



FEB 26 2013

Matthew Towers
O'Neill Beverages Co. LLC
8418 S Lac Jac Ave
Parlier, CA 93648-9708

**Re: Proposed Authority to Construct / Certificate of Conformity (Minor Mod)
District Facility # C-629
Project # C-1123344**

Dear Mr. Towers:

Enclosed for your review is the District's analysis of your application for Authority to Construct for the facility identified above. You have requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. The modification consists of installing a Selective Catalytic Reduction (SCR) system on a boiler (permit unit C-629-2) to lower NOx emissions to 5 ppmv @ 3% O2 for Rule 4320 compliance.

After addressing any EPA comments made during the 45-day comment period, the Authority to Construct will be issued to the facility with a Certificate of Conformity. Prior to operating with modifications authorized by the Authority to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

In addition, please find enclosed a copy of the California Health and Safety Code (sec. §42301.6) and the public notification letter to be sent out to the parents or guardians of the students at Riverview Elementary School. After the thirty day (30-day) notice period, the determination to issue the Authority to Construct can be finalized.

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

Thank you for your cooperation in this matter.

Sincerely,



David Warner
Director of Permit Services

Enclosures
cc: Sajjad Ahmad, Permit Services

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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

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FEB 26 2013

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

Re: **Proposed Authority to Construct / Certificate of Conformity (Minor Mod)**
District Facility # C-629
Project # C-1123344

Dear Mr. Rios:

Enclosed for your review is the District's engineering evaluation of an application for Authority to Construct for O'Neill Beverages Co. LLC, located at 8418 S Lac Jac Ave in Parlier, which has been issued a Title V permit. O'Neill Beverages Co. LLC is requesting that a Certificate of Conformity, with the procedural requirements of 40 CFR Part 70, be issued with this project. The modification consists of installing a Selective Catalytic Reduction (SCR) system on a boiler (permit unit C-629-2) to lower NOx emissions to 5 ppmv @ 3% O₂ for Rule 4320 compliance.

Enclosed is the engineering evaluation of this application, a copy of the current Title V permit, and proposed Authority to Construct # C-629-2-8 with Certificate of Conformity. After demonstrating compliance with the Authority to Construct, the conditions will be incorporated into the facility's Title V permit through an administrative amendment.

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

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

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San Joaquin Valley Air Pollution Control District
Authority to Construct Application Review
Modify NG-Fired Boiler to add SCR System for Rule 4320 Compliance

Facility Name:	O'Neill Beverages Co. LLC	Date:	January 10, 2013
Mailing Address:	8418 S Lac Jac Ave Parlier, CA 93648-9708	Engineer:	Sajjad Ahmad
Contact Person:	Mathew Towers	Lead Engineer:	Sheraz Gill
Telephone:	(559) 638-3544		
Fax:	(559) 638-6272		
E-Mail:	mtowers@oneillwine.com		
Application #:	C-629-2-8		
Project #:	C-1123344		
Deemed Complete:	December 10, 2012		

I. Proposal

O'Neill Beverages Co. LLC submitted an Authority to Construct (ATC) application for the modification of a 47.8 MMBtu/hr natural gas-fired boiler currently permitted under Permit to Operate (PTO) C-629-2-7 (see Appendix A for current PTO). The modification consists of installing an ammonia-injected selective catalytic reduction (SCR) system to meet the 0.0062 lb-NO_x/MMBtu or 5 ppmv-NO_x @ 3% O₂ enhanced option NO_x emissions limit (Category B - Table 1) of District Rule 4320, *Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr*. The applicant has also requested to add startup and shut down provisions to the current permit and has requested a NO_x emissions limit of 80 ppmv @ 3% O₂ during startups and shutdowns.

This modification is proposed solely to comply with District Rule 4320 requirements. Since there is a change to the method of operation of the boiler, this project meets the definition of a modification pursuant to section 3.25 of District Rule 2201 – *New and Modified Stationary Source Review Rule* (NSR Rule).

