Monterey Bay Air Resources District
Serving Monterey, San Benito, and Santa Cruz Counties

24580 Silver Cloud Court
Monterey, CA 93940
PHONE: (831) 647-9411 • FAX: (831) 647-8501

NOTICE OF PRELIMINARY DECISION OF PART 4 & 5 OF DISTRICT RULE 207, *Review of New or Modified Sources*

Pursuant to District Rule 207, Section 6.9 the Monterey Bay Air Resources District (District) solicits written comments to the preliminary decision to approve the issuance of the Authority to Construct (ATC) MOD-22-00067 to TPWC Inc. dba Stonewall Canyon Winery and Vineyard (SCWV) located at 980 Bryant Canyon Road in Soledad. SCWV has submitted an application to replace their current boiler with a total heat input rating of 4.0 MMBTU/Hr, as listed on Permit to Operate (PTO) PTO-22-00038 with a new two-staged boiler with a total heat input rating of 3.98 MMBTU/Hr.

District 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 the District's Evaluation Report demonstrates that the proposed modification is subject to NSR.

SCWV's facility-wide Volatile Organic Compound (VOC) emissions are greater than or equal to those threshold limits listed for Sections 4.2 and 5.3. As demonstrated in the District's Evaluation Report, the boiler replacement project meets the requirements of Part 4 and Part 5 of Rule 207. Hence, the District's preliminary decision to approve this project is being proposed because the facility has the capability of complying with all applicable District rules and regulations.

SCWV's application and the District's Evaluation Report of the initial Authority to Construct application are available for public inspection at the District office at 24580 Silver Cloud Court, Monterey, CA. A copy of the evaluation report is found on the District website at www.mbard.org.

The public has an opportunity to review and comment on the proposed project. Under special circumstances, the District may hold a public hearing. Written comments must be submitted to the address below and be postmarked by Friday, January 20, 2023.

Monterey Bay
Air Resources District
24580 Silver Cloud Court
Monterey, CA 93940
(831) 647-9411
skim@mbard.org
Attention: Seong Kim

MONTEREY BAY AIR RESOURCES DISTRICT
EVALUATION REPORT APPLICATION MOD-22-00089

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

Date: December 9, 2022

APPLICATION RECEIVED FROM:

TPWC Inc.
dba Stonewall Canyon Winery and Vineyard
980 Bryant Canyon Road
Soledad, CA 93960

PLANT SITE LOCATION:

Address:	UTM Coordinates:	
980 Bryan Canyon Rd	651571.55 m E	Latitude °N: 36.42852°
Soledad, CA	4032808.96 m N	Longitude °E: -121.30914°

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:

Name: Joe Barner
Title: EHS Manager
Email: joe.barner@cbrands.com
Cell: (559) 231-7117
Office: (559) 559-7117

APPLICATION PROCESSED BY:

Seong Kim, Air Quality Engineer

AUTHORIZED FOR RELEASE ON: December 21, 2022

COMMENTS MUST BE POSTMARKED BY: January 20, 2023

APPROVED FOR RELEASE BY:

Mary Giraudo
Mary Giraudo
Supervising Air Quality Engineer

Dec 16, 2022
Date

I. **PROPOSAL:** TWO STAGED NATURAL GAS BOILERS

TPWC Inc. dba Stonewall Canyon Winery and Vineyard has submitted an application to replace the existing Raypak boiler with a total heat input rating of 4.0 MMBtu/Hr, as listed on Permit to Operate (PTO) PTO-22-00038 with new two-staged boilers with a total heat input rating of 3.98 MMBtu/Hr. These boilers are to provide hot water to their facility operations. Lastly, the equipment is not located within 1,000 ft. of a K-12 school.

II. APPLICABLE RULES:

Rule 200: Permits Required
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 1000: Toxic Air Contaminants
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
CA Health & Safety Code, Section 42301.6 – Public Notice

III. PROCESS DESCRIPTION:

Two Staged Natural Gas Boilers:

Removal of the following equipment:

1. Raypak Model H7-4003 Boiler, Natural Gas Fired Only, With A Maximum Rated Heat Input Of 4.0 MMBTU/Hr.

Installation of the following equipment:

Two-Stage Caymus Hydronics Ltd. Ensemble, Natural Gas Fired Only, With A Combined Rated Heat Input Of 3.98 MMBTU/Hr Consisting Of:

1. Caymus DynaFlame Model DFNW-2000 Water-Tube Type Boiler, Serial #072232473, With One (1) Burner Rated At 1,990,000 Btu/Hr.

2. Caymus DynaFlame Model DFNW-2000 Water-Tube Type Boiler, Serial #072232473, With One (1) Burner Rated At 1,990,000 Btu/Hr.

IV. DESIGN VIEW AND EMISSIONS CALCULATIONS:

Table 1. Supplemental Information (Natural Gas)

Individual Burner Capacity (MMBTU/Hr)	1.99
Total Number Of Burners	2
Total Burner Capacity (MMBTU/Hr)	3.98
Max Daily Capacity (MMBTU/Day)	95.52
Heating Value[1] (BTU/scf)	1,020
Max Natural Gas Fuel Usage (ft^3/day)	93,647
F_d Factor For Natural Gas (dscf/MMBTU)	8,710
Volumetric Flow Rate (cfm)	775 @ 375ºF
Max NO_x Emission Rate[2], ppm @ 3% O_2	9
Max CO Emission Rate[2], ppm @ 3% O_2	100

1. Per EPA AP-42, Natural Gas Combustion, the average gross heating value is approximately 1,020 Btu/hr.
2. The NO_x and CO ppm emission rates were based on the best available control technology (BACT) emissions limit of 9 ppm corrected to 3% O_2 for NO_x and 100 ppm corrected to 3% O_2 for CO.

Table 2. Boiler Emission Factors

Pollutant	Emission Factor (lb/MMSCF)	Emission Factor (lb/MMBTU)
NO_x[1]	11.1	0.0109
VOC[2,3]	5.5	0.0054
CO[1]	75.5	0.0740
PM[2,3]	7.6	0.0075
PM_{10}[3,4]	7.6	0.0075
$PM_{2.5}$[3,4]	7.6	0.0075
SO_x[2,3]	0.6	0.0006
TOC[2,3]	11.0	0.0108

1. The NO_x and CO emission factor were obtained by converting the NO_x and CO emission rates in ppm to lb/MMBTU using the following equation:

$$lb/MMBTU = ppm * 10^{-6} * 1/molar\ volume * molar\ weight * F_d * [20.9/(20.9 - \%O_2)]$$

Where:

Molar Volume = 385 dscf/lb-mol at 1 atm and 68 °F
Molar Weight = 46.01 lb/lb-mol as NO_2 and 28.01 lb/lb-mol as CO
Fd Factor = 8,710 dscf/MMBTU
Corrected oxygen = 3% O_2

2. The VOC, PM, SO_x, and TOC emission factors are referenced from EPA AP-42 Table 1.4-1 & 1.4-2
3. To convert lb/MMSCF to lb/MMBTU, use the following equation:

$$lb/MMBTU = lb/MMSCF * 1/Heating\ Value\ (1{,}020\ BTU/scf)$$

4. Per CEIDARS PM Profile, for external combustion boilers, PM = PM_{10} = $PM_{2.5}$

Table 3. Potential to Emit (PTE) from New Boiler

Pollutant	Operating Schedule (hr/day)	Heat Input Rate (MMBTU/Hr)	Emission Factor (lb/MMBTU)	PTE Emissions (lb/day)	Annual Emissions (tons/yr)
NO_x	24	3.98	0.0109	1.04	0.19
VOC	24	3.98	0.0054	0.52	0.09
CO	24	3.98	0.0740	7.07	1.29
SO_x	24	3.98	0.0006	0.06	0.01
PM	24	3.98	0.0075	0.72	0.13
PM_{10}	24	3.98	0.0075	0.72	0.13
$PM_{2.5}$	24	3.98	0.0075	0.72	0.13
TOC	24	3.98	0.0108	1.03	0.19
Total (NO_x + VOC + CO + SO_x + PM)					1.71
Total (NO_x + TOC + CO + SO_x + PM)					1.81

1. Annual emissions are based upon 365 days of operation per year.

The historical annual and quarterly fuel usage data for 2019, 2020, and 2021 were provided by TPWC Inc. dba Stonewall Canyon Winery and Vineyard. The information is summarized in Tables 4 and 5.

