San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

August 2, 2023

Mr. Chris Perez
Vie-Del Winery #1
PO Box 2908
Fresno, CA 93745

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
Facility Number: C-1344
Project Number: C-1231559

Dear Mr. Perez:

Enclosed for your review is the District's analysis of an application for Authority to Construct for the facility identified above. You requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. Vie-Del Winery #1 has requested an Authority to Construct (ATC) permit to install a new 72.0 MMBtu/hr Rentech model 60k/hr D-Tube natural-gas fired boiler and tune the Haldor Topsoe DNX-929 SCR system to lower NOx emissions to 2.5 ppmvd at 3% O2. The proposed boiler will replace the existing 72.0 MMBtu/hr Babcock & Wilcox model FM-1936 boiler under unit C-1344-2.

The notice of preliminary decision for this project has been posted on the District's website (www.valleyair.org). After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the District intends to issue the Authority to Construct with a Certificate of Conformity. Please submit your comments within the 30-day public comment period, as specified in the enclosed public notice. 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. Nick Peirce, Permit Services Manager, at (209) 557-6400.

Samir Sheikh
Executive Director/Air Pollution Control Officer

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www.valleyair.org www.healthyairliving.com

Thank you for your cooperation in this matter.

Sincerely,

Brian Clements
Director of Permit Services

Enclosures

cc: Courtney Graham, CARB (w/enclosure) via email
cc: Gerardo Rios, EPA (w/enclosure) via EPS

San Joaquin Valley Air Pollution Control District

Authority to Construct Application Review

Installation of a New 72.0 MMBtu/hr Natural Gas-Fired Boiler

Facility Name:	Vie-Del Winery #1	Date:	August 2, 2023
Mailing Address:	PO Box 2908 Fresno, CA 93745	Engineer:	Anne Murphy
		Lead Engineer:	Dustin Brown
Contact Person:	Chris Perez		
Telephone:	(559) 834 - 2525		
E-Mail:	cperez@vie-del.com		
Application #(s):	C-1344-75-0		
Project #:	C-1231559		
Deemed Complete:	May 26, 2023		

I. Proposal

Vie-Del Winery #1 has requested an Authority to Construct (ATC) permit to install a new 72.0 MMBtu/hr Rentech model 60k/hr D-Tube natural-gas fired boiler with a Zeeco model GLSF Freejet low NO_X burner. The proposed boiler will replace the existing 72.0 MMBtu/hr Babcock & Wilcox model FM-1936 natural gas-fired boiler with an ultra-low NO_X burner, flue gas recirculation (FGR), and selective catalytic reduction (SCR) operating under current Permit to Operate (PTO) C-1344-2-8.

The applicant has stated that the existing boiler exhaust stack, SCR catalyst bed, economizer, and ammonia system will be retained for the project. The applicant is proposing to tune the existing Haldor Topsoe DNX-929 Selective Catalytic Reduction (SCR) system to lower the NO_X emissions from 5 ppmvd at 3% O_2 to 2.5 ppmvd at 3% O_2 for compliance with the Tier 2 NO_X requirements of District Rule 4320.

This modification is proposed solely to comply with District Rule 4320 requirements. Since there is a change to the method of operation of the unit, these changes are a modification pursuant to District Rule 2201, *New and Modified Stationary Source Review Rule*.

In order to assure that the existing boiler is removed, the following condition will be placed on the ATC for the new boiler:

- Within 90 days of startup of the equipment authorized by this Authority to Construct, Permit to Operate C-1344-2 shall be surrendered to the District and the associated equipment shall be removed or rendered inoperable. [District Rule 2201]

Vie-Del Winery #1 received their Title V Permit on December 31, 2012. This modification can be classified as a Title V significant modification pursuant to Rule 2520, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. Vie-Del Winery #1 must apply to administratively amend their Title V permit.

Valid PTO C-1344-2-8 and draft ATC C-1344-75-0 are included in Appendixes A and B, respectively.

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (8/15/19)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
Rule 2520	Federally Mandated Operating Permits (8/15/19)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4002	National Emissions Standards for Hazardous Air Pollutants (5/20/04)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4201	Particulate Matter Concentration (12/17/92)
Rule 4301	Fuel Burning Equipment (12/17/92)
Rule 4305	Boilers, Steam Generators, and Process Heaters – Phase 2 (8/21/03)
Rule 4306	Boilers, Steam Generators, and Process Heaters – Phase 3 (12/17/20)
Rule 4320	Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr (12/17/20)
Rule 4801	Sulfur Compounds (12/17/92)
CH&SC 41700	Health Risk Assessment
CH&SC 42301.6	School Notice

Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

III. Project Location

The facility is located at 11903 S. Chestnut 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

Vie-Del Winery #1 operates a grape juice, brandy, and ethanol production and storage facility at this location. The facility operates this natural gas-fired boiler to provide heat and steam for their grape juice, brandy, and ethanol processing operations.

V. Equipment Listing

PTO Equipment Description (existing boiler to be replaced):

C-1344-2-8 : 72.0 MMBTU/HR BABCOCK & WILCOX MODEL FM-1936 NATURAL GAS-FIRED BOILER, WITH ADVANCED COMBUSTION TECHNOLOGY MODEL GIDION MGW-60 ULTRA LOW NOX BURNER, FLUE GAS RECIRCULATION, AND SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM

ATC Equipment Description (new proposed boiler):

C-1344-2-11: 72.0 MMBTU/HR RENTECH MODEL 60K/HR D-TUBE NATURAL GAS-FIRED BOILER WITH A ZEECO MODEL GLSF FREEJET LOW NOX BURNER AND A SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM

VI. Emission Control Technology Evaluation

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

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

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

An SCR system utilizes a catalytic bed and a reducing agent, usually ammonia, to convert nitrogen oxides (NO_X) to nitrogen. Ammonia is injected into the exhaust system up stream of a catalyst and creates a reducing atmosphere. The exhaust stream then passes through a catalyst, which promotes the reduction reaction. The reduction reaction results in NO_X being converted to nitrogen. SCR systems provide approximately 95% NO_X control.

VII. General Calculations

A. Assumptions

- The maximum operating schedule is 24 hours per day and 365 days per year (worst case assumption)
- The maximum daily duration for start-up is two hours and the maximum daily duration for shutdown is two hours. Thus the total duration of startups and shutdown is 4 hours per day (current PTO for existing boiler and applicant proposed for new boiler)
- The unit is fired solely on PUC regulated natural gas (applicant proposed)
- Maximum heat input of new boiler: 72.0 MMBtu/hr (applicant proposed and manufacturer specifications)
- Natural Gas Heating Value: 1,000 Btu/scf (District practice)
- EPA F-factor for natural gas is 8,578 dscf/MMBtu (40 CFR 60, Appendix B)
- To streamline emission calculations, PM2.5 emissions are assumed to be equal to PM10 emissions. Only if needed to determine if a project is a Federal major modification for PM2.5 will specific PM2.5 emission calculations be performed.

B. Emission Factors

Pre-Project Emission Factors (unit C-1344-2-9):

The current permit for this boiler contains emission factors for all pollutants. The pre-project emissions factors are summarized in the table below:

Pre-Project Natural Gas Combustion Emission Factors			
Pollutant	lb/MMBtu	ppmv (@ 3% O_2)	Source
NO_X	0.0062	5	Current Permit
SO_X	0.00285	--	District Policy APR-1720 (12/20/01) and Current Permit
PM_{10}	0.0076	--	Current Permit
CO	0.1035	140	Current Permit
VOC	0.0055	--	Current Permit
NH_3	--	10	Current Permit

Startup/Shutdown (each limited to 2 hours per day)

Pre-Project Natural Gas Combustion Emission Factors			
Pollutant	lb/MMBtu	ppmv (@ 3% O_2)	Source
NO_X	0.061	50	Current Permit

Post-Project Emission Factors (unit C-1344-75-0):

For the new boiler, after tuning the SCR system, the emission factors for NO_X were proposed by the applicant and control system manufacturer to meet Rule 4320 requirements. The

existing boiler exhaust stack, SCR catalyst bed, economizer, and ammonia system will be retained for the project – therefore, the NH_3 the emission factor from the current PTO will be used.

Post-Project Natural Gas Combustion Emission Factors			
Pollutant	lb/MMBtu	ppmv (@ 3% O_2)	Source
NO_X	0.003	2.5	SCR System Manufacturer
SO_X	0.00285		District Policy APR-1720 (12/20/01)
PM_{10}	0.003	--	District Practice Based on Source Testing of Similar Units
CO	0.037	50	Boiler Manufacturer Data Sheet (Appendix J)
VOC	0.0055	-	AP-42, Section 1.4, Natural Gas Combustion, Table 1.4-2 (July 1998)
NH_3	--	10	Current Permit

Startup/Shutdown (each limited to 2 hours per day)

Post-Project Natural Gas Combustion Emission Factors			
Pollutant	lb/MMBtu	ppmv (@ 3% O_2)	Source
NO_X	0.0364	30	Boiler Manufacturer Data Sheet (Appendix J)

C. Calculations

1. Pre-Project Potential to Emit (PE1)

C-1344-2-9:

Daily PE1:

For NO_X, the unit is expected to operate 20 hrs/day at steady state conditions and 4 hrs/day in startup/shutdown mode. Therefore:

PE (lb/day) = [$EF_{@Steady\ State}$ (lb/MMBtu) x Burner Rating (MMBtu/hr) x 20 (hr/day)] + [$EF_{SU/SD}$ (lb/MMBtu) x Burner Rating (MMBtu/hr) x 4 (hr/day)]

For SO_X, PM_{10}, CO, and VOC, the unit is expected to operate at the steady state emission limits at all times, including during startup/shutdown. Therefore:

PE (lb/day) = EF (lb/MMBtu) x Burner Rating (MMBtu/hr) x 24 (hr/day)

Pollutant	Emission Factor (lb/MMBtu)	Burner Rating (MMBtu/hr)	Operating Hours (hr/day)	Daily PE1 (lb/day)
NO_X (steady state)	0.0062	72.0	20	8.9
NO_X (startup/shutdown)	0.061	72.0	4	17.6
SO_X	0.00285	72.0	24	4.9
PM_{10}	0.0076	72.0	24	13.1
CO	0.1035	72.0	24	178.8
VOC	0.0055	72.0	24	9.5

Annual PE1:

For NO_X, the unit is expected to operate 7,300 hrs/year at steady state conditions and 1,460 hrs/year in startup/shutdown mode. Therefore:

PE (lb/year) = [$EF_{@Steady\ State}$ (lb/MMBtu) x Burner Rating (MMBtu/hr) x 7,300 (hr/year)] + [$EF_{SU/SD}$ (lb/MMBtu) x Burner Rating (MMBtu/hr) x 1,460 (hr/year)]

For SO_X, PM_{10}, CO, and VOC, the unit is expected to operate at the steady state emission limits at all times, including during startup/shutdown. Therefore:

PE (lb/year) = EF (lb/MMBtu) x Burner Rating (MMBtu/hr) x 8,760 (hr/year)

Pollutant	Emission Factor (lb/MMBtu)	Burner Rating (MMBtu/hr)	Operating Hours (hr/year)	Annual PE1 (lb/year)
NO_X (steady state)	0.0062	72.0	7,300	3,259
NO_X (startup/shutdown)	0.061	72.0	1,460	6,412
SO_X	0.00285	72.0	8,760	1,798
PM_{10}	0.0076	72.0	8,760	4,793
CO	0.1035	72.0	8,760	65,280
VOC	0.0055	72.0	8,760	3,469

