen (O₂) Concentration: 3%

$$GL = \left(\frac{0.0076 \text{ lb-PM}}{\text{MMBtu}} \times \frac{7,000 \text{ grain}}{\text{lb-PM}} \right) / \left(\frac{8,578 \text{ ft}^3}{\text{MMBtu}} \right) = 0.0062 \text{ grains/dscf}$$

Therefore, compliance with District Rule 4201 requirements is expected. The following condition will be listed on the permit.

- Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

District Rule 4301 Fuel Burning Equipment

This rule specifies maximum emission rates in lb/hr for SO₂, NO₂, 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. As shown below, each unit's maximum hourly emission rates are below the Rule 4301 limits.

District Rule 4301 Limits			
Unit	NO₂	Total PM	SO₂
C-3275-3-0	0.73	0.25	0.096
Rule 4301 Limit	140 lb/hr	10 lb/hr	200 lb/hr

As shown above, compliance with this rule is expected.

District Rule 4304 Equipment Tuning Procedure for Boilers, Steam Generators and Process Heaters

This rule includes tune-up requirements for boilers. Boiler tuning is not required if monitoring the emissions with a portable analyzer. San Joaquin Valley Concentrates has chosen to monitor emissions monthly using a portable analyzer. Therefore, compliance with this Rule is not required.

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

Each boiler is subject to District Rule 4305, *Boilers, Steam Generators and Process Heaters – Phase 2*. In addition, each boiler is also subject to District Rule 4306, *Boilers, Steam Generators and Process Heaters – Phase 3* and District Rule 4320, *Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr*.

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

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

Each boiler is subject to District Rule 4306, *Boilers, Steam Generators and Process Heaters – Phase 3*. In addition, each boiler is also subject to *District Rule 4320, Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr*.

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

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

The boiler is subject to District Rule 4320 requirements pursuant to Section 2.0 of District Rule 4320.

Section 5.2, NO_x and CO Emissions Limits

Section 5.2 requires NO_x and carbon monoxide (CO) emissions shall not exceed the limits specified in the following table. All ppmv emission limits specified in this section are referenced at dry stack gas conditions and 3.00 percent by volume stack gas oxygen.

The boiler is rated greater than 20 MMBtu/hr; thus, the applicable emission limit category is Section 5.2, Table 1, Category B, from District Rule 4320.

Rule 4320 Emissions Limits		
Category	Operated on gaseous fuel	
	NO_x Limit	CO Limit
B. Units with a total rated heat input > 20.0 MMBtu/hr, except for Categories C through G units (Standard Schedule)	7 ppmv or 0.008 lb/MMBtu	400 ppmv

The boiler will be limited to 5 ppmvd NO_x and 200 ppmvd CO, all corrected to 3% O₂. Thus, compliance with the District Rule 4320 NO_x and CO emission limits is expected.

Section 5.3, Annual Fee Calculation

Annual Fees are required if an emissions unit will not be meeting the emission limits in Section 5.2 of this rule. Since the proposed boiler will each meet the emissions limits of Section 5.2, the annual fee requirements are not applicable.

Section 5.4, Particulate Matter Control Requirements

Section 5.4.1 of this rule requires the operator to comply with one of the following requirements:

1. Fire the boiler exclusively on PUC-quality natural gas, commercial propane, butane, or liquefied petroleum gas, or a combination of such gases;
2. Limit fuel sulfur content to no more than five grains of total sulfur per one hundred (100) standard cubic feet;
3. Install and properly operate an emission control system that reduces SO₂ emissions by at least 95% by weight; or limit exhaust SO₂ to less than or equal to 9 ppmv corrected to 3.0% O₂;

Boiler C-3275-3-0 is fired exclusively on PUC-regulated natural gas. Therefore, boiler C-3275-3-0 is expected to comply.

Section 5.5, Low Use

Each boiler's annual heat input will exceed the 1.8 billion Btu heat input per calendar year criteria limit addressed by this section. Thus, the requirements of Section 5.5 are not applicable.

Section 5.6, Startup and Shutdown Provisions

Section 5.6 states that on and after the full compliance deadline 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

The following proposed startup/shutdown provisions will be listed on the permit:

- The total duration of start-up time shall not exceed 2.0 hours per day. [District Rules 2201, 4305, 4306, and 4320]
- The total duration of start-up time shall not exceed 2.0 hours per occurrence. [District Rules 2201, 4305, 4306, and 4320]
- The total duration of shutdown time shall not exceed 2.0 hours per day. [District Rules 2201, 4305, 4306, and 4320]
- The total duration of shutdown time shall not exceed 2.0 hours per occurrence. [District Rules 2201, 4305, 4306, and 4320]
- The permittee shall record the daily startup and shutdown duration times of the boiler. [District Rules 2201, 4305, 4306, and 4320]

Section 5.7, Monitoring Provisions

Section 5.7.1 requires that permit units subject to District Rule 4320, Section 5.2 emissions limits shall either install and maintain Continuous Emission Monitoring (CEM) equipment for NO_x, CO and O₂, or install and maintain APCO-approved alternate monitoring.

