

JUN 24 2019

Esther Cardenas
E&J Gallo Winery
600 Yosemite Blvd
Modesto, CA 95354

Re: Notice of Preliminary Decision - Authority to Construct
Facility Number: N-2232
Project Number: N-1192067

Dear Ms. Cardenas:

Enclosed for your review and comment is the District's analysis of E&J Gallo Winery's application for an Authority to Construct for the installation of a diesel-fired emergency engine powering a fire pump located at 3093 Finch Road, Modesto, CA.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. After addressing all comments made during the 30-day public notice, the District intends to issue the Authority to Construct. Please submit your written comments on this project within the 30-day public comment period, as specified in the enclosed public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Fred Cruz of Permit Services at (209) 557-6456.

Sincerely,



Arnaud Marjollet
Director of Permit Services

AM:fjc

Enclosures

cc: Brian Clerico, CARB (w/ enclosure) via email
cc: Gerardo C. Rios, EPA (w/ enclosure) via email

Samir Sheikh
Executive Director/Air Pollution Control Officer

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San Joaquin Valley Air Pollution Control District
Authority to Construct Application Review
Diesel-fired Emergency Standby IC Engine

Facility Name: E&J Gallo Winery
Mailing Address: 600 Yosemite Blvd
Modesto, CA 95354
Contact Person: Ester Cardenas
Telephone: (209) 341-6355 (209) 672-7516
Email: Esther.cardenas@ejgallo.com
Application No: N-2232-18-0
Project No: N-1192067
Complete: May 20, 2019

Date: June 18, 2019
Engineer: Fred Cruz
Lead Engineer: James Harader

I. Proposal:

E&J Gallo Winery submitted an Authority to Construct application to install a 351 bhp diesel-fired emergency standby internal combustion (IC) engine powering a fire pump. This new permit unit will replace permits N-2232-12 and N-2232-13.

II. Applicable Rules:

Rule 2201 New and Modified Stationary Source Review Rule (2/18/2016)
Rule 2410 Prevention of Significant Deterioration (6/16/2011)
Rule 2520 Federally Mandated Operating Permits (6/21/2001)
Rule 4001 New Source Performance Standards (4/14/1999)
Rule 4002 National Emission Standards for Hazardous Air Pollutants (5/20/2004)
Rule 4101 Visible Emissions (2/17/2005)
Rule 4102 Nuisance (12/17/1992)
Rule 4201 Particulate Matter Concentration (12/17/1992)
Rule 4701 Stationary Internal Combustion Engines – Phase 1 (8/21/2003)
Rule 4702 Stationary Internal Combustion Engines – Phase 2 (11/14/2013)
Rule 4801 Sulfur Compounds (12/17/1992)
CH&SC 41700 Health Risk Assessment
CH&SC 42301.6 School Notice
Title 17 CCR, Section 93115 - Airborne Toxic Control Measure (ATCM) for Stationary Compression-Ignition (CI) Engines
California Environmental Quality Act (CEQA)
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 3093 Finch Road, Modesto, CA. The District has verified that 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:

The emergency standby engine powers a fire pump. Other than emergency operation, the engine may be operated up to 100 hours per year for maintenance and testing purposes.

V. Equipment Listing:

N-2232-18-0: 351 BHP CLARKE MODEL JW6H-UFADD0 DIESEL-FIRED
EMERGENCY ENGINE (TIER 3 CERTIFIED) POWERING A FIRE PUMP

VI. Emission Control Technology Evaluation:

The engine is equipped with:

- Turbocharger
- Intercooler/aftercooler
- Injection timing retard (or equivalent per District Policy SSP-1805, dated 8/14/1996)
- Positive Crankcase Ventilation (PCV) or 90% efficient control device
- This engine is required to be, and is UL certified
- Catalytic particulate filter
- Very Low (0.0015%) sulfur diesel

The emission control devices/technologies and their effect on diesel engine emissions detailed below are from *Non-catalytic NO_x Control of Stationary Diesel Engines*, by Don Koeberlein, CARB.

The turbocharger reduces the NO_x emission rate from the engine by approximately 10% by increasing the efficiency and promoting more complete burning of the fuel.

The PCV system reduces crankcase VOC and PM₁₀ emissions by at least 90% over an uncontrolled crankcase vent.

The use of very low-sulfur diesel fuel (0.0015% by weight sulfur maximum) reduces SO_x emissions by over 99% from standard diesel fuel.

VII. General Calculations:

A. Assumptions

Operating schedule:	24 hours/day, 100 hours/year
Density of diesel fuel:	7.1 lb/gal
EPA F-factor:	9051 dscf/MMBtu (corrected to 60° F)
PM ₁₀ fraction of diesel exhaust is:	96% (Reference - CARB, 1988)
Fuel heating value:	137,000 Btu/gal

BHP to Btu/hr conversion: 2542.5 Btu/hp-hr
 Thermal efficiency of engine commonly ≈ 35%
 Fuel rate: 19.0 gal/hr @ 100% load (engine data sheet)

B. Emission Factors

The engine manufacturer supplied the emissions factor for NO_x, CO, VOC and PM₁₀ emissions.

Pollutant	Emission Factor (g/bhp-hr)	Source
NO _x	2.71	Engine manufacturer
CO	0.40	Engine manufacturer
VOC	0.07	Engine manufacturer
PM ₁₀	0.07	Engine manufacturer
SO _x	0.005	See calculation below

The emission factor for SO_x may be calculated based on the current CARB standard for diesel sulfur content, which is 15 ppm by weight.

$$\frac{0.000015 \text{ lb - S}}{\text{lb - fuel}} \times \frac{7.1 \text{ lb - fuel}}{\text{gallon}} \times \frac{2 \text{ lb - SO}_2}{1 \text{ lb - S}} \times \frac{1 \text{ gal}}{137,000 \text{ Btu}} \times \frac{1 \text{ bhp input}}{0.35 \text{ bhp out}} \times \frac{2,542.5 \text{ Btu}}{\text{bhp - hr}} \times \frac{453.6 \text{ g}}{\text{lb}} = 0.005 \frac{\text{g - SO}_x}{\text{bhp - hr}}$$

C. Calculations:

1. Pre-Project Emissions (PE1)

This is a new emissions unit and PE1 will equal zero for all pollutants.