The total PE1 is calculated below:

Pollutant	Daily PE1 (lb/day)	Annual PE1 (lb/year)
NO_X	26.5	9,671
SO_X	4.9	1,798
PM_{10}	13.1	4,793
CO	178.8	65,280
VOC	9.5	3,469

Ammonia (NH_3) from SCR:

The proposed daily NH_3 emissions can be calculated as follows:

PE = ppm x MW x (2.64 x 10^{-9}) x ff x BR x [20.9 / (20.9 – O_2%)] x 24 hour /day

Where:

- PE is the emission factor in lb/hr
- ppm is the emission concentration in ppmvd @ 3% O_2
- MW is the molecular weight of the pollutant (MW_{NH3}= 17 lb/lb-mol)
- 2.64 x 10^{-9} is one over the molar specific volume (lb/MMscf, at 60 ^oF)
- ff is the F-factor for natural gas (8,578 scf/MMBtu, at 60 °F)
- BR is the rating of the boiler (MMBtu/hr)
- O_2 is the stack oxygen content to which the emission concentrations are corrected (3%)

NH_3 PE (lb/day) = 10 x 17 x (2.64×10^{-9}) (lb-mol/MMscf) x 8,578 (scf/MMBtu) x 72.0 (MMBtu/hr) x [20.9 / (20.9 – 3.0)] x 24 (hour/day)
= 7.8 lb-NH_3/day

NH_3 PE (lb/year) = 10 x 17 x (2.64×10^{-9}) (lb-mol/MMscf) x 8,578 (scf/MMBtu) x 72.0 (MMBtu/hr) x [20.9 / (20.9 – 3.0)] x 8,760 (hour/year)
= 2,835 lb-NH_3/year

C-1344-75-0:

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

2. Post-Project Potential to Emit (PE2)

C-1344-2-9:

Since this emissions unit will be removed, PE2 = 0 for all pollutants.

C-1344-75-0:

Daily PE2:

For NO_X, the unit is expected to operate 20 hrs/day at steady state conditions and 4 hrs/day in startup/shutdown mode. Therefore:

PE (lb/day) = [$EF_{@Steady\ State}$ (lb/MMBtu) x Burner Rating (MMBtu/hr) x 20 (hr/day)] + [$EF_{SU/SD}$ (lb/MMBtu) x Burner Rating (MMBtu/hr) x 4 (hr/day)]

For SO_X, PM_{10}, CO, and VOC, the unit is expected to operate at the steady state emission limits at all times, including during startup/shutdown. Therefore:

PE (lb/day) = EF (lb/MMBtu) x Burner Rating (MMBtu/hr) x 24 (hr/day)

Pollutant	Emission Factor (lb/MMBtu)	Burner Rating (MMBtu/hr)	Operating Hours (hr/day)	Daily PE2 (lb/day)
NO_X (steady state)	0.003	72.0	20	4.3
NO_X (startup/shutdown)	0.0364	72.0	4	10.5
SO_X	0.00285	72.0	24	4.9
PM_{10}	0.003	72.0	24	5.2
CO	0.037	72.0	24	63.9
VOC	0.0055	72.0	24	9.5

Annual PE2:

For NO_X, the unit is expected to operate 7,300 hrs/year at steady state conditions and 1,460 hrs/year in startup/shutdown mode. Therefore:

PE (lb/year) = [$EF_{@Steady\ State}$ (lb/MMBtu) x Burner Rating (MMBtu/hr) x 7,300 (hr/year)] + [$EF_{SU/SD}$ (lb/MMBtu) x Burner Rating (MMBtu/hr) x 1,460 (hr/year)]

For SO_X, PM_{10}, CO, and VOC, the unit is expected to operate at the steady state emission limits at all times, including during startup/shutdown. Therefore:

PE (lb/year) = EF (lb/MMBtu) x Burner Rating (MMBtu/hr) x 8,760 (hr/year)

Pollutant	Emission Factor (lb/MMBtu)	Burner Rating (MMBtu/hr)	Operating Hours (hr/year)	Annual PE2 (lb/year)
NO_X (steady state)	0.003	72.0	7,300	1,577
NO_X (startup/shutdown)	0.0364	72.0	1,460	3,826
SO_X	0.00285	72.0	8,760	1,798
PM_{10}	0.003	72.0	8,760	1,892
CO	0.037	72.0	8,760	23,337
VOC	0.0055	72.0	8,760	3,469

The total PE2 is calculated below:

Pollutant	Daily PE2 (lb/day)	Annual PE2 (lb/year)
NO_X	14.8	5,403
SO_X	4.9	1,798
PM_{10}	5.2	1,892
CO	63.9	23,337
VOC	9.5	3,469

Ammonia (NH_3) from SCR:

The proposed daily NH_3 emissions can be calculated as follows:

$PE = ppm \times MW \times (2.64 \times 10^{-9}) \times ff \times BR \times [20.9 / (20.9 – O_2\%)] \times 24$ hour /day

Where:

- PE is the emission factor in lb/hr
- ppm is the emission concentration in ppmvd @ 3% O_2
- 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 ^oF)
- ff is the F-factor for natural gas (8,578 scf/MMBtu, at 60 °F)
- BR is the rating of the boiler (MMBtu/hr)
- O_2 is the stack oxygen content to which the emission concentrations are corrected (3%)

NH_3 PE (lb/day) = 10 x 17 x (2.64×10^{-9}) (lb-mol/MMscf) x 8,578 (scf/MMBtu) x 72.0 (MMBtu/hr) x [20.9 / (20.9 – 3.0)] x 24 (hour/day)
= 7.8 lb-NH_3/day

NH_3 PE (lb/year) = 10 x 17 x (2.64×10^{-9}) (lb-mol/MMscf) x 8,578 (scf/MMBtu) x 72.0 (MMBtu/hr) x [20.9 / (20.9 – 3.0)] x 8,760 (hour/year)
= 2,835 lb-NH_3/year

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

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

The SSPE1 emission values summarized in the following table were taken from District project C-1220078. Note that since the facility VOC emissions are already above the Major Source and offset thresholds of District Rule 2201, VOC emissions were not determined for the wine/ethanol tanks under permits C-1344-8 through '-71. Emission calculations for units C-1344-8 through C-1344-71 are included in Appendix H.

SSPE1 (lb/year)					
Permit Unit	**NO_X**	**SO_X**	**PM_{10}**	**CO**	**VOC**
SSPE1 (per project C-1220078)	13,252	3,332	6,510	108,674	31,645
C-1344-8 to '-71 (ethanol storage tanks)	0	0	0	0	20,600
SSPE1	**13,252**	**3,332**	**6,510**	**108,674**	**52,245**

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

Pursuant to District Rule 2201, the SSPE2 is the PE from all units with valid ATCs or PTOs at the Stationary Source and the quantity of ERCs which have been banked since September 19, 1991 for AER that have occurred at the source, and which have not been used on-site.

As discussed above, the only expected change in emissions from this facility are from the proposed replacement of the existing boiler with a new boiler. The SSPE2 is summarized in the table below:

SSPE2 (lb/year)					
Permit Unit	**NO_X**	**SO_X**	**PM_{10}**	**CO**	**VOC**
SSPE1	13,252	3,332	6,510	108,674	52,245
C-1344-2-9 (current boiler to be removed)	-9,671	-1,798	-4,793	-65,280	-3,469
C-1344-75-0 (new boiler)	5,403	1,798	1,892	23,337	3,469
SSPE2	**8,984**	**3,332**	**3,609**	**66,731**	**52,245**

5. Major Source Determination

Rule 2201 Major Source Determination:

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

- any ERCs associated with the stationary source
- Emissions from non-road IC engines (i.e. IC engines at a particular site at the facility for less than 12 months), pursuant to the Clean Air Act, Title 3, Section 302, US Codes 7602(j) and (z)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 70.2

Rule 2201 Major Source Determination (lb/year)						
	NO_X	**SO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO**	**VOC**
SSPE1	13,252	3,332	6,510	6,510	108,674	52,245
SSPE2	8,904	3,332	3,609	6,510	66,731	52,245
Major Source Threshold	20,000	140,000	140,000	140,000	200,000	20,000
Major Source?	No	No	No	No	No	Yes

Note: PM2.5 assumed to be equal to PM10

As seen in the table above, the facility is an existing Major Source for VOC and will remain a major source for VOC; however, it will not become a Major Source for any other pollutant as a result of this project.

Rule 2410 Major Source Determination:

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(iii). Therefore the PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

PSD Major Source Determination (tons/year)						
	NO_2	VOC	SO_2	CO	PM	PM_{10}
Estimated Facility PE before Project Increase	6.6	26.1	1.67	54.3	3.3	3.3
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source?	No	No	No	No	No	No

As shown above, the facility is not an existing PSD major source for any regulated NSR pollutant expected to be emitted at this facility.

6. Baseline Emissions (BE)

The BE calculation (in lb/year) is performed pollutant-by-pollutant for each unit within the project to calculate the QNEC, and if applicable, to determine the amount of offsets required.

Pursuant to District Rule 2201, BE = PE1 for:

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

otherwise,

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

a. BE NO_X

As shown in Section VII.C.5 above, the facility is not a major source for NO_X emissions.

Therefore Baseline Emissions BE=PE1.

b. BE SO_X

As shown in Section VII.C.5 above, the facility is not a major source for SO_X emissions.

Therefore Baseline Emissions BE=PE1.

c. BE PM_{10}

As shown in Section VII.C.5 above, the facility is not a major source for PM_{10} emissions.

Therefore BE=PE1.

d. BE CO

As shown in Section VII.C.5 above, the facility is not a major source for CO emissions.

Therefore BE=PE1.

e. BE VOC

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

The boiler being replaced under boiler under current PTO C-1344-2-8 is fired on PUC quality natural gas, which meets the requirements for achieved-in-practice BACT. Therefore, BE = PE1 = 3,469 lb-VOC/year.

7. SB 288 Major Modification

40 CFR Part 51.165 defines a SB 288 Major Modification 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 shown above, this facility is not a major source for NO_X, SO_X, PM_{10} or CO emissions. Therefore, this project cannot constitute an SB 288 major modification for these pollutants.

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

SB 288 Major Modification Thresholds			
Pollutant	**Project PE2 (lb/year)**	**Threshold (lb/year)**	**SB 288 Major Modification Calculation Required?**
VOC	3,469	50,000	No

Since the SB 288 Major Modification Threshold for VOC emissions was not surpassed with this project, this project does not constitute as an SB 288 Major Modification.

8. Federal Major Modification / New Major Source

Federal Major Modification

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

As defined in 40 CFR 51.165, Section (a)(1)(v) and part D of Title I of the CAA, a Federal Major Modification is 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. The significant net emission increase threshold for each criteria pollutant is included in Rule 2201.

As demonstrated above, this facility is not a major source for NO_X, SO_X, and PM_{10} emissions. In addition, in accordance with Rule 2201, Section 3.18, there are no Federal Major Modification thresholds for CO emissions. Therefore, this project cannot constitute a Federal Major Modification and no further analysis is required for NO_X, SO_X, PM_{10}, and CO emissions.

However, this facility is a Major Source for VOC emissions. Therefore, further analysis is required to determine if this project is a Federal Major Modification for VOC.