In addition, the facility currently follows Alternate Monitoring Scheme "A" using a portable analyzer, according to District Policy SSP-1105, and is requesting to change to Alternate Monitoring Scheme "H". Under Alternate Monitoring Scheme "H", NO_x, CO, and O₂ concentrations will continue to be monitored using a portable analyzer, and ammonia emissions from the SCR system will be monitored using Draeger tubes.

O'Neill Beverages Co. LLC received their Title V permit on July 31, 2010. This modification can be classified as a Title V minor modification pursuant to Rule 2520, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. O'Neill Beverages Co. LLC must apply to administratively amend their Title V permit.

The following conditions will be included on the ATC to ensure compliance with this requirement.

- {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201]
- {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4]

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (4/21/11)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 2530	Federally Enforceable Potential to Emit (12/18/08)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4002	National Emissions Standards for Hazardous Air Pollutants (5/20/04)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4201	Particulate Matter Concentration (12/17/92)
Rule 4301	Fuel Burning Equipment (12/17/92)
Rule 4305	Boilers, Steam Generators and Process Heaters – Phase II (8/21/03)
Rule 4306	Boilers, Steam Generators and Process Heaters – Phase III (10/16/08)
Rule 4320	Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr (10/16/08)
Rule 4351	Boilers, Steam Generators, and Process Heaters – Phase 1 (8/21/03)
Rule 4801	Sulfur Compounds (12/17/92)
CH&SC 41700	Health Risk Assessment
CH&SC 42301.6	School Notice
Public Resources Code 21000-21177:	California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387:	CEQA Guidelines

III. Project Location

This facility is located at 8418 S Lac Jac Avenue in Parlier, CA. The District has verified that the facility is located within 1,000 feet of the outer boundary of Riverview Elementary School, and that there are no other schools located within one-quarter mile of the project site. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is applicable to this project.

IV. Process Description

The 47.8 MMBtu/hr natural gas-fired boiler is used to produce steam that is used in the winery process.

V. Equipment Listing

Pre Project Equipment Description:

C-629-2-7: 47.8 MMBTU/HR BABCOCK AND WILCOX NATURAL GAS-FIRED BOILER (SERIAL #NB21232) WITH AN AMERICAN COMBUSTION TECH MODEL ACI-04G LOW NOX BURNER WITH INDUCED FLUE GAS RECIRCULATION

ATC Equipment Description:

C-629-2-8: MODIFICATION OF 47.8 MMBTU/HR BABCOCK AND WILCOX NATURAL GAS-FIRED BOILER (SERIAL #NB21232) WITH AN AMERICAN COMBUSTION TECH MODEL ACI-04G LOW NOX BURNER WITH INDUCED FLUE GAS RECIRCULATION: INSTALL SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM TO ACHIEVE 5 PPMVD-NOX @ 3% O₂ (0.0062 LB-NOX/MMBTU) FOR RULE 4320 COMPLIANCE

Post Project Equipment Description:

C-629-2-8: 47.8 MMBTU/HR BABCOCK AND WILCOX NATURAL GAS-FIRED BOILER (SERIAL #NB21232) WITH AN AMERICAN COMBUSTION TECH MODEL ACI-04G LOW NOX BURNER, INDUCED FLUE GAS RECIRCULATION, AND SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM

VI. Emission Control Technology Evaluation

Emissions from natural gas-fired boilers include NO_x, SO_x, PM₁₀, CO, and VOC emissions.

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

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

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

VII. General Calculations

A. Assumptions

- Maximum operating schedule of this unit is 24 hours per day and 365 days per year (worst case);
- The maximum daily duration for start-up is two hours and the maximum daily duration for shutdown is two hours. Thus the total duration of startups and shutdown is 4 hours per day (per applicant);
- Unit is fired solely on PUC-quality natural gas;
- Natural Gas Heating Value: 1,000 Btu/scf (District Practice)
- EPA F-Factor for Natural Gas (O₂-based): 8,578 dscf/MMBtu corrected to 60°F (40 CFR 60, Appendix B);
- Molar Specific Volume of a gas @ 60 °F is 379.5 ft³/lb-mole;
- Molar weights:

NOx (as NO ₂):	46 lb/lb-mole
CO:	28 lb/lb-mole
NH ₃ :	17 lb/lb-mole

Other assumptions will be stated as they are made.