For boiler C-3275-3-0, the facility will use pre-approved alternate monitoring scheme A (pursuant to District Policy SSP-1105), which requires that monitoring of NO_x, CO, and O₂ exhaust concentrations shall be conducted at least once per month (in which a source test is not performed) using a portable analyzer. The following conditions will be incorporated into the permit in order to ensure compliance with the requirements of the proposed alternate monitoring plan:

- The permittee shall monitor and record the stack concentration of NO_x, CO, NH₃, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. NH₃ monitoring shall be conducted utilizing Draeger tubes or a District approved equivalent method. 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 five days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4102, 4305, 4306, and 4320]

- If the NO_x, CO or NH₃ concentrations, as measured by the portable analyzer or the District approved ammonia monitoring equipment, exceed the permitted levels, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than one hour of operation after detection. If the portable analyzer or the ammonia monitoring equipment continue to show emission limit violations after 1 hour of operation following detection, the permittee shall notify the District within the following one 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 4102, 4305, 4306, and 4320]
- All NO_x, CO, O₂ and NH₃ 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 NO_x, CO and O₂ analyzer as well as the NH₃ emission monitoring equipment 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 readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4102, 4305, 4306, and 4320]
- The permittee shall maintain records of: (1) the date and time of NO_x, CO, NH₃ and O₂ measurements, (2) the O₂ concentration in percent by volume and the measured NO_x, CO and NH₃ concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, (5) the method of determining the NH₃ emission concentration, and (6) a description of any corrective action taken to maintain the emissions at or below the acceptable levels. [District Rules 4102, 4305, 4306, and 4320]

Section 5.7.6 outlines requirements for monitoring SO_x emissions. For units that are complying with Section 5.4.1.1 or 5.4.1.2 of this Rule, the facility must provide an annual fuel analysis to the District unless a more frequent sampling and reporting period is included in the Permit to Operate. This boiler is complying using Sections 5.4.1.1 or 5.4.1.2.

This unit is fired on PUC-Regulated natural gas. Therefore, the following requirement will be included on the permit to comply with the SO_x emissions monitoring requirement:

- The permittee shall submit an analysis showing the natural gas fuel sulfur content at least once every year. Valid purchase contracts, supplier certifications, tariff sheets, or transportation contacts may be used to satisfy this requirement, provided they establish the fuel parameters mentioned above. [District Rule 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 upon request. Failure to maintain records or information contained in the records that demonstrate non-compliance with the applicable requirements of this rule shall constitute a violation of this rule.

The following condition will be listed on the permit to ensure compliance:

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

Section 6.1.2 requires that the operator of a unit subject to Section 5.5 shall record the amount of fuel use at least on a monthly basis. Since the boiler is not subject to the requirements listed in Section 5.5, Section 6.1.2 requirements are not applicable.

Section 6.1.3 requires that the operator of a unit subject to Section 5.5.1 or 6.3.1 shall maintain records to verify that the required tune-up and the required monitoring of the operational characteristics have been performed. This boiler is not subject to Sections 5.5.1 or 6.3.1. Therefore, the requirements of this section do not apply.

Section 6.1.4 requires that the operator of a unit with startup or shutdown provisions keep records of the duration of the startup or shutdowns. The following condition will be listed on the permit:

- The permittee shall record the daily startup and shutdown duration times of the boiler. [District Rules 2201, 4305, 4306, and 4320]

Section 6.1.5 requires that the operator of a unit fired on liquid fuel during PUC-quality natural gas curtailment periods record the sulfur content of the fuel, amount of fuel used, and duration of the natural gas curtailment period. The boiler is not fired on liquid fuels. Therefore, the requirements of this section do not apply.

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 or 19
Stack Gas Moisture Content	%	EPA Method 4

The following permit conditions will be listed on the permit:

- 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]
- NO_x emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 4306, and 4320]
- CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 4306, and 4320]
- Stack gas oxygen (O₂) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306, and 4320]

Section 6.3, Compliance Testing

Section 6.3.1 requires that this unit be tested to determine compliance with the applicable requirements of section 5.2 not less than once every 12 months. Upon demonstrating compliance on two consecutive compliance source tests, the source test may be deferred for up to thirty-six months. The following condition will be included on the permit:

- Source testing to measure natural gas combustion NO_x, CO, and NH₃ emissions from this unit shall be conducted at least once every twelve months. After demonstrating compliance on two consecutive annual source tests when unit is fired on natural gas/biogas, the unit shall be tested not less than once every 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 months. [District Rules 2201, 4102, 4305, 4306, and 4320]

Conclusion

Compliance with District Rule 4320 requirements is expected.

District 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. The emission limits, monitoring provisions, and testing requirements of this rule are satisfied when the unit is operated in compliance with Rule 4320. Therefore, compliance with this rule is expected.

District 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 SO₂, on a dry basis averaged over 15 consecutive minutes.