2. Post Project PE (PE2)

The potential to emit emissions from this emergency IC engine is based on the maximum operating capacity of the engine for 24 hours per day. The following calculation for NO_x emissions is representative of emission calculations for all pollutants. Annual emissions are based on 100 hours per year for non-emergency operation.

- NO_x: 2.71 g/hp-hr × 351 hp × lb/453.6 g
- NO_x: 2.10 lb/hr, 50.3 lb/day, 210 lb/yr
- CO: 0.31 lb/hr, 7.4 lb/day, 31 lb/yr
- VOC: 0.05 lb/hr, 1.3 lb/day, 5 lb/yr
- PM₁₀: 0.05 lb/hr, 1.3 lb/day, 5 lb/yr
- SO_x: 0.004 lb/hr, 0.1 lb/day, 0.4 lb/yr ¹

¹ Per District practice, annual emissions less than 0.5 lbs are considered de minimus values are set to zero.

	NO _x	CO	VOC	PM ₁₀	SO _x
Daily PE	50.3	7.4	1.3	1.3	0.1
Annual PE	210	31	5	5	0

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

Pursuant to Section 4.9 of District Rule 2201, the Pre-Project Stationary Source Potential to Emit (SSPE1) is the Potential to Emit (PE) from all units with valid ATCs or PTOs at the Stationary Source and the quantity of Emission Reduction Credits (ERCs) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site. This is an existing facility and SSPE1 emissions are from project N-1170933, unless otherwise noted.

Pre-Project Stationary Source Potential to Emit SSPE1 (lb/year)					
Permit Unit	NO _x	SO _x	PM ₁₀	CO	VOC
N-2232-6-8	4,624	1,798	4,793	69,945	3,469
N-2232-7-10	12,007	4,194	11,185	108,904	8,094
N-2232-8-8	12,007	4,194	11,185	108,904	8,094
N-2232-12-2	899	0	64	194	73
N-2232-13-2	899	0	64	194	73
N-2232-14-6	6,093	2,469	6,583	64,096	4,764
Post Project SSPE (SSPE1)	36,529	12,655	33,874	352,237	24,567

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

Pursuant to Section 4.10 of District Rule 2201, the Post Project Stationary Source Potential to Emit (SSPE2) is the Potential to Emit (PE) from all units with valid ATCs or PTOs, except for emissions units proposed to be shut down as part of the Stationary Project, at the Stationary Source and the quantity of Emission Reduction Credits (ERCs) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

Post Project Stationary Source Potential to Emit SSPE2 (lb/year)					
Permit Unit	NO _x	SO _x	PM ₁₀	CO	VOC
N-2232-6	4,624	1,798	4,793	69,945	3,469
N-2232-7	12,007	4,194	11,185	108,904	8,094
N-2232-8	12,007	4,194	11,185	108,904	8,094
N-2232-12	899	0	64	194	73
N-2232-13	899	0	64	194	73
N-2232-14	6,093	2,469	6,583	64,096	4,764
N-2232-18-0	210	0	5	31	5
Post Project SSPE (SSPE2)	36,739	12,655	33,879	352,268	24,572
ERCs	0	0	0	0	0

5. Major Source Determination:

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

Major Source Determination					
Pollutant	SSPE1 (lb/yr)	SSPE2 (lb/yr)	Major Source Threshold (lb/yr)	Existing Major Source?	Becoming a Major Source?
NO _x	36,529	36,739	20,000	Yes	No
SO _x	12,655	12,655	140,000	No	No
PM ₁₀	33,874	33,879	140,000	No	No
CO	352,237	352,268	200,000	Yes	No
VOC	24,567	24,572	20,000	Yes	No

As seen in the table above, the facility is an existing Major Source for NO_x, CO and VOC emissions.

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) (I). Therefore, the following PSD Major Source thresholds are applicable.

PSD Major Source Determination (tons/year)						
Category	NO ₂	VOC	SO ₂	CO	PM	PM ₁₀
Estimated Facility PE before Project Increase	18.26	12.28	6.33	176.12	16.94	16.94
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 major source for PSD for any pollutant. Therefore, the facility is not an existing major source for PSD.

6. Baseline Emissions (BE):

The equipment is considered as a new emissions unit and the baseline emissions will equal zero for all pollutants.

7. SB 288 Major Modification:

SB 288 Major Modification is defined in 40 CFR Part 51.165 as "any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act." As shown in Section VII.C.5 of this document, this facility is an existing Major Source only for NO_x, CO, and SO_x emissions.

Since this facility is a major source for NO_x and 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?
NO _x	210	50,000	No
SO _x	0	80,000	No
PM ₁₀	5	30,000	No
VOC	5	50,000	No

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

8. Federal Major Modification

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

criteria of the “Less-Than-Significant Emissions Increase Exclusion” as defined in Section 3.18.1.

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

Emissions from the engine are calculated above. Per the District’s draft policy titled *Implementation of Rule 2201 (as amended on 12/18/08 and effective on 6/10/2010) for SB288 and Federal Major Modifications*, a permitting action is a Federal Major Modification if it will result in an increase in emission in excess of the thresholds specified in section 3.18 of Rule 2201 (see table below). The draft policy further states that if the emission increases are less than or equal to 0.5 lb/day, on an average basis, then they are to be rounded to zero (consistent with District Policy APR-1130 Increases in Maximum Daily Permitted Emissions of Less than or Equal to 0.5 lb/day.)