The determination of Federal Major Modification is based on a two-step test. For the first step, only the emission *increases* are counted. In step 1, emission decreases cannot cancel out the increases. Step 2 allows consideration of the project's net emissions increase as described in 40 CFR 51.165 and the Federal Clean Air Act Section 182 (e), as applicable.

Step 1: Project Emissions Increase

Under the Federal Clean Air Act, Section 182(e)(2), the new boiler being installed will be considered a replacement unit for the boiler under C-1344-2-8. Therefore, for Federal Major Modification purposes, this project will be considered a modification, and baseline emissions will be taken from unit C-1344-2-8.

For modified existing emissions units, according to 40 CFR 51.165(a)(2)(ii)(C), the project's emission increase for each pollutant is equal to the sum of the differences between the projected actual emissions (PAE) and the baseline actual emissions (BAE). Please note that in step 1, since the District is classified as extreme non-attainment for ozone, no NOx and VOC emission decreases associated with the proposed project shall be accounted for.

Project Emissions Increase = $\sum$(PAE – BAE)

As described in 40 CFR 51.165(a)(1)(xxviii)(B), when using historical data and company's expected business activity to determine PAE, the portion of the emissions after the project that the existing unit could have accommodated (Unused Baseline Capacity, UBC) before

the project (during the same 24-month baseline period used to determine BAE) and that are unrelated to the particular project (including emissions increases due to product demand growth) are to be excluded.

Otherwise, according to 40 CFR 51.165(a)(1)(xxvii)(B)(4), when determining PAE, in lieu of using the method described in 40 CFR 51.165 (a)(1)(xxviii)(B)(1)-(3), *Projected Actual Emissions*, the owner/operator may elect to use emissions unit's Potential to Emit. If appropriate projected actual emissions are not provided by the applicant, then the emissions unit's Potential to Emit is used to calculate the emissions increase.

Since the project proponent has not provided information required to calculate PAE, the District will use the PE2 to calculate the emissions increase:

Project Emissions Increase = ∑(PE2 – BAE)

Baseline Actual Emissions (BAE)

For emission units (other than electric utility steam generating units), according to according to 40 CFR 51.165(a)(1)(xxxv)(B), the BAE are calculated as the average, in tons/year, at which the emissions unit actually emitted during any 24-month period selected by the operator within the previous 10-year period.

Based on the fuel usage rates for this boiler provided to the District by Vie-Del Winery #1 as a part of their annual emission inventory statements, the average fuel usage rate for the most recent 24-month period (2021 and 2022) is summarized below:

Year	Fuel Usage (MMscf/year)
2021	0 (DEU)
2022	0 (DEU)
Average	0

Using a natural gas heating value of 1,000 Btu/scf and the VOC emission factor listed above, the BAE for this boiler is as follows:

BAE = Avg Fuel Usage (MMscf/yr) x Heating Value (Btu/scf) x EF (lb-VOC/MMBtu)
BAE = 0 MMscf/yr x 1,000 Btu/scf x 0.0055 lb-VOC/MMBtu
BAE = 0 lb-VOC/year

Project Emissions Increase

Project Emissions Increase = PE2 – BAE
Project Emissions Increase = 3,469 lb-VOC/year – 0 lb-VOC/year

Project Emissions Increase = 3,469 lb-VOC/year

Conclusion

In conclusion, the project's combined total emission increases are summarized and are compared to the Federal Major Modification Thresholds in the following table.

Federal Major Modification Thresholds for Emission Increases			
Pollutant	**Total Emissions Increases (lb/yr)**	**Thresholds (lb/yr)**	**Federal Major Modification?**
VOC*	3,469	0	Yes

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

Since there is an increase in VOC emissions, this project constitutes a Federal Major Modification. The federal offset quantity required for this project is discussed below.

Federal Offset Quantity Calculation

In accordance with the Clean Air Act, Section 182(e)(2), the offset requirements of this part shall not be applicable in areas designated as Extreme non-attainment to a modification of an existing source if such modification consists of installation of equipment required to comply with an applicable attainment implementation plan or permit.

The District is designated as Extreme non-attainment for $PM_{2.5}$. As discussed above, the applicant has proposed to install a new 72.0 MMBtu/hr Rentech model 60k/hr D-Tube natural-gas fired boiler and tune the existing Haldor Topsoe DNX-929 SCR system to lower NO_X emissions to 2.5 ppmvd at 3% O_2. The proposed boiler will replace the existing 72.0 MMBtu/hr Babcock & Wilcox model FM-1936 boiler under unit C-1344-2. The boiler replacement, as well as the SCR system tune up (which typically involves computational fluid dynamics modeling of the exhaust flow regime around the ammonia injection grid and possible reconfiguration of the ammonia injection points to optimize the NO_X conversion efficiency of the SCR catalyst) is being done to bring the unit in to compliance with District Rule 4320. District Rule 4320 was adopted as a part of the District's 2018 $PM_{2.5}$ Attainment Plan for further reductions of nitrogen oxides (NO_X) emissions. Since this project involves the installation of equipment to comply with District Rule 4320 and the 2018 $PM_{2.5}$ Attainment Plan, this project is not subject to federal offset requirements pursuant to CAA Section 182(e)(2).

Therefore,

VOC FOQ = 0 lb/year

New Major Source

As demonstrated above, this facility is not becoming a Major Source as a result of this project, therefore, this facility is not a New Major Source pursuant to 40 CFR 51.165 a(1)(iv)(A)(3).

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

Rule 2410 applies to any pollutant regulated under the Clean Air Act, except those for which the District has been classified nonattainment. The pollutants which must be addressed in the PSD applicability determination for sources located in the SJV and which are emitted in this project are: (See 52.21 (b) (23) definition of significant)

- NO2 (as a primary pollutant)
- SO2 (as a primary pollutant)
- CO
- PM
- PM10

I. Project Emissions Increase - New Major Source Determination

The post-project potentials to emit from all new and modified units are compared to the PSD major source thresholds to determine if the project constitutes a new major source subject to PSD requirements.

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). The PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

PSD Major Source Determination: Potential to Emit (tons/year)						
	NO_2	**VOC**	**SO_2**	**CO**	**PM**	**PM_{10}**
Total PE from New and Modified Units	2.7	1.7	0.9	11.7	0.9	0.9
PSD Major Source threshold	250	250	250	250	250	250
New PSD Major Source?	No	No	No	No	No	No

As shown in the table above, the potential to emit for the project, by itself, does not exceed any PSD major source threshold. Therefore Rule 2410 is not applicable and no further analysis is required.

10. Quarterly Net Emissions Change (QNEC)

The QNEC is calculated solely to establish emissions that are used to complete the District's PAS emissions profile screen. Detailed QNEC calculations are included in Appendix F.

11. PM2.5 Federal Offset Sanctions

As of June 27, 2023, the District is in nonattainment new source review (NNSR) offset sanctions pursuant to CAA 179(a) for PM2.5. Therefore, any New Major Source or Federal Major Modification for PM2.5 (including increases of its precursors NOx, VOC, and SOx), must supply any required federal offsets at a 2:1 ratio.

For the purposes of determining major source status the following shall not be included:

- Any ERCs associated with the stationary source
- Emissions from non-road IC engines (i.e. IC engines at a particular site at the facility for less than 12 months), pursuant to the Clean Air Act, Title 3, Section 302, US Codes 7602(j) and (z)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 70.2

PM2.5 Federal Major Source Determination (lb/year)				
	NO_X*	**SO_X***	**$PM_{2.5}$**	**VOC***
SSPE1	13,252	3,332	6,510	52,245
SSPE2	8,904	3,332	6,510	52,245
PM2.5 Federal Major Source Threshold**	140,000	140,000	140,000	140,000
Pre or Post-Project PM2.5 Federal Major Source?	No	No	No	No

* PM2.5 Precursors
** Pursuant to 40 CFR 51.165(a)(1)(iv)(A)

As shown in the table above, this facility is not an existing or becoming a Major Source for PM2.5, NOx, SOx, or VOC, as a result of this project; therefore, the 2:1 federal offset sanctions are not applicable.

VIII. Compliance Determination

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

Pursuant to District Rule 2201, Section 4.1, BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis. Unless specifically exempted by Rule 2201, BACT shall be required for the following actions*:

a. Any new emissions unit with a potential to emit exceeding two pounds per day,
b. The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
c. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an Adjusted Increase in Permitted Emissions (AIPE) exceeding two pounds per day, and/or
d. Any new or modified emissions unit, in a stationary source project, which results in an SB 288 Major Modification or a Federal Major Modification, as defined by the rule.

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

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

As seen in Section VII.C.2 above, 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, PM_{10}, CO, and VOC. BACT is triggered for NO_X, SO_X, PM_{10}, and VOC only since the PEs are greater than 2 lb/day. However BACT is not triggered for CO since the SSPE2 for CO is not greater than 200,000 lb/year, as demonstrated in Section VII.C.5 above.

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, this project does not constitute an SB 288 Modification for any pollutant. However, as discussed in Section VII.C.8, this project does trigger a Federal Major Modification for VOC. Therefore BACT is triggered for VOC emissions.

2. BACT Guideline

BACT Guideline 1.1.2, applies to natural gas or propane fired boilers/steam generators with heat input rate greater than 20 MMBtu/hr (see Appendix C).

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 D), BACT has been satisfied with the following:

NO_X: 2.5 ppmvd @ 3% O_2 (0.003 lb/MMBtu)
SO_X: PUC quality natural gas or propane with LPG backup
PM_{10}: PUC quality natural gas or propane with LPG backup
VOC: PUC quality natural gas or propane with LPG backup

The following conditions will be included on the ATC as a mechanism to assure continued compliance with the BACT requirements:

- The unit shall only be fired on PUC-regulated natural gas. [District Rules 2201, 4320, and 4801]

- Except during start-up and shutdown, emissions from the natural gas-fired unit shall not exceed any of the following limits: 2.5 ppmvd NOx @ 3% O2 or 0.003 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.003 lb-PM10/MMBtu, 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]

B. Offsets

1. Offset Applicability

Pursuant to District Rule 2201, Section 4.5, offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the SSPE2 equals or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

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

Offset Determination (lb/year)					
	NO_X	**SO_X**	**PM_{10}**	**CO**	**VOC**
SSPE2	11,717	3,332	3,609	66,695	52,245
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets Triggered?	No	No	No	No	Yes

2. Quantity of District Offsets Required

As demonstrated above, the facility has an SSPE1 for VOC greater than the offset threshold. Therefore offset calculations for VOC emissions will be required for this project.

The quantity of offsets in pounds per year for 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) = (Σ[PE2 – BE] + ICCE) x DOR, for all new or modified emissions units in the project,

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

BE = PE1 for:

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

otherwise,

BE = HAE

As calculated in Section VII.C.6 above, the BE from this unit is equal to the PE1 since the unit being replaced is a Clean Emissions Unit.

There are no increases in cargo carrier emissions associated with this project. Therefore offsets can be determined as follows:

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

PE2 (VOC) = 3,469 lb/year
BE (VOC) = 3,469 lb/year
ICCE = 0 lb/year

Offsets Required (lb/year) = ([3,469 – 3,469] + 0) x DOR
= 0 lb-VOC/year

As demonstrated in the calculation above, the amount of offsets required is zero.