Table 4. Reported Annual Fuel Usage

Year	Reported Annual Usage (MMSCF/yr)
2019	3.19
2020	3.40
2021	3.40
Average	3.33

Table 5. Quarterly Fuel Usage (MMCF/Quarter)[1]

Year	Quarter 1 (MMSCF)	Quarter 2 (MMSCF)	Quarter 3 (MMSCF)	Quarter 4 (MMSCF)
2019	0.79	0.80	0.80	0.80
2020	0.84	0.85	0.86	0.86
2021	0.84	0.85	0.86	0.86
Average	0.82	0.83	0.84	0.84

1. Quarterly fuel usage is obtained from the District's annual emission inventory.

Table 6. Existing Burner Emission Factor

Pollutant	Emission Factor (lb/MMSCF)
NO_x[1]	37
VOC[2]	5.5
CO[2]	84.0
PM[2,3]	7.6
PM_{10}[2,3]	7.6
$PM_{2.5}$[2,3]	7.6
SO_x[2]	0.6
TOC[2]	11.0

1. NO_x emission rate referenced from engineering evaluation PTO-22-00038
2. Existing boiler emission factors referenced from EPA AP-42 Table 1.4-1 & 1.4-2
3. Per CEIDARS PM Profile, for external combustion boilers, PM = PM_{10} = $PM_{2.5}$

Table 7 below compares the Actual Historic Emissions (AHE) of the existing boiler to the Potential to Emit (PTE) of the proposed boiler.

Table 7. $AHE_{pre\text{-}project}$ to $PTE_{post\text{-}project}$ Analysis

PTE Post Porject[1]	**NO_x (lb/qtr)**	**VOC (lb/qtr)**	**CO (lb/qtr)**	**SO_x (lb/qtr)**	**PM (lb/qtr)**	**PM_{10} (lb/qtr)**	**$PM_{2.5}$ (lb/qtr)**
Q1	93.60	46.80	636.30	5.40	64.80	64.80	64.80
Q2	94.64	47.32	643.37	5.46	65.52	65.52	65.52
Q3	95.68	47.84	650.44	5.52	66.24	66.24	66.24
Q4	95.68	47.84	650.44	5.52	66.24	66.24	66.24
Actual	**NO_x (lb/qtr)**	**VOC (lb/qtr)**	**CO (lb/qtr)**	**SO_x (lb/qtr)**	**PM (lb/qtr)**	**PM_{10} (lb/qtr)**	**$PM_{2.5}$ (lb/qtr)**
Q1	30	4.51	68.88	0.49	6.23	6.23	6.23
Q2	31	4.57	69.72	0.50	6.31	6.31	6.31
Q3	31	4.62	70.56	0.50	6.38	6.38	6.38
Q4	31	4.62	70.56	0.50	6.38	6.38	6.38
Emission Increase	**NO_x (lb/qtr)**	**VOC (lb/qtr)**	**CO (lb/qtr)**	**SO_x (lb/qtr)**	**PM (lb/qtr)**	**PM_{10} (lb/qtr)**	**$PM_{2.5}$ (lb/qtr)**
Q1	63.60	42.29	567.42	4.91	58.57	58.57	58.57
Q2	63.64	42.75	573.65	4.96	59.21	59.21	59.21
Q3	64.68	43.22	579.88	5.02	59.86	59.86	59.86
Q4	64.68	43.22	579.88	5.02	59.86	59.86	59.86

1. To calculate the quarterly emissions, the daily emissions were multiplied by the number of days per quarter, which is assessed to be 90, 91, 92, and 92 respectively for Q1, Q2, Q3, and Q4.

The AHE to PTE test shows that the proposed project has the potential to increase all pollutants in all quarters. Accordingly, the test demonstrates that the proposed modification requires a full NSR review.

Table 8. Potential to Emit (PTE) from Existing Burner

Pollutant	Operating Schedule (hr/day)	Heat Input Rate (MMBTU/Hr)	Emission Factor (lb/MMBTU)	PTE Emissions (lb/day)
NO_x	24	4.0	0.0363	3.48
VOC	24	4.0	0.0054	0.52
CO	24	4.0	0.0824	7.91
$PM/PM_{10}/PM_{2.5}$	24	4.0	0.0075	0.72
SO_x	24	4.0	0.0006	0.06

Table 9 below compares the PTE of the pre-project boiler to the PTE of the proposed boiler project.

Table 9. $PTE_{pre\text{-}project}$ to $PTE_{post\text{-}project}$ Analysis[1]

PTE Post-project	**NO_x (lb/qtr)**	**VOC (lb/qtr)**	**CO (lb/qtr)**	**SO_x (lb/qtr)**	**PM (lb/qtr)**	**PM_{10} (lb/qtr)**	**$PM_{2.5}$ (lb/qtr)**
Q1	93.60	46.80	636.30	5.40	64.80	64.80	64.80
Q2	94.64	47.32	643.37	5.46	65.52	65.52	65.52
Q3	95.68	47.84	650.44	5.52	66.24	66.24	66.24
Q4	95.68	47.84	650.44	5.52	66.24	66.24	66.24
PTE Pre-project	**NO_x (lb/qtr)**	**VOC (lb/qtr)**	**CO (lb/qtr)**	**SO_x (lb/qtr)**	**PM (lb/qtr)**	**PM_{10} (lb/qtr)**	**$PM_{2.5}$ (lb/qtr)**
Q1	313.20	46.80	711.90	5.40	64.80	64.80	64.80
Q2	316.68	47.32	719.81	5.46	65.52	65.52	65.52
Q3	320.16	47.84	727.72	5.52	66.24	66.24	66.24
Q4	320.16	47.84	727.72	5.52	66.24	66.24	66.24
Emission Increase	**NO_x (lb/qtr)**	**VOC (lb/qtr)**	**CO (lb/qtr)**	**SO_x (lb/qtr)**	**PM (lb/qtr)**	**PM_{10} (lb/qtr)**	**$PM_{2.5}$ (lb/qtr)**
Q1	-219.60	0.00	-75.60	0.00	0.00	0.00	0.00
Q2	-222.04	0.00	-76.44	0.00	0.00	0.00	0.00
Q3	-224.48	0.00	-77.28	0.00	0.00	0.00	0.00
Q4	-224.48	0.00	-77.28	0.00	0.00	0.00	0.00

1. To convert the daily emissions into quarterly emissions, the daily emissions were multiplied by the number of days per quarter, which is assessed to be 90, 91, 92, and 92 days respectively for Q1, Q2, Q3, and Q4.

The $PTE_{pre\text{-}project}$ to $PTE_{post\text{-}project}$ test shows that the proposed project does not result in an emissions increase. However, based on the AHE to PTE test, the proposed modification requires a full NSR review.

VI. RULE COMPLIANCE:

The following District rules apply to the operation as specified:

District Rule 200 – Permits Required

The purpose of this Rule is to identify when District 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, no 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 canceled.