As shown in section VII.C.2 of this document, the total annual potential to emit for NO_x, PM₁₀ and VOC emissions are 210 lb/year, 5 lb/year and 5 lb/year respectively. Assuming that the engine could operate during any one day of the year for testing and maintenance purposes. The average daily emission rates would be as follows:

$$\text{Average Daily PE2} = \text{Annual PE} / 365 \text{ days/yr}$$

Pollutant	Annual PE (lb/year)	Worst Case Operation (days/year)	Average Daily PE2 (lb/day)
NO _x	210	365	0.57
PM ₁₀	5	365	0.01*
VOC	5	365	0.01*

* As explained above, in accordance with District Policy APR-1130, the PE2 rounds to zero for each of these pollutants.

The project’s emission increases were calculated in Section VII C and compared to the Federal Major Modification Thresholds in the following table.

Federal Major Modification Thresholds for Emission Increases			
Pollutant	Total Emissions Increases (lb/yr)	Thresholds (lb/yr)	Federal Major Modification?
NO _x	210	0	Yes
VOC	0	0	No
PM ₁₀	0	30,000	No
PM _{2.5}	0	20,000	No

Since the Federal Major Modification Thresholds for NO_x is surpassed with this project, this project does constitute a Federal Major Modification.

9. Quarterly Net Emissions Change (QNEC)

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

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

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

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

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

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

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

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

PSD Major Source Determination: Potential to Emit (tons/yr)						
	NO ₂	VOC	SO ₂	CO	PM	PM ₁₀
Total PE from New and Modified Units	0.11	0.003	0	0.02	0.003	0.003
PSD Major Source threshold	250	250	250	250	250	250
New PSD Major Source?	N	N	N	N	N	N

As demonstrated above, because the project has a total potential to emit from all new and modified emission units below the PSD significant emission increase

thresholds, this project is not subject to the requirements of Rule 2410 due to a significant emission increase and no further discussion is required.

VIII. COMPLIANCE

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT):

1. BACT Applicability:

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

- a) Any new emissions unit with a potential to emit exceeding 2.0 pounds per day,
- b) The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding 2.0 pounds per day,
- c) Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIPE exceeding 2.0 pounds per day, and/or
- d) Any new or modified emissions unit, in a stationary source project, which results in a Major Modification.

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

a. New emissions units – PE > 2.0 lb/day

This engine is a new emissions unit and the daily emissions are compared to the BACT thresholds in the following table:

New Emissions Unit BACT Applicability				
Pollutant	Daily Emissions for unit -18-0 (lb/day)	BACT Threshold (lb/day)	SSPE2 (lb/yr)	BACT Triggered?
NO _x	50.3	> 2.0	N/A	Yes
SO _x	0.1	> 2.0	N/A	No
PM ₁₀	1.3	> 2.0	N/A	No
CO	7.4	> 2.0 and SSPE2 ≥ 200,000 lb/yr	352,268	Yes
VOC	1.3	> 2.0	N/A	No

BACT is triggered for NO_x and CO emissions for this engine.

b. Relocation of emissions units – PE > 2.0 lb/day

This engine is not being relocated from one stationary source to another stationary source as a result of this project.

c. Modification of emissions units – Adjusted Increase in Permitted Emissions (AIPE) > 2.0 lb/day

This engine is not being modified. Therefore, BACT is not triggered for the modification of emissions units with an AIPE > 2.0 lb/day.

d. Major Modification

This project does constitute a Federal Major Modification. Therefore, BACT is triggered for a Federal Major Modification.

2. BACT Guideline:

BACT Guideline 3.1.4, applies to diesel-fired emergency IC engines powering a fire pump. See Appendix C.

3. Top-Down BACT Analysis

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 C), BACT has been satisfied with the following:

NO_x: Certified NO_x emissions of 6.9 g/hp·hr or less
VOC: Positive Crankcase Ventilation (PCV) System, unless it voids UL certification

B. Offsets:

Since emergency standby IC engines are exempt from the offset requirements of Rule 2201, per Section 4.6.2, offsets are not required for this engine and offset calculations are not required.

C. Public Notification:

1. Applicability:

Public noticing is required for:

- a. New Major Sources, which is a new facility that also becomes a Major Source,
- b. Major Modifications,
- c. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
- d. Any project which results in the offset thresholds being surpassed, and/or
- e. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant,
- f. Title V Significant Modification.

a. New Major Source

A New Major Source is a new facility, which also becomes a major source. This is an existing facility and does not become a Major Source from this project; public noticing is not required for this project for New Major Source purposes.

b. Major Modification

As demonstrated previously in Sections VII.C.7 and VII.C.8, this project does constitute a Federal Major Modification. Therefore, public noticing for Major Modification purposes is required.

c. PE > 100 lb/day

The Daily PE for this new emission unit is compared to the daily PE Public Notice Thresholds in the following table:

PE > 100 lb/day Public Notice Thresholds			
Pollutant	Daily PE for unit -18-0 (lb/day)	Public Notice Threshold (lb/day)	Public Notice Triggered?
NO _x	50.3	100	No
SO _x	0.1	100	No
PM ₁₀	1.3	100	No
CO	7.4	100	No
VOC	1.3	100	No

d. Offset Threshold

The following table compares the SSPE1 and SSPE2 with the offset thresholds to determine if any offset thresholds have been surpassed.

Offset Threshold				
Pollutant	SSPE1 (lb/yr)	SSPE2 (lb/yr)	Offset Threshold (lb/yr)	Public Notice Required?
NO _x	36,529	36,739	20,000	No
SO _x	12,655	12,655	54,750	No
PM ₁₀	33,874	33,879	29,200	No
CO	352,237	352,268	200,000	No
VOC	24,567	24,572	20,000	No

As detailed in the preceding table, there are no offset thresholds surpassed with this project. Therefore, public noticing is not required for this project

e. SSIPE > 20,000 lb/year

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

SSIPE Public Notice Threshold					
Pollutant	SSPE2 (lb/yr)	SSPE1 (lb/yr)	SSIPE (lb/yr)	SSIPE Threshold (lb/yr)	Public Notice Required?
NO _x	36,739	36,529	210	20,000	No
SO _x	12,655	12,655	0	20,000	No
PM ₁₀	33,879	33,874	5	20,000	No
CO	352,268	352,237	31	20,000	No
VOC	24,572	24,567	5	20,000	No

As detailed in the preceding table, there are no SSIPE thresholds surpassed with this project. Therefore, public noticing is not required for exceeding the SSIPE thresholds.

f. Title V Significant Modification:

This facility is a Major Source for NO_x, CO and VOC, but has not been issued a Title V permit since the facility is subject to District Rule 2530. Therefore, public noticing for a Title V Significant Modification is not required.

