

NOTICE PRELIMINARY DECISION OF PART 4, & PART 5, *OFFSETS*, OF DISTRICT RULE 207,  
*REVIEW OF NEW OR MODIFIED SOURCES (NSR)*

Pursuant to District Rule 207, Section 6.9, the Monterey Bay Air Resources District (MBARD) solicits written comments to the preliminary decision to approve the issuance of Authority to Construct (ATC) MOD-24-00061 to Constellation Brands U.S. Operations, Inc. dba Gonzales Winery (Gonzales Winery) for the replacement of the existing natural gas boiler #3 rated at 12.554 million British thermal units per hour (MMBtu/hr) under Permit to Operate (PTO) 15668. The facility will install a two-stage new natural gas boiler, with a combined rating of 3.999998 MMBtu/hr. The equipment is located at the Gonzales Winery at 800 South Alta Street in Gonzales.

MBARD Rule 207, *Review or New of Modified Sources (NSR)* shall apply to all new stationary sources and all modifications to existing stationary sources which, after construction or modification, emit or have the potential to emit any affected pollutants. Section 2.33.1 defines a modification to be any physical change, change in method of operation of or addition to any existing stationary source that would result in an actual or potential increase from any permit unit or sum of permit units under consideration as a result of the proposed modification. The emission increase analysis as demonstrated in MBARD's Evaluation Report demonstrates that the proposed modification is subject to NSR.

The facility-wide volatile organic compound (VOC) emissions are greater than or equal to the Offset threshold limits listed for Sections 4.2 and 5.3. As demonstrated in the District's Evaluation Report, the hot water boiler installation projects meet the requirements of Part 4 and Part 5 of Rule 207. Hence, MBARD's preliminary decision to approve the projects is being proposed because the facility has the capability of complying with all applicable MBARD rules and regulations.

The Gonzales Winery's application and MBARD's Evaluation Report are available for public inspection at MBARD's office at 24580 Silver Cloud Court, Monterey, CA. A copy of the evaluation report can be found on MBARD's website at [www.mbard.org](http://www.mbard.org).

The public has an opportunity to review and comment on the proposed project. Under special circumstances, MBARD may hold a public hearing. Written comments must be submitted to the address below and be postmarked by Monday, March 10, 2025.

Monterey Bay  
Air Resources District  
24580 Silver Cloud Court  
Monterey, CA 93940  
(831) 647-9411  
[ajimenez@mbard.org](mailto:ajimenez@mbard.org)  
Attention: Armando Jimenez

**MONTEREY BAY AIR RESOURCES DISTRICT  
EVALUATION REPORT APPLICATION MOD-23-00104**

24580 Silver Cloud Court  
Monterey, CA 93940  
Telephone: (831) 647-9411

Date: February 2025

**APPLICATION RECEIVED FROM:**

Constellation Brands U.S. Operations, Inc.  
dba Gonzales Winery  
P.O. Box 789  
Gonzales, CA 93960

**PLANT SITE LOCATION:**

Address:  
800 South Alta Street  
Gonzales, CA

UTM Coordinates:  
640158.36 m E  
4040764.99 m N

Latitude °N: 36.501966°  
Longitude °E: -121.434969°

SIC No: 2084 (Wines, Brandy, and Brandy Spirits)  
NAISC: 312130 (Wineries)  
SCC No.: 10200603 (External Combustion Boilers, Industrial, Natural Gas, <10 MMBtu/hr)

**FACILITY CONTACT:**

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**APPLICATION PROCESSED BY:**

Armando Jimenez, Air Quality Engineer

AUTHORIZED FOR RELEASE ON:

2/6/2025

COMMENTS MUST BE POSTMARKED BY:

3/10/2025

APPROVED FOR RELEASE BY:



Mary Giraudo  
Supervising Air Quality Engineer

2/6/2025  
Date

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**PROPOSAL:**

Constellation Brands U.S. Operations, Inc. dba Gonzales Winery (applicant or facility) has submitted a permit application for the replacement of the existing natural gas boiler, Boiler #3, under Permit to Operate 15668.

The existing natural gas-fired Kewanee boiler with a maximum heat input capacity of 12.554 million British thermal units per hour (MMBtu/hr) has been replaced with a two-staged natural gas boiler consisting of two RBI Futural MW2000 boilers each rated at 1.999999 MMBtu/hr.

The facility received Notice to Comply (NTC) NTC-24-142 for the replacement of the boiler without obtaining an Authority to Construct (ATC).

**APPLICABLE RULES:**

- Rule 200: Permits Required
- Rule 201: Sources Not Requiring Permits
- Rule 207: Review of New and Modified Stationary Sources
- Rule 218: Title V Operating Permits
- Rule 221: Federal Prevention of Significant Deterioration
- Rule 222: Federal Minor New Source Review
- Rule 300: District Fees
- Rule 400: Visible Emissions
- Rule 402: Nuisance
- Rule 403: Particulate Matter
- Rule 404: Sulfur Compounds & Nitrogen Oxides
- Rule 412: Sulfur Content of Fuels
- Rule 413: Removal of Sulfur Compounds
- Rule 436: Title V: General Prohibitory Rule
- Rule 440: Mineral Processing Facilities
- Rule 1000: Toxic Air Contaminants
- CA Health & Safety Code, Section 42301.6 – Public Notice
- 40 CFR Part 60, Subpart Dc, Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units
- 40 CFR Part 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

**EQUIPMENT DESCRIPTION:**

The equipment description of the new unit is as follows:

**MODIFICATION OF NATURAL GAS BOILER #3:**

Removal Of Existing Kewanee Natural Gas Boiler, Model L3S300-G, Serial #R8628, With Kewanee Gas Burner, Model KF10-1562-G, With Maximum Capacity Of 12.554 MMBtu/Hr.

Installation Of Two-Stage Natural Gas Fired Boiler With A Total Of Two Modules Operated In Stages As Follows:

Module #1:

RBI Futera III Natural Gas Boiler, Model MW2000, Serial Number 122395758, With One Burner With A Heat Input Rating Of 1.999999 MMBtu/Hr.

Module #2:

RBI Futera III Natural Gas Boiler, Model MW2000, Serial Number 112395432, With One Burner With A Heat Input Rating Of 1.999999 MMBtu/Hr.

**EMISSIONS CALCULATIONS:**

The boiler supplemental information for the two RBI Futera MW2000 boilers is listed in Table 1. The application has proposed an operating schedule of 16 hours per day (hr/day), 5 days per week (day/week), and 49 weeks per year (week/yr).

Table 1. RBI Futera III MW2000 supplemental information.

Individual burner capacity (MMBtu/hr)	1.999999
Total number of burners	2
Total burner capacity (MMBtu/hr)	3.999998
Daily heat input capacity (MMBtu/day)	63.999968
Daily heat input capacity (therm/day)	639.99968
Annual heat input capacity (therm/yr)	156,800
Natural gas heating value <sup>1</sup> (Btu/ft <sup>3</sup> )	1,020
Hourly natural gas fuel usage <sup>2</sup> (ft <sup>3</sup> /hr)	3,922
Daily natural gas fuel usage <sup>2</sup> (ft <sup>3</sup> /day)	62,752
Total volumetric flow rate <sup>3</sup> (cfm)	798 CFM @ 370°F (per burner)
Exhaust stack height above ground (feet)	19
Exhaust stack inner diameter (inches)	12

<sup>1</sup> Per EPA AP-42, Chapter 1.4, Natural Gas Combustion, the average gross heating value is approximately 1,020 MMBtu/MMft<sup>3</sup>.

<sup>2</sup> Per permit application. Proposed schedule of 16 hours per day (hr/day), 5 days per week (day/week), and 49 weeks per year (week/yr). Hourly fuel use: (3.999998 MMBtu/hr) (MMft<sup>3</sup>/1,020 MMBtu) = 3,922 ft<sup>3</sup>/day. Daily fuel use: (3,922 ft<sup>3</sup>/hr) (16 hr/day) = 62,752 ft<sup>3</sup>/day.

<sup>3</sup> Per manufacturer specifications.

***New Proposed (Post-Project) Potential to Emit (PTE) Emissions***

The boiler manufacturer submitted test data conducted for the RBI Futera III MW2000 boiler with the NO<sub>x</sub> and CO emissions data. The emissions data shows that the NO<sub>x</sub> emissions can meet the Best Available Control Technology (BACT) limits for NO<sub>x</sub> and CO. The VOC, PM, SO<sub>x</sub>, and TOC emission factors are referenced from EPA AP-42 Table 1.4-1 & 1.4-2. Values in lb/MMft<sup>3</sup>. Table 2 shows the emission factors for the proposed two-staged boiler.

Table 2. RBI Futera III MW2000 boiler emission factors.

Pollutant	Emission Factor (lb/MMSCF)	Emission Factor (lb/MMBTU)
NO <sub>x</sub> <sup>1</sup>	24.786	0.0243
VOC <sup>2</sup>	5.5	-

Pollutant	Emission Factor (lb/MMSCF)	Emission Factor (lb/MMBTU)
CO <sup>1</sup>	75.48	0.0740
SO <sub>x</sub> <sup>2</sup>	0.6	-
PM=PM <sub>10</sub> =PM <sub>2.5</sub> <sup>2,3</sup>	7.6	-
TOC <sup>2</sup>	11	-

<sup>1</sup> The NO<sub>x</sub> emissions based on the best available control technology (BACT) emissions limit of 20 ppm corrected to 3% O<sub>2</sub> for NO<sub>x</sub>. For CO, emissions based on 100 ppm corrected to 3% O<sub>2</sub>. Emission factor estimated as follows:

$$\frac{lb}{MMBtu} = \frac{ppm}{10^6} \times \frac{lbmole}{Molar\ volume, ft^3} \times \frac{Molecular\ weight, lb}{lbmole} \times \frac{Fuel\ factor\ F_d, ft^3}{MMBtu} \times \frac{20.9}{(20.9 - O_2\%)}$$

Where:

$$molar\ volume = \frac{385\ ft^3}{lbmole};\ at\ 1\ atm\ and\ 68^\circ F$$

$$Molecular\ weight = \frac{46.01\ lb}{lbmole}\ for\ NO_x\ and\ \frac{28.01\ lb}{lbmole}\ for\ CO$$

$$Fuel\ factor\ F_d = \frac{8,710\ ft^3}{MMBtu}\ for\ natural\ gas$$

O<sub>2</sub> concentration = 3%; emission factors corrected to 3% O<sub>2</sub>

$$\frac{lb\ NO_x}{MMBtu} = \frac{20}{10^6} \times \frac{lbmole}{385\ ft^3} \times \frac{46.01\ lb}{lbmole} \times \frac{8,710\ ft^3}{MMBtu} \times \frac{20.9}{(20.9 - 3)} = \frac{0.0243\ lb}{MMBtu}$$

$$\frac{lb\ CO}{MMBtu} = \frac{100}{10^6} \times \frac{lbmole}{385\ ft^3} \times \frac{28\ lb}{lbmole} \times \frac{8,710\ ft^3}{MMBtu} \times \frac{20.9}{(20.9 - 3)} = \frac{0.0740\ lb}{MMBtu}$$

<sup>2</sup> The VOC, PM, SO<sub>x</sub>, and TOC emission factors are referenced from EPA AP-42 Table 1.4-1 & 1.4-2. Values in lb/MMft<sup>3</sup>.

<sup>3</sup> Per CARB's CEIDARS particulate matter size profile database (6/2022), for external combustion boilers, PM = PM<sub>10</sub> = PM<sub>2.5</sub>.

The potential emissions from the new two-stage boiler are shown in Table 3.

Table 3. New RBI Futera III MW2000 potential to emit emissions.

Pollutant:	Daily use (hrs)	Boiler heat input rate (MMft <sup>3</sup> /Hr)	Emission factor (lb/MM ft <sup>3</sup> )	Daily emissions (lb/day)	Annual emissions <sup>1</sup> (ton/yr)
NO <sub>x</sub>	16	0.003922	24.786	1.56	0.19
VOC	16	0.003922	5.5	0.35	0.04
CO	16	0.003922	75.48	4.74	0.58
SO <sub>x</sub>	16	0.003922	0.6	0.04	0.00
PM	16	0.003922	7.6	0.48	0.06
TOC	16	0.003922	11	0.69	0.08

<sup>1</sup> Annual emissions based upon proposed operating schedule of 16 hr/day, 5 day/week and 49 week/yr.