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

$$\text{Volume SO}_2 = \frac{nRT}{P}$$

With:

N = moles SO₂

T (Standard Temperature) = 60°F = 520°R

P (Standard Pressure) = 14.7 psi

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

Natural Gas Combustion

EPA F-Factor for Natural Gas: 8,710 dscf/MMBtu at 68 °F, equivalent to

$$\text{Corrected } F - \text{factor} = \left(\frac{8,710 \text{ dscf}}{\text{MMBtu}} \right) \times \left(\frac{60^\circ F + 459.6}{68^\circ F + 459.6} \right) = 8,578 \frac{\text{dscf}}{\text{MMBtu}} \text{ at } 60^\circ F$$

$$\frac{0.00285 \text{ lb} - \text{SO}_x}{\text{MMBtu}} \times \frac{\text{MMBtu}}{8,578 \text{ dscf}} \times \frac{1 \text{ lb} \cdot \text{mol}}{64 \text{ lb}} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}} \times \frac{520^\circ\text{R}}{14.7 \text{ psi}} \times \frac{1,000,000 \cdot \text{parts}}{\text{million}} = 1.97 \frac{\text{parts}}{\text{million}}$$

$$\text{Sulfur Concentration} = 1.97 \frac{\text{parts}}{\text{million}} < 2,000 \text{ ppmv (or 0.2\%)}$$

California Environmental Quality Act (CEQA)

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

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

Greenhouse Gas (GHG) Significance Determination

It is determined that no other agency has or will prepare an environmental review document for the project. Thus the District is the Lead Agency for this project.

Project specific impacts on global climate change were evaluated consistent with the adopted District policy – *Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency*. The District's engineering evaluation (this document – Appendix E and F) demonstrates that the project includes Best Performance Standards (BPS) for each class and category of greenhouse gas emissions unit. The District therefore concludes that the project would have a less than cumulatively significant impact on global climate change.

District CEQA Findings

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the District determined that the activity will not have a significant effect on the environment. The District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15031 (Existing Facilities), and finds that the project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

IX. RECOMMENDATION

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue Authority to Construct C-3275-3-0 subject to the permit conditions on the attached draft Authority to Construct in Appendix G.

X. BILLING INFORMATION

Permit Number	Fee Schedule	Fee Description	Annual Fee
C-3275-3-0	3020-02-H	33.66 MMBtu/hr	\$1,030

Appendices

- A: Top Down BACT Analysis
- B: Compliance Certification
- C: Certificate of Conformity
- D: Risk Management Review and Ambient Air Quality Analysis
- E: Greenhouse Gas Calculations
- F: Best Performance Standard
- G: Draft Authority to Construct

Appendix A

Top Down BACT Analysis

Top-Down BACT Determination for NO_x Emissions

Step 1 - Identify All Possible Control Technologies

The SJVUAPCD BACT Clearinghouse Guideline 1.1.2 (Boiler > 20.0 MMBtu/hr, Natural gas fired, base-loaded or with small load swings) has been rescinded. The District adopted District Rule 4320 on October 16, 2008. The NO_x emission limit requirements in District Rule 4320 are lower than the current BACT limits listed in BACT Guideline 1.1.2; therefore a project specific BACT analysis will be performed to determine BACT for this project.

Rule 4320 limits natural gas boilers with heat input ratings greater than 20 MMBtu/hr to 7 ppmv @ 3% O₂. Since this emission limit is required by the rule, it will be considered the Achieved in Practice control technology for the BACT analysis. District Rule 4320 also contains an enhanced schedule option that allows applicants additional time to meet the requirements of the rule. The enhanced schedule NO_x emission limit requirement is 5 ppmv @ 3% O₂. Since this is an enhanced option in the rule, it will be considered the Technologically Feasible control technology for the BACT analysis.

The SJVUAPCD BACT Clearinghouse Guideline 1.1.2 has been rescinded. Therefore, a new BACT analysis is required. The following are possible control technologies:

- 1) 5 ppmvd @ 3% O₂ - Technologically Feasible
- 2) 7 ppmvd @ 3% O₂ - Achieved in Practice

Step 2 - Eliminate Technologically Infeasible Options

There are no technologically infeasible options.

Step 3 – Rank Remaining Control Technologies by Control Efficiency

- 1) 5 ppmvd @ 3% O₂ - Technologically Feasible
- 2) 7 ppmvd @ 3% O₂ - Achieved in Practice

Step 4 – Cost Effectiveness Analysis

The applicant has proposed to limit the NO_x emissions of their boiler to 5 ppmv @ 3% O₂; therefore the applicant is proposing the most effective control technology and a cost effective analysis is not required.

Step 5 - Select BACT

BACT for NO_x emissions from this boiler is NO_x emissions of 5 ppmv @ 3% O₂. The applicant has proposed to install a 5 ppmv @ 3% O₂ low NO_x burner; therefore BACT for NO_x emissions is satisfied.

Top Down BACT Analysis for SO_x and PM₁₀ Emissions:

Step 1 - Identify All Possible SO_x and PM₁₀ Control Technologies

The SJVUAPCD BACT Clearinghouse Guideline 1.1.2 (Boiler > 20.0 MMBtu/hr, Natural gas fired, base-loaded or with small load swings) has been rescinded. The District adopted District Rule 4320 on October 16, 2008. Therefore, a project specific BACT analysis will be performed to determine BACT for this project.