2. Public Notice Action

As discussed above, this project will result in emissions from NO_x exceeding the Federal Major Modification Public Notice threshold for this engine. Therefore, public notice will be required for this project.

D. Daily Emissions Limits

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

engine, the DELs are stated in the form of emission factors, the maximum engine horsepower rating, and the maximum operational time of 24 hours per day. Therefore, the following conditions will be listed on the ATC to ensure compliance:

- Emissions from this IC engine shall not exceed any of the following limits: 2.71 g-NO_x/bhp-hr, 0.40 g-CO/bhp-hr, or 0.07 g-VOC/bhp-hr. [District Rule 2201 and 17 CCR 93115]
- Emissions from this IC engine shall not exceed 0.07 g-PM₁₀/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 17 CCR 93115]
- Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801 and 17 CCR 93115]

E. Compliance Assurance:

1. Source Testing

Pursuant to District Policy APR 1705, source testing is not required for emergency standby IC engines to demonstrate compliance with Rule 2201.

2. Monitoring

Monitoring is not required to demonstrate compliance with Rule 2201.

3. Recordkeeping

Recordkeeping is required to demonstrate compliance with the offset, public notification, and daily emission limit requirements of Rule 2201. As required by District Rule 4702, *Stationary Internal Combustion Engines - Phase 2*, this IC engine is subject to recordkeeping requirements. Recordkeeping requirements, in accordance with District Rule 4702, will be discussed in Section VIII, *District Rule 4702*, of this evaluation.

4. Reporting

Reporting is not required to ensure 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 D 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 PM₁₀ 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 PM₁₀ 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 does constitute a Federal Major Modification, therefore this requirement is applicable. E&J Gallo Winery has provided compliance certification that all major sources in California owned and operated by E&J Gallo Winery or by any entity controlled by, or under common control with E&J Gallo Winery, and which are subject to emission limitations, are in compliance or on a schedule for compliance with all applicable limitations and standards. See Appendix E.

H. Alternate Siting Analysis

The current project occurs at an existing facility. The applicant proposes to install a 351 bhp diesel-fired emergency engine powering a fire pump.

Since the project will provide a 351 bhp diesel-fired emergency engines powering a fire pump 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 2520 Federally Mandated Operating Permits

This facility's potential to emit does exceed the major source thresholds of Rule 2201 for NO_x, CO and VOCs. However, this facility has elected to comply with Rule 2530 and exempts it from the requirements of Rule 2520.

Rule 4001 New Source Performance Standards (NSPS)

40 CFR 60 Subpart III – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

Pursuant to § 60.4200 of Subpart III, this engine is subject to this federal regulation. However, the District has not been delegated authorization to enforce the requirements of this regulation. Therefore, no requirements shall be included on the permit.

Rule 4002 National Emission Standards for Hazardous Air Pollutants

40 CFR 63 Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Emissions (RICE)

Pursuant to § 63.6585 of Subpart ZZZZ, this engine is subject to this federal regulation. However, the District has not been delegated authorization to enforce the requirements of 40 CFR 63 Subpart ZZZZ for non-Part 70 sources (Major Sources). Therefore, no requirements shall be included on the permit.

Rule 4101 Visible Emissions

Rule 4101 states 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 as dark as, or darker than, Ringelmann 1 or 20% opacity. Therefore, the following condition will be listed on the ATC to ensure compliance:

- {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 states that no air contaminant shall be released into the atmosphere which causes a public nuisance. Public nuisance conditions are not expected as a result of these operations provided the equipment is well maintained. Therefore, the following condition will be listed on the ATC to ensure compliance:

- {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 (dated 3/2/01) 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.

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 unit(s) or 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 one 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 unit's that exceed a cancer risk of 1 in one million, Toxic Best Available Control Technology (TBACT) must be implemented. Toxic emissions for this project were calculated using the following methods:

- Toxic emissions for this proposed unit were calculated and provided by the processing engineer.

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 facility was greater than 1.0 (see RMR Summary Table below). Therefore, a refined health risk assessment was required.

The AERMOD model was used, with the parameters outlined below and meteorological data for 2013-2017 from the Modesto area (rural dispersion coefficient selected) to determine the dispersion factors for a receptor grid. These dispersion factors were input into the SHARP Program, which then used the Air Dispersion Modeling and Risk Tool (ADMRT) of the Hot Spots Analysis and Reporting Program Version 2 (HARP 2) to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required	Special Permit Requirements
18-0	NA ¹	NA ²	0.00	1.01E-07	No	Yes
Project Totals	NA ¹	NA ²	0.00	1.01E-07		
Facility Totals	>1	0.00	0.00	1.07E-07		

Notes:

1. Prioritization for this unit was not conducted since it has been determined that all diesel-fired IC engines will result in a prioritization score greater than 1.0.
2. Acute Hazard Index was not calculated for Unit 18 since there is no risk factor or the risk factor is so low that it has been determined to be insignificant for this type of unit.

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

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

Unit N-2232-18-0:

1. The PM₁₀ emissions rate shall not exceed 0.07 g/bhp-hr based on US EPA certification using ISO 8178 test procedure.
2. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction.
3. This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 100 hours per calendar year.