Table 4 shows the new post-project potential emissions broken down by quarter in pounds per quarter (lbs/qtr). The emissions are based on the boiler operating every day in each quarter, which is assessed to be 90 days for quarter 1, 91 days for quarter 2, 92 days for quarter 3, and 92 days for quarter 4.



Table 4. Post-project RBI two-stage PTE emissions in lbs/qtr.

Pollutant	Quarter 1 (lbs/qtr)	Quarter 2 (lbs/qtr)	Quarter 3 (lbs/qtr)	Quarter 4 (lbs/qtr)
NO <sub>x</sub>	140.40	141.96	143.52	143.52
VOC	31.50	31.85	32.20	32.20
CO	426.60	431.34	436.08	436.08
SO <sub>x</sub>	3.60	3.64	3.68	3.68
PM	43.20	43.68	44.16	44.16

Example: Quarter 1 NO<sub>x</sub> = (1.56 lb/day) (90 day/Q1) = 140.40 lb/day.

**Existing (pre-project) potential to emit (PTE) emissions**

The existing Kewanee natural gas boiler, model L3S300-G, was installed in June 1985. The emissions are estimated using the emission factors from AP42, Chapter 1.4, Tables 1.4-1, and 1.4-2 (7/98). Since the permit does not have any operating limits, emissions are based on 24 hours per day and 365 days per year.

Table 5 shows the existing potential to emit (PTE) emissions for the existing Kewanee natural gas boiler, model L3S300-G, rated at 12.554 MMBtu/hr. The boiler natural gas usage is 0.295388 MMft<sup>3</sup>/day [(12.554 MMBtu/hr) (MMft<sup>3</sup>/1,020 MMBtu) (24 hr/day) = 0.295388 MMft<sup>3</sup>/day] and 107.816706 MMft<sup>3</sup>/yr [(12.554 MMBtu/hr) (MMft<sup>3</sup>/1,020 MMBtu) (24 hr/day) (365 day/yr) = 107.816706 MMft<sup>3</sup>/yr].

Table 5. Existing Kewanee natural gas boiler potential to emit emissions.

Pollutant:	Boiler heat input rate (MMft <sup>3</sup> /day)	Boiler heat input rate (MMft <sup>3</sup> /yr)	Emission factor (lb/ MMft <sup>3</sup> )	Daily emissions (lb/day)	Annual emissions (ton/yr) <sup>1</sup>
NO <sub>x</sub>	0.295388	107.816706	100	29.54	5.39
VOC	0.295388	107.816706	5.5	1.62	0.3
CO	0.295388	107.816706	84	24.81	4.53
SO <sub>x</sub>	0.295388	107.816706	0.6	0.18	0.03
PM	0.295388	107.816706	7.6	2.24	0.41
TOC	0.295388	107.816706	11	3.25	0.59

<sup>1</sup> Annual emissions based upon proposed operating schedule of 24 hr/day and 365 days of operation.

Table 6 shows the existing pre-project potential emissions broken down by quarter. The emissions are based on the boiler operating every day in each quarter, which is assessed to be 90 days for quarter 1, 91 days for quarter 2, 92 days for quarter 3, and 92 days for quarter 4.

Table 6. Pre-project Kewanee natural gas boiler PTE emissions in lbs/qtr.

Pollutant	Quarter 1 (lbs/qtr)	Quarter 2 (lbs/qtr)	Quarter 3 (lbs/qtr)	Quarter 4 (lbs/qtr)
NO <sub>x</sub>	2,658.60	2,688.14	2,717.68	2,717.68
VOC	145.80	147.42	149.04	149.04
CO	2,232.90	2,257.71	2,282.52	2,282.52
SO <sub>x</sub>	16.20	16.38	16.56	16.56
PM	201.60	203.84	206.08	206.08

**Actual Historic Emissions**

Table 7 shows the historical natural gas usage broken down by quarter submitted by the facility for the past three years for the existing Kewanee natural gas boiler, model L3S300-G.

Table 7. Historical fuel usage broken by quarter for the existing Kewanee natural gas boiler.

Year	Quarter 1 (MMft <sup>3</sup> )	Quarter 2 (MMft <sup>3</sup> )	Quarter 3 (MMft <sup>3</sup> )	Quarter 4 (MMft <sup>3</sup> )
2023	1.55	1.38	1.45	2.86
2022	1.87	1.41	1.44	2.41
2021	1.94	1.98	1.55	1.99
Average	1.787	1.590	1.480	2.420

Table 8 shows the actual historic emissions (AHE) on a quarterly basis based on the average historic natural gas usage in pounds per quarter.

Table 8. Actual historical emissions on quarterly basis for the Kewanee natural gas boiler.

Pollutant	Quarter 1 (lbs/qtr)	Quarter 2 (lbs/qtr)	Quarter 3 (lbs/qtr)	Quarter 4 (lbs/qtr)
NO <sub>x</sub>	178.70	159.00	148.00	242.00
VOC	9.83	8.75	8.14	13.31
CO	150.11	133.56	124.32	203.28
SO <sub>x</sub>	1.07	0.95	0.89	1.45
PM	13.58	12.08	11.25	18.39

Sample calculation for NO<sub>x</sub> in Quarter 1:

$$NO_x \left( \frac{lb}{qtr} \right) = \frac{1.787 \text{ MMft}^3}{qtr} \times \frac{100 \text{ lbNO}_x}{\text{MMft}^3} = \frac{178.70 \text{ lbNO}_x}{qtr}$$

**Actual Historic Emissions vs New Post-Project Potential Emissions**

Table 9 shows the difference between the post project PTE emissions, as shown in Table 4, compared to the actual emissions, as shown in Table 8. The table shows that the post project PTE emissions represent an increase in emissions compared to the actual emissions for VOC, CO, SO<sub>x</sub> and PM. For NO<sub>x</sub>, the proposed project results in emission reductions.

Table 9. Post-project potential to emit emissions - actual historic emissions in lbs/qtr.

Pollutant	Quarter 1 (lbs/qtr)	Quarter 2 (lbs/qtr)	Quarter 3 (lbs/qtr)	Quarter 4 (lbs/qtr)
NO <sub>x</sub>	-38.30	-17.04	-4.48	-98.48
VOC	21.67	23.10	24.06	18.89
CO	276.49	297.78	311.76	232.80
SO <sub>x</sub>	2.53	2.69	2.79	2.23
PM	29.62	31.60	32.91	25.77

Table 10 shows the post project PTE emissions compared to the actual emissions in tons per quarter basis (ton/qtr).

Table 10. Post-project potential to emit emissions - actual historic emissions in tons/qtr.

Pollutant	Quarter 1 (tons/qtr)	Quarter 2 (tons/qtr)	Quarter 3 (tons/qtr)	Quarter 4 (tons/qtr)
NO <sub>x</sub>	-0.02	-0.01	0.00	-0.05
VOC	0.01	0.01	0.01	0.01
CO	0.14	0.15	0.16	0.12
SO <sub>x</sub>	0.00	0.00	0.00	0.00
PM	0.01	0.02	0.02	0.01

**New (post-project) PTE emissions vs existing (pre-project) PTE emissions**

Table 11 shows the new post-project potential emissions, as shown in Table 4, minus the pre-project

potential emissions, as shown in Table 6, in lbs/qtr. The table shows that there is a decrease in potential emissions for all pollutants.

Table 11. Post-project – Pre-project potential to emit emissions in lbs/qtr.

Pollutant	Quarter 1 (lbs/qtr)	Quarter 2 (lbs/qtr)	Quarter 3 (lbs/qtr)	Quarter 4 (lbs/qtr)
NO <sub>x</sub>	-2,518.20	-2,546.18	-2,574.16	-2,574.16
VOC	-114.30	-115.57	-116.84	-116.84
CO	-1,806.30	-1,826.37	-1,846.44	-1,846.44
SO <sub>x</sub>	-12.60	-12.74	-12.88	-12.88
PM	-158.40	-160.16	-161.92	-161.92

Table 12 shows the new post-project potential emissions minus the pre-project potential emissions in tons/qtr.

Table 12. Post-project – Pre-project potential to emit emissions in tons/qtr.

Pollutant	Quarter 1 (tons/qtr)	Quarter 2 (tons/qtr)	Quarter 3 (tons/qtr)	Quarter 4 (tons/qtr)
NO <sub>x</sub>	-1.26	-1.27	-1.29	-1.29
VOC	-0.06	-0.06	-0.06	-0.06
CO	-0.9	-0.91	-0.92	-0.92
SO <sub>x</sub>	-0.01	-0.01	-0.01	-0.01
PM	-0.08	-0.08	-0.08	-0.08

**RULE COMPLIANCE:**

The following Monterey Bay Air Resources District (MBARD) rules apply to the operation as specified:

**Rule 200 – Permits Required**

The purpose of this Rule is to identify when MBARD permits are issued. The provisions of this Rule shall apply to any person who builds, erects, alters, or replaces any article, machine, equipment or other contrivance which may cause the issuance of air contaminants or the use of which may eliminate or reduce or control the issuance of air contaminants.

Pursuant to Section 3.1, person shall build, erect, alter, or replace any article, machine, equipment or other contrivance which may cause the issuance of air contaminants or the use of which may eliminate or reduce or control the issuance of air contaminants unless the facility owner or operator has obtained a separate written Authority to Construct for each permit unit from the Air Pollution Control Officer. An Authority to Construct shall remain in effect until the Permit to Operate the equipment for which the application was filed is granted or denied or the application is cancelled. Exceptions to MBARD Rule 200 are identified in MBARD Rule 201.

**Rule 201 – Sources Not Requiring Permits**

The purpose of this Rule is to provide a list of source and equipment categories which are exempt from the requirements of Rule 200 *Permits Required* to obtain an ATC or Permit to Operate (PTO).

Pursuant to Section 4.8.1.1, any steam generator, steam superheater, water boiler, or closed heat transfer system at a stationary source that has an aggregated heat input rate less than 2 MMBtu/hr when fired with natural gas or liquified petroleum gas or any combination thereof is not subject to permitting. The proposed

two-staged natural gas boiler has a combined heat input rating of 3.999998 MMBtu/hr and is subject to permitting.

Rule 207 – Review of New or Modified Sources (as adopted on 4/20/11)

This Rule provides for the review of new and modified stationary air pollution sources to meet requirements for the review of new and modified stationary sources (NSR) and for the Prevention of Significant Deterioration (PSD), under the provisions of the federal Clean Air Act; and requirements for NSR under the provisions of the California Clean Air Act. The intent of this Rule is to ensure that the most stringent requirements of these programs shall be applied.

This Rule shall apply to all new stationary sources and all modifications to existing stationary sources which, after construction or modification, emit or have the potential to emit any affected pollutants. As noted in Table 9 and Table 10, the proposed project results in actual emission increase for VOC, CO, SO<sub>x</sub>, and PM, and the project is subject to the requirements of this Rule.

**Federal Best Available Control Technology (BACT) Analysis:**

Pursuant to Section 4.1.1, an applicant shall apply BACT to a new stationary source or modification of an existing source, which has the potential to emit greater than or equal to any one of the affected pollutant levels listed in Table 4.1.1 or a modification of an existing stationary source which has the potential to result in a new emissions increase, as defined in Section 2.37, occurring after October 20, 2010 for PM<sub>2.5</sub> or after August 19, 1983 for PM<sub>10</sub> or after July 15, 1976 for any other affected pollutant.

Table 13 shows the controlled emissions from the proposed project, the facility-wide new emissions and the Federal BACT thresholds of Table 4.1.1.