District Rule 207 – Review of New and Modified Sources (as adopted on 4/20/2011)

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 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. Section 2.33.1 defines a modification to be any physical change, change in method of operation of, or addition to an 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 AHE to PTE test, as shown in Table 7, show that the proposed project will result in an actual increase in emissions for all pollutants in all quarters. Accordingly, this test demonstrates the need to require an NSR review. The federal and CA BACT and offset reviews are provided as follows:

Federal 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 $PM_{2.5}$ or after August 19, 1983, for PM_{10} or after July 15, 1976, for any other affected pollutant.

Table 10 shows the emissions from the proposed project, the facility-wide new emissions, and the Federal BACT thresholds of Table 4.1.1.

Table 10. Federal New Emission Increase – BACT Determination

Permit No. (Installation)	Equipment Description	NO_x (lb/day)	VOC (lb/day)	CO (lb/day)	SO_x (lb/day)	PM (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$ (lb/day)
PTO-22-00039 (2018)	Barrel Aging	-	163.09	-	-	-	-	-
PTO-22-00040 (2018)	Wine Fermentation	-	249.85	-	-	-	-	-
PTO-22-00041 (2018)	WWTP	-	2.65	-	-	-	-	-
PTO-22-00042 (2018)	Emg. IC. Eng.	46.55	2.27	5.11	0.04	0.68	0.65	0.64
GNR-018852[1] (2021)	2-Staged Boilers	1.02	0.51	8.52	0.06	0.70	0.70	0.70
MOD-22-00067[1](2022)	2-Staged Boilers	1.04	0.52	7.07	0.06	0.72	0.72	0.72
Total		48.61	418.89	20.70	0.16	2.10	2.07	2.06
Federal Threshold		150	150	550	150	150	82	54.79

1. Per CEIDARS PM Profile, for external combustion boilers, PM = PM_{10} = $PM_{2.5}$.

As shown in Table 10, the facility exceeds the Federal BACT threshold of Table 4.1.1 for VOC. Per the District's "Clarification of Permit Requirements For Gaseous Fired Boilers" the BACT emission standards for natural gas boilers rated at 3.98 MMBTU/Hr are as follows:

NO_x (as NO_2 corrected to 3% O_2)	CO (corrected to 3% O_2)
≤ 9 ppmvd	≤ 100 ppmvd

As shown in Table 1, the proposed boilers comply with the above District BACT emission standards for natural gas boilers rated at 3.98 MMBTU/Hr.

California BACT Analysis

Pursuant to Section 5.2, BACT shall be required for any new or modified permit unit with the potential to emit 25 pounds per day or more of VOCs or NO_x. Table 11 shows the "permit unit" emissions from the proposed project.

Table 11. California BACT Permit Unit Determination

Pollutant	BACT threshold (lb/day)	Project emissions (lb/day)	Compliance
NO_x	25	1.04	Doesn't Trigger BACT
VOC	25	0.52	Doesn't Trigger BACT

As shown in Table 11, the equipment does not exceed any of the CA BACT thresholds of Section 5.2. Regardless, the equipment meets the District's BACT requirement for boilers rated at 3.98 MMBTU/Hr.

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. TPWC Inc. dba Stonewall Canyon Winery and Vineyard formerly known as Franciscan Vineyards dba Estancia Estates submitted the first application for this facility on February 14, 2018. As defined by Section 2.38, this is a new facility from a federal standpoint, with commencement after July 15, 1976. Accordingly, the project emissions must be counted in the net emission increase calculations.

Table 12 shows the emissions from the new project, the net emissions increase for the facility, and the Federal offset thresholds.

Table 12. Federal Net Emissions Increase (NEI) - Offset Determination

Permit No. (Installation)	Equipment Description	NO_x (lb/day)	VOC (lb/day)	CO (lb/day)	SO_x (lb/day)	PM (lb/day)	PM_{10} (lb/day)
PTO-22-00039 (2018)	Barrel Aging	-	163.09	-	-	-	-
PTO-22-00040 (2018)	Wine Fermentation	-	249.85	-	-	-	-
PTO-22-00041 (2018)	WWTP	-	2.65	-	-	-	-
PTO-22-00042 (2018)	Emg. IC. Eng.[1]	~~46.55~~	~~2.27~~	~~5.11~~	~~0.04~~	~~0.68~~	~~0.65~~
GNR-018852[1] (2021)	2-Staged Boilers	1.02	0.51	8.52	0.06	0.70	0.70
GNR-0017694[2] (2018)	2-Staged Boilers, Removed 2021	<0.11>	0.0	0.0	0.0	0.0	0.0
MOD-22-00067[1] (2022)	2-Staged Boilers	1.04	0.52	7.07	0.06	0.72	0.72

Total	1.95	416.62	15.59	0.12	1.42	1.42
Federal Threshold	150	150	550	150	150	82

1. Per Rule 207, emergency engines are exempt from Offset requirements.
2. An emissions decrease of 011 lb/day of NO_x was calculated based on Table 7 quarterly emission changes in engineering evaluation GNR-018852.

As summarized in Table 12, the proposed emissions have a *Net Emission Increase* that exceeds the offset threshold level of 150 lbs/day of VOCs. No other pollutants exceed their respective threshold levels. Accordingly, the facility is subject to offsets per the Federal Clean Air Act.

Though it was first demonstrated that the facility exceeded the VOC offset threshold in 2018, as summarized in application GNR-017746 for Wine Fermentation & Storage Operations, and application GNR-017747 for Oak Barrel Aging & Storage offsets were not required at the time for the following reasons:

> Wine Fermentation & Storage Operations - Per Health and Safety Code (H&SC) Section 42301.2, "A District shall not require emission offsets for any emission increase at a source that results from the installation, operation, or other implementation of any emission control device or **technique** used to comply with a District, state or federal emission control requirements…unless there is a modification that results in an increase in capacity of the unit being controlled." Since the EPA emission factors represented the **technique** used to demonstrate compliance with emission limitations, a change in **technique** to quantify emissions by using higher ARB emission factors will not require emission offsets. Likewise, as a result of the change in emission factors, no emission offsets can be claimed for the decrease in emissions from the method or "technique" in quantifying emissions.
>
> Oak Barrel Aging & Storage Operations – Prior to March 4, 2016, the District had historically not evaluated emissions from oak barrel aging/storage, nor required permits for the aging/storage in oak barrels, though no specific exemption existed in Rule 201 for this operation, by policy. Accordingly, prior to March 4, 2016, these emissions were never evaluated nor included in the facility's 10 ton per year VOC offset threshold limit. Moving forward, however, the District will use March 4, 2016, as the start date for including barrels as a new emissions source. Oak barrels in existence prior to March 4, 2016, will be considered part of the existing source's emissions inventory and will not be subject to BACT or Offsets.

Accordingly, to establish the facility's baseline, Condition 3 of current PTO-22-00039 limited the facility to 41.9 tons per year of VOCs excluding emissions from the emergency internal combustion engine, which are exempt from offset requirements pursuant to Section 1.3.3. Table 13 shows the facility-wide VOC annual PTE emissions from each of the permitted equipment. It is noted that the new Caymus two-staged boilers have the same VOC PTE emissions as the existing Raypak boiler.

Table 13. Post-Project Facility-Wide VOC Annual PTE

Permit No	Equipment Description	VOC (tons/yr)
PTO-22-00039 (2018)	Barrel Aging	29.76
PTO-22-00040 (2018)	Wine Fermentation	11.49
PTO-22-00041 (2018)	WWTP	0.48

PTO-22-00042 (2018)	Emg. IC. Eng.	0.02
GNR-018852 (2021)	2-Staged Boilers	0.09
MOD-22-00067/PTO-22-00038 (2022)	2-Staged Boilers	0.09
Total (Excluding Emg. Engine)		41.91
Total (Including Emg. Engine)		41.93

Table 13 shows that the proposed project will not increase the permitted VOC emissions of 41.9 tons per year. Since the replacement of the boiler may result in an actual emission increase of VOCs, a review of the increase in VOC emissions from the proposed project must be further analyzed per Section 4.2.4 which states:

> Offsets shall be actual, quarterly, enforceable emission reductions for existing sources, sufficient to offset all anticipated quarterly emission increases as calculated according to Sections 7.3, 7.4, and 7.5 of this Rule, associated with new or modified stationary sources and which will result in a net air quality benefit.