C. Public Notification

1. Applicability

Pursuant to District Rule 2201, Section 5.4, public noticing is required for:

a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications,
b. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
c. Any project which results in the offset thresholds being surpassed,
d. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant, and/or
e. Any project which results in a Title V significant permit modification

a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications

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

As demonstrated in Section VII.C.7 of this evaluation, this project is a Federal Major Modification. Therefore, public noticing is required for this project for Federal Major Modification purposes.

b. PE > 100 lb/day

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

c. Offset Threshold

Public notification is required if the pre-project Stationary Source Potential to Emit (SSPE1) is increased to a level exceeding the offset threshold levels. The following table compares the SSPE1 with the SSPE2 in order to determine if any offset thresholds have been surpassed with this project.

Offset Thresholds				
Pollutant	**SSPE1 (lb/year)**	**SSPE2 (lb/year)**	**Offset Threshold**	**Public Notice Required?**
NO_X	13,252	8,984	20,000 lb/year	No
SO_X	3,332	3,332	54,750 lb/year	No
PM_{10}	6,510	3,609	29,200 lb/year	No
CO	108,674	66,731	200,000 lb/year	No
VOC	52,245	52,245	20,000 lb/year	No

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

d. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a SSIPE of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE = SSPE2 – SSPE1. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table.

SSIPE Public Notice Thresholds					
Pollutant	**SSPE2 (lb/year)**	**SSPE1 (lb/year)**	**SSIPE (lb/year)**	**SSIPE Public Notice Threshold**	**Public Notice Required?**
NO_x	8,984	13,252	-4,268	20,000 lb/year	No
SO_x	3,332	3,332	0	20,000 lb/year	No
PM_{10}	3,609	6,510	-2,901	20,000 lb/year	No
CO	66,731	108,674	-41,943	20,000 lb/year	No
VOC	52,245	52,245	0	20,000 lb/year	No

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

e. Title V Significant Permit Modification

As shown in the Discussion of Rule 2520 below, this project constitutes a Title V significant modification. Therefore, public noticing for Title V significant modifications is required for this project.

2. Public Notice Action

As discussed above, public noticing is required for this project for Federal Major Modification and Title V significant modification purposes. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB),

Environmental Protection Agency (EPA), and a public notice will be electronically published on the District's website prior to the issuance of the ATC for this equipment.

D. Daily Emission Limits (DELs)

DELs and other enforceable conditions are required by Rule 2201 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. The DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT.

Proposed Rule 2201 (DEL) Conditions:

- {1407} 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]

- The unit shall only be fired on PUC-regulated natural gas. [District Rules 2201, 4320, and 4801]

- Except during start-up and shutdown, emissions from the natural gas-fired unit shall not exceed any of the following limits: 2.5 ppmvd NOx @ 3% O2 or 0.003 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.003 lb-PM10/MMBtu, 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]

- During start-up and shutdown, emissions from the unit shall not exceed 30 ppmv NOx @ 3% O2 or 0.0364 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.003 lb-PM10/MMBtu, 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]

- The ammonia emissions from the exhaust of the SCR system serving this boiler shall not exceed 10 ppmvd @ 3% O2. [District Rule 2201]

- Total duration of startup shall not exceed 2 hr/day. [District Rules 2201, 4305, 4306, and 4320]

- Total duration of shutdown shall not exceed 2 hr/day. [District Rules 2201, 4305, 4306, and 4320]

E. Compliance Assurance

1. Source Testing

This unit is subject to District Rule 4305, *Boilers, Steam Generators and Process Heaters, Phase 2*, District Rule 4306, *Boilers, Steam Generators and Process Heaters, Phase 3, and District Rule 4320 Advanced Emission Reduction Options for Boilers, Steam*

*Generators, and Process Heaters Greater than 5.0 MMBtu/hr***.** Source testing requirements, in accordance with District Rules 4305, 4306, and 4320 will be discussed in the Rules 4305, 4306, and 4320 discussion sections.

2. Monitoring

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

3. Recordkeeping

This unit is subject to District Rule 4305, *Boilers, Steam Generators and Process Heaters, Phase 2*, District Rule 4306, *Boilers, Steam Generators and Process Heaters, Phase 3,* and District Rule 4320*, Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr*. Recordkeeping, in accordance with these rules will be discussed in the Rules 4305, 4306, and 4320 discussion sections.

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

Section 4.14 of District Rule 2201 requires that an 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 District's Technical Services Division conducted the required analysis. Refer to Appendix E of this document for the AAQA summary sheet.

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

The proposed location is in a non-attainment area for the state's PM_{10} as well as federal and state $PM_{2.5}$ thresholds. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for PM_{10} and $PM_{2.5}$.

G. Compliance Certification

Section 4.15.2 of this Rule requires the owner of a New Major Source or a source undergoing a Federal Major Modification to demonstrate to the satisfaction of the District that all other Major Sources owned by such person and operating in California are in compliance or are on a schedule for compliance with all applicable emission limitations and standards. As

discussed in Section VIII above, this project constitutes a Federal Major Modification, therefore this requirement is applicable. Vie-Del Winery #1's statewide compliance certification is included in Appendix G.

H. Alternate Siting Analysis

The current project occurs at an existing facility. The applicant proposes to install a new 72.0 MMBtu/hr natural gas-fired boiler that will replace an existing 72.0 MMBtu/hr natural gas fired boiler.

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

Rule 2410 Prevention of Significant Deterioration

As shown in Section VII.C.9 above, this project does not result in a new PSD major source or PSD major modification. No further discussion is required.

Rule 2520 Federally Mandated Operating Permits

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

Section 3.20.5 states that a minor permit modification is a permit modification that is not a major modification, as defined in Rule 2201. As discussed above, this project triggers a Federal Major Modification. 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) and the District will forward to EPA, for a 45-day review period, this application review which includes the proposed modified Title V permit [i.e. proposed ATC(s)] and the compliance certification form which demonstrates compliance with the minor permit modification requirements in Section 11.4. Therefore, the facility must apply to modify their Title V permit with an administrative amendment, prior to operating with the proposed modifications. Continued compliance with this rule is expected. The facility may construct/operate under the ATC upon submittal of the Title V administrative amendment application. The following conditions will be included on the ATC and will assure compliance with the requirements of Rule 2520:

- {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]

- {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]

Rule 4001 New Source Performance Standards (NSPS)

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

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

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

Subpart Dc applies to steam generating units which are constructed, modified, or reconstructed after June 9, 1989, and have a maximum design heat input capacity of 100 MMBtu/hr or less, but greater than or equal to 10 MMBtu/hr.

The maximum heat input capacity of the proposed unit is within the applicable range. Therefore, the proposed boiler is subject to the requirements of this regulation.

60.42c – Standards for Sulfur Dioxide

The requirements of this paragraph are applicable to units which combust only coal or combusts coal in combination with other fuels. The proposed boiler in this project is only going to be fired on PUC natural-gas and not coal, the requirements of this section are not applicable.

60.43c – Standards for Particulate Matter

The requirements of this paragraph are applicable to units which combust coal or combusts mixtures of coal with other fuels. The proposed boiler in this project will only be fired on PUC natural-gas and not be fired on coal, combust mixtures of coal with other fuels, combust wood, combust mixtures of wood with other fuels, or oil; thus, the requirements of section 60.43c is not applicable to this project.

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

This paragraph outlines the compliance and performance test methods and procedures for sulfur dioxide for units that are subject to an SO_2 emission standard from §60.42c. As discussed above, the boiler in this project is not subject to the requirements of Sections 60.42c – Standards for Sulfur Dioxide, no testing is required to show compliance.

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

This paragraph outlines the compliance and performance test methods and procedures for particulate matter for units subject to a PM emission standard from §60.43c. As discussed above, the boiler in this project is not subject to the requirements of Section 60.43c – Standards for Particulate Matter, no testing is required to show compliance.

60.46c – Emission monitoring for Sulfur Dioxide

This paragraph outlines emission monitoring requirements for sulfur dioxide for units that are subject to an SO_2 emission standard from §60.42c. As discussed above, the boiler in this project is not subject to the requirements of Section 60.42c – Standards for Sulfur Dioxide, 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

This paragraph outlines the emission monitoring requirements for particulate matter for units that are subject to am PM emission standard from §60.43c. As discussed above, the boiler in this project is not subject to the requirements of Section 60.43c – Standards for Particulate Matter, no monitoring is required. Therefore, the requirements of this section are not applicable to the boiler in this project.

60.48c – Reporting and Recordkeeping 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 SO_2 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 until this determination is made by the Administrator

   The requirement is not applicable since the unit will not be equipped with an emerging technology used to control SO_2 emissions

   Section 60.48c(g) states that the owner or operator of each affected facility shall record and maintain records of the amount 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. [40 CFR 60.48(c)(g)]

   - The owner or operator shall record and maintain records of the amount of fuel combusted during each operating day. [40 CFR 60.48c(g)]

   Section 60.48c (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.

Rule 4002 National Emission Standards for Hazardous Air Pollutants (NESHAPs)

This rule incorporates NESHAPs from Part 61, Chapter I, Subchapter C, Title 40, CFR and the NESHAPs from Part 63, Chapter I, Subchapter C, Title 40, CFR; and applies to all sources of hazardous air pollution listed in 40 CFR Part 61 or 40 CFR Part 63.

<u>40 CFR Part 63 Subpart DDDDD National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters</u>

This subpart is applicable to boilers and process heaters located at Major Sources of HAP emissions. This facility is not a Major source of HAP emissions. Therefore, the proposed unit is not subject to this subpart.

<u>40 CFR Part 63 Subpart JJJJJJ National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources</u>

Pursuant to Section 63.1195(e) a gas-fired boiler, as defined in Subpart JJJJJ, is not subject to any requirement of this Subpart. Pursuant to the definition in the subpart, a gas-fired boiler includes any boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel.

The boiler under this project meets the definition of a “gas-fired boiler” as this unit is required to use natural gas fuel. Therefore, Subpart JJJJJJ requirements are not applicable.

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. The following condition will be included on the permit:

- {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]

Rule 4102 Nuisance

Rule 4102 prohibits discharge of air contaminants which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations, provided the equipment is well maintained. The following condition will be listed on the permit to ensure compliance with this rule.

- {98} 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.

District policy APR 1905 also specifies that the increase in emissions associated with a proposed new source or modification of an existing source shall not result in an increase in cancer risk greater than the District’s significance level (20 in a million) and shall not result in acute and/or chronic risk indices greater than 1.

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, the total facility prioritization score including this project was less than or equal to one.

The resulting prioritization score for this project is shown below.

Health Risk Assessment Summary	
	Worst Case Potential
Prioritization Score	0.47

In accordance with District policy APR 1905, no further analysis is required to determine the impact from this project and compliance with the District's Risk Management Policy is expected.

Compliance with District Rule 4102 requirements is expected.

See Attachment E: Health Risk Assessment Summary

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.

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

F-Factor for Natural Gas: 8,710 dscf/MMBtu at 68 ^{o}F, equivalent to

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

PM_{10} Emission Factor: 0.003 lb-PM_{10}/MMBtu
Percentage of PM as PM_{10} in Exhaust: 100%
Exhaust Oxygen (O_2) Concentration: 3%
Excess Air Correction to F Factor = 20.0 ÷ (20.9 – 3) = 1.17

$$GL = \left(\frac{0.003\ lb-PM}{MMBtu}\ x\ \frac{7{,}000\ grain}{lb-PM}\right) \div \left(\frac{8{,}578\ ft^3}{MMBtu}\ x\ 1.17\right)$$

$$GL = 0.0021\ \frac{grain}{dscf} < 0.1 \frac{grain}{dscf}$$

Therefore, compliance with District Rule 4201 requirements is expected and a condition will be on the permit as follows:

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

Rule 4301 Fuel Burning Equipment

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

Section 5.1 requires that a person shall not discharge into the atmosphere combustion contaminants exceeding in concentration at the point of discharge, 0.1 grain per cubic foot of gas calculated to 12% of carbon dioxide at dry standard conditions.