Table 13. New Emission Increases – Federal BACT Analysis

Application no./Equipment Description/Installation Date:	NO <sub>x</sub> (lb/day)	VOC (lb/day)	CO (lb/day)	SO <sub>x</sub> (lb/day)	PM <sup>1</sup> (lb/day)	PM <sub>10</sub> <sup>1</sup> (lb/day)	PM <sub>2.5</sub> <sup>1,2</sup> (lb/day)
APP-24-00059 Nat gas boiler – 4 MMBtu/hr (2024)	1.05	0.52	7.10	0.06	0.72	0.72	0.72
APP-24-00060 Nat gas boiler – 4 MMBtu/hr (2024)	1.05	0.52	7.10	0.06	0.72	0.72	0.72
PTO GNR-0018339A Distillation equipment with storage tanks (2023)		2.95					
15666 Boiler #1 – 6.277 MMBtu/hr (1981)	14.35	0.79	12.05	0.09	1.09	N/A	N/A
15667 Boiler #2 – 6.277 MMBtu/hr (1981)	14.35	0.79	12.05	0.09	1.09	N/A	N/A
MOD-24-00061/PTO 15668 Boiler #3 – 3.999998 MMBtu/hr (2024)	1.56	0.35	4.74	0.04	0.48	0.48	0.48
15669 Boiler #4 – 2.65 MMBtu/hr (1994)	6.06	0.33	5.09	0.04	0.46	0.46	N/A
15671B Lab equipment with ventilation system (2000)		0.38					

Application no./Equipment Description/Installation Date:	NO <sub>x</sub> (lb/day)	VOC (lb/day)	CO (lb/day)	SO <sub>x</sub> (lb/day)	PM <sup>1</sup> (lb/day)	PM <sub>10</sub> <sup>1</sup> (lb/day)	PM <sub>2.5</sub> <sup>1,2</sup> (lb/day)
15824 Emergency IC eng. fire pump – 196 hp (1975) <sup>3</sup>	N/A	N/A	N/A	N/A	N/A	N/A	N/A
15825 Emergency IC eng. fire pump – 134 hp (1975) <sup>3</sup>	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GNR-0017748 Fermentation & Storage (Initial Permit issued in 1996 with pre-1976 operations) <sup>4</sup>		176.00					
GNR-0017749 Barrel storage/aging (Initial permit 2016)		326.20					
GNR-0018338 Two-stage boiler – 3.3584 MMBtu/hr total (2009)	3.50	0.52	7.91	0.06	0.72	0.71	N/A
PTO-22-00043 Emergency engine-gen set – 103 HP (2022)	0.54	0.87	4.85	0.02	0.26	0.26	0.26
Total:	42.46	510.22	60.89	0.46	5.54	3.35	2.18
Table 4.1.1 Federal BACT Threshold:	150	150	550	150	150	82	54.79

<sup>1</sup> PM<sub>10</sub> and PM<sub>2.5</sub> fractions estimated using CARB’s CEIDARS particulate matter size profile database (updated 6/9/23). For IC engine-diesel (profile #116): PM<sub>10</sub> = 0.96 PM & PM<sub>2.5</sub> = 0.937 PM]. For IC engine-gas (profile #123): PM<sub>10</sub> = 0.994 PM & PM<sub>2.5</sub> = 0.992 PM. For gas-fired boilers (profile #1101): PM = PM<sub>10</sub> = PM<sub>2.5</sub>.

<sup>2</sup> Includes only PM<sub>2.5</sub> emission occurring after October 20, 2010, and PM<sub>10</sub> emissions occurring after August 19, 1983.

<sup>3</sup> Equipment predates the NSR applicability date of July 15, 1976.

<sup>4</sup> Fermentation operations have been conducted at this facility prior to July 15, 1976. Therefore, the emission increases in this table only reflect increases in fermentation operation after July 15, 1976. Documentation of these emission increases are reported in applications 12761, 14950, and 15509, and summarized in application GNR-017710. Application GNR-017710 was required to update the facility emissions using the more current CARB emission factors from the EPA AP-42 emission factors.

Table 13 shows that the new emissions, as defined in Section 2.37, exceed the BACT thresholds of Section 4.1.1 for VOCs. Per MBARD’s *Clarification of Permit Requirements for Gaseous Fired Boilers*, the BACT requirements for gaseous-fired boilers rated at <2.0 MMBtu/hr are shown in Table 14. The proposed RBI Futera III MW2000 boiler has been certified to meet the South Coast Air Quality Management District (SCAQMD) Rule 1146.2, which limits the NO<sub>x</sub> emissions to 20 ppm and CO to 400 ppm for units in the range of > 400,000 – 2,000,000 BTU/hr.

Table 14. Boiler BACT Requirements for units rated <2.0 MMBtu/hr.

Pollutant	BACT limit (ppm corrected to 3% O <sub>2</sub> )	RBI Futera III MW2000 Boiler emissions (ppm corrected to 3% O <sub>2</sub> )
NO <sub>x</sub>	≤20	≤20
CO	400	≤400

Note that the applicant has submitted exhaust emissions information for the boilers that show compliance with the BACT limits. Also, the CO emissions are well below the limit of 400 ppm at 3% O<sub>2</sub>. MBARD is basing the CO emissions on 100 ppm @ 3% O<sub>2</sub>.

**California BACT analysis**

Pursuant to Section 5.2, BACT shall be required for any new or modified permit unit with a potential to emit 25 pounds per day or more of VOCs or NO<sub>x</sub>. Table 15 shows that the proposed project’s uncontrolled

emissions do not trigger the CA BACT thresholds.

Table 15. California BACT determination.

Pollutant	BACT threshold (lb/day)	Project uncontrolled emissions (lb/day)	BACT triggered?
NO <sub>x</sub>	25	1.56	No
VOC <sup>1</sup>	25	0.35	No

<sup>1</sup> Project emissions from Table 3.

**Federal Offsets analysis**

Pursuant to Section 4.2, Offsets are required for any new or modified source, which has net emissions increases equal to exceeding thresholds specified in Rule 207, Table 4.2.2. The application for the boiler replacement was received in October 2022. Hence, as defined by Section 2.38, this operation is a new source from a federal standpoint, with commencement after July 15, 1976. Accordingly, the project emissions must be counted in the net and new emission increase calculation.

Table 16 shows the emissions from the new project, the net emissions increase for the facility and the Federal offset thresholds.

Table 16. Federal Net Emissions Increase (NEI) – Offset Determination.

Application no./Equipment Description/Installation Date:	NO <sub>x</sub> (lb/day)	VOC (lb/day)	CO (lb/day)	SO <sub>x</sub> (lb/day)	PM <sup>1</sup> (lb/day)	PM <sub>10</sub> <sup>1,2</sup> (lb/day)
APP-24-00059 Nat gas boiler – 4 MMBtu/hr (2024)	1.05	0.52	7.10	0.06	0.72	0.72
APP-24-00060 Nat gas boiler – 4 MMBtu/hr (2024)	1.05	0.52	7.10	0.06	0.72	0.72
MOD-23-00104/PTO GNR-0018339 Distillation equipment with storage tanks (2023)		2.95				
15666 Boiler #1 – 6.277 MMBtu/hr (1981)	14.35	0.79	12.05	0.09	1.09	N/A
15667 Boiler #2 – 6.277 MMBtu/hr (1981)	14.35	0.79	12.05	0.09	1.09	N/A
MOD-24-00061/PTO 15668 Boiler #3 – 3.999998 MMBtu/hr (2024)	1.56	0.35	4.74	0.04	0.48	0.48
15669 Boiler #4 – 2.65 MMBtu/hr (1994)	6.06	0.33	5.09	0.04	0.46	0.46
15671B Lab equipment with ventilation system (2000)		0.38				
15824 Emergency IC eng. fire pump – 196 hp (1975) <sup>3,5</sup>	N/A	N/A	N/A	N/A	N/A	N/A
15825 Emergency IC eng. fire pump – 134 hp (1975) <sup>3,5</sup>	N/A	N/A	N/A	N/A	N/A	N/A
GNR-0017748 Fermentation & Storage (Initial Permit issued in 1996 with pre-1976 operations) <sup>4</sup>		176.00				
GNR-0017749 Barrel storage/aging (Initial permit 2016)		326.20				

Application no./Equipment Description/Installation Date:	NO <sub>x</sub> (lb/day)	VOC (lb/day)	CO (lb/day)	SO <sub>x</sub> (lb/day)	PM <sup>1</sup> (lb/day)	PM <sub>10</sub> <sup>1,2</sup> (lb/day)
GNR-0018338 Two-stage boiler – 3.3584 MMBtu/hr total (2009)	3.50	0.52	7.91	0.06	0.72	0.71
PTO-22-00043 Emergency engine-set – 103 HP (2022) <sup>5</sup>						
Total:	41.92	509.35	56.04	0.44	5.28	3.09
Table 4.2.2 Offset Threshold:	150	150	550	150	150	82

<sup>1</sup> PM<sub>10</sub> and PM<sub>2.5</sub> fractions estimated using CARB’s CEIDARS particulate matter size profile database (updated 6/9/23). For IC engine-diesel (profile #116): PM<sub>10</sub> = 0.96 PM & PM<sub>2.5</sub> = 0.937 PM]. For IC engine-gas (profile #123): PM<sub>10</sub> = 0.994 PM & PM<sub>2.5</sub> = 0.992 PM. For gas-fired boilers (profile #1101): PM = PM<sub>10</sub> = PM<sub>2.5</sub>.

<sup>2</sup> Includes only PM<sub>10</sub> emissions occurring after August 19, 1983.

<sup>3</sup> Equipment predates the NSR applicability date of July 15, 1976.

<sup>4</sup> Fermentation operations have been conducted at this facility prior to July 15, 1976. Therefore, the emission increases in this Table only reflect increases in fermentation operation after July 15, 1976. Documentation of these emission increases is reported in applications 12761, 14950, and 15509, and summarized in application GNR-017710. Application GNR-017710 was required to update the facility emissions using the more current CARB emission factors from the EPA AP-42 emission factors.

<sup>5</sup> Pursuant to Rule 207, Section 1.3.3, the offset requirements of Sections 4.2 and 5.3 shall not apply to any emergency internal combustion engine that is either only used for emergency power when normal power line service fails, or are used only for the emergency pumping of water, and are operated less than 60 hours per year of testing exercise.

Table 16 shows that the facility exceeds the VOC Federal offset threshold of Section 4.2. No other pollutant exceeds their respective threshold levels. Accordingly, the facility is subject to the offset requirements of Section 4.

Pursuant to Section 7.4.1, for increases in emissions the emissions profiles for new sources or modified sources shall be based on the potential to emit and the emissions profiles for existing sources shall be based on the historical emissions. Table 17 shows the comparison of the VOC emissions profile for the proposed project, PTE<sub>post-project</sub>, and the actual historical emissions of the existing source, AHE<sub>pre-project</sub>.

Table 17. Federal offset determination PTE<sub>post-project</sub> – AHE<sub>pre-project</sub> for VOCs.

Federal Quarterly Profiles	Quarter 1	Quarter 2	Quarter 3	Quarter 4
PTE Post-Project Emissions <sup>1</sup> :				
RBI two-stage boiler MOD-24-00061 (lb/qtr)	31.50	31.85	32.20	32.20
AHE Pre-Project Emissions <sup>2</sup> :				
Kewanee 12.554 MMBtu/hr boiler 15668 (lb/qtr)	9.83	8.75	8.14	13.31
PTE <sub>post-project</sub> – AHE <sub>pre-project</sub> (lb/qtr):	21.67	23.10	24.06	18.89
PTE <sub>post-project</sub> – AHE <sub>pre-project</sub> (ton/qtr):	0.01	0.01	0.01	0.01

<sup>1</sup> The post-project PTE emissions are shown in Table 4 in pounds per quarter.

<sup>2</sup> The pre-project AHE emissions are shown in Table 8 in pounds per quarter.

Table 17 shows that the VOC emission increases from the proposed modification results in an increase of 0.01 tons for quarter 1, 0.01 tons for quarter 2, 0.01 for quarter 3 and 0.01 for quarter 4. The quarterly VOC emission increases must be offset by emission reductions. MBARD’s Policy for Rounding, dated April 18, 2017, for determining the amount of offsets required in accordance with MBARD Rule 207 is to round up to the tenths place and to the nearest whole number. For example, the given number of decimal places is 0 so a quarterly offset amount of 0.01 tons rounds to 0. Thus, for this project, no offsets are required.

Is noted that the facility has received several ATCs in the past year as listed below:

- ATC MOD-23-00104 issued on May 7, 2024, for the proposed modification of their distillation equipment with storage tanks for the addition of new insulated ethanol storage tank. ATC MOD-23-00104 resulted in emissions increases that also were subject to the offset requirements.
- ATCs APP-24-00059 & APP-24-00060 issued on September 23, 2024, for the installation of two new natural gas boilers, each rated at 4 MMBtu/hr.

A summary of the proposed project under this application, MOD-24-0061, and a contemporaneous five year look back is summarized in Table 18.

Table 18. Proposed project & contemporaneous project VOC Federal offset determination.