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 historical emissions. Table 14 shows the comparison of the VOC emissions profile for the proposed project, $PTE_{post\text{-}project}$, and the actual historical emissions of the existing source, $AHE_{pre\text{-}project}$.

Table 14. Federal Offset Calculation $PTE_{post\text{-}project}$ - $AHE_{pre\text{-}project}$

Federal Quarterly Profiles (tons/quarter)[1]	Q1	Q2	Q3	Q4
PTE Post-Project Emissions:				
2-Stage Boilers Application MOD-22-00067	0.0234	0.0237	0.0239	0.0239
AHE Pre-Project Emissions:				
Boiler PTO-22-00038	0.0023	0.0023	0.0023	0.0023
Total Emissions	0.0211	0.0214	0.0216	0.0216

1. Presents the VOC emissions summarized in Table 7, but emissions converted from lbs/quarter to tons/quarter.

VOC emission increases from the proposed modification result in an increase of 0.02 tons/Q1, 0.02 tons/Q2, 0.02 tons/Q3, and 0.02 tons/Q4. These quarterly VOC increases must be offset by emission reductions. **District policy is to round up to the tenth place and the nearest whole number, so 0.02 tons/qtr rounds up to 0.0 tons/qtr. Hence, no offsets are required with the proposed modification.**

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_x 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. The first application for this facility was applied on February 14, 2018. As defined by Section 2.38, this is a new facility from a State standpoint, with commencement after April 21, 1993.

Table 15 shows the potential to emit emissions from the new project and for the facility.

Table 15. Facility-Wide Potential to Emit Offset Determination - California

Permit No. (Installation)	Equipment Description	NO_x (lb/day)	VOC (lb/day)
PTO-22-00039 (2018)	Barrel Aging	-	163.09
PTO-22-00040 (2018)	Wine Fermentation	-	249.85
PTO-22-00041 (2018)	WWTP	-	2.65
PTO-22-00042 (2018)	Emg. IC. Eng.[1]	~~46.55~~	~~2.27~~
GNR-018852 (2021)	Boiler	1.02	0.51
MOD-22-00067 (2022)	Boiler	1.04	0.52
Total		2.06	416.62
California Threshold		137	137

1. Per Rule 207, emergency engines are exempt from Offset requirements.

Per Section 5.3.1, any modified source with the potential to emit 137 pounds per day or more of VOCs or NOx shall be required to provide offsets. As shown in Table 15, the facility has the potential to emit more than 137 pounds of VOCs per day. Accordingly, the facility is subject to offsets per the California Clean Air Act (CCAA).

Per Section 5.3.4, the amount of offsets required shall be equal to the difference between the modified source and the existing source. **Per Section 5.4, emission profiles for new sources, existing sources, and modified sources are based on the potential to emit, as described in Section 7.1.** In addition, Section 5.3.2 states that offsets shall be determined on a quarterly basis. Given these parameters, the required offsets are calculated in Table 16 below:

Table 16. California Offset Calculation $PTE_{post\text{-}project} - PTE_{pre\text{-}project}$

State Quarterly Profiles (tons/quarter)[1]	Q1	Q2	Q3	Q4
PTE Post-Project Emissions:				
2-Stage Boilers Application MOD-22-00067	0.0234	0.0237	0.0239	0.0239
PTE Pre-Project Emissions:				
Boiler PTO-22-00038	0.0234	0.0237	0.0239	0.0239
Total Emissions	0.0	0.0	0.0	0.0

1. Presents the VOC emissions summarized in Table 9, but emissions converted from lbs/quarter to tons/quarter.

As shown in Table 16, the proposed modification demonstrates no increase in VOC emissions for all quarters. Hence, no offsets are required with the proposed modification.

Visibility, Soils, And Vegetation Analysis:
Section 3.2 requires the applicant to provide the District with an analysis of impairment to visibility, soils, and vegetation. The District does not find it necessary to determine the effect emissions from the stationary source or 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 that is subject to Section 4.2, *Offset Requirements*, from exceeding 50% of the remaining emissions increment.

The proposed boiler has the potential to emit NO_x, VOC, CO, SO_x, PM_{10}, and $PM_{2.5}$. The actual to potential emissions increase as shown in Table 17 below will be utilized for the increment analysis. The proposed operation does not emit H_2S, lead, sulfates, or vinyl chloride.

Ozone (O_3), a component of smog, is formed in the atmosphere rather than being directly emitted from pollutant sources. O_3 forms as a result of VOCs and NO_x reacting in the presence of sunlight in the atmosphere. VOCs and NO_x are termed "O_3 precursors" and their emissions are regulated to control the creation of O_3. O_3 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_3 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 the District as attainment for O_3.

The District is in attainment for all federal AAQS but is currently nonattainment with the State's 24-hour and annual AAQS for PM_{10}. Because the background concentrations for the annual and 24-hour PM_{10} are above the State AAQS, all projects emitting PM_{10} will result in a total PM_{10} concentration in exceedance of the State's AAQS, as shown in Table 21. However, as stipulated in Section 6.6 of District Rule 207, the District can conclude that a project will not cause or contribute to an exceedance of the AAQS if the new or modified emissions from the project are less than 50% of the remaining emissions increment. Tables 19 and 20 summarize the AAQS and increment analyses from this proposed replacement boiler.

Table 17. Air Dispersion Modeling (AERMOD) Maximum Concentrations[1]

Averaging Period	Max Concentration ($\mu g/m^3$ / lb/hr)
1-hr	57.7
3-hr	53.6
8-hr	44.3
24-hr	37.3
Annual	7.99

1. Modeling results included in Attachment A.

Table 18. Hourly Emissions Increase ($PTE_{post\text{-}project}$ to $AHE_{pre\text{-}project}$)

Pollutant	PTE Post-Project Emissions (lb/day)	AHE Pre-Project Emissions (lb/day)	Emissions Increase (lb/hr)[1]
NO_x	1.04	0.34	0.029
CO	7.07	0.77	0.26
$PM/PM_{10}/PM_{2.5}$	0.72	0.07	0.03
SO_x	0.06	0.01	0.002

1. Emissions Increase (lb/hr) = (PTE (lb/day) – AHE (lb/day))/24 hours/day.

Table 19. Source Effect on Ambient Air Quality Standards

Pollutant	Averaging Period	Source Conc.[1] µg/m^3	Background Conc.[2] µg/m^3	Total Conc. µg/m^3	State Standard µg/m^3	Total Exceeds State Standard	Federal Standard µg/m^3	Total Exceeds Federal Standard
Nitrogen Dioxide (NO_2)[3]	1-hr	1.67	48.00	49.67	339	No	188	No
	Annual	0.23	7.20	7.43	57	No	100	No
Carbon Monoxide (CO)	1-hr	15.00	1,600.00	1615.00	23,000	No	40,000	No
	8-hr	11.52	1,000.00	1011.52	10,000	No	10,000	No
Sulfur Dioxide (SO_2)[4]	1-hr	0.12	ND[6]	0.12	655	No	196	No
	3-hr	0.11	ND[6]	0.11	N/A	N/A	1,300	No
	24-hr	0.07	ND[6]	0.07	105	No	N/A	No
PM_{10}[5]	24-hr	1.12	95.30	96.42	50	**Yes**	150	No
	Annual	0.24	29.70	29.94	20	**Yes**	N/A	No
$PM_{2.5}$[5]	24-hr	1.12	24.90	26.02	N/A	N/A	35	No
	Annual	0.24	7.00	7.24	12	No	12	No

1. Source concentration = maximum concentration for each averaging period from the AERMOD model run at 1 lb/hr multiplied by the emissions increase in lb/hr.
   Ex. 8-hr averaging period for CO = (44.3 µg/m^3/1 lb/hr) * 0.26 lb/hr = 11.52 µg/m^3
2. Background concentration = Ambient Air Monitoring Data published in ARB Almanac, see https://ww2.arb.ca.gov/our-work/programs/almanac-emissions-air-quality
3. Conservatively assume all NO_x emissions equals to NO_2.
4. Conservatively assume all SO_x emissions equals to SO_2.
5. The 24-hr and annual PM_{10} and $PM_{2.5}$ background concentrations were based on the maximum values of 2017 through 2019 air quality data.
6. According to the California Air Resources Board "Annual Network Plan" dated July 2020, as of December 2017, U.S. EPA designated all areas of California as unclassifiable/attainment for the federal SO_2 standard. Hence, SO_2 concentrations are not measured in the District.