Rule 4201 Particulate Matter Concentration

Rule 4201 limits particulate matter emissions from any single source operation to 0.1 gr/dscf, which, as calculated below, is equivalent to a PM₁₀ emission factor of 0.4 g-PM₁₀/bhp-hr.

$$0.1 \frac{\text{grain-PM}}{\text{dscf}} \times \frac{\text{g}}{15.43 \text{ grain}} \times \frac{1 \text{ Btu}_{in}}{0.35 \text{ Btu}_{out}} \times \frac{9,051 \text{ dscf}}{10^6 \text{ Btu}} \times \frac{2,542.5 \text{ Btu}}{1 \text{ bhp-hr}} \times \frac{0.96 \text{ g-PM}_{10}}{1 \text{ g-PM}} = 0.4 \frac{\text{g-PM}_{10}}{\text{bhp-hr}}$$

This new engine has a PM₁₀ emission factor less than 0.4 g/bhp-hr. Therefore, compliance is expected and the following condition will be listed on the ATC:

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

Rule 4701 Internal Combustion Engines – Phase 1

District Rule 4701 is applicable to diesel-fired emergency standby or emergency IC engines. Rule 4702 is at least as stringent as this rule in all aspects; therefore, compliance with that rule will ensure compliance with Rule 4701.

Rule 4702 Internal Combustion Engines – Phase 2

The following table demonstrates how the proposed engine will comply with the requirements of District Rule 4702.

District Rule 4702 Requirements Emergency Standby IC Engines	Proposed Method of Compliance with District Rule 4702 Requirements
Operation of emergency standby engines is limited to 100 hours or less per calendar year for non-emergency purposes, verified through the use of a non-resettable elapsed operating time meter.	This emergency engine will be limited to 100 hours per calendar year for non-emergency purposes. Thus, compliance is expected.
Records of the total hours of operation of the emergency engine, purpose for operating the engine, all hours of non-emergency and emergency operation and support documentation	The following conditions will be included on the permit:

<p>must be maintained. All records shall be retained for a period of at least five years, shall be readily available, and be made available to the APCO upon request.</p>	<ul style="list-style-type: none"> • The permittee shall maintain monthly records of emergency and non-emergency operation. Records shall include the number of hours of emergency operation, the date and number of hours of all testing and maintenance operations, and the purpose of the operation (for example: load testing, weekly testing, etc.). For units with automated testing systems, the operator may, as an alternative to keeping records of actual operation for testing purposes, maintain a readily accessible written record of the automated testing schedule. [District Rule 4702 and 17 CCR 93115] • {3475} All records shall be maintained and retained on-site for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 4701 and 4702 and 17 CCR 93115]
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Rule 4801 Sulfur Compounds

Rule 4801 requires that sulfur compound emissions (as SO₂) shall not exceed 0.2% by volume. Using the ideal gas equation, the sulfur compound emissions are calculated as follows:

$$\begin{aligned} \text{Volume SO}_2 &= (n \times R \times T) \div P \\ n &= \text{moles SO}_2 \\ T \text{ (standard temperature)} &= 60 \text{ }^\circ\text{F or } 520 \text{ }^\circ\text{R} \\ R \text{ (universal gas constant)} &= \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot \text{ }^\circ\text{R}} \end{aligned}$$

$$\frac{0.000015 \text{ lb} - \text{S}}{\text{lb} - \text{fuel}} \times \frac{7.1 \text{ lb}}{\text{gal}} \times \frac{64 \text{ lb} - \text{SO}_2}{32 \text{ lb} - \text{S}} \times \frac{1 \text{ MMBtu}}{9,051 \text{ scf}} \times \frac{1 \text{ gal}}{0.137 \text{ MMBtu}} \times \frac{\text{lb} - \text{mol}}{64 \text{ lb} - \text{SO}_2} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} - \text{mol} \cdot \text{ }^\circ\text{R}} \times \frac{520 \text{ }^\circ\text{R}}{14.7 \text{ psi}} \times 1,000,000 = 1.0 \text{ ppmv}$$

Since 1.0 ppmv is ≤ 2,000 ppmv, this engine is expected to comply with Rule 4801. Therefore, the following condition will be listed on the ATC to ensure compliance:

- Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801, and 17 CCR 93115]

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.

Title 17 California Code of Regulations (CCR), Section 93115 - Airborne Toxic Control Measure (ATCM) for Stationary Compression-Ignition (CI) Engines

The following table demonstrates how the proposed engine will comply with the requirements of Title 17 CCR Section 93115.

Title 17 CCR Section 93115 Requirements for New Emergency IC Engines Powering Fire Pump Assemblies	Proposed Method of Compliance with Title 17 CCR Section 93115 Requirements								
Emergency engines must be fired on CARB diesel fuel, or an approved alternative diesel fuel.	The applicant has proposed the use of CARB certified diesel fuel. The proposed permit condition, requiring the use of CARB certified diesel fuel, was included earlier in this evaluation.								
<p>Per Table 2 of this ATCM, a new direct-drive fire pump, rated at 351 bhp and model year 2009 or later, must meet the following emissions standards:</p> <table border="1" data-bbox="159 842 880 1031"> <thead> <tr> <th data-bbox="159 842 391 968">Max Engine Power</th> <th data-bbox="391 842 570 968">NOx + VOC (g/bhp-hr)</th> <th data-bbox="570 842 727 968">CO (g/bhp-hr)</th> <th data-bbox="727 842 880 968">PM (g/bhp-hr)</th> </tr> </thead> <tbody> <tr> <td data-bbox="159 968 391 1031">300 ≤ HP < 600</td> <td data-bbox="391 968 570 1031">3.0</td> <td data-bbox="570 968 727 1031">2.6</td> <td data-bbox="727 968 880 1031">0.15</td> </tr> </tbody> </table>	Max Engine Power	NOx + VOC (g/bhp-hr)	CO (g/bhp-hr)	PM (g/bhp-hr)	300 ≤ HP < 600	3.0	2.6	0.15	The applicant has proposed the use of engines that are certified to the latest EPA Tier Certification level for the applicable horsepower range, guaranteeing compliance with the emission standards of this ATCM. Additionally, the proposed diesel PM emissions rate for this engine is less than or equal to 0.15 g/bhp-hr.
Max Engine Power	NOx + VOC (g/bhp-hr)	CO (g/bhp-hr)	PM (g/bhp-hr)						
300 ≤ HP < 600	3.0	2.6	0.15						
The engine may not be operated more than the number of hours necessary to comply with the testing requirements of National Fire Protection Association (NFPA) 25 – “Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems” 2002 edition.	<p>The following condition will be included on each permit:</p> <ul style="list-style-type: none"> The engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. For testing purposes, the engine shall only be operated the number of hours necessary to comply with the testing requirements of the National Fire Protection Association (NFPA) 25 – “Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems” 2002 edition. Total hours of operation for all maintenance, testing, and required regulatory purposes shall not exceed 100 hours per calendar year. [District Rules 2201, 4102, and 4702, and 17 CCR 93115] 								
Engines, with a PM ₁₀ emissions rate greater than 0.01 g/bhp-hr and located at schools, may not be operated for maintenance and testing whenever there is a school sponsored activity on the grounds. Additionally, engines located within 500 feet of school grounds may	The District has verified that this engine is not located within 500 feet of a school.								