Federal Quarterly Profiles	Quarter 1 (tons/qtr)	Quarter 2 (tons/qtr)	Quarter 3 (tons/qtr)	Quarter 4 (tons/qtr)
MOD-24-00061/PTO 15668 Boiler #3 – 3.999998 MMBtu/hr (2024) <sup>1</sup>	0.01	0.01	0.01	0.01
APP-24-00059 Nat gas boiler – 4 MMBtu/hr (2024) <sup>2</sup>			0.02	0.01
APP-24-00060 Nat gas boiler – 4 MMBtu/hr (2024) <sup>2</sup>			0.02	0.01
MOD-23-00104/PTO GNR-0018339 Distillation equipment with storage tanks (2024) <sup>3</sup>	0.10	0.08	0.09	0.11
<b>Total</b>	<b>0.11</b>	<b>0.09</b>	<b>0.14</b>	<b>0.14</b>

<sup>1</sup> VOC Federal offsets required for modification under MOD-24-00061 and shown in Table 17 in tons per quarter.

<sup>2</sup> APP-24-00059 and APP-24-00060 VOC Federal offsets required for the installation of the 4 MMBtu/hr boilers.

<sup>3</sup> MOD-23-00104 VOC Federal offsets required for modification of the distillation equipment with storage tanks.

Table 18 shows that the VOC emission increases from the proposed project and contemporaneous past projects resulted in an increase emissions of 0.11 tons for quarter 1, 0.09 tons for quarter 2, 0.14 tons for quarter 3, and 0.14 tons for quarter 4. Per MBARD’s Policy for Rounding, dated April 18, 2017, the quarterly offset amounts round to 0. Thus, for this project, no offsets are required.

**California Offsets analysis**

Pursuant to Section 5.3, any new or modified stationary source with a potential to emit 137 pounds per day or more of VOCs or NO<sub>x</sub> shall be required to provide offsets at the ratios specified in Section 4.3. Pursuant to Section 2.38, for the purposes of Part 5 of this Rule, the new source applicability date shall be April 21, 1993. Table 19 shows the facility-wide PTE emissions and the CA offset thresholds of Section 5.3.

Table 19. Facility-wide potential to emit emissions and CA offset determination.

Permit #	Equipment description (installation date)	NO <sub>x</sub> (lb/day)	VOC (lb/day)
APP-24-00059	Natural gas boiler - 4 MMBtu/hr (2024)	1.05	0.52
APP-24-00060	Natural gas boiler - 4 MMBtu/hr (2024)	1.05	0.52
PTO GNR-0018339	Distillation equipment with storage tanks (2023)		2.95
15666	Boiler #1 – 6.277 MMBtu/hr (1981) <sup>1</sup>		



Permit #	Equipment description (installation date)	NO <sub>x</sub> (lb/day)	VOC (lb/day)
15667	Boiler #2 – 6.277 MMBtu/hr (1981) <sup>1</sup>		
MOD-24-00061/PTO 15668	Boiler #3 – 3.999998 MMBtu/hr (2024)	1.56	0.35
15669	Boiler #4 – 2.65 MMBtu/hr (1994)	6.06	0.33
15671B	Lab equipment with ventilation system (2000)		0.38
15824	Emergency IC engine fire pump – 196 hp (1975) <sup>1,2</sup>		
15825	Emergency IC engine fire pump – 134 hp (1975) <sup>1,2</sup>		
GNR-0017748	Fermentation & Storage Initial Permit issued in 1996 with pre- 1976 operations <sup>3</sup>		176.00
GNR-0017749	Barrel storage/aging Initial permit 2016		326.20
GNR-0018338	Two-stage boiler (3.3584 MMBtu/hr total) Installed 2009	3.50	0.52
PTO-22-00043	Emergency engine-gen set (103 HP) Installed 2022 <sup>2</sup>		
	Total:	13.22	507.77

<sup>1</sup> Equipment installed prior to Section 5.2 CA offset applicability date of 4/21/1993.

<sup>2</sup> Pursuant to Rule 207, Section 1.3.3, the offset requirements of Sections 4.2 and 5.3 shall not apply to any emergency internal combustion engine that is either only used for emergency power when normal power line service fails, or are used only for the emergency pumping of water, and are operated less than 60 hours per year of testing exercise.

<sup>3</sup> Fermentation operations have been conducted at this facility prior to July 15, 1976. Therefore, the emission increases in this Table only reflect increases in fermentation operation after July 15, 1976. Documentation of these emission increases are reported in applications 12761 (ATC dated 11/9/2005), 14950, and 15509, and summarized in application GNR-017710. Application GNR-017710 was required to update the facility emissions using the more current CARB emission factors from the EPA AP-42 emission factors.

Table 19 shows that the facility-wide PTE emissions exceed the VOC offset threshold of 137 pounds per day of Section 5.3.

Pursuant to Section 5.3.4, the amount of offsets obtained shall be at least equal to the difference between the emissions of the modified source, and the emissions of the existing source. Pursuant to Section 5.4, for the purposes of determining offset requirements under this Part, emissions profiles for new sources, existing sources or modified sources shall be based on the potential to emit as described under Section 7.1 herein. In addition, Section 5.3.2 requires that the offset shall be determined on a quarterly basis.

Table 20 shows the comparison of the VOC emissions profile for the proposed project, PTE<sub>post-project</sub>, and the PTE emissions of the existing source, PTE<sub>pre-project</sub>. As shown in Table 20, the proposed project results in a PTE emissions decrease and no offsets are required.

Table 20. California offset determination  $PTE_{post-project} - PTE_{pre-project}$ .

Federal Quarterly Profiles	Quarter 1	Quarter 2	Quarter 3	Quarter 4
<b>PTE Post-Project Emissions<sup>1</sup>:</b>				
RBI two-stage boiler MOD-24-00061 (lb/qtr)	31.50	31.85	32.20	32.20
<b>PTE Pre-Project Emissions<sup>2</sup>:</b>				
Kewanee 12.554 MMBtu/hr boiler 15668 (lb/qtr)	145.80	147.42	149.04	149.04
$PTE_{post-project} - AHE_{pre-project}$ (lb/qtr):	-114.30	-115.57	-116.84	-116.84
$PTE_{post-project} - AHE_{pre-project}$ (ton/qtr):	-0.06	-0.06	-0.06	-0.06

<sup>1</sup> The post-project PTE emissions are shown in Table 4 in pounds per quarter.

<sup>2</sup> The pre-project PTE emissions are shown in Table 6 in pounds per quarter.

**Visibility, soils, and vegetation analysis:**

Section 3.2 requires the applicant to provide MBARD with an analysis of impairment to visibility, soils and vegetation. MBARD does not find it necessary to determine the negligible effect emissions from this modification will have on visibility, soils and vegetation.

**Ambient air quality standards (AAQS) and emission increments:**

Section 3.3, Ambient Air Quality Standards and Emission Increments, prohibits emissions from causing or contributing to a violation of an ambient air quality standard or exceeding any air quality increment. Moreover, Section 6.6, Air Quality Increment Analysis, prohibits a source which is subject to Section 4.2, Offset Requirements, from exceeding 50% of the remaining emissions increment.

The proposed boilers have the potential to emit NO<sub>x</sub>, VOC, CO, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. The proposed units do not emit H<sub>2</sub>S, lead, sulfates, or vinyl chloride.

Ozone (O<sub>3</sub>), a component of smog, is formed in the atmosphere rather than being directly emitted from pollutant sources. O<sub>3</sub> forms as a result of VOCs and NO<sub>x</sub> reacting in the presence of sunlight in the atmosphere. VOCs and NO<sub>x</sub> are termed “O<sub>3</sub> precursors” and their emissions are regulated in order to control the creation of O<sub>3</sub>. O<sub>3</sub> is a regional pollutant and ambient concentration can only be predicted using regional photochemical models that account for all sources of precursors, which is beyond the scope of this analysis. Therefore, no photochemical O<sub>3</sub> modeling was conducted. However, on February 25, 2021, the California Air Resources Board (CARB) approved the proposed updates to the State Area Designation based on 2017 to 2019 air quality data which designates MBARD as attainment for O<sub>3</sub>.

MBARD used the Lakes Environmental AERMOD dispersion model to get the maximum concentration for the two-staged boiler. Table 21 shows the source pathway inputs used in the AERMOD model for the two-staged boiler.

Table 21. AERMOD Source Pathway inputs.

Source ID <sup>1</sup>	1
Source Type <sup>2</sup>	Point
X-Coordinate	640158.36 m
Y-Coordinate	4040764.99 m
Base elevation <sup>3</sup>	141.076 ft
Release height	19 feet

Emissions rate	1 lb/hr
Stack diameter	12 inches
Stack release type	Capped
Gas exit temperature <sup>4</sup>	370 °F
Gas exit flow rate <sup>4</sup>	798 cfm

<sup>1</sup> Source ID 1 used for Boiler 1.

<sup>2</sup> Point source type used since the system has a dedicated stack.

<sup>3</sup> Base elevation was uploaded automatically when running AERMAP on AERMOD.

<sup>4</sup> Per manufacturer specifications for the project.

Table 22 shows the maximum concentrations from the AERMOD dispersion model. The AERMOD model input files and results are included in Attachment 1.

Table 22. Air Dispersion Modeling (AERMOD) Maximum Concentrations.

Averaging Period	Max Concentration ( $\mu\text{g}/\text{m}^3$ / lb/hr)
1-hr	44.42567
3-hr	36.61092
8-hr	26.58551
24-hr	13.55932
Annual	2.28328

Table 23 shows the emissions increase of the proposed project,  $\text{PTE}_{\text{post-project}}$ , to the actual emissions of the current permitted equipment,  $\text{AHE}_{\text{pre-project}}$ . As noted in Table 23, the project results in an emissions decrease for  $\text{NO}_x$ .

Table 23. Emissions increase  $\text{PTE}_{\text{post-project}}$  to  $\text{AHE}_{\text{pre-project}}$ .

Pollutant	PTE post-project emissions (lb/day) <sup>1</sup>	AHE pre-project emissions (lb/day) <sup>2</sup>	Emissions increase (lb/hr) <sup>3</sup>
$\text{NO}_x$	1.56	1.61	-0.00208
CO	4.74	1.35	0.14125
$\text{SO}_x$	0.04	0.01	0.00125
PM	0.48	0.12	0.01500

<sup>1</sup> The post-project PTE emissions are shown in Table 4 in pounds per quarter.

<sup>2</sup> The pre-project AHE emissions are shown in Table 8 in pounds per quarter.

<sup>3</sup> Emissions Increase (lb/hr) =  $[\text{PTE (lb/day)} - \text{AHE (lb/day)}] / 24 \text{ hours/day}$ .

Table 24 shows the effect of the project's emissions increases, as determined in Table 23, on the Ambient Air quality Standards. The background concentration was obtained from the California Air Resources Board (ARB) Almanac. Since the project results in an emissions decrease for  $\text{NO}_x$ , the ambient air quality analysis excludes  $\text{NO}_x$ .

Table 24. Source effect on ambient Air Quality Standards.

Pollutant	Averaging Period	Source Conc. <sup>1</sup> (µg/m <sup>3</sup> )	Background Conc. <sup>2</sup> (µg/m <sup>3</sup> )	Total Conc. (µg/m <sup>3</sup> )	State Standard (µg/m <sup>3</sup> )	Federal Standard (µg/m <sup>3</sup> )	Total Exceeds Standard
Carbon Monoxide (CO)	1-hr	6.275	1,600.00	1,606.275	23,000	40,000	No
	8-hr	3.755	1,000.00	1,003.755	10,000	10,000	No
Sulfur Dioxide (SO <sub>2</sub> ) <sup>4</sup>	1-hr	0.056		0.056	655	196	No
	3-hr	0.046		0.046	None	1,300	No
	24-hr	0.017		0.017	105	None	No
PM <sub>10</sub> <sup>5</sup>	24-hr	0.203	95.3	95.503	50	150	<b>Yes, State</b>
	Annual	0.034	29.7	29.734	20	None	<b>Yes, State</b>
PM <sub>2.5</sub> <sup>5</sup>	24-hr <sup>6</sup>	0.203	24.9	25.103	None	35	No
	Annual	0.034	7	7.034	12	12	No

<sup>1</sup> Source concentration = maximum concentration for each averaging period from AERMOD model run at 1 lb/hr multiplied by the emissions increase in lb/hr.

Example for the 1-hr period: CO = (44.42567 µg/m<sup>3</sup>/1 lb/hr) \* 0.14125 lb/hr = 6.275 µg/m<sup>3</sup>

<sup>2</sup> Background concentration = Ambient Air Monitoring Data published in ARB Almanac, see <https://ww2.arb.ca.gov/our-work/programs/almanac-emissions-air-quality>

<sup>3</sup> Conservatively assume all NO<sub>x</sub> emissions equal to NO<sub>2</sub>.

<sup>4</sup> Conservatively assume all SO<sub>x</sub> emissions equal to SO<sub>2</sub>.