As demonstrated in the preceding discussion for Rule 4201 compliance, the concentration of combustion contaminants (i.e. particulate matter) from the subject equipment is minimal. Compliance with this requirement is therefore expected.

Section 5.2 requires that a person shall not build, erect, install or expand any non-mobile fuel burning equipment unit unless the discharge into the atmosphere of contaminants will not and does not exceed any one or more of the following rates:

- 200 pound per hour of sulfur compounds, calculated as sulfur dioxide (SO_2)
- 140 pounds per hour of nitrogen oxides, calculated as nitrogen dioxide (NO_2)
- Ten pounds per hour of combustion contaminants as defined in Rule 1020 and derived from the fuel.

The emission rates from the subject boilers are compared to the rule limits in the following table:

District Rule 4301 Limits (lb/hr)			
	NO_2	**Total PM**	**SO_2**
C-1344-75-0	0.617	0.217	0.204
Rule Limit (lb/hr)	140	10	200

As demonstrated in the table above, compliance with the requirements of this rule is expected.

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

This unit is natural gas-fired with a maximum heat input of 72.0 MMBtu/hr. Pursuant to Section 2.0 of District Rule 4305, the unit is subject to District Rule 4305, *Boilers, Steam Generators and Process Heaters – Phase 2.*

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

Since the emissions limits of District Rules 4306 and 4320 and all other requirements of these rules are equivalent or more stringent than District Rule 4305 requirements, compliance with District Rules 4306 and 4320 requirements will satisfy requirements of District Rule 4305.

Therefore, compliance with District Rule 4305 requirements is expected and no further discussion is required.

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

The unit has a maximum heat input of 72.0 MMBtu/hr. Pursuant to Section 2.0 of District Rule 4306, the unit is subject to District Rule 4306, *Boilers, Steam Generators and Process Heaters – Phase 3.*

In addition, the unit is also subject to District Rule 4320, *Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater Than 5.0 MMBtu/hr.* Because all of the requirements of District Rule 4320 are equivalent or more stringent than the requirements of District Rule 4306, compliance with the requirements of District Rule 4320 requirements will satisfy requirements of District Rule 4306 and compliance with District Rule 4306 is expected.

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

This rule limits NO_X, CO, SO_2 and PM_{10} emissions from boilers, steam generators and process heaters rated greater than 5 MMBtu/hr. This rule also provides a compliance option of payment of fees in proportion to the actual amount of NO_X emitted over the previous year.

The unit in this project is rated at 72.0 MMBtu/hr heat input and therefore, is subject to this rule.

Section 5.1 NO_X Emission Limits

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

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

On and after the indicated Compliance Deadline, units shall not be operated in a manner which exceeds the applicable NO_X emissions limit specified in Table 1 (until December 31, 2023) and Table 2 (on and after December 31, 2023). Also, units shall not be operated in a manner to which exceeds a carbon monoxide (CO) emissions limit of 400 ppmv.

The unit will comply with the NO_X and CO emissions limits specified in Section 5.2 of the rule which are summarized in the following tables:

Table 1: Tier 1, 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	a) Standard Schedule 7 ppmv or 0.008 lb/MMBtu; or	400 ppmv
	b) Enhanced Schedule 5 ppmv or 0.0062 lb/MMBtu	

Table 2: Tier 2, Rule 4320 Emissions Limits			
Category	**Operated on gaseous fuel**		**Compliance Deadline**
	NO_X Limit	**CO Limit**	
B. Units with a total rated heat input > 20.0 MMBtu/hr, except for Categories C through E units	2.5 ppmv or 0.003 lb/MMBtu	400 ppmv	December 31, 2023

For this unit, the proposed NO_X and CO limits are 2.5 and 100 ppmv @ 3% O_2, respectively. Therefore, compliance with the emissions limits of Section 5.2 Table 2 of District Rule 4320 is expected.

Permit conditions listing the emissions limits will be listed on the ATC as shown in the DEL section above.

- Except during start-up and shutdown, emissions from the natural gas-fired unit shall not exceed any of the following limits: 2.5 ppmvd NOx @ 3% O2 or 0.003 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.003 lb-PM10/MMBtu, 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]

Section 5.3 Annual Fee Calculation

Section 5.3.1 states that on and after January 1, 2010, an operator with units that will comply with the requirements of Section 5.1.2 in lieu of complying with Section 5.2 Table 1 shall pay a total annual fee to the District based on the total NO_X emissions from those units.

Section 5.3.2 states that beginning January 1, 2025, an operator with units that will comply with the requirements of Section 5.1.2 in lieu of complying with Section 5.2 Table 2 shall pay a total annual emission fee to the District based on total NO_X emissions from those units. Units paying an emissions fee under this section are not subject to Section 5.3.1.

Since the proposed unit will meet the emissions limits of Section 5.2 Table 2, the annual fee requirements are not applicable.

Section 5.4 Particulate Matter Control Requirements

Section 5.4.1 states that to limit particulate matter emissions, an operator shall comply with one of the options listed in the rule.

Section 5.4.1.1 provides options for the operator to comply with the rule by firing the unit exclusively on PUC-quality gas, commercial propane, butane, or liquefied petroleum gas, or a combination of such gases.

Section 5.4.1.2 provides options for the operator to comply with the rule by limiting the fuel sulfur content to no more than five (5) grains of total sulfur per hundred (100) standard cubic feet.
Section 5.4.1.3 provides option for the operator to comply with the rule by installing and properly operating an emissions control system that reduces SO_2 emissions by at least 95% by weight; or limit exhaust SO_2 to less than or equal to 9 ppmv corrected to 3 % O_2.

The boiler will be fired exclusively on PUC-quality natural gas. Therefore, compliance with this section of the rule is expected and the following condition will be included on the permit:

- The unit shall only be fired on PUC-regulated natural gas. [District Rules 2201, 4320, and 4801]

Section 5.5 Low Use

Section 5.5 specifies requirements for units with maximum annual heat input limits of less than 1.8 billion BTUs per calendar year. The applicant is proposing to operate this boiler as a full time unit with a heat input greater than 1.8 billion Btu per calendar year; therefore, the proposed unit is not subject to the requirements of this section.

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, Table 2, 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. Sections 5.6.1 through 5.6.5 require the following:

1. The duration of each start-up or each shutdown shall not exceed two hours, except as provided in Section 5.6.3.
2. The emission control system shall be in operation and emissions be shall minimized insofar as technologically feasible during start-up or shutdown.

The following conditions will be listed on the ATC to ensure compliance:

- During start-up and shutdown, emissions from the unit shall not exceed 30 ppmv NOx @ 3% O2 or 0.0364 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.003 lb-PM10/MMBtu, 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]

- Total duration of startup shall not exceed 2 hr/day. [District Rules 2201, 4305, 4306, and 4320]

- Total duration of shutdown shall not exceed 2 hr/day. [District Rules 2201, 4305, 4306, and 4320]

- Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 4305, 4306 and 4320]

Section 5.7 Monitoring Provisions

Section 5.7.1 requires that the operator of any unit subject to District Rule 4320, Section 5.2 emissions limits shall install and maintain an operational APCO approved Continuous Emission Monitoring System (CEMS) for NO_X, CO and O_2, or implement an APCO-approved Alternate Monitoring System.

The applicant has proposed to use the pre-approved alternate monitoring scheme A (pursuant to District Policy SSP-1105, Alternate Monitoring), which requires that monitoring of NO_X, CO, O_2 and ammonia 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 listed on the ATC in order to ensure compliance with the requirements of the proposed alternate monitoring plan:

- The permittee shall monitor and record the stack concentration of NOx, CO, NH3 and O2 at least once during each month in which source testing is not performed. NOx, CO and O2 monitoring shall be conducted utilizing a portable analyzer 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 5 days of restarting the unit unless it has been performed within the last month. [District Rules 4305, 4306, and 4320]

- If either the NOx, 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 compliant levels as soon as possible, but no longer than 1 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 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation that is subject to enforcement action has occurred. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the

permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320]

- All NOx, CO, O2 and NH3 emission readings shall be taken with the unit operating at conditions representative of normal operation or under the conditions specified in the Permit to Operate. The NOx, 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. Analyzer 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]

- Ammonia emissions readings shall be conducted at the time the NOx, CO and O2 readings are taken. The readings shall be converted to ppmvd @ 3% O2. [District Rules 4305, 4306, and 4320]

- The permittee shall maintain records of: (1) the date and time of NOx, CO, NH3 and O2 measurements, (2) the O2 concentration in percent by volume and the measured NOx, 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]

Since this unit is not a low-use unit subject to the requirements listed in Section 5.5.1 or 5.5.2, it is not subject to Section 5.7.2 and 5.7.3 requirements.

Section 5.7.4 allows units operated at seasonal sources and subject to 40 CFR 60 Subpart Db to install a parametric monitoring system in lieu of a CEMS. The proposed unit is not operated at a seasonal source. Therefore, this unit is not subject to 5.7.4 requirements.
Section 5.7.6 outlines requirements for monitoring SO_X emissions. Section 5.7.6.1 states that operators complying with Sections 5.4.1.1 or 5.4.1.2 shall provide an annual fuel analysis to the District unless a more frequent sampling and reporting period is included in the Permit to Operate. Sulfur analysis shall be performed in accordance with the test methods in Section 6.2.

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

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

The facility has proposed to show compliance using the requirement in sections 5.4.1.1, firing exclusively on PUC-regulated natural gas. The following condition will be placed on the permit as a mechanism to ensure compliance with this section.

- The unit shall only be fired on PUC-regulated natural gas. [District Rules 2201, 4320, and 4801]

- {4356} Permittee shall determine sulfur content of combusted gas annually or shall demonstrate that the combusted gas is provided from a PUC or FERC regulated source. [District Rules 1081 and 4320]

Section 5.8 Compliance Determination

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

- {4350} The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 2201, 4305, 4306 and 4320]

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

- {4351} All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 4305, 4306, and 4320]

Section 5.8.4 requires that for emissions monitoring pursuant to Section 5.7.1, and 6.3.1 using a portable NO_X analyzer as part of an APCO approved Alternate Emissions Monitoring System, emission readings shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15-consecutive-minute sample reading or by taking at least five (5) readings evenly spaced out over the 15-consecutive-minute period. Therefore, the following condition will be listed on the permit:

- All NOx, CO, O2 and NH3 emission readings shall be taken with the unit operating at conditions representative of normal operation or under the conditions specified in the Permit to Operate. The NOx, 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. Analyzer 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]

Section 5.8.5 requires that for emissions source testing performed pursuant to Section 6.3.1 for the purpose of determining compliance with an applicable standard or numerical limitation of this rule, the arithmetic average of three (3) 30-consecutive-minute test runs shall apply. If two (2) of three (3) runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit.