Table 20. Effect Of The Modified Source On The Emission Increments

Pollutant	Averaging Period	Source Conc µg/m^3	Allowable Increment in Area E[1] µg/m^3	Increment Consumed (%)	Allowable Increment Exceeded[2]
Nitrogen Dioxide (NO_2)	1-hr	1.67	NA	N/A	N/A
	Annual	0.23	25	0.92	No
Carbon Monoxide (CO)	1-hr	15.00	12,000	0.13	No
	8-hr	11.52	NA	N/A	N/A
Sulfur Dioxide (SO_2)	1-hr	0.12	NA	N/A	N/A
	3-hr	0.11	512	0.02	No
	24-hr	0.07	91	0.08	No
PM_{10}	24-hr	1.12	21.1	5.3	No
	Annual	0.24	10.8	2.2	No
$PM_{2.5}$	24-hr	1.12	9	12.4	No
	Annual	0.24	4	6.00	No

1. District Rule 207, Table 2.5.2, Area E, Monterey County other than Areas A, C, & F Impact Zones
2. 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."*

As shown in Table 20, the proposed project's emissions will not exceed 50% of the remaining emissions increment.

Publication and Public Comment:
Where the emission levels are greater than or equal to the offset threshold limits listed in Sections 4.2 and 5.2, Section 6.9 of Rule 207 requires the District to publish in at least one newspaper of general circulation in the District, a notice stating the preliminary decision of the District, noting how the pertinent information can be obtained, and invite written public comment for a 30-day period following the date of publication. Though no offsets were required by this proposed project, since the offset threshold levels were exceeded, a publication and public comment period will be conducted.

District Rule 207 – Review of New and Modified Sources (as adopted on 2/15/2017)
Note that the District has not received approval for the 2/15/2017 version of Rule 207 and the District 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.

Best Available Control Technology (BACT) requirements

Pursuant to Section 4.1.1, BACT shall be required for any new or modified permit unit with the potential to emit 25 pounds per day or more of VOCs or NO_x.

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

Table 21 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 22 shows the emissions from the permit unit and the BACT thresholds of Section 4.1.1.

Table 21. Facility-Wide Potential to Emit BACT Determination

Permit No. (Installation)	Equipment Description	NO_x (lb/day)	VOC (lb/day)	CO (lb/day)	SO_x (lb/day)	PM (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$ (lb/day)
PTO-22-00039 (2018)	Barrel Aging	-	163.09	-	-	-	-	-
PTO-22-00040 (2018)	Wine Fermentation	-	249.85	-	-	-	-	-
PTO-22-00041 (2018)	WWTP	-	2.65	-	-	-	-	-
PTO-22-00042 (2018)	Emg. IC. Eng.	46.55	2.27	5.11	0.04	0.68	0.65	0.64
GNR-018852[1] (2021)	Boilers	1.02	0.51	8.52	0.06	0.70	0.70	0.70
MOD-22-00067 (2018)	Boiler	1.04	0.52	7.07	0.06	0.72	0.72	0.72
Total		48.61	418.89	20.70	0.16	2.10	2.07	2.06
BACT Threshold		150	150	550	150	150	82	54.79

1. Per CEIDARS PM Profile, for external combustion boilers, PM = PM_{10} = $PM_{2.5}$.

As shown in Table 21, the facility exceeds the BACT threshold for VOC. Per the District's "Clarification of Permit Requirements For Gaseous Fired Boilers" the BACT emission standards for natural gas boilers rated at 3.98 MMBTU/Hr are as follows:

NO_x (as NO_2 corrected to 3% O_2)	CO (corrected to 3% O_2)
≤ 9 ppmvd	≤ 100 ppmvd

As shown in Table 1, the proposed boilers comply with the District BACT emission standards for natural gas boilers rated at 3.98 MMBTU/Hr.

Table 22. Permit-Unit BACT Determination

Pollutant	BACT threshold (lb/day)	Project emissions (lb/day)	Compliance
NO_x	25	1.04	Doesn't Trigger BACT
VOC	25	0.52	Doesn't Trigger BACT

As shown in Table 22, the equipment does not exceed any of the Permit-Unit BACT trigger levels. Regardless, the equipment meets the District's BACT requirement for boilers rated at 3.98 MMBTU/Hr.

Stationary Source Offsets

Pursuant to 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 23 shows the emissions from the new project, the facility-wide potential to emit, and the emission offset thresholds.

Table 23. Facility-Wide Potential to Emit Offset Determination

Permit No. (Installation)	Equipment Description	NO_x (lb/day)	VOC (lb/day)	CO (lb/day)	SO_x (lb/day)	PM (lb/day)	PM_{10} (lb/day)
PTO-22-00039 (2018)	Barrel Aging	-	163.09	-	-	-	-
PTO-22-00040 (2018)	Wine Fermentation	-	249.85	-	-	-	-
PTO-22-00041 (2018)	WWTP	-	2.65	-	-	-	-
PTO-22-00042 (2018)	Emg. IC. Eng.[1]	~~46.55~~	~~2.27~~	~~5.11~~	~~0.04~~	~~0.68~~	~~0.65~~
GNR-018852[1] (2021)	Boilers	1.02	0.51	8.52	0.06	0.70	0.70
MOD-22-00067 (2022)	Boilers	1.04	0.52	7.07	0.06	0.72	0.72
Total		2.06	416.62	15.59	0.12	1.42	1.42
Offset Threshold		137	137	550	150	150	82

1. Per Rule 207, emergency engines are exempt from Offset requirements.

Per Section 4.2 any new or modified source with a potential to emit 137 pounds per day or more of VOCs shall be required to provide offsets. As shown in Table 23, the facility has the potential to emit more than 137 pounds of VOCs per day. Accordingly, the facility is subject to offsets requirements.

Per Section 4.2.2, the amount of offsets required shall be equal to offset the potential to emit emissions increases. In addition, Section 6.3 states that offsets shall be determined on a quarterly basis. Except for the boiler replacement, there are no other proposed modifications to the existing source, therefore only the proposed boiler for removal and the proposed new boiler will be analyzed. Given these parameters, the required offsets are calculated in Table 24 below:

Table 24. Offset Calculation $PTE_{post\text{-}project} - PTE_{pre\text{-}project}$

State Quarterly Profiles (tons/quarter)[1]	Q1	Q2	Q3	Q4
PTE Post-Project Emissions:				
2-Stage Boilers Application MOD-22-00067	0.0234	0.0237	0.0239	0.0239
PTE Pre-Project Emissions:				

Boiler PTO-22-00038	0.0234	0.0237	0.239	0.0239
Total Emissions	0.0	0.0	0.0	0.0

1. Presents the VOC emissions summarized in Table 9, but emissions converted from lbs/quarter to tons/quarter.

As shown in Table 24, the proposed project does not result in an emission increase for VOC. Hence, no offsets are required with the proposed modification.