<sup>5</sup> PM<sub>10</sub> and PM<sub>2.5</sub> background concentrations were based upon 2017 and 2019 air quality data.

<sup>6</sup> The 3-year average of the annual 98<sup>th</sup> percentile was used for the 24-hour concentration for PM<sub>2.5</sub>.

As shown in Table 24, the PM<sub>10</sub> background concentration exceed the state Air Quality Standard. MBARD is currently in nonattainment status for PM<sub>10</sub> on both an annual and 24-hour basis for the State. Because the background concentrations for annual PM<sub>10</sub> and 24-hour are above the AAQS, all projects emitting PM<sub>10</sub> will result in a PM<sub>10</sub> concentration exceedance of an AAQS. MBARD has determined that projects will not contribute significantly to an exceedance of the AAQS if the project’s contribution is less than 50% of the remaining emissions increment as stipulated in Section 2.5 *Air Quality Increment* of MBARD Rule 207.

Table 25 shows the allowable increment listed in MBARD Rule 207, Section 2.5, Table 2.5.5 and the proposed project’s concentration. The table shows that the proposed project is below 50% of the allowable increment in Monterey County. The source concentrations shown in Table 25 are based on the AERMOD modeled max concentrations shown in Table 22 and two-staged boiler PTE emissions shown in Table 3.

Table 25. Proposed project effect on the increment.

Pollutant	Averaging Period	Source Conc. (µg/m <sup>3</sup> )	Allowable Increment in Monterey County <sup>1</sup> (µg/m <sup>3</sup> )	50% of Allowable Increment in Monterey County <sup>1</sup> (µg/m <sup>3</sup> )	50% of Allowable Increment Exceeded <sup>2</sup>
Carbon Monoxide (CO)	1-hr	6.275	12,000	6,000	No
Sulfur Dioxide (SO <sub>2</sub> )	3-hr	0.046	512	256	No
	24-hr	0.017	91	45.5	No
	Annual	0.003	20	10	No
PM <sub>10</sub>	24-hr	0.203	21.1	10.55	No
	Annual	0.034	10.8	5.40	No

Pollutant	Averaging Period	Source Conc. (µg/m <sup>3</sup> )	Allowable Increment in Monterey County <sup>1</sup> (µg/m <sup>3</sup> )	50% of Allowable Increment in Monterey County <sup>1</sup> (µg/m <sup>3</sup> )	50% of Allowable Increment Exceeded <sup>2</sup>
PM <sub>2.5</sub>	24-hr	0.203	9	4.50	No
	Annual	0.034	4	2.00	No

<sup>1</sup> MBARD Rule 207, Table 2.5.2, Area E, Monterey County other than Areas A, C, & F Impact Zones

<sup>2</sup> As stated in Section 6.6 of Rule 207 “the District shall not grant a permit to a source which is subject to Section 4.2 herein if its emissions will exceed 50 percent of the remaining emissions increment.”

**Publication and Public Comment**

MBARD is required, pursuant to Section 6.9, to publish in at least one newspaper of general circulation in MBARD’s jurisdiction a notice stating the preliminary decision on a source’s application for a modification where the offset thresholds of Section 4.2 or 5.3 are exceeded. MBARD will comply with the requirements of Section 6.9 and issue the public notice in a local newspaper and will post the public notice on MBARD’s webpage. The public notice will invite written public comment for a 30-day period following the date of publication.

Rule 207 – Review of New or Modified Sources (as adopted on 2/15/2017)

Note that MBARD has not received approval for the 2/15/2017 version of Rule 207 and MBARD is implementing Rule 207 as adopted on 4/20/2011. For informational purposes only, the Rule applicability of Rule 207 as adopted on 2/15/2017 is as follows:

The purpose of this Rule is to provide for the review of new and modified stationary air pollution sources to meet the New Source Review requirements under the provisions of the California Clean Air Act. This Rule provides mechanisms by which Authorities to Construct may be granted to such sources without interfering with the attainment or maintenance of California ambient air quality standards. Each project subject to New Source Review shall undergo a review under the federal requirements contained within Rule 220 and Rule 221, and a parallel review under the requirements of this Rule and the most stringent applicable provisions shall apply.

Rule 207 applies to all new stationary sources and all modifications to existing stationary sources, which after construction or modification, emit or have the potential to emit any affected pollutants. This project is subject to the requirements of this Rule.

**BACT requirements**

Pursuant to Section 4.1.1, BACT shall be required for any new or modified permit unit with a potential to emit 25 pounds per day or more of VOCs or NO<sub>x</sub>. As shown in Table 15, California CACT determination, the proposed project does not have the potential to exceed 25 pounds per day of VOCs and is not a source of NO<sub>x</sub>.

Pursuant to Section 4.1.2, BACT shall be required for a new or modified stationary source which has the potential to emit greater than or equal to any one of the affected pollutant levels listed in Table 4.1.1.

Table 26 shows the emissions from the new project, the facility-wide emissions and the BACT thresholds of Section 4.1.2, Table 4.1.1.

Table 26. Facility-wide Potential to Emit Emissions.

Application no./Equipment Description/Installation Date:	NO <sub>x</sub> (lb/day)	VOC (lb/day)	CO (lb/day)	SO <sub>x</sub> (lb/day)	PM <sup>1</sup> (lb/day)	PM <sub>10</sub> <sup>1</sup> (lb/day)	PM <sub>2.5</sub> <sup>1</sup> (lb/day)
APP-24-00059 Nat gas boiler – 4 MMBtu/hr (2024)	1.05	0.52	7.10	0.06	0.72	0.72	0.72
APP-24-00060 Nat gas boiler – 4 MMBtu/hr (2024)	1.05	0.52	7.10	0.06	0.72	0.72	0.72
PTO GNR-0018339A Distillation equipment with storage tanks (2023)		2.95					
15666 Boiler #1 – 6.277 MMBtu/hr (1981)	14.35	0.79	12.05	0.09	1.09	1.08	1.08
15667 Boiler #2 – 6.277 MMBtu/hr (1981)	14.35	0.79	12.05	0.09	1.09	1.08	1.08
MOD-24-00061/PTO 15668 Boiler #3 – 3.999998 MMBtu/hr (2024)	1.56	0.35	4.74	0.04	0.48	0.48	0.48
15669 Boiler #4 – 2.65 MMBtu/hr (1994)	6.06	0.33	5.09	0.04	0.46	0.46	0.46
15671B Lab equipment with ventilation system (2000)		0.38					
15824 Emergency IC eng. fire pump – 196 hp (1975)	145.06	13.68	45.59	9.64	7.98	7.66	7.48
15825 Emergency IC eng. fire pump – 134 hp (1975)	99.17	9.35	31.17	6.59	5.45	5.23	5.11
GNR-0017748 Fermentation & Storage (Initial Permit issued in 1996 with pre-1976 operations)		1,808.70					
GNR-0017749 Barrel storage/aging (Initial permit 2016)		326.20					
GNR-0018338 Two-stage boiler – 3.3584 MMBtu/hr total (2009)	3.50	0.52	7.91	0.06	0.72	0.71	0.71
PTO-22-00043 Emergency engine set – 103 HP (2022)	0.54	0.87	4.85	0.02	0.26	0.26	0.26
Total:	286.69	2,165.95	137.65	16.69	18.97	18.40	18.10
Table 4.1.1 Federal BACT Threshold:	150	150	550	150	150	82	54.79

<sup>1</sup> PM<sub>10</sub> and PM<sub>2.5</sub> fractions estimated using CARB’s CEIDARS particulate matter size profile database (updated 6/9/23). For gas-fired boilers (profile #1101): PM = PM<sub>10</sub> = PM<sub>2.5</sub>.

Table 26 shows that the new emissions, as defined in Section 2.37, exceed the BACT thresholds of Section 4.1.1 for VOC. Table 14 above shows the BACT requirements from MBARD’s *Clarification of Permit Requirements for Gaseous Fired Boilers* and it shows the proposed two-stage boiler meets the requirements.

**Offset requirements**

Pursuant Section 4.2, Offsets are required for any new or modified source, which has the potential to emit equal to or greater than the thresholds specified in Rule 207, Table 4.2.1. Table 27 shows the facility wide PTE emissions and the offset thresholds specified in Section 4.2, Table 4.2.1.

Table 27. Facility-wide potential to emit and offset determination.

Application no./Equipment Description/Installation Date:	NO <sub>x</sub> (lb/day)	VOC (lb/day)	CO (lb/day)	SO <sub>x</sub> (lb/day)	PM <sup>1</sup> (lb/day)	PM <sub>10</sub> <sup>1</sup> (lb/day)
APP-24-00059 Nat gas boiler – 4 MMBtu/hr (2024)	1.05	0.52	7.10	0.06	0.72	0.72
APP-24-00060 Nat gas boiler – 4 MMBtu/hr (2024)	1.05	0.52	7.10	0.06	0.72	0.72
PTO GNR-0018339 Distillation equipment with storage tanks (2023)		2.95				
15666 Boiler #1 – 6.277 MMBtu/hr (1981)	14.35	0.79	12.05	0.09	1.09	1.08
15667 Boiler #2 – 6.277 MMBtu/hr (1981)	14.35	0.79	12.05	0.09	1.09	1.08
MOD-24-00061/PTO 15668 Boiler #3 – 3.999998 MMBtu/hr (2024)	1.56	0.35	4.74	0.04	0.48	0.48
15669 Boiler #4 – 2.65 MMBtu/hr (1994)	6.06	0.33	5.09	0.04	0.46	0.46
15671B Lab equipment with ventilation system (2000)		0.38				
15824 Emergency IC eng. fire pump – 196 hp (1975) <sup>2</sup>						
15825 Emergency IC eng. fire pump – 134 hp (1975) <sup>2</sup>						
GNR-0017748 Fermentation & Storage (Initial Permit issued in 1996 with pre-1976 operations)		1,808.70				
GNR-0017749 Barrel storage/aging (Initial permit 2016)		326.20				
GNR-0018338 Two-stage boiler – 3.3584 MMBtu/hr total (2009)	3.50	0.52	7.91	0.06	0.72	0.71
PTO-22-00043 Emergency engine-set – 103 HP (2022) <sup>2</sup>						
Total:	41.92	2,142.05	56.04	0.44	5.28	5.25
Table 4.2.2 Offset Threshold:	150	150	550	150	150	82

<sup>1</sup> PM<sub>10</sub> and PM<sub>2.5</sub> fractions estimated using CARB’s CEIDARS particulate matter size profile database (updated 6/9/23). For IC engine-diesel (profile #116): PM<sub>10</sub> = 0.96 PM & PM<sub>2.5</sub> = 0.937 PM]. For IC engine-gas (profile #123): PM<sub>10</sub> = 0.994 PM & PM<sub>2.5</sub> = 0.992 PM. For gas-fired boilers (profile #1101): PM = PM<sub>10</sub> = PM<sub>2.5</sub>.

<sup>2</sup> Pursuant to Rule 207, Section 1.3.3, the offset requirements of shall not apply to any emergency internal combustion engine that is either only used for emergency power when normal power line service fails, or are used only for the emergency pumping of water, and are operated less than 60 hours per year of testing exercise.

Table 27 shows the facility exceeds the VOC offset threshold of Section 4.2, Table 4.2.1.

Pursuant to Section 4.2.3, offsets obtained shall be equal to the potential to emit increase from the proposed new source or modification. Table 28 shows the comparison of the VOC emissions profile for the proposed project, PTE<sub>post-project</sub>, and the PTE emissions of the existing source, PTE<sub>pre-project</sub>.

Table 28. Offset determination PTE.

Quarterly Profiles	Quarter 1	Quarter 2	Quarter 3	Quarter 4
<b>PTE Post-Project Emissions<sup>1</sup>:</b>				
RBI two-stage boiler MOD-24-00061 (lb/qtr)	31.50	31.85	32.20	32.20
<b>PTE Pre-Project Emissions<sup>2</sup>:</b>				
Kewanee 12.554 MMBtu/hr boiler 15668 (lb/qtr)	145.80	147.42	149.04	149.04
<b>PTE<sub>post-project</sub> – PTE<sub>pre-project</sub>:</b>	<b>-114.30</b>	<b>-115.57</b>	<b>-116.84</b>	<b>-116.84</b>

<sup>1</sup> The post-project PTE emissions are shown in Table 4 in pounds per quarter.

<sup>2</sup> The pre-project PTE emissions are shown in Table 6 in pounds per quarter.

As shown in Table 28, the project results in a decrease in the VOC PTE emissions.