Rule 4320 requires SO_x and PM₁₀ control by complying with SO_x limits. The rule specified that the sulfur content of the fuel be limited to no more than 5 grains/100 scf, or fire the unit with PUC-quality natural gas, commercial propane, butane, or liquefied petroleum gas, or a combination of such gases, or operate an emissions control system that reduces SO₂ emissions by at least 95% by weight or limit exhaust SO₂ to less than or equal to 9 ppmv corrected to 3.0% O₂. The following can be considered BACT and are technologically possible options:

- 1) PUC Natural gas, commercial propane, butane, or liquefied petroleum gas, or a combination of such gases. (Achieved in Practice).
- 2) Limit sulfur content of the fuel to no more than 5 grains/100 scf.
- 3) Operate an emissions control system that reduces SO₂ emissions by at least 95% by weight or limit exhaust SO₂ to less than or equal to 9 ppmv corrected to 3.0% O₂

Step 2 - Eliminate Technologically Infeasible Options

All control options are technologically feasible.

Step 3 - Rank Remaining Control Technologies by Control effectiveness

- 1) PUC Natural gas, commercial propane, butane, or liquefied petroleum gas, or a combination of such gases. (Achieved in Practice).
- 2) Limit sulfur content of the fuel to no more than 5 grains/100 scf.
- 3) Operate an emissions control system that reduces SO₂ emissions by at least 95% by weight or limit exhaust SO₂ to less than or equal to 9 ppmv corrected to 3.0% O₂

Step 4 - Cost Effectiveness Analysis

The applicant has proposed to use PUC-regulated natural gas fuel with a sulfur content no more than 5 grains/100 scf for the boiler, which meets the most stringent emission requirements of BACT. Therefore, BACT is satisfied and a cost effective analysis does not need to be performed.

Step 5 - Select BACT

The applicant is proposing to use PUC-regulated natural gas fuel with a sulfur content no more than 5 grains/100 scf for the boiler. This proposed control satisfies the District's BACT requirement.

Top Down BACT Analysis for CO Emissions:

Step 1 - Identify All Possible CO Control Technologies

The SJVUAPCD BACT Clearinghouse Guideline 1.1.2 (Boiler > 20.0 MMBtu/hr, Natural gas fired, base-loaded or with small load swings) has been rescinded. The District adopted District Rule 4320 on October 16, 2008. Therefore, a project specific BACT analysis will be performed to determine BACT for this project.

District Rule 4320 identifies the following technologies:

- 1) 400 ppmvd @ 3% O₂ - Achieved-In-Practice

Step 2 - Eliminate Technologically Infeasible Options

None of the above listed technologies are technologically infeasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

- 1) 400 ppmvd @ 3% O₂ - Achieved-In-Practice

Step 4 - Cost Effectiveness Analysis

The applicant has proposed a CO emission limit that meets 400 ppmvd @ 3% O₂. Since the applicant has chosen the most effective control technology in step 3, a cost effectiveness analysis is not required.

Step 5 - Select BACT

BACT for CO emissions from this boiler is CO emissions of 400 ppmv @ 3% O₂. The applicant has proposed a CO emission limit of 200 ppmv @ 3% O₂; therefore BACT for CO emissions is satisfied.

Top Down BACT Analysis for VOC Emissions:

Step 1 - Identify All Possible VOC Control Technologies

The SJVUAPCD BACT Clearinghouse Guideline 1.1.2 (Boiler > 20.0 MMBtu/hr, Natural gas fired, base-loaded or with small load swings) has been rescinded. The District adopted District Rule 4320 on October 16, 2008. Therefore, a project specific BACT analysis will be performed to determine BACT for this project.

The SJVAPCD BACT Clearinghouse Guideline 1.1.2 identifies the following technologies:

- 1) Natural gas fuel with LPG backup - Achieved-In-Practice

Step 2 - Eliminate Technologically Infeasible Options

None of the above listed technologies are technologically infeasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

- 1) Natural gas fuel with LPG backup - Achieved-In-Practice

Step 4 - Cost Effectiveness Analysis

The applicant has proposed the use of PUC-regulated natural gas. Since the applicant has chosen the most effective control technology in step 3, a cost effectiveness analysis is not required.

Step 5 - Select BACT

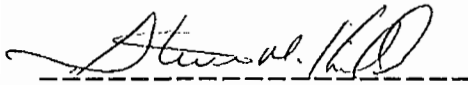
BACT for VOC emissions from this boiler is natural gas fuel. The applicant has proposed PUC-regulated natural gas fuel; therefore BACT for VOC emissions is satisfied.

Appendix B

Compliance Certification

C-3275
San Joaquin Valley Concentrate
Compliance Certification Statement
For Federal Major Permit Modifications
Compliance with District Rule 2201, Section 4.15.2

"I certify under penalty of law that all major stationary sources (Title V facilities) operated under my control in California are compliant with all applicable air emissions limitations and standards. The facilities included in this certification statement include the E&J Gallo Winery-Fresno, San Joaquin Valley Concentrates, the E&J Gallo Winery-Livingston, and the E&J Gallo Winery-Modesto."