Therefore, the following condition will be listed on the permit:

- {4352} For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320]

Section 6.1 Recordkeeping

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

The following condition will be listed on the permit:

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

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

Section 6.1.3 requires that the operator of any 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 of the unit have been performed. The unit is not subject to Section 6.1.3. Therefore, the requirements of this section do not apply to this unit.

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 unit is subject to Section 6.1.4.

Therefore, the following condition will be listed on the permit:

- Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 4305, 4306 and 4320]

Section 6.1.5 requires that the operator of any unit fired on liquid fuel during PUC-quality natural gas curtailment periods pursuant to Section 5.4.2 shall record the sulfur content of the fuel, amount of fuel used, and duration of the natural gas curtailment period. The facility has not proposed the use of curtailment 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
NOx	ppmv	EPA Method 7E or ARB Method 100
NOx	lb/MMBtu	EPA Method 19
CO	ppmv	EPA Method 10 or ARB Method 100
Stack Gas O2	%	EPA Method 3 or 3A, or ARB Method 100
Stack Gas Velocities	ft/min	EPA Method 2
Stack Gas Moisture Content	%	EPA Method 4

The following conditions will be listed on the permit:

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

- Source testing for ammonia slip shall be conducted utilizing BAAQMD Method ST-1B. [District Rule 1081]

- {4346} NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 4306, and 4320]

- {4347} CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 4306, and 4320]

- {4348} Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306, and 4320]

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

- Source testing for ammonia slip shall be conducted utilizing BAAQMD Method ST-1B. [District Rule 1081]

Section 6.3 Compliance Testing

Section 6.3.1 requires that these units 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 following source test may be deferred for up to thirty-six months.

The following conditions will be listed on the ATC:

- Source testing to measure NOx, CO, and NH3 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]

- Source testing to measure NOx, CO, and NH3 emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320]

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

Sections 6.3.2.1 through 6.3.2.7 address the requirements of group testing which is not proposed in this project. Therefore, these sections are not applicable.

Section 6.4, Emission Control Plan (ECP)

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

The applicant is proposing to operate this modified boiler in compliance with the emissions limits listed in Section 5.2, Tables 1 and 2, of this rule and with periodic monitoring and source testing requirements. Therefore, the application provided as a part of this project is considered their emission control plan and the applicant will not be required to submit an additional Emission Control Plan for this unit. No further discussion is required.

Section 7.0, Compliance Schedule

Section 7.0 indicates that an operator of boiler must be in compliance with both the ATC deadline and compliance deadlines listed in Table 1 of Section 5.2.

The applicant has proposed to operate this modified boiler in compliance with the emissions limits listed in Section 5.2, Tables 1 and 2, of this rule and with periodic monitoring and source testing requirements. Therefore, the compliance schedule requirements are satisfied and no further discussion is required.

Conclusion

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

Rule 4801 Sulfur Compounds

Section 3.1 states that a person shall not discharge into the atmosphere sulfur compounds, which would exist as a liquid or gas at standard conditions, exceeding a concentration of two-tenths (0.2) percent by volume calculated as sulfur dioxide (SO_2) at the point of discharge on a dry basis averaged over 15 consecutive minutes.

Using the ideal gas equation, the sulfur compound emissions are calculated as follows:

$$\text{Volume } SO_2 = \frac{n\,RT}{P}$$

With:

N = moles SO_2
T (Standard Temperature) = 60°F = 520°R
P (Standard Pressure) = 14.7 psi
R (Universal Gas Constant) = $\frac{10.73\,\text{psi}\cdot\text{ft}^3}{\text{lb}\cdot\text{mol}\cdot{}^\circ\text{R}}$
EPA F-Factor: 8,578 dscf/MMBtu at 60 °F

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

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

Therefore, compliance with District Rule 4801 requirements is expected. The following condition will be listed on the ATC to ensure compliance:

- The unit shall only be fired on PUC-regulated natural gas. [District Rules 2201, 4320, and 4801]

California Health & Safety Code 42301.6 (School Notice)

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

California Environmental Quality Act (CEQA)

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

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

Greenhouse Gas (GHG) Significance Determination

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

On December 17, 2009, the District's Governing Board adopted a policy, APR 2005, *Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency,* for addressing GHG emission impacts when the District is Lead Agency under CEQA and approved the District's guidance document for use by other agencies when addressing GHG impacts as lead agencies under CEQA. Under this policy, the District's determination of significance of project-specific GHG emissions is founded on the principal that projects with GHG emission reductions consistent with AB 32 emission reduction targets are considered to have a less than significant impact on global climate change. Consistent with District Policy 2005, projects complying with an approved GHG emission reduction plan or GHG mitigation program, which avoids or substantially reduces GHG emissions within the geographic area in which the project is located, would be determined to have a less than significant individual and cumulative impact for GHG emission.

The California Air Resources Board (ARB) adopted a Cap-and-Trade regulation as part one of the strategies identified for AB 32. This Cap-and-Trade regulation is a statewide plan, supported by a CEQA compliant environmental review document, aimed at reducing

or mitigating GHG emissions from targeted industries. Facilities subject to the Cap-and-Trade regulation are subject to an industry-wide cap on overall GHG emissions. Any growth in emissions must be accounted for under that cap such that a corresponding and equivalent reduction in emissions must occur to allow any increase. Further, the cap decreases over time, resulting in an overall decrease in GHG emissions.

Under District policy APR 2025, *CEQA Determinations of Significance for Projects Subject to ARB's GHG Cap-and-Trade Regulation*, the District finds that the Cap-and-Trade is a regulation plan approved by ARB, consistent with AB32 emission reduction targets, and supported by a CEQA compliant environmental review document. As such, consistent with District Policy 2005, projects complying with Cap-and-Trade requirements are determined to have a less than significant individual and cumulative impact for GHG emissions.

The GHG emissions increases associated with this project result from the combustion of fossil fuel(s), other than jet fuel, delivered from suppliers subject to the Cap-and-Trade regulation. Therefore, as discussed above, consistent with District Policies APR 2005 and APR 2025, the District concludes that the GHG emissions increases associated with this project would have a less than significant individual and cumulative 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 or former use. Furthermore, the District determined that the activity will not have a significant effect on the environment. Therefore, the District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15301 (Existing Facilities), and finds that the project is exempt per the common sense exemption that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

Indemnification Agreement/Letter of Credit Determination

According to District Policy APR 2010 (CEQA Implementation Policy), when the District is the Lead or Responsible Agency for CEQA purposes, an indemnification agreement and/or a letter of credit may be required. The decision to require an indemnity agreement and/or a letter of credit is based on a case-by-case analysis of a particular project's potential for litigation risk, which in turn may be based on a project's potential to generate public concern, its potential for significant impacts, and the project proponent's ability to pay for the costs of litigation without a letter of credit, among other factors.

The criteria pollutant emissions and toxic air contaminant emissions associated with the proposed project are not significant, and there is minimal potential for public concern for this particular type of facility/operation. Therefore, an Indemnification Agreement and/or

a Letter of Credit will not be required for this project in the absence of expressed public concern.

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful EPA COC and NSR Public Noticing period, issue ATC C-1344-75-0 subject to the permit conditions on the attached draft ATC in Appendix A.

X. Billing Information

Annual Permit Fees			
Permit Number	**Fee Schedule**	**Fee Description**	**Annual Fee**
C-1344-75-0	3020-02-H	72.0 MMBtu/hr boiler	$1,238

Appendices

A: Draft ATC C-1344-75-0
B: Current PTO C-1344-2-8
C: BACT Guideline 1.1.2
D: BACT Analysis
E: HRA Summary and AAQA
F: Quarterly Net Emissions Change
G: Statewide Compliance Certification
H: Emission Calculations for units C-1344-8 through C-1344-71
I: Tank Capacity for units C-1344-8 through C-1344-71
J: Boiler Manufacturer Data Sheet

APPENDIX A
Draft ATC C-1344-75-0

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: C-1344-75-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: VIE-DEL WINERY #1
MAILING ADDRESS: P O BOX 2908
FRESNO, CA 93745-2908

LOCATION: 11903 S CHESTNUT AVE
FRESNO, CA 93725

EQUIPMENT DESCRIPTION:
72.0 MMBTU/HR RENTECH MODEL 60K/HR D-TUBE NATURAL GAS-FIRED BOILER WITH A ZEECO MODEL GLSF FREEJET LOW NOX BURNER AND A SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM

CONDITIONS

1. Within 90 days of startup of the equipment authorized by this Authority to Construct, Permit to Operate C-1344-2 shall be surrendered to the District and the associated equipment shall be removed or rendered inoperable. [District Rule 2201] Federally Enforceable Through Title V Permit
2. {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
3. {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
4. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
5. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
6. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] 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.

Samir Sheikh, Executive Director / APCO

Brian Clements, Director of Permit Services

Central Regional Office • 1990 E. Gettysburg Ave. • Fresno, CA 93726 • (559) 230-5900 • Fax (559) 230-6061

7. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit

8. The unit shall only be fired on PUC-regulated natural gas. [District Rules 2201, 4320, and 4801] Federally Enforceable Through Title V Permit

9. Permittee shall determine sulfur content of combusted gas annually or shall demonstrate that the combusted gas is provided from a PUC or FERC regulated source. [District Rules 1081 and 4320] Federally Enforceable Through Title V Permit

10. 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. [40 CFR 60.48(c)(g)] Federally Enforceable Through Title V Permit

11. Except during start-up and shutdown, emissions from the natural gas-fired unit shall not exceed any of the following limits: 2.5 ppmvd NOx @ 3% O2 or 0.003 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.003 lb-PM10/MMBtu, 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

12. During start-up and shutdown, emissions from the unit shall not exceed 30 ppmv NOx @ 3% O2 or 0.0364 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.003 lb-PM10/MMBtu, 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

13. The ammonia emissions from the exhaust of the SCR system serving this boiler shall not exceed 10 ppmvd @ 3% O2. [District Rule 2201] Federally Enforceable Through Title V Permit

14. Total duration of startup shall not exceed 2 hr/day. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

15. Total duration of shutdown shall not exceed 2 hr/day. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

16. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

17. The permittee shall monitor and record the stack concentration of NOx, CO, NH3 and O2 at least once during each month in which source testing is not performed. NOx, CO and O2 monitoring shall be conducted utilizing a portable analyzer 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 5 days of restarting the unit unless it has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

18. Ammonia emission readings shall be conducted at the time the NOx, CO and O2 readings are taken. The readings shall be converted to ppmvd @ 3% O2. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

19. If the NOx, 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 compliant levels as soon as possible, but no longer than 1 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 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation that is subject to enforcement action has occurred. 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

CONDITIONS CONTINUE ON NEXT PAGE

20. All NOx, CO, O2 and NH3 emission readings shall be taken with the unit operating at conditions representative of normal operation or under the conditions specified in the Permit to Operate. The NOx, 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. Analyzer 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

21. The permittee shall maintain records of: (1) the date and time of NOx, CO, NH3 and O2 measurements, (2) the O2 concentration in percent by volume and the measured NOx, 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

22. Source testing to measure NOx, CO, and NH3 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

23. Source testing to measure NOx, CO, and NH3 emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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

25. 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

26. 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

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

28. 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

29. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

30. 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

31. 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

32. Fuel sulfur content shall be determined using EPA Method 11 or Method 15. [District Rule 2201] Federally Enforceable Through Title V Permit

33. Source testing for ammonia slip shall be conducted utilizing BAAQMD Method ST-1B. [District Rule 1081] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