B. Emission Factors

1. Pre Project Emission Factors (EF1)

The following equation is used to convert emissions concentrations from ppmvd @ 3% O₂ to lb/MMBtu.

$$EF (lb / MMBtu) = \frac{(ppmvd) \times \left(F - factor \frac{dscf}{MMBtu} \right) \times \left(MW \frac{lb}{lb - mol} \right) \times \left(\frac{20.95}{20.95 - 3} \right)}{\left(379.5 \frac{dscf}{lb - mol} \right) \times (10^6)}$$

Pre Project Emission Factors (EF1)			
Pollutant	EF1 (ppmvd @ 3% O ₂)	EF1 (lb/MMBtu)	Source
NOx	9	0.011	Current PTO
SOx	---	0.00285	Current PTO
PM ₁₀	---	0.0076	Current PTO
CO	200	0.146	Current PTO
VOC	---	0.0055	Current PTO

2. Post Project Emission Factors (EF2)

Start-up and Shutdown Emission Factors:

Post Project Emission Factors (EF2) Startup and Shutdown			
Pollutant	EF2 (ppmvd @ 3% O ₂)	EF2 (lb/MMBtu)	Source
NOx	80	0.0971	Applicant Proposed
SOx	---	0.00285	Current PTO
PM ₁₀	---	0.0076	Current PTO
CO	200	0.146	Current PTO
VOC	---	0.0055	Current PTO
NH3	10	0.0045	Applicant Proposed

Steady State Emission Factors:

Post Project Emission Factors (EF2)			
Pollutant	EF2 (ppmvd @ 3% O ₂)	EF2 (lb/MMBtu)	Source
NOx	5	0.0062	Applicant Proposed
SOx	---	0.00285	Current PTO
PM ₁₀	---	0.0076	Current PTO
CO	200	0.146	Current PTO
VOC	---	0.0055	Current PTO
NH3	10	0.0045	Applicant Proposed

C. Calculations

The following equations are used to calculate daily and annual potential to emit (PE)

$$\text{Daily PE1} = (\text{EF1, lb/MMBtu}) \times (47.8 \text{ MMBtu/hr}) \times (24 \text{ hr/day})$$

$$\text{Annual PE1} = (\text{EF1, lb/MMBtu}) \times (47.8 \text{ MMBtu/hr}) \times (24 \text{ hr/day}) \times (365 \text{ day/yr})$$

1. Pre Project Potential to Emit (PE1)

The following table summarizes the daily and annual PE1 calculations for this unit.

Pre Project Potential to Emit (PE1)			
Pollutant	EF (lb/MMBtu)	Daily PE1 (lb/day)	Annual PE1 (lb/yr)
NOx	0.011	12.6	4,606
SOx	0.00285	3.3	1,193
PM ₁₀	0.0076	8.7	3,182
CO	0.146	167.5	61,134
VOC	0.0055	6.3	2,303

2. Post Project Potential to Emit (PE2)

Start-up and Shutdown Emissions:

The following equations are used to calculate daily and annual potential to emit (PE) for startup and shutdown:

$$\text{Daily PE2} = (\text{EF}_2, \text{lb/MMBtu}) \times (47.8 \text{ MMBtu/hr}) \times (4 \text{ hr/day})$$

$$\text{Annual PE2} = (\text{EF}_2, \text{lb/MMBtu}) \times (47.8 \text{ MMBtu/hr}) \times (4 \text{ hr/day}) \times (365 \text{ day/yr})$$

The following table summarizes the daily and annual PE2 calculations for this unit.