Mr. Steve Kidd
Vice President of Operations

02/27/12

Date

Appendix C

Certificate of Conformity

**San Joaquin Valley
Unified Air Pollution Control District**

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

Federal Major Permit MODIFICATION
 MINOR PERMIT MODIFICATION

ADMINISTRATIVE
AMENDMENT

COMPANY NAME: E&J Gallo Winery - Fresno	FACILITY ID C-447
1. Type of Organization: <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Sole Ownership <input type="checkbox"/> Government <input type="checkbox"/> Partnership <input type="checkbox"/> Utility	
2. Owner's Name: E&J Gallo Winery-Fresno	
3. Agent to the Owner: Mr. Phil Castro	

II. COMPLIANCE CERTIFICATION (Read each statement carefully and initial **all** circles for confirmation):

Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s).

Based on information and belief formed after reasonable inquiry, the equipment identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.

Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.

Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

I declare, under penalty of perjury under the laws of the state of California, that the forgoing is correct and true:



Signature of Responsible Official

02/08/12

Date

Mr. Phil Castro

Name of Responsible Official (please print)

Plant Manager – Fresno Winery

Title of Responsible Official (please print)

**Mailing Address: Central Regional Office * 1990 E. Gettysburg Avenue * Fresno, California
93726-0244 * (559) 230-5900 * FAX (559) 230-6061**

TVFORM-009
Rev: July 2005

Appendix D

Risk Management Review and Ambient Air Quality Analysis

San Joaquin Valley Air Pollution Control District Risk Management Review

To: Stanley Tom, AQE – Permit Services
 From: Joe Aguayo, AQS – Technical Services
 Date: February 28, 2012
 Facility Name: San Joaquin Valley Concentrates
 Location: 5631 E. Olive Avenue
 Fresno, CA
 Application #(s): C-3275-3-0
 Project #: C-1120258

A. RMR SUMMARY

RMR Summary			
Categories	33.66 NG-Fired Boiler (Unit 3-0)	Project Totals	Facility Totals
Prioritization Score	0.4	<1.0	<1.0
Acute Hazard Index	N/A ¹	N/A	N/A
Chronic Hazard Index	N/A ¹	N/A	N/A
Maximum Individual Cancer Risk (10 ⁻⁶)	N/A ¹	N/A	N/A
T-BACT Required?	No		
Special Permit Conditions?	No		

¹Acute and Chronic Hazard Index and Maximum Individual Cancer Risk were not calculated since the total facility prioritization score was less than 1.0.

Proposed Permit Conditions

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

Unit # 3-0

1. 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]

B. RMR REPORT

I. Project Description

Technical Services received a request on February 19, 2012, to perform an Ambient Air Quality Analysis and a Risk Management Review for a proposed installation of a 33.66 MMBtu/hr natural gas-fired boiler.

II. Analysis

Toxic emissions for this proposed unit were calculated using emission factors for external combustion sources. In accordance with the District's *Risk Management Policy for Permitting New and Modified Sources* (APR 1905, March 2, 2001), risks from the proposed unit's toxic emissions were prioritized using the procedure in the 1990 CAPCOA Facility Prioritization Guidelines and incorporated in the District's HEARTs database. The prioritization score for this proposed unit was less than 1.0 (see RMR Summary Table). Therefore, no further analysis was necessary.

The following parameters were used for the review:

Analysis Parameters Unit 3-0			
Throughput (MMBtu/yr)	33.66	Max Hours per Year	8760
Closest Receptor (m)	30.48		

Technical Services performed modeling for criteria pollutants CO, NO_x, SO_x and PM₁₀; as well as a RMR. The emission rates used for criteria pollutant modeling were 4.95 lb/hr CO, 0.72 lb/hr NO_x, 0.09 lb/hr SO_x, and 0.25 lb/hr PM₁₀. The engineer supplied the maximum fuel rate for the boiler used during the analysis.

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*					
Diesel ICE	1 Hour	3 Hours	8 Hours.	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO _x	Pass	X	X	X	Pass
SO _x	Pass	Pass	X	Pass	Pass
PM ₁₀	X	X	X	Pass ¹	Pass ¹
PM _{2.5}	X	X	X	Pass ¹	Pass ¹

*Results were taken from the attached PSD spreadsheet.

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

III. Conclusion

The prioritization score is less than 1.0. **In accordance with the District's Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).**

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.

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

IV. Attachments

- A. RMR request from the project engineer
- B. Additional information from the applicant/project engineer
- C. Toxic emissions summary
- D. Prioritization score
- E. Facility Summary

AAQA for San Joaquin Valley Concentrates (C-3275-3-0)

All Values are in Micrograms per Cubic Meter

	NOx 1 Hour	NOx Annual	CO 1 Hour	CO 8 Hour	SOx 1 Hour	SOx 3 Hour	SOx 24 Hour	SOx Annual	PM 24 Hour	PM Annual
STCK1	6.3	0.8	42.7	32.7	0.8	0.8	0.5	0.1	1.20E+00	2.95E-01
Background	86.1	13.4	1,864.0	1,165.0	159.8	133.2	71.9	26.6	7.80E+01	4.00E+01
Facility Totals	92.4	14.2	1,906.7	1,197.7	160.7	134.0	72.4	26.8	7.92E+01	4.03E+01
AAQS	188.7	56.0	23,000.0	10,000.0	195.0	1,300.0	105.0	80.0	50.0	30.0
	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Fail	Fail

EPA's Significance Level (ug/m³)