Visibility, Soils, And Vegetation Analysis:
Section 3.2 requires the applicant to provide the District with an analysis of impairment to visibility, soils, and vegetation. The District does not find it necessary to determine the effect emissions from the stationary source or 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 5.6, *Air Quality Increment Analysis*, prohibits a source that is subject to offsets from exceeding 50% of the remaining emissions increment.

The proposed boiler has the potential to emit NO_x, VOC, CO, SO_x, PM_{10}, and $PM_{2.5}$. The actual to potential emissions increase as shown in Table 26 below will be utilized for the increment analysis. The proposed operation does not emit H_2S, lead, sulfates, or vinyl chloride.

Ozone (O_3), a component of smog, is formed in the atmosphere rather than being directly emitted from pollutant sources. O_3 forms as a result of VOCs and NO_x reacting in the presence of sunlight in the atmosphere. VOCs and NO_x are termed "O_3 precursors" and their emissions are regulated in order to control the creation of O_3. O_3 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_3 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 the District as attainment for O_3.

The District is in attainment with all federal AAQS but is currently nonattainment with the State's 24-hour and annual AAQS for PM_{10}. Because the background concentrations for the annual and 24-hour PM_{10} are above the State's AAQS, all projects emitting PM_{10} will result in a total PM_{10} concentration exceedance of the State AAQS, as shown in Table 27. As stipulated in Section 5.6 of District Rule 207, the District can conclude that a project will not cause or contribute to an exceedance of an AAQS if the new or modified emissions from the project are less than 50% of the remaining emissions increment. Tables 27 and 28 summarize the AAQS and increment analyses from this proposed replacement boiler.

Table 25. Air Dispersion Modeling (AERMOD) Maximum Concentrations[1]

Averaging Period	Max Concentration (µg/m^3 / lb/hr)
1-hr	57.7
3-hr	53.6
8-hr	44.3
24-hr	37.3
Annual	7.99

1. Modeling results included in Attachment A.

Table 26. Hourly Emissions Increase ($PTE_{post\text{-}project}$ to $AHE_{pre\text{-}project}$)

Pollutant	PTE Post-Project Emissions (lb/day)	AHE Pre-Project Emissions (lb/day)	Emissions Increase (lb/hr)[1]
NO_x	1.04	0.34	0.029
CO	7.07	0.77	0.26
$PM/PM_{10}/PM_{2.5}$	0.72	0.07	0.03
SO_x	0.06	0.01	0.002

1. Emissions Increase (lb/hr) = (PTE (lb/day) – AHE (lb/day))/24 hours/day.

Table 27. Source Effect on Ambient Air Quality Standards

Pollutant	Averaging Period	Source Conc.[1] µg/m^3	Background Conc.[2] µg/m^3	Total Conc. µg/m^3	State Standard µg/m^3	Total Exceeds State Standard	Federal Standard µg/m^3	Total Exceeds Federal Standard
Nitrogen Dioxide (NO_2)[3]	1-hr	1.67	48.00	49.67	339	No	188	No
	Annual	0.232	7.20	7.43	57	No	100	No
Carbon Monoxide (CO)	1-hr	15.00	1,600.00	1615.00	23,000	No	40,000	No
	8-hr	11.52	1,000.00	1011.52	10,000	No	10,000	No
Sulfur Dioxide (SO_2)[4]	1-hr	0.12	ND[6]	0.12	655	No	196	No
	3-hr	0.11	ND[6]	0.11	N/A	N/A	1,300	No
	24-hr	0.07	ND[6]	0.07	105	No	N/A	No
PM_{10}[5]	24-hr	1.12	95.30	96.42	50	**Yes**	150	No
	Annual	0.24	29.70	29.94	20	**Yes**	N/A	No
$PM_{2.5}$[5]	24-hr	1.12	24.90	26.02	N/A	N/A	35	No
	Annual	0.24	7.00	7.24	12	No	12	No

1. Source concentration = maximum concentration for each averaging period from the AERMOD model run at 1 lb/hr multiplied by the emissions increase in lb/hr.
   Ex. 8-hr averaging period for CO = (44.3 µg/m^3/1 lb/hr) * 0.26 lb/hr = 11.52 µg/m^3
2. Background concentration = Ambient Air Monitoring Data published in ARB Almanac, see https://ww2.arb.ca.gov/our-work/programs/almanac-emissions-air-quality
3. Conservatively assume all NO_x emissions equals to NO_2.

4. Conservatively assume all SO_x emissions equals to SO_2.
5. The 24-hr and annual PM_{10} and $PM_{2.5}$ background concentrations were based on the maximum values of 2017 through 2019 air quality data.
6. According to the California Air Resources Board "Annual Network Plan" dated July 2020, as of December 2017, U.S. EPA designated all areas of California as unclassifiable/attainment for the federal SO_2 standard. Hence, SO_2 concentrations are not measured in the District.

Table 28. Effect Of The Modified Source On The Emission Increments

Pollutant	Averaging Period	Source Conc µg/m^3	Allowable Increment in Class II Area[1] µg/m^3	Increment Consumed (%)	Allowable Increment Exceeded[2]
Nitrogen Dioxide (NO_2)	1-hr	1.67	NA	N/A	N/A
	Annual	0.232	25	0.92	No
Carbon Monoxide (CO)	1-hr	15.00	12,000	0.13	No
	8-hr	11.52	NA	N/A	N/A
Sulfur Dioxide (SO_2)	1-hr	0.12	NA	N/A	N/A
	3-hr	0.11	512	0.02	No
	24-hr	0.07	91	0.08	No
PM_{10}	24-hr	1.12	21.1	5.3	No
	Annual	0.24	10.8	2.2	No
$PM_{2.5}$	24-hr	1.12	9	12.4	No
	Annual	0.24	4	6.00	No

1. District Rule 207, Table 2.5, Class II Areas, Monterey & San Benito County.
2. As stated in Section 5.6 of Rule 207 *"the District shall not grant a permit to a source which is subject to offsets if its emissions will exceed 50 percent of the remaining emissions increment."*

This proposed project's emissions will not exceed 50% of the remaining emissions increment.

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 207 Parallel Stringency Review
After reviewing the two different versions of Rule 207, the project complies with all the requirements of the Rule as adopted on 4/20/2011 and amended on 2/15/2017.

District Rule 218 – Title V: Federal Operating Permits
Title V does not apply to the unit since this rule only applies to a stationary source that has the potential to emit air contaminants equal to or in excess of the threshold for a major source of regulated air pollutants (100 tons/yr) or a major source of hazardous air pollutants (25 tons/yr combination HAPS or 10 tons/yr single HAP).

District Rule 221 – Federal Prevention of Significant Deterioration
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 modification to stationary sources, this project is not subject to Rule 221.

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

District 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 6/16/2004, and revised on 8/26/2019, the fees shall be based on the 75% of the potential to emit for the equipment listed on the permit unless the operation is restricted by permit conditions. Table 29 shows the billable emissions for the two-staged boilers. The billable emissions shall be 1.0 – 2.0 tons/year with the corresponding fee code of 503.

Table 29. Annual Fees

Pollutant	Yearly Emissions (tons/yr)
NO_x	0.19
VOC (TOC)	0.19
CO	1.29
SO_x	0.01
PM	0.13
PTE Total	1.81
75% of Total	1.36

District Rule 400 – Visible Emissions:
The purpose of this Rule is to provide limits for the visible emissions from sources within the District. The provisions of this Rule shall apply to all sources of air pollutant emissions in the District.

According to District 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.