Post Project Potential to Emit (PE2) – Startup/Shutdown Emissions			
Pollutant	EF (lb/MMBtu)	Daily PE2 (lb/day)	Annual PE2 (lb/yr)
NO _x	0.0971	18.6	6,776
SO _x	0.00285	0.5	199
PM ₁₀	0.0076	1.5	530
CO	0.146	27.9	10,189
VOC	0.0055	1.1	384
NH ₃	0.0045	0.9	314

Steady State Emissions:

The following equations are used to calculate daily and annual potential to emit (PE) for steady state operation:

$$\text{Daily PE} = (\text{EF}, \text{lb/MMBtu}) \times (47.8 \text{ MMBtu/hr}) \times (20 \text{ hr/day})$$

$$\text{Annual PE} = (\text{EF}, \text{lb/MMBtu}) \times (47.8 \text{ MMBtu/hr}) \times (20 \text{ hr/day}) \times (365 \text{ day/yr})$$

The following table summarizes the daily and annual PE2 calculations for this unit.

Post Project Potential to Emit (PE2) – Steady State Emissions			
Pollutant	EF (lb/MMBtu)	Daily PE2 (lb/day)	Annual PE2 (lb/yr)
NO _x	0.0062	5.9	2,163
SO _x	0.00285	2.7	994
PM ₁₀	0.0076	7.3	2,652
CO	0.146	139.6	50,945
VOC	0.0055	5.3	1,919
NH ₃	0.0045	4.3	1,570

Overall Emissions:

Post Project Potential to Emit (PE2)		
Pollutant	Daily PE2 (lb/day)	Annual PE2 (lb/yr)
NO _x	24.5	8,940
SO _x	3.3	1,193
PM ₁₀	8.7	3,182
CO	167.5	61,134
VOC	6.3	2,303
NH ₃	5.2	1,884

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

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

SSPE1 values are taken from project C-1093053 as summarized in the table below:

Pre-Project Stationary Source Potential to Emit [SSPE1] (lb/year)					
Permit Unit	NO _x	SO _x	PM ₁₀	CO	VOC
C-629-2-7	4,606	1,193	3,182	61,134	2,303
C-629-4-0	226	6	11	110	15
C-629-5-0	489	7	41	124	37
C-629-6-0	489	7	41	124	37
C-629-11-0 thru '-281-0	0	0	0	0	46,564
C-629-282-1	2,234	244	113	1,251	51,435
C-629-283-1	2,234	244	113	1,251	51,435
C-629-284-3 thru '-288-3	0	0	0	0	4,542
C-629-289-0	0	0	0	0	248
C-629-290-0	0	0	0	0	248
C-629-291-0	0	0	0	0	248
C-629-292-0	0	0	0	0	248
C-629-293-0	0	0	0	0	248
C-629-294-0	0	0	0	0	248
C-629-295-0	0	0	0	0	248
C-629-296-0	0	0	0	0	248
C-629-297-0	0	0	0	0	248
C-629-298-0	0	0	0	0	248
C-629-299-0	0	0	0	0	248
C-629-300-0	0	0	0	0	248
C-629-301-0	0	0	0	0	248
C-629-302-0	0	0	0	0	248
C-629-303-0 through '-320-0	0	0	0	0	1,225
SSPE1	10,277	1,701	3,501	63,994	161,065

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

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

Post-Project Stationary Source Potential to Emit [SSPE2] (lb/year)					
Permit Unit	NO _x	SO _x	PM ₁₀	CO	VOC
C-629-2-8	8,940	1,193	3,182	61,134	2,303
C-629-4-0	226	6	11	110	15
C-629-5-0	489	7	41	124	37
C-629-6-0	489	7	41	124	37
C-629-11-0 thru 281-0	0	0	0	0	46,564
C-629-282-1	2,234	244	113	1,251	51,435
C-629-283-1	2,234	244	113	1,251	51,435
C-629-284-3 thru 288-3	0	0	0	0	4,542
C-629-289-0	0	0	0	0	248
C-629-290-0	0	0	0	0	248
C-629-291-0	0	0	0	0	248
C-629-292-0	0	0	0	0	248
C-629-293-0	0	0	0	0	248
C-629-294-0	0	0	0	0	248
C-629-295-0	0	0	0	0	248
C-629-296-0	0	0	0	0	248
C-629-297-0	0	0	0	0	248
C-629-298-0	0	0	0	0	248
C-629-299-0	0	0	0	0	248
C-629-300-0	0	0	0	0	248
C-629-301-0	0	0	0	0	248
C-629-302-0	0	0	0	0	248
C-629-303-0 through 320-0	0	0	0	0	1,225
SSPE2	14,611	1,701	3,501	63,994	161,065