NOx 1 Hour	NOx Annual	CO 1 Hour	CO 8 Hour	SOx 1 Hour	SOx 3 Hour	SOx 24 Hour	SOx Annual	PM 24 Hour	PM Annual
0.0	1.0	2000.0	500.0	0.0	25.0	5.0	1.0	5.0	1.0

AAQA Emission (g/sec)

<i>Device</i>	NOx 1 Hour	NOx Annual	CO 1 Hour	CO 8 Hour	SOx 1 Hour	SOx 3 Hour	SOx 24 Hour	SOx Annual	PM 24 Hour	PM Annual
STCK1	9.19E-02	9.19E-02	6.24E-01	6.24E-01	1.21E-02	1.21E-02	1.21E-02	1.21E-02	3.20E-02	3.22E-02

Appendix E

Greenhouse Gas Calculations

GHG Calculations

Basis and Assumptions

- The boiler is fired with natural gas at a rate of 33.66 MMBtu/hour (HHV)
- The boiler operates 8,760 hours per year and is in commercial/institutional service
- Emission factors and global warming potentials (GWP) are taken from the California Climate Change Action Registry (CCAR), Version 3.1, January, 2009 (Appendix C, Tables C.7 and C.8):

CO₂ 53.06 kg/MMBtu (HHV) natural gas (116.7 lb/MMBtu)
CH₄ 0.005 kg/MMBtu (HHV) natural gas (0.011 lb/MMBtu)
N₂O 0.0001 kg/MMBtu (HHV) natural gas (0.00022 lb/MMBtu)

GWP for CH₄ = 23 lb-CO₂(eq) per lb-CH₄
GWP for N₂O = 296 lb-CO₂(eq) per lb-N₂O

Calculations

Hourly Emissions

CO₂ Emissions = 33.66 MMBtu/hr x 116.7 lb/MMBtu = 3928.12 lb-CO₂(eq)/hour
CH₄ Emissions = 33.66 MMBtu/hr x 0.011 lb/MMBtu x 23 lb-CO₂(eq) per lb-CH₄
= 8.52 lb-CO₂(eq)/hour
N₂O Emissions = 33.66 MMBtu/hr x 0.00022 lb/MMBtu x 296 lb-CO₂(eq) per lb-N₂O
= 2.19 lb-CO₂(eq)/hour

Total = 3928.12 + 8.52 + 2.19 = 3938.8 lb-CO₂(eq)/hour

Annual Emissions

3938.8 lb-CO₂(eq)/hour x 8,760 hr/year ÷ 2,000 lb/ton = **17,252.1 short tons-CO₂(eq)/year**
17,252.1 short tons-CO₂e/year x 0.9072 metric tons/short ton = **15,651 metric tons-CO₂(eq)/year**

This exceeds the District's threshold of 230 metric tons of CO₂ equivalent. To address the potential increase in GHG emissions, the applicant is proposing to comply with the best performance standard (BPS) developed by the District for boilers. The proposed boiler will be equipped with an economizer system that consists of, at a minimum, a single stage economizer section which will recover energy from the boiler flue gas by heat exchange with the boiler feed water. The economizer system will be designed at a maximum boiler firing rate to reduce the temperature of the economizer flue gas outlet to a value no greater than 20 F above the temperature of the boiler feed water at maximum firing rate. All the motors associated with the boiler will be equipped with National Electric Manufacturer's Association (NEMA) rated, premium efficiency motors with variable speed control. The boiler will be equipped with an O₂ trim system designed to control oxygen content of the stack gases to a maximum of 3 volume percent dry basis and will be designed to limit the recirculation of flue gas to a value not exceeding 10 percent of total flue gas volume. The boiler blowdown rate will not exceed 8% of steam production. BPS conditions will be included in the ATC to ensure compliance with the GHG requirements.

Appendix F

Best Performance Standard

**San Joaquin Valley
Unified Air Pollution Control District**

Best Performance Standard (BPS) x.x.xx

Class	Gaseous Fuel-Fired Boilers
Category	<i>New Boilers with Operating Steam Pressure 75 psig and Greater, Fired Exclusively on Natural Gas or LPG</i>
Best Performance Standard	<p><i>Applicability Note: Boilers with operating steam pressure greater than 75 psig but fired with gaseous fuels other than natural gas or LPG (either exclusively or mixed with natural gas or LPG) and which meet the following standards shall be considered to meet BPS for their respective category.</i></p>
	<p>Boilers meeting this Best Performance Standard must comply with all four elements of this BPS (items 1, 2, 3 and 4 listed below) where applicable.</p> <ol style="list-style-type: none"> 1. The boiler shall be either equipped with an economizer system meeting the following design criteria or shall be equipped with an approved alternate heat recovery system which will collectively provide heat recovery from the boiler flue gas which is equivalent: <ol style="list-style-type: none"> A. Except for boilers subject to the requirements of items B or C below, the economizer system shall consist of, as a minimum, a single stage economizer section which will recover energy from the boiler flue gas by heat exchange with the boiler feed water. The economizer system shall be designed at maximum boiler firing rate to either 1) reduce the temperature of the economizer flue gas outlet to a value no greater than 20°F above the temperature of the boiler feed water at maximum firing rate, or 2) heat the boiler feed water to a temperature which is no less than 30°F below the steam temperature at the steam drum, or 3) reduce the final temperature of the boiler's flue gas to a temperature no greater than 200°F. <p style="margin-left: 40px;"><i>Note: For purposes of this BPS, feedwater temperature is defined as the temperature of the water stream delivered to the boiler from the deaerator or feedwater tank.</i></p> B. For boilers with a feedwater temperature greater than or equal to $T_s - 50$, where T_s is the saturation temperature of steam at the steam separator pressure in °F, the steam generator may be designed, in lieu of the requirements of item A above, to achieve a flue gas temperature no greater than the steam saturation temperature (°F at the steam drum operating pressure) plus 100°F. C. For boilers with rated capacity in excess of 20 MMBtu/hr which have a average water supply temperature which is equal to or less than 150°F, the boiler shall equipped with an economizer designed to reduce the temperature of the flue gas outlet to a value no greater than 50°F above the water supply temperature when the boiler is operating at maximum firing rate. <p style="margin-left: 40px;"><i>Note: For purposes of this BPS, water supply temperature is defined as the weighted average temperature of the combined makeup water and the recovered condensate delivered to the boiler upstream of any deaerator or other feedwater preheater but after benefit of any other heat recovery operations which recover waste heat from the boiler by transfer to the boiler water supply (such as boiler blowdown heat recovery).</i></p>