34. The owner or operator shall record and maintain records of the amount of fuel combusted during each operating day. [40 CFR 60.48(c)(g)] Federally Enforceable Through Title V Permit

35. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

APPENDIX B
Current PTO C-1344-2-8

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: C-1344-2-8 **EXPIRATION DATE:** 04/30/2022

EQUIPMENT DESCRIPTION:
72.0 MMBTU/HR BABCOCK & WILCOX MODEL FM-1936 NATURAL GAS-FIRED BOILER, WITH ADVANCED COMBUSTION TECHNOLOGY MODEL GIDION MGW-60 ULTRA LOW NOX BURNER, FLUE GAS RECIRCULATION, AND SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM

PERMIT UNIT REQUIREMENTS

1. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rules 2201 and 2520] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
4. The unit shall only be fired on PUC-regulated natural gas. [District Rules 2201, 2520 and 4320] Federally Enforceable Through Title V Permit
5. Permittee shall determine sulfur content of combusted gas annually or shall demonstrate that the combusted gas is provided from a PUC or FERC regulated source. [District Rules 1081 and 4320] Federally Enforceable Through Title V Permit
6. Except during start-up and shutdown, emissions from the natural gas-fired unit shall not exceed any of the following limits: 5 ppmvd NOx @ 3% O2 or 0.0062 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 140 ppmvd CO @ 3% O2 or 0.1035 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
7. During start-up and shutdown, emissions from the unit shall not exceed 50 ppmv NOx @ 3% O2 or 0.061 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu,0.0076 lb-PM10/MMBtu, 140 ppmv CO @ 3% O2 or 0.1035 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. The ammonia emissions from the exhaust of the SCR system serving this boiler shall not exceed 10 ppmvd @ 3% O2. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Total duration of startup shall not exceed 2 hr/day. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
10. Total duration of shutdown shall not exceed 2 hr/day. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

12. The permittee shall monitor and record the stack concentration of NOx, CO, NH3 and O2 at least once during each month in which source testing is not performed. NOx, CO and O2 monitoring shall be conducted utilizing a portable analyzer 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 5 days of restarting the unit unless it has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

13. If the NOx, 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 compliant levels as soon as possible, but no longer than 1 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 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation that is subject to enforcement action has occurred. 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

14. All NOx, CO, O2 and NH3 emission readings shall be taken with the unit operating at conditions representative of normal operation or under the conditions specified in the Permit to Operate. The NOx, 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. Analyzer 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

15. The permittee shall maintain records of: (1) the date and time of NOx, CO, NH3 and O2 measurements, (2) the O2 concentration in percent by volume and the measured NOx, 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

16. Ammonia emission readings shall be conducted at the time the NOx, CO and O2 readings are taken. The readings shall be converted to ppmvd @ 3% O2. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

17. Source testing to measure NOx, CO, and NH3 emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

18. 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

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

20. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

21. 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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

22. 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

23. Source testing for ammonia slip shall be conducted utilizing BAAQMD Method ST-1B. [District Rule 1081] Federally Enforceable Through Title V Permit

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

25. 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

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

27. Daily records of start-up and shutdown durations and number of occurrences of each shall be maintained. [District Rule 2201] Federally Enforceable Through Title V Permit

28. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

29. The owner or operator shall record and maintain records of the amount of fuel combusted during each operating day. [40 CFR 60.48c(g)(1)] Federally Enforceable Through Title V Permit

APPENDIX C
BACT Guideline 1.1.2

Best Available Control Technology (BACT) Guideline 1.1.2
Last Update: 11/30/2022

Natural gas or propane fired boilers/steam generators with heat input rate greater than 20 MMBtu/hr**

Pollutant	Achieved in Practice or in the SIP	Technologically Feasible	Alternate Basic Equipment
VOC	PUC quality natural gas or propane with LPG backup		
SOx	PUC quality natural gas or propane with LPG backup		
PM10	PUC quality natural gas or propane with LPG backup		
NOx	2.5 ppmvd @ 3% O2 (0.003 lb/MMBtu)		
CO	50 ppmvd @ 3% O2 (0.037 lb/MMBtu)		

** This is a Summary Page for this Class of Source. ** This guideline is applicable to units fired solely on natural gas from a PUC or FERC regulated source or propane/LPG. This guideline is not applicable to Oilfield Steam Generators or Electric Utility Steam Generating Units.*

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

This is a Summary Page for this Class of Source. For background information, see Permit Specific BACT Determinations on Details Page.

APPENDIX D
BACT Analysis

Top Down BACT Analysis

This application was deemed complete on May 26, 2023. Therefore, BACT Guideline 1.1.2 [Natural gas or propane fired boilers/steam generators with heat input rate greater than 20 MMBtu/hr] (November 30, 2022) was in effect at the time the project was deemed complete and will be used for this natural gas-fired boiler. In accordance with the District BACT policy, information from that guideline will be utilized without further analysis.

1. BACT Analysis for NO_X Emissions:

a. Step 1 - Identify all control technologies

BACT Guideline 1.1.2 identifies only the following option:

- *2.5 ppmvd @ 3% O_2 (0.003 lb/MMBtu)*

b. Step 2 - Eliminate technologically infeasible options

The control option listed in Step 1 is not technologically infeasible.

c. Step 3 - Rank remaining options by control effectiveness

No ranking needs to be done because there is only one control option listed in Step 1.

d. Step 4 - Cost Effectiveness Analysis

The applicant has proposed the only control option remaining under consideration. Therefore, a cost effectiveness analysis is not required.

e. Step 5 - Select BACT

The applicant has proposed to install a new 72.0 MMBtu/hr Rentech model 60k/hr D-Tube natural-gas fired boiler and tune the Haldor Topsoe DNX-929 SCR system to lower the NO_X emissions to 2.5 ppmvd at 3% O_2. Therefore, the BACT requirements for NO_X emissions be satisfied. The following condition will be listed on the ATC to ensure compliance:

- Except during start-up and shutdown, emissions from the natural gas-fired unit shall not exceed any of the following limits: 2.5 ppmvd NOx @ 3% O2 or 0.003 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.003 lb-PM10/MMBtu, 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]

2. BACT Analysis for SO_X Emissions:

a. Step 1 - Identify all control technologies

BACT Guideline 1.1.2 identifies only the following option:

- *PUC quality natural gas or propane with LPG backup*

b. Step 2 - Eliminate technologically infeasible options

The control option listed in Step 1 is not technologically infeasible.

c. Step 3 - Rank remaining options by control effectiveness

No ranking needs to be done because there is only one control option listed in Step 1.

d. Step 4 - Cost Effectiveness Analysis

The applicant has proposed the only control option remaining under consideration. Therefore, a cost effectiveness analysis is not required.

e. Step 5 - Select BACT

The applicant has proposed to use only PUC-quality natural gas (regulated by the PUC or FERC) as fuel. Therefore, the BACT requirements for SO_X emissions be satisfied. The following condition will be listed on the ATC to ensure compliance:

- The unit shall only be fired on PUC-regulated natural gas. [District Rules 2201, 4320, and 4801]

3. BACT Analysis for PM_{10} Emissions:

a. Step 1 - Identify all control technologies

BACT Guideline 1.1.2 identifies only the following option:

- *PUC quality natural gas or propane with LPG backup*

b. Step 2 - Eliminate technologically infeasible options

The control option listed in Step 1 is not technologically infeasible.

c. Step 3 - Rank remaining options by control effectiveness

No ranking needs to be done because there is only one control option listed in Step 1.

d. Step 4 - Cost Effectiveness Analysis

The applicant has proposed the only control option remaining under consideration. Therefore, a cost effectiveness analysis is not required.

e. Step 5 - Select BACT

The applicant has proposed to use only PUC-quality natural gas (regulated by the PUC or FERC) as fuel. Therefore, the BACT requirements for PM_{10} emissions be satisfied. The following condition will be listed on the ATC to ensure compliance:

- The unit shall only be fired on PUC-regulated natural gas. [District Rules 2201, 4320, and 4801]

4. BACT Analysis for VOC Emissions:

a. Step 1 - Identify all control technologies

BACT Guideline 1.1.2 identifies only the following option:

- *PUC quality natural gas or propane with LPG backup*

b. Step 2 - Eliminate technologically infeasible options

The control option listed in Step 1 is not technologically infeasible.

c. Step 3 - Rank remaining options by control effectiveness

No ranking needs to be done because there is only one control option listed in Step 1.

d. Step 4 - Cost Effectiveness Analysis

The applicant has proposed the only control option remaining under consideration. Therefore, a cost effectiveness analysis is not required.

e. Step 5 - Select BACT

The applicant has proposed to use only PUC-quality natural gas (regulated by the PUC or FERC) as fuel. Therefore, the BACT requirements for VOC emissions be satisfied. The following condition will be listed on the ATC to ensure compliance:

- The unit shall only be fired on PUC-regulated natural gas. [District Rules 2201, 4320, and 4801]

APPENDIX E
HRA Summary and AAQA

San Joaquin Valley Air Pollution Control District
Risk Management Review and Ambient Air Quality Analysis

To:	Anne Murphy – Permit Services
From:	Nicholas Yeung – Technical Services
Date:	June 20, 2023
Facility Name:	VIE-DEL WINERY #1
Location:	11903 S CHESTNUT AVE, FRESNO
Application #(s):	C-1344-75-0
Project #:	C-1231559

1. Summary

1.1 Risk Management Review (RMR)

Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required	Special Permit Requirements
75	0.47	N/A[1]	N/A[1]	N/A[1]	No	No
Project Totals	0.47	N/A[1]	N/A[1]	N/A[1]		
Facility Totals	<1	0.00	0.00	0.00E+00		

Notes:
1. The project passed with a total facility prioritization score less than 1; therefore, no further analysis was required.

1.2 Ambient Air Quality Analysis (AAQA)

Pollutant	Air Quality Standard (State/Federal)				
	1 Hour	3 Hours	8 Hours	24 Hours	Annual
CO	Pass[2]		Pass[2]		
NO_x	Pass[2]				Pass[2]
SO_x	Pass[2]	Pass[2]		Pass[2]	Pass[2]
PM10				Pass[2]	Pass[4]
PM2.5				Pass[2]	Pass[5]

Notes:
1. Results were taken from the attached AAQA Report.
2. The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2) unless otherwise noted below.
3. Modeled PM10 concentrations were below the District SIL for non-fugitive sources of 5 $\mu g/m^3$ for the 24-hour average concentration and 1 $\mu g/m^3$ for the annual concentration.
4. Modeled PM2.5 concentrations were below the District SIL for non-fugitive sources of 1.2 $\mu g/m^3$ for the 24-hour average concentration and 0.2 $\mu g/m^3$ for the annual concentration.

2. Project Description

Technical Services received a request to perform a Risk Management Review (RMR) and Ambient Air Quality Analysis (AAQA) for the following:

- Unit -75-0: 72.0 MMBTU/HR RENTECH MODEL 60K/HR D-TUBE NATURAL GAS-FIRED BOILER, WITH ZEECO MODEL GLSF FREEJET LOW NOX BURNER, AND SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM.

3. RMR Report

3.1 Analysis

The District performed an analysis pursuant to the District's Risk Management Policy for Permitting New and Modified Sources (APR 1905, May 28, 2015) to determine the possible cancer and non-cancer health impact to the nearest resident or worksite. This policy requires that an assessment be performed on a unit by unit basis, project basis, and on a facility-wide basis. If a preliminary prioritization analysis demonstrates that:

- A unit's prioritization score is less than the District's significance threshold and;
- The project's prioritization score is less than the District's significance threshold and;
- The facility's total prioritization score is less than the District's significance threshold

Then, generally no further analysis is required.