As pointed out, the Rule as amended on 2/15/2017 has not been approved and the version as adopted on 4/20/2011 will be implemented.

Rule 218 – Title V: Federal Operating Permits

This is the implementing regulation by which MBARD issues the federal Operating Permits. The facility is subject to the requirements of this rule. The facility PTE VOC emissions exceed 100 tons per year. The facility currently operates under Title V permit TV-124.

Pursuant to Section 2.27.4, a modification that involves a case-by-case determination of any emission standard or other requirement is considered a significant permit modification. The proposed project was subject to a BACT and offset determination and is considered a significant modification. The facility will be required to submit a Title V permit modification and will be subject to the procedural requirements of Section 3.8.3.

Rule 221 – Federal Prevention of Significant Deterioration

The federal Prevention of Significant Deterioration (PSD) program is a construction permitting program for new major stationary sources and major modifications to existing major stationary sources located in areas classified as attainment or in areas that are unclassifiable for any criteria air pollutant. This Rule provides for the review of new and modified major stationary sources to meet requirements for PSD, under the provisions of the federal Clean Air Act. The purpose of this Rule is to incorporate the federal PSD rule requirements into MBARD’s Rules and Regulations through incorporating the federal requirements by reference.

This Rule shall apply to any source and owner or operator of any source subject to any requirements under Title 40 Code of Federal Regulations, Part 52, Section 21 (40 CFR 52.21), as incorporated into this Rule. The proposed project does not meet the definition of a new major stationary source, or a major modification to an existing stationary source. Since the Prevention of Significant Deterioration (PSD) program only applies to new major stationary sources, or major modifications to stationary sources, this project is not subject to MBARD Rule 221.

Rule 222 – Minor New Source Review

This Rule provides for the review of new and modified stationary air pollution sources to meet the requirements for the review of such sources, under the new source review (NSR) provisions of the federal



Clean Air Act. This Rule provides mechanisms by which Authorities to Construct may be granted to such sources without interfering with the attainment or maintenance of ambient air quality standards.

This Rule shall apply to any new or modified stationary source that emits an air pollutant (or its precursors) subject to any National Ambient Air Quality Standard (NAAQS).

Compliance with the New Source Review (NSR) provisions of the California Clean Air Act, as defined in MBARD Rule 207, ensures compliance with MBARD Rule 222, Federal Minor NSR.

Rule 300 – District Fees

This Rule provides the mechanisms for assessing fees for the issuance and renewal of Permits to Operate, Authorities to Construct, and other actions in MBARD's permit system; and to recover MBARD costs for requested services, materials, or equipment. The fees prescribed within this Rule do not exceed the cost of issuing, maintaining, and performing inspection activities pertaining to all permits.

This Rule shall apply to all owners and operators of stationary sources which are required by MBARD Rule 200 *Permits Required* to obtain an Authority to Construct or Permit to Operate; and to requesters of MBARD services, materials, or equipment.

According to MBARD Fee Determination Protocol, affirmed by the Board on 6/16/04, and revised on 8/26/19, the billable emissions shall be based on the 75% of the potential to emit for equipment listed on the permit unless operation is restricted by permit conditions.

Table 29 shows the total emissions from each of the two natural gas boilers. The facility is proposing an operating schedule of 16 hours per day, 5 days per week and 49 weeks per year for the two-stage natural gas boiler. Thus, the billable emissions are 0.91 tons per year with a corresponding fee code of 502 based on the proposed operating schedule.

Table 29. Billable emissions.

Pollutant	Yearly emissions <sup>1</sup> (ton/yr)
NO <sub>x</sub>	0.19
TOC	0.08
CO	0.58
SO <sub>x</sub>	0.00
PM	0.06
PTE Total:	0.91

<sup>1</sup> Based on application's listed operating schedule of 16 hr/day, 5 day/week and 49 week/yr.

Rule 400 – Visible Emissions:

The purpose of this Rule is to provide limits for the visible emissions from sources within MBARD. The provisions of this Rule shall apply to all sources of air pollutant emissions in MBARD.

According to MBARD Rule 400 Section 3.1, 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 or darker than Ringelmann 1, or equivalent 20% opacity. This requirement will be included as a permit condition.

Rule 402 – Nuisance:

The purpose of this Rule is to provide an explicit prohibition against sources creating public nuisances while operating within MBARD. The provisions of this Rule shall apply to all sources of air pollutant emissions within the Air District.

According to MBARD Rule 402, Part 3, no person shall discharge from any source whatsoever such quantities of air contaminants or other materials which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or which endanger the comfort, repose, health, or safety of any such persons or the public; or which cause, or have a natural tendency to cause, injury or damage to business or property. This requirement will be included as a permit condition.

MBARD Rule 403 – Particulate Matter:

The purpose of this Rule is to provide particulate matter emission limits for sources operating within MBARD. The provisions of this Rule shall apply to any source discharging particulate matter while operating within the Air District.

Pursuant to Section 3.1, a person shall not discharge from any source whatsoever particulate matter in excess of 0.15 grains/ft<sup>3</sup>. Compliance is assured by the calculation below based on PM hourly emission rate of 0.03 lb/hr [(0.48 lb/day) ÷ (16 hr/day) = 0.03 lb/hr] and exhaust flow rate of 798 ft<sup>3</sup>/min.

$$PM \left( \frac{gr}{ft^3} \right) = \frac{PM, lb}{hr} \times \frac{7,000 gr}{lb} \times \frac{hr}{60 min} \div \frac{exhaust flow, ft^3}{min}$$

$$PM \left( \frac{gr}{ft^3} \right) = \frac{0.03, lb}{hr} \times \frac{7,000 gr}{lb} \times \frac{hr}{60 min} \div \frac{798, ft^3}{min} = \frac{0.0044 gr}{ft^3}$$

MBARD Rule 404 – Sulfur Compounds & Nitrogen Oxides

The purpose of this Rule is to provide limits for the emissions of sulfur compounds, nitrogen oxides and nitrogen dioxide from sources within MBARD. The provisions of this Rule shall apply to sources of sulfur compounds, nitrogen oxides, and nitrogen dioxide subject to MBARD Rule 200 *Permits Required*.

Pursuant to Section 1.3.2, any source subject to an emission limit imposed by BACT requirements of Section 4.1 or 5.2 of MBARD Rule 207 *Review of New or Modified Sources* shall not be subject to Section 3.1 of Rule 404 for the same pollutant. Since the proposed two-staged natural gas boiler is subject to BACT for NO<sub>x</sub>, the unit is not subject to Sections 3.1.2, 3.1.3 and 3.1.4, which set requirements for NO<sub>x</sub>.

Section 3.1 prohibits any single emission unit from exceeding the following concentration or amount at the point of discharge to the atmosphere:

Compliance with the Section 3.1.1 emission limit for sulfur compounds calculated as sulfur dioxide (SO<sub>2</sub>), 0.2% by volume (2,000 ppmv) for the two-stage boiler is assured based on the SO<sub>2</sub> emissions of 0.0025 lb/hr [(0.04 lb/day) ÷ (16 hr/day) = 0.0025 lb/hr] and exhaust flow rate of 47,880 ft<sup>3</sup>/hr. See calculation below:

$$SO_2(ppm) = \frac{lbSO_2}{hr} \div \left( \frac{DSCFM, ft^3}{hr} \times \frac{MV_{SO_2}, lb}{lbmole} \times \frac{lbmole}{385 ft^3} \right) \times 10^6$$

$$SO_2(ppm) = \frac{0.0025 \text{ lb}}{\text{hr}} \div \left( \frac{47,880 \text{ ft}^3}{\text{hr}} \times \frac{64 \text{ lb}}{\text{lbmole}} \times \frac{\text{lbmole}}{385 \text{ ft}^3} \right) \times 10^6 = 0.314 \text{ ppm}$$

Rule 412 – Sulfur Content of Fuels:

The purpose of this Rule is to limit emissions of sulfur oxides from combustion sources within MBARD. The provisions of this Rule shall apply to all combustion sources operated within the Air District unless exempted pursuant to Section 1.3 of this Rule.

Part 3 requires that no gaseous fuel be burned unless the sulfur content of the fuel is less than 50 grains per 100 cubic feet. The Public Utilities Commission of the State of California has issued General Order 58-A titled “Standards For Gas Service In The State Of California” (latest revision April 12, 1989). Title 7 (Purity of Gas of the General Order specifies hydrogen sulfide and total sulfur standards for any gas supplied by a utility. Section (a) limits hydrogen sulfide to 0.25 grains per 100 standard cubic feet. Accordingly, with the use of utility line natural gas, compliance is expected with this rule.

Rule 413 – Removal of Sulfur Compounds

The provisions of this Rule shall apply to all combustion sources operated within the Air District unless exempted pursuant to Section 1.3. Section 1.3 currently does not list any exemptions.

According to MBARD Rule 413 Part 3, the provisions of MBARD Rule 412 shall not apply where the sulfur compounds are removed pre or post combustion, or where a mixture of fuels is used, so that the resulting emission of sulfur compounds to the atmosphere is no greater than that which would be emitted by using a liquid or solid fuel complying with MBARD Rule 412. Since the fuel is expected to meet the provisions of MBARD Rule 412, the equipment is expected to meet the provisions of MBARD Rule 413.

Rule 436 – Title V: General Prohibitory Rule

The purpose of this Rule is to provide federally enforceable potential to emit limitations limiting emissions below the thresholds requiring federal Title V operating permits under Rule 218.

*Exemptions*

Pursuant to Section 1.3.1.3, any stationary source with a valid federal operating permit is exempt from the requirements of this Rule. As noted above, the facility currently operates under Title V permit TV-124 and is not subject to the requirements of this Rule.

Rule 1000 – Toxic Air Contaminants:

This Rule applies to any new or modified stationary sources for which an Authority to Construct or a Permit to Operate is required pursuant to MBARD Regulation II - Permits, and which has the potential to emit into the atmosphere any TAC. Whenever a potential TAC may be subject to more than one MBARD Rule, or to more than one requirement in this rule, the requirement resulting in the least hazard to the public, as determined by the Air Pollution Control Officer, shall apply.

MBARD Rule 1000 Part 3 requires new or modified sources of toxic air contaminants (TAC) and carcinogenic toxic air contaminants (CATC) to meet the following:

- 3.1.1 The acute hazard index for any target organ or organ system due to TAC emissions from the new or modified permit unit shall not exceed 1.0 at any receptor location;
- 3.1.2 The chronic hazard index for any target organ or organ system due to TAC emissions from the new or modified permit unit shall not exceed 1.0 at any receptor location;

- 3.1.3 The cancer risk due to TAC emissions from the new or modified permit unit shall not exceed 10 in one million at any receptor location.

The TAC emissions for the two-stage natural gas boiler were estimated using the San Joaquin Valley Air Pollution Control District (SJVAPCD) SJVAPCD's AB2588 "Hot Spots" Air Toxics Profiles for natural gas external combustion < 10 MMBtu/hr, Toxic Profile #3 (1/6/2023). The TAC emissions for the proposed two-stage boiler are included in Attachment 2.

A copy of SJVAPCD's AB2588 "Hot Spots" Air Toxics Profiles can be found on the following link:  
<https://ww2.valleyair.org/permitting/air-toxics-program/resources-for-regulated-facilities/toxic-emissions-inventory-plan/>

The prioritization score was conducted using SJVAPCD's Prioritization Calculator (3/17/21). Prioritization calculator can be downloaded from SJVAPCD's webpage for Inventory & Modeling Resources on the following link:

[http://www.valleyair.org/busind/pto/Resources/resources\\_idx.htm](http://www.valleyair.org/busind/pto/Resources/resources_idx.htm)

Table 30 shows the prioritization scores for the two-stage boiler based on an annual operation of 3,920 hours [(16 hr/day) (5 day/week) (49 week/yr) = 3,920 hr/yr] and nearest receptor (residential) distance of > 100 meters < 250 with a receptor proximity of 0.25. As shown in the table the chronic and cancer values are less than 1.0. A copy of the prioritization calculator is included in Attachment 3.

Table 30. Prioritization scores.

Acute	2.50E-03
Chronic	1.87E-03
Cancer	1.45E-02

Health & Safety Code (H&SC) Section 42301.6 – Public Notification Requirements:

Pursuant to Section §42301.6(a), prior to approving an application for a permit to construct or modify a source that emits hazardous air emissions, and that source is located within 1,000 feet from the outer boundary of a school site, the air pollution control officer shall prepare a public notice in which the proposed project or modification for which the application for a permit is made is fully described. The notice may be prepared whether or not the material is or would be subject to subdivision (a) of Section 25536, if the air pollution control officer determines and the administering agency concurs that hazardous air emissions of the material may result from an air release, as defined by Section 44303. The notice may be combined with any other notice on the project or permit that is required by law.