Best Performance Standard (continued)	<p>2. Electric motors driving combustion air fans or induced draft fans shall have an efficiency meeting the standards of the National Electrical Manufacturer's Association (NEMA) for "premium efficiency" motors and shall each be operated with a variable speed control or equivalent for control of flow through the fan.</p> <p>3. For boilers with rated fired duty in excess of 20 MMBtu/hr and an operating steam pressure of 125 psig or greater, the boiler shall be 1) equipped with an O₂ trim system and be designed to control oxygen content of the stack gases to a maximum of 3 volume % dry basis except during any period where the rate of fuel consumption by the boiler is less than 20% of maximum rated firing and 2) shall be designed to limit the recirculation of flue gas to a value not exceeding 10 percent of total flue gas volume while meeting the applicable requirements for control of NO_x emissions from the boiler.</p> <p>4. For boilers with rated fired duty in excess of 20 MMBtu/hr and a boiler blowdown rate exceeding 8 % of steam production, the boiler shall be equipped with: 1) an automatic boiler blowdown control system which will minimize boiler blowdown while controlling dissolved solids in the boiler water at an optimum level and 2) a flash steam recovery system which will recover flash steam from the blowdown pressure reduction and utilize it for feedwater heating in the deaerator or feedwater heater.</p>	
	Percentage Achieved GHG Emission Reduction Relative to Baseline Emissions	6.9%

District Project Number	C-1100388
Evaluating Engineer	Dennis Roberts, P.E.
Lead Engineer	Martin Keast
Public Notice of Intent Date	April 8, 2010
Public Notice #1 Date (Draft #1)	April 30, 2010
Public Notice #2 Date (Draft #2)	August 30, 2010
Public Notice #2 Closing Date	September 27, 2010
Determination Effective Date	January 19, 2011

Appendix G

Draft Authority to Construct Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: C-3275-3-0

LEGAL OWNER OR OPERATOR: SAN JOAQUIN VALLEY CONCENTRATES

MAILING ADDRESS: 5610 E OLIVE AVE
FRESNO, CA 93727

LOCATION: 5631 E OLIVE AVE
FRESNO, CA 93727

EQUIPMENT DESCRIPTION:

33.66 MMBTU/HOUR CLEAVER-BROOKS NATURAL GAS-FIRED BOILER MODEL NBI-800-250-LN-SKID WITH MODEL CBI.700.800.250 BURNER AND NATIONWIDE CATASTACK SELECTIVE CATALYTIC REDUCTION SYSTEM

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. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOx emission reduction credits for the following quantities of emissions: 1st quarter - 1,597 lb, 2nd quarter - 1,597 lb, 3rd quarter - 1,597 lb, and fourth quarter - 1,597 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 4/21/11). [District Rule 2201] Federally Enforceable Through Title V Permit
4. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantities of emissions: 1st quarter - 405 lb, 2nd quarter - 405 lb, 3rd quarter - 406 lb, and fourth quarter - 406 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 4/21/11). [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 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

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DAVID WARNER, Director of Permit Services
C-3275-3-0 Mar 14 2012 2:05PM - TOMS - Joint Inspection NOT Required