District Rule 402 – Nuisance:
The purpose of this Rule is to provide an explicit prohibition against sources creating public nuisances while operating within the District. The provisions of this Rule shall apply to all sources of air pollutant emissions within the Air District.

According to District 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 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.

District Rule 403 – Particulate Matter:

Table 30. Particulate Matter Emissions Determination

PM Emission Rate (lb/hr)	Exhaust Flow Rate[1] (cfm)	PM Concentration (gr/ft^3)
0.03	775	0.0045

1. The exhaust flow rate was gathered from Table 1 of this evaluation.

Based on the calculation above, particulate matter emissions comply with Rule 403 limit of 0.15 grains/ft^3.

District Rule 404 – Sulfur Compounds & Nitrogen Oxides:
The two-stage natural gas water tube-type boilers triggered the BACT requirements of Rule 207 (*Review of New or Modified Sources)* and are subject to and comply with BACT emission limits for NO_x and SO_x. Accordingly, the two-staged natural gas water tube type boilers are exempt from Sections 3.1.1, 3.1.2, 3.1.3, and 3.1.4 of Rule 404, pursuant to Section 1.3.2.
District Rule 412 – Sulfur Content of Fuels:
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.

District Rule 413 – Removal of Sulfur Compounds:
According to District Rule 413 Part 3, the provisions of District 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 District Rule 412. Since the fuel is expected to meet the provisions of District Rule 412, the fuel will also meet the provisions of District Rule 413.

District 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.

General Applicability: This Rule shall apply to any stationary source which would if it did not comply with the limitations outlined in this rule, have the potential to emit air contaminants equal to or in excess of the threshold for a major source of regulated air pollutants or a major source of hazardous air pollutants (HAPs) and which meets one of the following conditions:

- Rule 436, Section 1.2.1: In every 12-month period, the actual emissions of the stationary source are

less than or equal to the emission limitations specified in Section 3.1(shown below); or
  - 50 percent of the major source thresholds for regulated air pollutants (excluding HAPs), or
  - 5 tons per year of a single HAP, or
  - 12.5 tons per year of any combination of HAPs, or
  - 50 percent of any lesser threshold for a single HAP as the U.S. EPA may establish by rule.
- Rule 436, Section 1.2.2: In every 12-month period, at least 90 percent of the emissions from the stationary source are associated with an operation limited by any one of the alternative operational limits specified in Section 6.1.

Table 31. Annual Facility-Wide PTE Emissions

Permit No. (Installation)	Equipment Description	NO_x (tons/yr)	VOC (tons/yr)	CO (tons/yr)	SO_x (tons/yr)	PM (tons/yr)	PM_{10} (tons/yr)	$PM_{2.5}$ (tons/yr)
PTO-22-00039 (2018)	Barrel Aging	-	29.76	-	-	-	-	-
PTO-22-00040 (2018)	Wine Fermentation	-	11.49	-	-	-	-	-
PTO-22-00041 (2018)	WWTP	-	0.48	-	-	-	-	-
PTO-22-00042 (2018)	Emg. IC. Eng.	0.48	0.02	0.05	0.0004	0.01	0.01	0.01
GNR-018852 (2021)	Boilers	0.19	0.09	1.55	0.01	0.13	0.13	0.13
MOD-22-00067 (2022)	Boilers	0.19	0.09	1.29	0.01	0.13	0.13	0.13
Total		0.86	41.93	2.89	0.02	0.27	0.27	0.27

1. Annual emissions are based upon 365 days per year.

Table 31 shows the annual potential emissions from the proposed application do not exceed the applicability thresholds.

Rule 436 Section 1.3.2.1 allows an exemption from Title V Recordkeeping Requirements of Part 4 if actual emissions, based on annual renewal information sheets, will not exceed in every 12-month period the following quantities:

- 5 tons per year for regulated (criteria) pollutants
- 2 tons per year of any sing HAP,
- 5 tons per year of any combination of HAPs per year, and
- 20% of any lesser threshold for a single HAP that the EPA may establish by rule.

Table 31 shows that the proposed application has the potential to exceed 5 tons per year of emissions. Accordingly, TPWC Inc. dba Stonewall Canyon Winery and Vineyard is not entitled to the exemption from recordkeeping requirements and therefore is required to maintain records pursuant to Part 4 of Rule 436.

Presently, the facility is entitled to the exemption from Reporting Requirements of Rule 436 Part 5, pursuant to Section 5.2. Section 5.2 allows an exemption from Title V reporting requirements, if actual emissions, based on annual renewal information sheets, will not exceed in every 12-month period the following quantities:

- 25 tons per year for regulated (criteria) pollutants for which the District has federal area designation of attainment, unclassified, transitional, or moderate nonattainment.
- 15 tons per year for regulated (criteria) pollutants for which the District has federal area designation of serious nonattainment.
- 6.25 tons per year for regulated (criteria) pollutants for which the District has federal area designation of severe nonattainment.
- 2.5 tons of single Hazardous Air Pollutant (HAP) per year
- 6.25 tons per year of any combination of HAPs per year, or
- 25% of any `lesser threshold for a single HAP as the EPA may establish

As shown in Table 31, the facility's potential annual emission exceeds the Reporting Requirements applicability thresholds. However, as shown in Table 32, the facility's 2021 calendar year actual emissions are below the Reporting Requirements applicability thresholds outlined in Part 5, Section 5.2. Hence, the facility has not yet triggered the Process Statement requirements of Part 5, Section 5.1. The permit currently requires reporting to demonstrate compliance with Rule 207. Should the facility's future actual emissions exceed 25 tons/year, a statement will be added to ensure compliance with Section 5.1 Process Statement, "The report shall be signed by the owner or operator and certified that the information provided is accurate and true." This requirement will be added to the fermentation and barrel aging permits, since these source permits represent over 90% of VOC emissions from the facility, as pursuant to Section 6.

Table 32. 2021 Annual Facility-Wide Actual Emissions

Permit No. (Installation)	Equipment Description	NO_x (tons/yr)	VOC (tons/yr)	CO (tons/yr)	SO_x (tons/yr)	PM (tons/yr)	PM_{10} (tons/yr)	$PM_{2.5}$ (tons/yr)
GNR-0017728 (2018)	Barrel Aging	-	1.73	-	-	-	-	-
GNR-0017729 (2018)	Wine Fermentation	-	6.28	-	-	-	-	-
GNR-0017730 (2018)	WWTP	-	0.06	-	-	-	-	-
GNR-0017693 (2018)	Emg. IC. Eng.	0.015	0.001	0.001	0.002	0.0002	0.0002	0.0002
GNR-018852 (2021)	Boilers	0.21	0.01	0.18	0.001	0.02	0.02	0.02
MOD/22-00067PTO-22-00038 (2018)	Boilers	0.22	0.01	0.19	0.001	0.02	0.02	0.02
Total		0.44	8.09	0.37	0.004	0.04	0.04	0.04

Rule 1000 – Toxic Air Contaminants:
District 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.

Table 33. Prioritization Scores

Acute	3.97E-04
Chronic	2.98E-04
Cancer	4.00E-03

As shown in Table 33, the facility meets the requirements of Section 3.1.1 through Section 3.1.3 of Rule 1000. Thus, the equipment complies with Rule 1000 requirements.

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-staged natural gas-fired boilers have a combined heat input capacity of 3.98 MMBtu/hr and are 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 a major source of hazardous air pollutants (HAP). TPWC Inc. dba Stonewall Canyon Winery and Vineyard is not a major source of HAP emissions and is exempt from the requirements of this Subpart.

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

Health and Safety Code 42301.6 applies. District protocol requires public notice if the risk exceeds 1 in 1,000,000 (million) and a school is located within 1,000 feet of the facility. The facility is not located within 1,000 feet of a school; therefore, the project is not subject to public notification requirements.