<p>not be operated for maintenance and testing between 7:30 AM and 3:30 PM.</p>	
<p>An owner or operator shall maintain monthly records of the following: emergency use hours of operation, maintenance and testing hours of operation, hours of operation for emission testing, initial start-up testing hours, hours of operation for all other uses and the type of fuel used. All records shall be retained for a minimum of 36 months.</p>	<p>Permit conditions enforcing these requirements were shown earlier in the evaluation. Records shall be maintained for a minimum of five years.</p> <ul style="list-style-type: none"> • {3475} All records shall be maintained and retained on-site for a minimum of five years, and shall be made available for District inspection upon request. [District Rule 4702 and 17 CCR 93115]

California Environmental Quality Act (CEQA)

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

The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities.
- Identify the ways that environmental damage can be avoided or significantly reduced.
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.
- 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.

Consistent with California Environmental Quality Act (CEQA) and CEQA Guidelines requirements, the San Joaquin Valley Air Pollution Control District (District) has adopted procedures and guidelines for implementing CEQA. The District's Environmental Review Guidelines (ERG) establishes procedures for avoiding unnecessary delay during the District's permitting process while ensuring that significant environmental impacts are thoroughly and consistently addressed. The ERG includes policies and procedures to be followed when processing permits for projects that are exempt under CEQA. The State Legislature granted a number of exemptions from CEQA, including projects that require only ministerial approval. Based upon analysis of its own laws and consideration of CEQA provisions, the District has identified a limited number of District

permitting activities considered to be ministerial approvals. As set forth in §4.2.1 of the ERG, projects permitted consistent with the District's Guidelines for Expedited Application Review (GEAR) are standard application reviews in which little or no discretion is used in issuing Authority to Construct (ATC) documents.

For the proposed project, the District performed an Engineering Evaluation (this document) and determined that the project will occur at an existing facility; involves negligible expansion of the existing use; and would not have a significant effect on the environment. The District further determined that the project qualifies for processing under the procedures set forth in the District's Permit Services Procedures Manual in the Guidelines for Expedited Application Review (GEAR). Thus, as discussed above, issuance of such ATC(s) is ministerial approval for the District and is not subject to CEQA provisions.

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. Recommendations:

Compliance with all applicable rules and regulations is expected. Issue Authority to Construct N-2232-18-0 subject to the permit conditions on the attached Authority to Construct in Appendix A.

X. Billing Information:

Billing Schedule			
Permit Number	Fee Schedule	Fee Description	Fee Amount
N-2232-18-0	3020-10-B	351 bhp IC engine	\$277

Appendices:

- A. Authority to Construct permit N-2232-18-0-
- B. QNEC Calculations
- C. BACT Guideline and Top-Down Analysis
- D. RMR Summary
- E. Compliance Certification

Appendix A

Authority to Construct permit
N-2232-18-0

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: N-2232-18-0

LEGAL OWNER OR OPERATOR: E & J GALLO WINERY
MAILING ADDRESS: 3093 FINCH RD
MODESTO, CA 95354-3624

LOCATION: 2801 FINCH RD
MODESTO, CA 95354-3624

EQUIPMENT DESCRIPTION:
351 BHP CLARKE MODEL JW6H-UFADD0 DIESEL-FIRED EMERGENCY ENGINE (TIER 3 CERTIFIED) POWERING A FIRE PUMP

CONDITIONS

1. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
3. {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]
4. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
5. {3395} Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801 and 17 CCR 93115]
6. {3403} This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702 and 17 CCR 93115]
7. Emissions from this IC engine shall not exceed any of the following limits: 2.71 g-NOx/bhp-hr, 0.40 g-CO/bhp-hr, or 0.07 g-VOC/bhp-hr. [District Rule 2201 and 13 CCR 2423 and 17 CCR 93115]
8. Emissions from this IC engine shall not exceed 0.07 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 13 CCR 2423 and 17 CCR 93115]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 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

Arnaud Marjolle, Director of Permit Services

N-2232-18-0 - Jun 4 2019 9:43AM -- CRUZP -- Joint Inspection NOT Required

9. {3816} This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. For testing purposes, the engine shall only be operated the number of hours necessary to comply with the testing requirements of the National Fire Protection Association (NFPA) 25 - "Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems". Total hours of operation for all maintenance, testing, and required regulatory purposes shall not exceed 100 hours per calendar year. [District Rule 4702 and 17 CCR 93115]
10. {3807} An emergency situation is an unscheduled electrical power outage caused by sudden and reasonably unforeseen natural disasters or sudden and reasonably unforeseen events beyond the control of the permittee. [District Rule 4702 and 17 CCR 93115]
11. {3489} The permittee shall maintain monthly records of emergency and non-emergency operation. Records shall include the number of hours of emergency operation, the date and number of hours of all testing and maintenance operations, and the purpose of the operation (for example: load testing, weekly testing, rolling blackout, general area power outage, etc.). For units with automated testing systems, the operator may, as an alternative to keeping records of actual operation for testing purposes, maintain a readily accessible written record of the automated testing schedule. [District Rule 4702 and 17 CCR 93115]
12. {3475} 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 Rule 4702 and 17 CCR 93115]