MBARD protocol adopted by the board on 11/14/01 specifies the risk thresholds for public notification. If the carcinogenic risk is in excess of 1 in a million or non-carcinogenic risk is at or above the applicable Reference Exposure Levels, MBARD will do the Public Notice.

The project is not located within 1,000 feet of a school as shown in Figure 1.



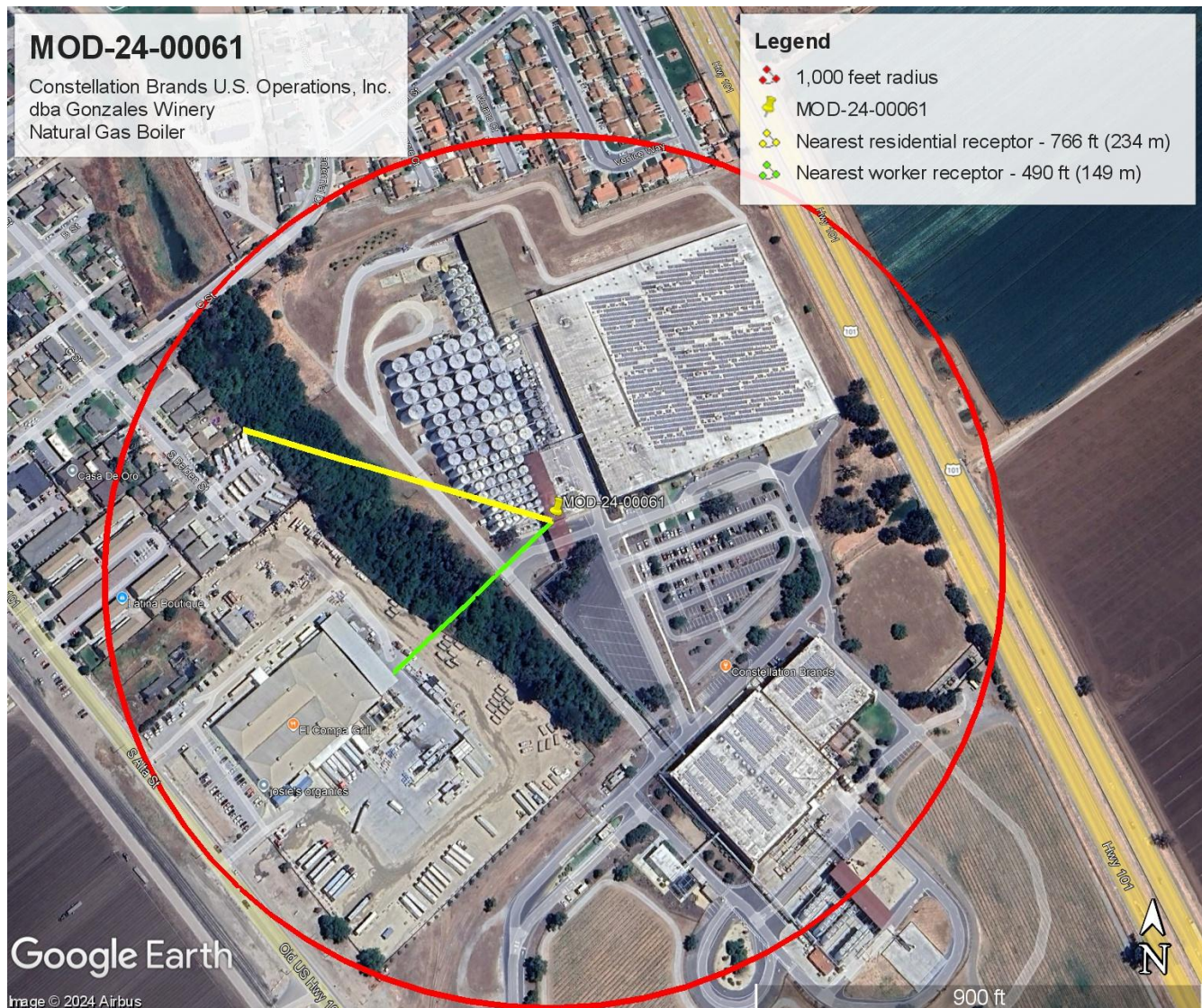


Figure 1. Google Earth Pro image.

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

The requirements of this Subpart apply to each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989, and that has a maximum design heat input capacity of 100 MMBtu/hr (29 MW) or less, but greater than or equal to 10 MMBtu/hr (2.9 MW). The two-stage natural gas-fired boiler has a combined heat input capacity of 3.999998 MMBtu/hr and is exempt from the requirements of this Subpart.

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

The requirements of this subpart apply to industrial commercial, institutional boiler and process heaters located at major source of hazardous air pollutants (HAP). Constellation Brands U.S. Operations, Inc. dba Gonzales Winery is not a major source of HAP emissions and is exempt from the requirements of this Subpart.

**CONCLUSIONS:**

The equipment has the capability to comply with all applicable MBARD rules and regulations.

**RECOMMENDATIONS:**

Issue the Authority to Construct with the following additional conditions:

1. No later than twenty-four (24) hours prior to start-up of the equipment, the Constellation Brands U.S. Operations, Inc. dba Gonzales Winery must notify the Monterey Bay Air District (MBARD) and arrange for an inspection of the equipment during normal operation to verify compliance with MBARD Rules and Regulations. [Basis: MBARD Rule 207]
2. Annual natural gas fuel usage shall be reported to the MBARD, upon request. [Basis: MBARD Rule 207]
3. The daily natural gas fuel usage from the two-stage boiler shall not exceed 639.9968 therms per day or 62,752 cubic feet per day. [Basis: MBARD Rule 207]
4. The annual natural gas fuel usage from the two-stage boiler shall not exceed 156,800 therms per year or 15,374,240 cubic feet per year. [Basis: MBARD Rule 207]
5. The boiler burners, Modules #1 and #2, must be in compliance with the following emission requirement: [Basis: MBARD Rule 207]

Pollutant	Emission Limit (ppm @ 3% O <sub>2</sub> )
NO <sub>x</sub>	≤ 20
CO	≤ 100

6. The NO<sub>x</sub>, CO, and O<sub>2</sub> concentrations in the boiler exhaust discharged to the atmosphere must be measured within 90 days of start-up, using a combustion analyzer to determine compliance with Condition 5. The analyzer must be certified that it has been calibrated within the last six months before the date of use. [Basis: MBARD Rule 207]

Constellation Brands U.S. Operations, Inc. dba Gonzales Winery must notify MBARD no later than twenty-four (24) hours prior to the testing. Written results of the test shall be submitted to MBARD via email to [reports@mbard.org](mailto:reports@mbard.org) within ten (10) days of the test completion.

7. Constellation Brands U.S. Operations, Inc. dba Gonzales Winery shall maintain a log, to record, summarize the monthly natural gas fuel usage (ft<sup>3</sup>/month) and the volatile organic compound (VOC) monthly emissions. If the unit is not equipped with a dedicated gas meter, fuel used can be based on a maximum fuel usage rate of 3,922 cubic foot per hour (ft<sup>3</sup>/hr), or a method approved by MBARD. The monthly VOC emissions shall be estimated using the monthly fuel usage and emission factor of 5.5 pounds per million cubic feet of gas (lb/MMft<sup>3</sup>). Records shall be retained for at least five (5) years and made readily available to MBARD staff upon request. [Basis: MBARD Rule 207]

8. The sulfur content of any gaseous fuel consumed shall not exceed 50 grains per 100 cubic feet, calculated as hydrogen sulfide at standard conditions. [Basis: MBARD Rule 412]
9. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark or darker than Ringelmann 1, or equivalent to 20% opacity. [Basis: MBARD Rule 400]
10. No emissions shall constitute a public nuisance.

**Attachment 1:**

AERMOD Model Input Files and Results



# Control Pathway

AERMOD

## Dispersion Options

<b>Titles</b> C:\Lakes\AERMOD View\MOD-24-00061\MOD-24-00061.isc	
<b>Dispersion Options</b> <input type="checkbox"/> Regulatory Default <input checked="" type="checkbox"/> Non-Default Options	<b>Dispersion Coefficient</b> Urban      Population: Name (Optional): Roughness Length:
<input checked="" type="checkbox"/> Flat Terrain <input type="checkbox"/> No Stack-Tip Downwash (NOSTD) <input type="checkbox"/> Run in Screening Mode <input type="checkbox"/> Conversion of NOx to NO2 (OLM or PVMRM) <input type="checkbox"/> No Checks for Non-Sequential Met Data <input type="checkbox"/> Fast All Sources (FASTALL) <input type="checkbox"/> Fast Area Sources (FASTAREA) <input type="checkbox"/> Optimized Area Source Plume Depletion <input type="checkbox"/> Gas Deposition	<b>Output Type</b> <input checked="" type="checkbox"/> Concentration <input type="checkbox"/> Total Deposition (Dry & Wet) <input type="checkbox"/> Dry Deposition <input type="checkbox"/> Wet Deposition
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>BETA Options:</b>  <input type="checkbox"/> Capped and Horizontal Stack Releases  <input type="checkbox"/> Adjusted Friction Velocity (u*) in AERMET (ADJ_U*)  <input type="checkbox"/> Low Wind Options         </div> <input type="checkbox"/> SCIM (Sampled Chronological Input Model) <input type="checkbox"/> Ignore Urban Night / Daytime Transition (NOURBTRAN)	<b>Plume Depletion</b> <input type="checkbox"/> Dry Removal <input type="checkbox"/> Wet Removal
	<b>Output Warnings</b> <input type="checkbox"/> No Output Warnings <input type="checkbox"/> Non-fatal Warnings for Non-sequential Met Data

## Pollutant / Averaging Time / Terrain Options

<b>Pollutant Type</b>  <b>Averaging Time Options</b> Hours <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 6 <input checked="" type="checkbox"/> 8 <input type="checkbox"/> 12 <input type="checkbox"/> 24 <input type="checkbox"/> Month <input type="checkbox"/> Period <input checked="" type="checkbox"/> Annual	<b>Exponential Decay</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  <b>Terrain Height Options</b> <input checked="" type="checkbox"/> Flat <input type="checkbox"/> Elevated
<b>Flagpole Receptors</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Default Height = 0.00 m	

## Optional Files



Re-Start File



Init File



Multi-Year Analyses



Event Input File



Error Listing File

## Detailed Error Listing File

Filename: MOD-24-00061.err

# Source Pathway - Source Inputs

AERMOD

## Point Sources

Source Type	Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation (Optional)	Release Height [m]	Emission Rate [g/s]	Gas Exit Temp. [K]	Gas Exit Velocity [m/s]	Stack Inside Diameter [m]
POINT	1	640158.36	4040764.99	43.00	5.79	0.12600	460.93	5.16	0.30
		Two-stage Natural Gas Boiler							

## Building Downwash Information

Option not in use

## Emission Rate Units for Output

### For Concentration

Unit Factor:	1E6
Emission Unit Label:	GRAMS/SEC
Concentration Unit Label:	MICROGRAMS/M**3

# Meteorology Pathway

AERMOD

## Met Input Data

### Surface Met Data

Filename: S:\ENG\Mengmeng\_AERMOD\_05042020\Weather Data 2019\2015-2019\_salinas\_u.SFC  
Format Type: Default AERMET format

### Profile Met Data

Filename: S:\ENG\Mengmeng\_AERMOD\_05042020\Weather Data 2019\2015-2019\_salinas\_u.PFL  
Format Type: Default AERMET format

### Wind Speed



Wind Speeds are Vector Mean (Not Scalar Means)

### Wind Direction

Rotation Adjustment [deg]:

### Potential Temperature Profile

Base Elevation above MSL (for Primary Met Tower): 50.30 [m]

### Meteorological Station Data

Stations	Station No.	Year	X Coordinate [m]	Y Coordinate [m]	Station Name
Surface		2015			OAKLAND/WSO AP
Upper Air		2015			

## Data Period

### Data Period to Process

Start Date: 1/1/2015 Start Hour: 1 End Date: 12/31/2019 End Hour: 24

## Wind Speed Categories

Stability Category	Wind Speed [m/s]	Stability Category	Wind Speed [m/s]
A	1.54	D	8.23
B	3.09	E	10.8
C	5.14	F	No Upper Bound