The District's significant prioritization score threshold is defined as being equal to or greater than 1.0. If a preliminary analysis demonstrates that either the units', the project's or the facility's total prioritization score is greater than the District threshold, a screening or a refined assessment is required.

If a refined assessment is greater than one in a million but less than 20 in a million for carcinogenic impacts (cancer risk) and less than 1.0 for the acute and chronic hazard indices (non-carcinogenic) on a unit by unit basis, project basis and on a facility-wide basis the proposed application is considered less than significant. For units that exceed a cancer risk of one in a million, Toxic Best Available Control Technology (TBACT) must be implemented.

Air toxics emissions for this project were calculated using the following methods:

- Natural gas and ammonia usage rates for the proposed operation were provided by the Permit Engineer. These usage rates were speciated into air toxics using emission factors derived from the table, "Natural Gas Fired External Combustion Equipment" in the 2001 report, Ventura County Air Pollution Control District AB 2588 Combustion Emission Factors.

These emissions were input into the San Joaquin Valley APCD's Hazard Assessment and Reporting Program (SHARP). In accordance with the District's Risk Management Policy, risks from the proposed unit's toxic emissions were prioritized using the procedure in the 2016 CAPCOA Facility Prioritization Guidelines. 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:

Source Process Rates						
Unit ID	**Process ID**	**Process Material**	**Process Units**	**Hourly Process Rate**	**Annual Process Rate**	**Receptor Distance (m)**
75	1	Natural Gas VOC	MMscf	0.072	630.72	135
75	1	Ammonia	Lbs	0.325	2835	135

4. AAQA Report

The District modeled the impact of the proposed project on the National Ambient Air Quality Standard (NAAQS) and/or California Ambient Air Quality Standard (CAAQS) in accordance with District Policy APR-1925 (Policy for District Rule 2201 AAQA Modeling) and EPA's Guideline for Air Quality Modeling (Appendix W of 40 CFR Part 51). The District uses a progressive three level approach to perform AAQAs. The first level (Level 1) uses a very conservative approach. If this analysis indicates a likely exceedance of an AAQS or Significant Impact Level (SIL), the analysis proceeds to the second level (Level 2) which implements a more refined approach. For the 1-hour NO_2 standard, there is also a third level that can be implemented if the Level 2 analysis indicates a likely exceedance of an AAQS or SIL.

The modeling analyses predicts the maximum air quality impacts using the appropriate emissions for each standard's averaging period. Required model inputs for a refined AAQA include background ambient air quality data, land characteristics, meteorological inputs, a receptor grid, and source parameters including emissions. These inputs are described in the sections that follow.

Ambient air concentrations of criteria pollutants are recorded at monitoring stations throughout the San Joaquin Valley. Monitoring stations may not measure all necessary pollutants, so background data may need to be collected from multiple sources. The following stations were used for this evaluation:

Monitoring Stations				
Pollutant	**Station Name**	**County**	**City**	**Measurement Year**
CO	Fresno - Garland	Fresno	Fresno	2021
NOx	Fresno-Drummond	Fresno	Fresno	2021
PM10	Fresno-Drummond	Fresno	Fresno	2021
PM2.5	Tranquillity	Fresno	Tranquillity	2021
SOx	Fresno - Garland	Fresno	Fresno	2021

Technical Services performed modeling for directly emitted criteria pollutants with the emission rates below:

Emission Rates (lbs/hour)						
Unit ID	**Process**	**NOx**	**SOx**	**CO**	**PM10**	**PM2.5**
75	1	0.62	0.20	2.66	0.22	0.22

Emission Rates (lbs/year)						
Unit ID	**Process**	**NOx**	**SOx**	**CO**	**PM10**	**PM2.5**
75	1	5,403	1,798	23,337	1,892	1,892

The AERMOD model was used to determine if emissions from the project would cause or contribute to an exceedance of any state of federal air quality standard. The parameters outlined below and meteorological data for 2013-2017 from Hanford (rural dispersion coefficient selected) were used for the analysis:

The following parameters were used for the review:

Point Source Parameters						
Unit ID	**Unit Description**	**Release Height (m)**	**Temp. (°K)**	**Exit Velocity (m/sec)**	**Stack Diameter (m)**	**Vertical/ Horizontal/ Capped**
75	72.0 MMBtu/Hr Natural Gas Boiler	18.29	422	8.49	1.22	Capped

5. Conclusion

5.1 RMR

The cumulative prioritization score for the facility, including this project, 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.

5.2 AAQA

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

6. Attachments

A. Modeling request from the project engineer

B. Additional information from the applicant/project engineer

C. Prioritization score w/ toxic emissions summary

D. Facility Summary

E. AAQA results

APPENDIX F
Quarterly Net Emissions Change (QNEC)

Quarterly Net Emissions Change (QNEC)

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

QNEC = PE2 - PE1, where:

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

Using the values in Sections VII.C.2 and VII.C.1 in the evaluation above, quarterly PE2 and quarterly PE1 can be calculated as follows:

$PE2_{quarterly} = PE2_{annual} \div 4$ quarters/year

$PE1_{quarterly} = PE1_{annual} \div 4$ quarters/year

Quarterly NEC [QNEC]			
Pollutant	**PE2 (lb/qtr)**	**PE1 (lb/qtr)**	**QNEC (lb/qtr)**
NO_X	1,350.75	0	1,350.75
SO_X	449.5	0	449.5
PM_{10}	473.0	0	473.0
CO	5,834.25	0	5,834.25
VOC	867.25	0	867.25

APPENDIX G
Statewide Compliance Certification

San Joaquin Valley Air Pollution Control District

HEALTHY AIR LIVING

MAY17 23 10:30AM

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

☐ ADMINISTRATIVE AMENDMENT ☐ MINOR MODIFICATION ☒ SIGNIFICANT MODIFICATION

COMPANY NAME: Vie-Del Company	FACILITY ID: C-1344
1. Type of Organization: ☒ Corporation ☐ Sole Ownership ☐ Government ☐ Partnership ☐ Utility	
2. Owner's Name:	
3. Agent to the Owner:	

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

(DN) 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).

(DN) 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.

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

(DN) 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.

○ For minor modifications, this application meets the criteria for use of minor permit modification procedures pursuant to District Rule 2520.

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

Dianne Nury — Signature of Responsible Official

5-16-23 — Date

Dianne Nury
Name of Responsible Official (please print)

President
Title of Responsible Official (please print)

RECEIVED
MAY 17 2023
FINANCE
SJVAPCD

APPENDIX H
Emission Calculations for units C-1344-8 through C-1344-71

Equipment Description:
C-1344-8 through '-71: ETHANOL STORAGE TANKS WITH PRESSURE/VACUUM VALVE

General Calculations

A. Assumptions

- VOCs are the only pollutant of concern from these ethanol storage tanks.
- Maximum ethanol content of stored material is 100.0% (worst case).
- The maximum annual ethanol storage throughput is presumed to not exceed the nominal capacity of each tank.
- The pressure-vacuum relief valves and storage tanks will remain in a gas-tight condition, except when the operating pressure of the tanks exceeds the valve set pressure.
- Total facility capacity of ethanol storage is 3,191,288 gallons (see Appendix I).
- Per District practice, it is assumed that eight inter-tank transfers occur annually for all storage tanks.

B. Emission Factors

Per District practice for establishing VOC emission factors for spirits storage tanks located in Fresno (Central Region of the District), the emissions factors are as follows:

C-1344-8 through '-71

Type	Maximum Ethanol Content	Annual EF (lb-VOC/1,000 gallon Tank Throughput)
Ethanol Storage	100.0%	0.807

C. Calculations

Annual PE = 0.807 lb-VOC/1,000 gallon x Capacity (gallons) x 8 turnovers/year
= 0.807 lb-VOC/1,000 gallon x 3,191,288 gallons x 8 turnovers/year
= 20,600 lb-VOC/year

APPENDIX I
Tank Capacity for units C-1344-8 through C-1344-71

Tank ID	Tank Capacity (gallons)
1	15486
2	15486
3	15486
4	15486
5	15486
6	15486
7	15486
8	15486
9	15510
10	11637
11	12743
12	12810
15	980
16	2854
17	2848
18	2854
21	34815
22	34786
23	34922
24	34922
25	33752
26	33664
27	33710
28	33655
29	84494
31	33649
32	33715
33	33679
34	33687
35	33634
36	33703
37	33658
38	33613
39	84494
40	217707
41	108455
42	110231
43	110693
44	111289
45	111208
46	120480
47	120278
48	217707
51	108046
52	108657
53	111006

54	111093
55	111472
56	120314
57	120076
58	217707
101	4508
102	4528
103	982
104	569
500-W	8455
501-W	8573
502-W	8573
503-W	8529
504-W	8529
F01	534
SING1	472
SING2	472
SING3	472
SING4	997
Total	**3191288**

APPENDIX J
Boiler Manufacturer Data Sheet

CALIFORNIA BOILER

Vie Del Company
11903 S Chestnut Avenue
Fresno, CA 93745

Subject: Zeeco low NOx FreeJet Burner, Rentech 60,000 lb/hr Watertube Boiler D Style

Dear Bill Misaki,
The following are the expected emissions from Zeeco Burner when installed and fired into a 60K Rentech Watertube D style boiler.

Emissions Zeeco can guarantee the following emissions: MINIMUM PERFORMANCE GUARANTEES FUEL DESIGNATION NAT GAS NOx, PPM 30 CO, PPM 50

1. Zeeco does not guarantee SOx emissions since these are stoichiometrically related to sulfur compounds in the fuels and the equilibrium conditions in the furnace.

2. Zeeco takes exception to providing NOx emission guarantees for any fuel gas compositions containing ammonia (NH3) and hydrogen cyanide (HCN).

3. Emissions guarantees stated above encompass measured values rounded to the significant digit provided.

4. The emissions guarantees are for operation at the specific conditions stated.

5. Zeeco requires entire furnace cavity including division wall to be fully membrane welded/sealed (i.e. no furnace bypass to convective section).

6. All emissions guarantees are based on 3 mm deposition maximum on all waterwall surfaces. Any further thickness on waterwalls will increase furnace temperatures, thus NOx will increase.

7. If not explicitly stated above, Zeeco has not provided an opacity guarantee. ZEECO, INC. August 4, 2021 PROPOSAL NUMBER: 2020-00334PO-01, Rev. 3 P a g e | 10 Confidential and Proprietary

8. Emissions stated above are applicable for boiler loading from 25% to 100% of MCR, unless noted otherwise above, at steady state conditions.

9. All ppm values stated above (where applicable) are corrected to 3.0% O2 dry basis.

10. The burner MCR excess air levels stated herein are expected operating levels and may require slight adjustment during commissioning to optimize combustion and achieve performance criteria stated herein (i.e. NOx and/or CO emissions).

11. All emissions provided above are additive to any inlet conditions.

12. The above NOx emission levels are based on the ability of the boiler system design and configured combustion control system to control excess O2 levels when firing gas or oil at: a. The excess air/O2 levels stated in the technical section of this proposal from 50% to 100% load. b. Excess O2 levels between those stated in the Technical Section of this proposal and not more than 5% O2 from 25% to 50% load