VII. CONCLUSIONS:

The equipment can comply with all applicable District rules and regulations.

VIII. RECOMMENDATIONS:

Issue Authority to Construct with the following conditions:

1. No later than twenty-four (24) hours prior to the start-up of the equipment, the legal owner or operator shall notify the Monterey Bay Air Resources District (MBARD) and arrange for an inspection of the equipment during normal operations to verify compliance with MBARD rules and regulations. [Basis: MBARD Rule 207]

2. Annual natural gas usage shall be reported to MBARD, upon request. [Basis: MBARD Rule 207]

3. The burner must be in compliance with the following emission requirement: [Basis: MBARD Rule 207]

Pollutant	Emission Limit (ppm @ 3% O_2)
NO_x	≤ 9
CO	≤ 100

4. The NO_x, CO, and O_2 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 3. The analyzer must be certified that it has been calibrated within the last six months before the date of use.

   TPWC Inc. dba Stonewall Canyon Winery and Vineyard 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 within ten (10) days of the test completion. [Basis: MBARD Rule 207]

5. TPWC Inc. dba Stonewall Canyon Winery and Vineyard shall maintain a log, to record and summarize the monthly natural gas fuel usage (ft^3/month) and hours of operation, as necessary to determine the actual emissions as required in Part 4 of MBARD Rule 436. If the unit is not equipped with a dedicated gas meter, monthly fuel usage can be based on a maximum fuel usage rate of 3,902 ft^3/hr, and the documented monthly hours of operation. Records shall be maintained on-site for five years, and made readily available to MBARD staff upon request. [Basis: MBARD Rule 207 & 436]
6. The sulfur content of any gaseous fuel consumed shall not exceed 50 grains per 100 cubic feet, as calculated as hydrogen sulfide at standard conditions. [Basis: MBARD Rule 412]

7. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark or darker than Ringelmann 1, or equivalent 20% opacity. [Basis: MBARD Rule 400]

8. No emissions shall constitute a public nuisance. [Basis: MBARD Rule 402]

Attachment A:

AERMOD Model Input Files and Results

Control Pathway

Dispersion Options

Titles

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Dispersion Options

- [x] Regulatory Default
- [ ] Non-Default Options

Dispersion Coefficient

Rural

Output Type

- [x] Concentration
- [ ] Total Deposition (Dry & Wet)
- [ ] Dry Deposition
- [ ] Wet Deposition

Plume Depletion

- [ ] Dry Removal
- [ ] Wet Removal

Output Warnings

- [ ] No Output Warnings
- [ ] Non-fatal Warnings for Non-sequential Met Data

Pollutant / Averaging Time / Terrain Options

Pollutant Type

Averaging Time Options

Hours

1	2	3	4	6	8	12	24
☑	☐	☑	☐	☐	☑	☐	☑

- [ ] Month
- [x] Period
- [ ] Annual

Exponential Decay

Option not available

Terrain Height Options

- [ ] Flat
- [x] Elevated

SO: Meters
RE: Meters
TG: Meters

Flagpole Receptors

- [ ] Yes
- [x] No

Default Height = 0.00 m

Control Pathway

Optional Files

Re-Start File	Init File	Multi-Year Analyses	Event Input File	Error Listing File
☐	☐	☐	☐	■

Detailed Error Listing File

Filename: MOD-22-00067 AERMOD.err

Source Pathway - Source Inputs

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	651571.55 2-STAGED BOILERS	4032808.96	76.58	6.10	0.12600	463.71	7.28	0.25

Results Summary

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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	57.72029	ug/m^3	651621.55	4032808.96	77.00	0.00	77.00	10/21/2017, 17
3-HR	1ST	53.57629	ug/m^3	651621.55	4032808.96	77.00	0.00	77.00	7/5/2016, 24
8-HR	1ST	44.25310	ug/m^3	651621.55	4032783.96	76.98	0.00	76.98	6/5/2015, 24
24-HR	1ST	37.28936	ug/m^3	651621.55	4032808.96	77.00	0.00	77.00	5/20/2018, 24
PERIOD		7.99053	ug/m^3	651621.55	4032783.96	76.98	0.00	76.98	

Attachment B:

Two-Staged Caymus Dynflame Natural Gas Boilers Toxic Air Contaminatn Emissions & Prioritization

Permit No.	MOD-22-00067
Toxic Device ID	1
Annual Fuel Consumption (MMSCF/hr)	3.90E-03
Annual Fuel Consumption (MMSCF/yr)	3.42E+01
Nearest Receptor Distance (m)	288
RP	0.04

Dist. to Receptor (M)	RP
0	1
100	0.25
250	0.04
500	0.011
1000	0.003
1500	0.002
2000	0.001

Total Acute Score	Total Chronic Score	Total Cancer Score
3.97E-04	2.98E-04	4.00E-03

Toxic Device ID	Pollutants	CAS#	Acute REL µg/m^3	Chronic REL µg/m^3	Cancer (µg/m^3)$^{-1}$	Emission Factor (lb/MMSCF)	Max 1-Hr Emissions (lb/hr)	Average Emissions (lb/hr)	Annual Emissions (lb/yr)	Acute Score	Chronic Score	Cancer Score
4	Acetaldehyde	75070	470	140	2.70E-06	4.30E-03	1.68E-05	1.68E-05	1.47E-01	2.14E-06	7.19E-07	1.22E-04
	Acrolein	107028	2.5	0.35		2.70E-03	1.05E-05	1.05E-05	9.23E-02	2.53E-04	1.81E-04	
	Benzene	71432	27	3	2.90E-05	8.00E-03	3.12E-05	3.12E-05	2.73E-01	6.94E-05	6.24E-05	2.44E-03
	Ethyl Benzene	100414		2000	2.50E-06	9.50E-03	3.71E-05	3.71E-05	3.25E-01		1.11E-07	2.50E-04
	Formaldehyde	50000	55	9	6.00E-06	1.70E-02	6.63E-05	6.63E-05	5.81E-01	7.24E-05	4.42E-05	1.07E-03
	Hexane	110543		7000		6.30E-03	2.46E-05	2.46E-05	2.15E-01		2.11E-08	
	Naphthalene	91203		9	3.40E-05	3.00E-04	1.17E-06	1.17E-06	1.03E-02		7.80E-07	1.07E-04
	PAH's	1151				1.00E-04	3.90E-07	3.90E-07	3.42E-03			
	Propylene	115071		3000		7.31E-01	2.85E-03	2.85E-03	2.50E+01		5.70E-06	
	Toluene	108883	37000	300		3.66E-02	1.43E-04	1.43E-04	1.25E+00	2.32E-07	2.86E-06	
	Xylenes	1330207	22000	700		2.72E-02	1.06E-04	1.06E-04	9.30E-01	2.89E-07	9.10E-07	
									Total	**3.97E-04**	**2.98E-04**	**4.00E-03**

Notes: TAC INFO SOURCES
OEHHA Chronic REL values - www.oehha.ca.gov/air/acute rels/AllAcRELs.html
OEHHA Acute REL values - www.oehha.ca.gov/air/chronic_rels/AllChRELs.html
Unit Cancer Risk Values - www.oehha.ca.gov/air/cancer guide/hsca2.html
POLLUTANT INFO SOURCES
a -TAC Emission Factor referenced from SJVAPCD Toxic Profile ID #3 (NG External Combustion < 10 MMBTU/Hr)
b- Acute Prioritization Score = (Max Emissions (lb/hr) ÷ Acute REL * 1500 * RP
c- Chronic Prioritization Score = (Annual Emissions (lb/hr) ÷ Chronic REL * 150 * RP
d - Cancer Risk Prioritization Score = (Annual Emissions (lb/yr) * Cancer Unit Risk * 7700 * RP