# Receptor Pathway

AERMOD

## Receptor Networks

Note: Terrain Elevations and Flagpole Heights for Network Grids are in Page RE2 - 1 (If applicable)  
Generated Discrete Receptors for Multi-Tier (Risk) Grid and Receptor Locations for Fenceline Grid are in Page RE3 - 1 (If applicable)

### Uniform Cartesian Grid

Receptor Network ID	Grid Origin X Coordinate [m]	Grid Origin Y Coordinate [m]	No. of X-Axis Receptors	No. of Y-Axis Receptors	Spacing for X-Axis [m]	Spacing for Y-Axis [m]
UCART1	639767.36	4040373.99	35	35	23.00	23.00

## Discrete Receptors

## Plant Boundary Receptors

### Cartesian Plant Boundary

#### Primary

Record Number	X-Coordinate [m]	Y-Coordinate [m]	Group Name (Optional)	Terrain Elevations	Flagpole Heights [m] (Optional)
1	640290.93	4041056.36	FENCEPRI		
2	640167.57	4041001.12	FENCEPRI		
3	640148.23	4041048.07	FENCEPRI		
4	640090.24	4041020.46	FENCEPRI		
5	640081.95	4041034.27	FENCEPRI		
6	640020.27	4041005.73	FENCEPRI		
7	640015.67	4041018.62	FENCEPRI		
8	639972.40	4040998.36	FENCEPRI		
9	639872.97	4040892.49	FENCEPRI		
10	640191.50	4040604.35	FENCEPRI		
11	640047.89	4040453.37	FENCEPRI		
12	640137.19	4040366.83	FENCEPRI		
13	640569.87	4040365.91	FENCEPRI		
14	640568.95	4040413.78	FENCEPRI		

## Receptor Groups

Record Number	Group ID	Group Description
1	FENCEPRI	Cartesian plant boundary Primary Receptors
2	UCART1	Receptors generated from Uniform Cartesian Grid

# Results Summary

C:\Lakes\AERMOD View\MOD-24-00061\MOD-24-00061.isc

Concentration - Source Group: ALL									
Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
1-HR	1ST	44.42567	ug/m^3	640089.36	4040672.99	50.30	0.00	50.30	8/19/2017, 7
3-HR	1ST	36.61092	ug/m^3	640112.36	4040672.99	50.30	0.00	50.30	8/17/2019, 3
8-HR	1ST	26.58551	ug/m^3	640112.36	4040672.99	50.30	0.00	50.30	8/17/2019, 8
24-HR	1ST	13.55932	ug/m^3	639997.36	4040764.99	50.30	0.00	50.30	1/16/2017, 24
ANNUAL		2.28328	ug/m^3	639974.36	4040787.99	50.30	0.00	50.30	

**Attachment 2:**

Two-stage RBI Futera III Natural Gas Boiler Toxic Air Contaminant Emissions



MOD2400061\_TAC Emissions

Toxic Air Contaminant (TAC) emissions from the proposed RBI Futera III MW2000 two-stage natural gas boiler rated at 3.999998 MMBtu/hr. The TAC emissions for the two-stage natural gas boiler were estimated using the San Joaquin Valley Air Pollution Control District's (SJVAPCD) AB2588 "Hot Spots" Air Toxics Profiles for natural gas external combustion < 10MMBtu/hr, Toxic Profile #3 (1/6/2023). <https://ww2.valleyair.org/permitting/air-toxics-program/resources-for-regulated-facilities/toxic-emissions-inventory-plan/>

Pollutant Name	CAS#	Emission Factor (lb/mmscf)	Fuel Consumption (mmscf/hr)	Fuel Consumption (mmscf/yr)	Max 1-hr emissions (lb/hr)	Annual emissions (lb/yr)
Acetaldehyde	75070	4.30E-03	0.003922	15.37424	1.69E-05	6.61E-02
Acrolein	107028	2.70E-03	0.003922	15.37424	1.06E-05	4.15E-02
Benzene	71432	8.00E-03	0.003922	15.37424	3.14E-05	1.23E-01
Ethyl benzene	100414	9.50E-03	0.003922	15.37424	3.73E-05	1.46E-01
Formaldehyde	50000	1.70E-02	0.003922	15.37424	6.67E-05	2.61E-01
Hexane	110543	6.30E-03	0.003922	15.37424	2.47E-05	9.69E-02
Naphthalene	91203	3.00E-04	0.003922	15.37424	1.18E-06	4.61E-03
PAHs, total, w/o individ. components reported	1151	1.00E-04	0.003922	15.37424	3.92E-07	1.54E-03
Propylene	115071	7.31E-01	0.003922	15.37424	2.87E-03	1.12E+01
Toluene	108883	3.66E-02	0.003922	15.37424	1.44E-04	5.63E-01
Xylenes (mixed)	1330207	2.72E-02	0.003922	15.37424	1.07E-04	4.18E-01



HEALTHY AIR LIVING™



**San Joaquin Valley**  
AIR POLLUTION CONTROL DISTRICT

# AB 2588 “Hot Spots” Air Toxics Profiles



January 6, 2023

## ***Air Toxics Profiles for Use under AB 2588 Air Toxics "Hot Spots" Information and Assessment Act***

One of the requirements of an AB 2588 "Hot Spots" Toxics Emissions Inventory Plan (TEIP) is to include identification and quantification methods of listed air toxic substances being emitted. The San Joaquin Valley Air Pollution Control District (District) provides air toxic profiles for use in estimating air toxic emissions for compliance with the AB2588 "Hot Spots" program. Toxic profiles not on this list require review by the District for approval. The toxic profiles listed below provide emission factors and speciation profiles for various facility devices arranged broadly by activity type.

The toxic profiles listed this document may be located via the Table of Contents below one of two ways: 1) By the "Numerical Profile List" or 2) by Source category.

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NG Internal Combustion 2SLB Engine No Controls.....	52
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NG Internal Combustion 4SRB Engine No Controls .....	54
NG Internal Combustion 4SLB Engine CAT RED.....	55
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### NG < 10 MMBTU/Hr External Combustion

<b>District Toxic Profile ID</b>	3
<b>Description</b>	NG < 10 MMBTU/Hr External Combustion
<b>Source</b>	The emission factors are from the table, "Natural Gas Fired External Combustion Equipment" in the May 2001 update of VCAPCD AB 2588 Combustion Emission Factors.

Pollutant Name	Emission Factor	Emission Factor Units	CAS#
Acetaldehyde	4.30E-03	lb/mmscf	75070
Acrolein	2.70E-03	lb/mmscf	107028
Benzene	8.00E-03	lb/mmscf	71432
Ethyl benzene	9.50E-03	lb/mmscf	100414
Formaldehyde	1.70E-02	lb/mmscf	50000
Hexane	6.30E-03	lb/mmscf	110543
Naphthalene	3.00E-04	lb/mmscf	91203
PAHs, total, w/o individ. components reported	1.00E-04	lb/mmscf	1151
Propylene	7.31E-01	lb/mmscf	115071
Toluene	3.66E-02	lb/mmscf	108883
Xylenes (mixed)	2.72E-02	lb/mmscf	1330207

### NG 10-100 MMBTU/Hr External Combustion

<b>District Toxic Profile ID</b>	6
<b>Description</b>	NG 10-100 MMBTU/Hr External Combustion
<b>Source</b>	The emission factors are from the table, "Natural Gas Fired External Combustion Equipment" in the May 2001 update of VCAPCD AB 2588 Combustion Emission Factors.

Pollutant Name	Emission Factor	Emission Factor Units	CAS#
Acetaldehyde	3.10E-03	lb/mmscf	75070
Acrolein	2.70E-03	lb/mmscf	107028
Benzene	5.80E-03	lb/mmscf	71432
Ethyl benzene	6.90E-03	lb/mmscf	100414
Formaldehyde	1.23E-02	lb/mmscf	50000
Hexane	4.60E-03	lb/mmscf	110543
Naphthalene	3.00E-04	lb/mmscf	91203
PAHs, total, w/o individ. components reported	1.00E-04	lb/mmscf	1151
Propylene	5.30E-01	lb/mmscf	115071
Toluene	2.65E-02	lb/mmscf	108883
Xylenes (mixed)	1.97E-02	lb/mmscf	1330207

**Attachment 3:**

Copy of the Prioritization Calculator for the Two-stage RBI Futera III Natural Gas Boiler

**Name**

**Prioritization Calculator**

<b>Applicability</b>	Use to provide a Prioritization score based on the emission potency method. Entries required in yellow areas, output in gray areas.		
<i>Author or updater</i>	Matthew Cegielski	<i>Last Update</i>	November 2, 2020
<i>Revisions (updated OEHHA health database to 10/6/23 version) by</i>	Armando Jimenez	<i>Revised Date</i>	October 6, 2023
<b>Facility:</b>	Constellation Brands U.S. Operations, Inc. dba Gonzales Winery		
<b>ID#:</b>			
<b>Project #:</b>	MOD-24-00061		
<b>Unit and Process#</b>	RBI Futera III MW2000 two-stage natural gas boiler rated at 3.999998 MMBtu/hr.		

<b>Operating Hours hr/yr</b>	3,920.00					
Receptor Proximity and Proximity Factors	<b>Cancer Score</b>	<b>Chronic Score</b>	<b>Acute Score</b>	<b>Max Score</b>	Receptor proximity is in meters. Prioritization scores are calculated by multiplying the total scores summed below by the proximity factors. Record the Max score for your receptor distance. If the substance list for the unit is longer than the number of rows here or if there are multiple processes use additional worksheets and sum the totals of the Max Scores.	
	<b>0 &lt; R &lt; 100</b>	1.000	5.80E-02	7.48E-03		1.00E-02
<b>100 ≤ R &lt; 250</b>	0.250	1.45E-02	1.87E-03	2.50E-03		1.45E-02
<b>250 ≤ R &lt; 500</b>	0.040	2.32E-03	2.99E-04	4.01E-04		2.32E-03
<b>500 ≤ R &lt; 1000</b>	0.011	6.38E-04	8.22E-05	1.10E-04		6.38E-04
<b>1000 ≤ R &lt; 1500</b>	0.003	1.74E-04	2.24E-05	3.01E-05		1.74E-04
<b>1500 ≤ R &lt; 2000</b>	0.002	1.16E-04	1.50E-05	2.00E-05		1.16E-04
<b>2000 &lt; R</b>	0.001	5.80E-05	7.48E-06	1.00E-05		5.80E-05

RBI Futera III MW2000 two-stage natural gas boiler rated at

Enter the unit's CAS# of the substances emitted and their amounts.

Prioritization score for each substance generated below. Totals on last row.

Substance	CAS#	Annual Emissions (lbs/yr)	Maximum Hourly (lbs/hr)	Average Hourly (lbs/hr)	Cancer	Chronic	Acute
Acetaldehyde	75070	6.61E-02	1.69E-05	1.69E-05	1.37E-03	1.81E-05	5.38E-05
Acrolein	107028	4.15E-02	1.06E-05	1.06E-05	0.00E+00	4.54E-03	6.35E-03
Benzene	71432	1.23E-01	3.14E-05	3.14E-05	2.75E-02	1.57E-03	1.74E-03
Ethyl benzene	100414	1.46E-01	3.73E-05	3.73E-05	2.81E-03	2.79E-06	0.00E+00
Formaldehyde	50000	2.61E-01	6.67E-05	6.67E-05	1.21E-02	1.11E-03	1.82E-03
Hexane	110543	9.69E-02	2.47E-05	2.47E-05	0.00E+00	5.29E-07	0.00E+00
Naphthalene	91203	4.61E-03	1.18E-06	1.18E-06	1.21E-03	1.96E-05	0.00E+00
PAHs, total, w/o individ. components reported [Treated as B(a)P for HRA]	1151	1.54E-03	3.92E-07	3.92E-07	1.30E-02	0.00E+00	0.00E+00
Propylene	115071	1.12E+01	2.87E-03	2.87E-03	0.00E+00	1.43E-04	0.00E+00
Toluene	108883	5.63E-01	1.44E-04	1.44E-04	0.00E+00	5.13E-05	4.31E-05
Xylenes (mixed)	1330207	4.18E-01	1.07E-04	1.07E-04	0.00E+00	2.29E-05	7.27E-06
				0.00E+00	0.00E+00	0.00E+00	0.00E+00
				0.00E+00	0.00E+00	0.00E+00	0.00E+00
<b>Totals</b>					<b>5.80E-02</b>	<b>7.48E-03</b>	<b>1.00E-02</b>