DRAFT

Appendix B

QNEC Calculations

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 emission calculations in this evaluation, PE2_{quarterly} and BE_{quarterly} can be calculated as follows:

This calculation is required for application emission profile purposes. It is assumed that each unit's annual emissions are evenly distributed throughout the year as follows:

$$\Delta PE \text{ (lb/qtr)} = PE \text{ (lb/yr)} \div 4 \text{ qtr/yr}$$

N-2232-18-0

- $\Delta PE_{NOx} = 210 \text{ lb-NOx/year} - 0 \text{ lb-NOx/year} = 210 \text{ lb/year}$
- $\Delta PE_{CO} = 31 \text{ lb-CO/year} - 0 \text{ lb-CO/year} = 31 \text{ lb/year}$
- $\Delta PE_{VOC} = 5 \text{ lb-VOC/year} - 0 \text{ lb-VOC/year} = 3 \text{ lb/year}$
- $\Delta PE_{PM10} = 5 \text{ lb-PM10/year} - 0 \text{ lb-PM10/year} = 55 \text{ lb/year}$
- $\Delta PE_{SOx} = 0 \text{ lb-SOx/year} - 0 \text{ lb-SOx/year} = 0 \text{ lb/year}$

	Quarter 1	Quarter 2	Quarter 3	Quarter 4
NOx	52	52	53	53
CO	7	8	8	8
VOC	1	1	1	2
PM₁₀	1	1	1	2
SOx	0	0	0	0

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 3.1.4*

Last Update: 06/30/2001

Emergency Diesel I.C. Engine Driving a Fire Pump

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
VOC	Positive crankcase ventilation [unless it voids the Underwriters Laboratories (UL) certification]	Catalytic Oxidation	
SOx	Low-sulfur diesel fuel (500 ppmw sulfur or less) or Very Low-sulfur diesel fuel (15 ppmw sulfur or less), where available.		
PM10	0.1 grams/bhp-hr (if TBACT is triggered) (corrected 7/16/01) 0.4 grams/bhp-hr (if TBACT is not triggered)		
NOx	Certified NOx emissions of 6.9 g/bhp-hr or less		
CO		Oxidation Catalyst	

1. Any engine model included in the ARB or EPA diesel engine certification lists and identified as having a PM10 emission rate of 0.149 grams/bhp-hr or less, based on ISO 8178 test procedure, shall be deemed to meet the 0.1 grams/bhp-hr requirement.

2. A site-specific Health Risk Analysis is used to determine if TBACT is triggered. (Clarification added 05/07/01)

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 a State Implementation Plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is required 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**

Appendix C

BACT Guideline and BACT Analysis

Top Down BACT Analysis for the Emergency IC Engine

Oxides of nitrogen (NO_x) are generated from the high temperature combustion of the diesel fuel. A majority of the NO_x emissions are formed from the high temperature reaction of nitrogen and oxygen in the inlet air. The rest of the NO_x emissions are formed from the reaction of fuel-bound nitrogen with oxygen in the inlet air.

1. BACT Analysis for NO_x Emissions:

a. Step 1 - Identify all control technologies

The SJVAPCD BACT Clearinghouse guideline 3.1.4, 2nd quarter 2001, identifies achieved in practice BACT for NO_x emissions from emergency diesel IC engines powering a firewater pump as follows:

- 1) Certified emissions of 6.9 g-NO_x/bhp-hr, or less

There are no technologically feasible alternatives or control alternatives identified as alternate basic equipment for this class and category of source

b. Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options to eliminate from step 1.

c. Step 3 - Rank remaining options by control effectiveness

Ranking is not necessary since the applicant has proposed the achieved in practice option.

d. Step 4 - Cost Effectiveness Analysis

The applicant has proposed the only control achieved in practice in the ranking list from Step 3. Therefore, per SJVAPCD BACT policy, the cost effectiveness analysis is not required.

e. Step 5 - Select BACT

BACT for NO_x emissions from these emergency diesel IC engines each powering a firewater pump is the use of an engine with certified emissions of 6.9 g-NO_x/bhp-hr, or less. The applicant has proposed to install a 351 bhp emergency diesel engine powering a firewater pump certified emissions of 6.9 g-NO_x/bhp-hr, or less. Therefore, BACT for NO_x emissions is satisfied for each engine.

BACT Analysis for CO Emissions:

2. BACT Analysis for CO Emissions:

Carbon monoxide (CO) emissions are generated from the incomplete oxidation of carbon.

a. Step 1 - Identify all control technologies

The SJVAPCD BACT Clearinghouse guideline 3.1.4, 2nd quarter 2001, identifies no control technology as achieved in practice BACT for CO emissions from emergency diesel IC engines powering a firewater pump.

The SJVAPCD BACT Clearinghouse guideline 3.1.4, 2nd quarter 2001, identifies the technologically feasible BACT option for CO emissions from emergency diesel IC engines powering a firewater pump as follows:

- 1) An oxidation catalyst

There are no control alternatives identified as alternate basic equipment for this class and category of source.

b. Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options to eliminate from step 1.

c. Step 3 - Rank remaining options by control effectiveness

- 1) An oxidation catalyst

d. Step 4 - Cost Effectiveness Analysis

A cost effective analysis must be performed for all control options in the list from Step 3 in the order of their ranking to determine the cost effective option with the lowest emissions. Based on information provided by the engine manufacturer, Clarke, the installation of an added-on oxidation catalyst would void the emergency engine's UL certification. Therefore, a cost effectiveness analysis is not required.

e. Step 5 - Select BACT

There is no control technology that is cost effective for BACT for the control of CO emissions from this emergency diesel IC engine powering a firewater pump. The applicant has proposed to install a 351 bhp emergency diesel IC engine powering a firewater pump with no control technology for CO emissions. Therefore, BACT for CO emissions is satisfied.