5. ERC Certificate Numbers C-1095-2, N-972-2, S-3714-1 (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] Federally Enforceable Through Title V Permit
6. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
7. 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
8. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
9. All equipment shall be constructed, maintained and operated according to the specifications and plans contained in the permit application except as otherwise specified herein. [District Rule 2201] 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 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]
12. The boiler shall be equipped with an economizer system that consists of, at a minimum, a single stage economizer section which will recover energy from the boiler flue gas by heat exchange with the boiler feed water. The economizer system shall be designed at maximum boiler firing rate to either 1) reduce the temperature of the economizer flue gas outlet to a value no greater than 20 deg F above the temperature of the boiler feed water at maximum firing rate, or 2) heat the boiler feed water to a temperature which is no less than 30 deg F below the steam temperature at the steam drum, or 3) reduce the final temperature of the boiler's flue gas to a temperature no greater than 200 deg F. [California Environmental Quality Act]
13. Electric motors driving combustion air fans or induced draft fans shall have an efficiency meeting the standards of the National Electric Manufacturer's Association (NEMA) for "premium efficiency" motors and shall each be operated with a variable speed control or equivalent for control of flow through the fan. [California Environmental Quality Act]
14. The boiler shall be equipped with an O2 trim system designed to control oxygen content of the stack gases to a maximum of 3% by volume dry basis except during any period where the rate of fuel consumption by the boiler is less than 20% of maximum rated firing. [California Environmental Quality Act]
15. The boiler shall be designed to limit the recirculation of flue gas to a value not exceeding 10 percent of total flue gas volume while meeting the applicable requirements for control of NOx emissions from the boiler. [California Environmental Quality Act]
16. The boiler blowdown rate shall not exceed 8% of steam production. [California Environmental Quality Act]
17. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted in the unit shall be installed, utilized and maintained. [District Rule 2201 and 40 CFR 60.48 (c)(g)] Federally Enforceable Through Title V Permit
18. The unit shall only be fired on PUC-regulated natural gas. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
19. Except during start-up and shutdown, emissions from this unit shall not exceed any of the following limits: 5 ppmvd NOx @ 3% O2 or 0.006 lb-NOx/MMBtu; 0.00285 lb-SOx/MMBtu; 0.0076 lb-PM10/MMBtu; 200 ppmvd CO @ 3% O2 (equivalent to 0.147 lb-CO/MMBtu); or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. During start-up and shutdown, emissions from this unit shall not exceed any of the following limits: 0.1 lb-NOx/MMBtu; 0.00285 lb-SOx/MMBtu; 0.0076 lb-PM10/MMBtu; 200 ppmvd CO @ 3% O2 (equivalent to 0.147 lb-CO/MMBtu); or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. The total duration of start-up time shall not exceed 2.0 hours per day. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
22. The total duration of startup time shall not exceed 2.0 hours per occurrence. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. The total duration of shutdown time shall not exceed 2.0 hours per day. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. The total duration of shutdown time shall not exceed 2.0 hours per occurrence. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. The permittee shall maintain daily records of start-up and shutdown durations and number of occurrences of each. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. The ammonia (NH₃) emissions shall not exceed 10 ppmvd @ 3% O₂ over a 15 minute averaging period. [District Rule 4102]
27. Source testing to measure NO_x and CO emissions from this unit while fired on natural gas shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. Source testing to measure natural gas combustion NO_x, CO, and NH₃ emissions from this unit shall be conducted at least once every twelve months. After demonstrating compliance on two consecutive annual source tests when unit is fired on natural gas, the unit shall be tested not less than once every 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 months. [District Rules 2201, 4102, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. Nitrogen oxide (NO_x) emission concentrations in ppmv referenced at dry stack emissions shall be corrected to 3% O₂ and lb/MMBtu rates shall be calculated as lb NO₂/MMBtu of heat input (hhv). [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
31. 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. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. NO_x emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. 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
34. 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
35. Source testing for ammonia slip shall be conducted utilizing BAAQMD Method ST-1B. [District Rule 4102]
36. 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
37. 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
38. 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

39. The permittee shall monitor and record the stack concentration of NO_x, CO, NH₃, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. NH₃ monitoring shall be conducted utilizing Draeger tubes or a District approved equivalent method. 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 five days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4102, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
40. If the NO_x, CO or NH₃ concentrations, as measured by the portable analyzer or the District approved ammonia monitoring equipment, exceed the permitted levels, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than one hour of operation after detection. If the portable analyzer or the ammonia monitoring equipment continue to show emission limit violations after one hour of operation following detection, the permittee shall notify the District within the following one 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
41. All NO_x, CO, O₂ and NH₃ 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 NO_x, CO and O₂ analyzer as well as the NH₃ emission monitoring equipment 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 readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
42. NH₃ emission readings shall be conducted at the time the NO_x, CO and O₂ readings are taken. The readings shall be converted to ppmvd @ 3% O₂. [District Rule 4102]
43. The permittee shall maintain records of: (1) the date and time of NO_x, CO, NH₃, and O₂ measurements, (2) the O₂ concentration in percent by volume and the measured NO_x, CO, and NH₃ concentrations corrected to 3% O₂, (3) make and model of the portable analyzer, (4) portable analyzer calibration records, (5) the method of determining the NH₃ emission concentration, and (6) a description of any corrective action taken to maintain the emissions at or below the acceptable levels. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
44. Operator shall provide that fuel hhv be certified by third party fuel supplier or determined annually by ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
45. Permittee shall determine sulfur content of combusted natural gas annually or shall demonstrate that the combusted natural gas is provided from a PUC or FERC regulated source. [District Rules 1081 and 4320] Federally Enforceable Through Title V Permit
46. Permittee shall maintain daily records of the type and quantity of fuel combusted by the boiler. [District Rules 2201 and 40 CFR 60.48 (c)(g)] Federally Enforceable Through Title V Permit
47. All records shall be maintained and retained on-site for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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