Appendix D

RMR Summary

San Joaquin Valley Air Pollution Control District

Revised Risk Management Review and Ambient Air Quality Analysis

To: Fred Cruz – Permit Services
 From: Will Worthley – Technical Services
 Date: June 18, 2019
 Facility Name: E & J Gallo Winery
 Location: 2801 Finch Road, Modesto
 Application No: N-2232-18-0
 Project No: N-1192067

1. Summary

1.1 RMR

Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required	Special Permit Requirements
18-0	NA ¹	NA ²	0.00	1.01E-07	No	Yes
Project Totals	NA ¹	NA ²	0.00	1.01E-07		
Facility Totals	>1	0.00	0.00	1.07E-07		

Notes:

1. Prioritization for this unit was not conducted since it has been determined that all diesel-fired IC engines will result in a prioritization score greater than 1.0.
2. Acute Hazard Index was not calculated for Unit 18 since there is no risk factor or the risk factor is so low that it has been determined to be insignificant for this type of unit.

1.2 AAQA

Pollutant	Air Quality Standard (State/Federal)				
	1 Hour	3 Hours	8 Hours	24 Hours	Annual
PM₁₀				NA ²	Pass ³
PM_{2.5}				NA ²	Pass ⁴

Notes:

1. Results were taken from the attached AAQA Report.
2. The project is an intermittent source as defined in APR-1920. In accordance with APR-1920, compliance with short-term (i.e., 1-hour, 3-hour, 8-hour and 24-hour) standards is not required.
3. Modeled PM₁₀ concentrations were below the District SIL for non-fugitive sources of 1 µg/m³ for the annual concentration.
4. Modeled PM_{2.5} concentrations were below the District SIL for non-fugitive sources of 0.2 µg/m³ for the annual concentration.

1.3 Proposed Permit Requirements

To ensure that human health risks will not exceed District allowable levels; the following shall be included as requirements for:

Unit # 18-0

1. The PM₁₀ emissions rate shall not exceed 0.07 g/bhp-hr based on US EPA certification using ISO 8178 test procedure.
2. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction.
3. This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 100 hours per calendar year.

2. Project Description

Technical Services received a request on June 14, 2019 to perform a Risk Management Review (RMR) and Ambient Air Quality Analysis (AAQA) for the following:

- Unit -18-0: 351 BHP CLARKE MODEL JW6H-UFADD0 DIESEL-FIRED EMERGENCY ENGINE (TIER 3 CERTIFIED) POWERING A FIRE PUMP

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 unit(s) or 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 one 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 unit's that exceed a cancer risk of 1 in one million, Toxic Best Available Control Technology (TBACT) must be implemented.

Toxic emissions for this project were calculated using the following methods:

- Toxic emissions for the proposed unit were calculated and provided by the processing engineer.

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 facility was greater than 1.0 (see RMR Summary Table). Therefore, a refined health risk assessment was required.

The AERMOD model was used, with the parameters outlined below and meteorological data for 2013-2017 from Modesto (rural dispersion coefficient selected) to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a receptor grid. These dispersion factors were input into the SHARP Program, which then used the Air Dispersion Modeling and Risk Tool (ADMRT) of the Hot Spots Analysis and Reporting Program Version 2 (HARP 2) to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

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
18	1	PM ₁₀	lb	0.05	5

Point Source Parameters						
Unit ID	Unit Description	Release Height (m)	Temp. (°K)	Exit Velocity (m/sec)	Stack Diameter (m)	Vertical/Horizontal/Capped
18	351 BHP DICE	4.27	709	48.59	0.15	Vertical

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 NO₂ 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.

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

Emission Rates (lbs/hour)						
Unit ID	Process	NOx	SOx	CO	PM ₁₀	PM _{2.5}
18	1	NA	NA	NA	0.05	0.05

Emission Rates (lbs/year)						
Unit Id	Process	NOx	SOx	CO	PM ₁₀	PM _{2.5}
18	1	NA	NA	NA	5	5

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 Modesto (rural dispersion coefficient selected) were used for the analysis:

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
18	1	PM ₁₀	lb	0.05	5

Point Source Parameters						
Unit Id	Unit Description	Release Height (m)	Temp. (°K)	Exit Velocity (m/sec)	Stack Diameter (m)	Vertical/Horizontal/Capped
18	351 BHP DICE	4.27	709	48.59	0.15	Vertical

5. Conclusion

5.1 RMR

The cumulative acute and chronic indices for this facility, including this project, are below 1.0; and the cumulative cancer risk for this facility, including this project, is less than 20 in a million. In addition, the cancer risk for each unit in this project is less than 1.0 in a million. **In accordance with the District's Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).**

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

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.

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 E

Compliance Certification



E&J Gallo Winery

1 November 2018

Via Email

Nick Peirce
San Joaquin Valley Air Pollution Control District
4800 Enterprise Way
Modesto California 95356-8718
Nick.Peirce@valleyair.org

Re: Compliance Statement for E&J Gallo Winery Project N-1183449

Dear Nick and District permitting staff,

In accordance with *District Rule 2201, Section 4.15, 'Additional Requirements for New Major Sources and Federal Major Modifications,'* E&J Gallo Winery is providing this compliance statement regarding its proposed project identified as N-1183449, for the addition of one (1) 20,500-gallon wine storage tank.

All major sources in California owned or operated by E&J Gallo Winery or by any entity controlled by, or under common control with E&J Gallo Winery, and which are subject to emission limitations, are in compliance or on a schedule for compliance with all applicable limitations and standards. These sources include the following facility:

E&J Gallo Winery, 600 Yosemite Boulevard, PO Box 1130, Modesto California 95353

Based on information and belief formed after reasonable inquiry, the statements and information in the project application are true, accurate, and complete.

Regards,

William Stewart
Vice President – Modesto Operations
E&J Gallo Winery