5. Major Source Determination

Rule 2201 Major Source Determination:

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

- any ERCs associated with the stationary source
- Emissions from non-road IC engines (i.e. IC engines at a particular site at the facility for less than 12 months)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 51.165

Rule 2201 Major Source Determination (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
Facility emissions pre-project	10,277	1,701	3,501	63,994	161,065
Facility emissions – post project	14,611	1,701	3,501	63,994	161,065
Major Source Threshold	20,000	140,000	140,000	200,000	20,000
Major Source?	No	No	No	No	Yes

As seen in the table above, the facility is an existing Major Source for VOC emissions and will remain a Major Source for VOC emissions.

Rule 2410 Major Source Determination:

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). Therefore the following PSD Major Source thresholds are applicable (see Appendix F for PSD calculations).

PSD Major Source Determination (tons/year)							
	NO ₂	VOC	SO ₂	CO	PM	PM ₁₀	CO _{2e}
Estimated Facility PE before Project Increase	5.1	80.5	0.9	32.0	1.8	1.8	104,308.3
PSD Major Source Thresholds	250	250	250	250	250	250	100,000
PSD Major Source ? (Y/N)	N	N	N	N	N	N	Y

As shown above, the facility is an existing major source for PSD for at least one pollutant. Therefore the facility is an existing major source for PSD.

6. Baseline Emissions (BE)

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

Pursuant to District Rule 2201, BE = PE1 for:

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

otherwise,

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

a. BE NO_x

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

Therefore Baseline Emissions BE=PE1.

$$\begin{aligned} \text{BE} = \text{PE1} &= (0.011 \text{ lb/MMBtu}) * (47.8 \text{ MMBtu/hr}) * (24 \text{ hr/day}) * (365 \text{ day/year}) \\ &= 4,606 \text{ lb NO}_x/\text{year} \end{aligned}$$

b. BE SO_x

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

Therefore Baseline Emissions BE=PE1.

$$\begin{aligned} \text{BE} = \text{PE1} &= (0.00285 \text{ lb/MMBtu}) * (47.8 \text{ MMBtu/hr}) * (24 \text{ hr/day}) * (365 \text{ day/year}) \\ &= 1,193 \text{ lb SO}_x/\text{year} \end{aligned}$$

c. BE PM₁₀

As shown in Section VII.C.5 above, the facility is not a major source for PM₁₀ emissions.

Therefore BE=PE1.

$$\begin{aligned} \text{BE} = \text{PE1} &= (0.0076 \text{ lb/MMBtu}) * (47.8 \text{ MMBtu/hr}) * (24 \text{ hr/day}) * (365 \text{ day/year}) \\ &= 3,182 \text{ lb PM}_{10}/\text{year} \end{aligned}$$

d. BE CO

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

Therefore BE=PE1.

$$\begin{aligned} \text{BE} = \text{PE1} &= (0.146 \text{ lb/MMBtu}) * (47.8 \text{ MMBtu/hr}) * (24 \text{ hr/day}) * (365 \text{ day/year}) \\ &= 61,134 \text{ lb CO/year} \end{aligned}$$

e. BE VOC

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

This permit unit is fired on natural gas. Pursuant to Guideline 1.1.2 which has since been rescinded, Achieved-in-Practice BACT for VOC emissions is the use of natural gas fuel with LPG as backup. This unit is currently limited to fire only on natural gas fuel; therefore, this boiler is a Clean Emission Unit for VOC emissions and the baseline VOC emissions for this unit is equal to PE1.

Therefore BE=PE1.

$$\begin{aligned} \text{BE} = \text{PE1} &= (0.0055 \text{ lb/MMBtu}) * (47.8 \text{ MMBtu/hr}) * (24 \text{ hr/day}) * (365 \text{ day/year}) \\ &= 2,303 \text{ lb VOC/year} \end{aligned}$$

7. SB 288 Major Modification

SB 288 Major Modification is defined in 40 CFR Part 51.165 as "any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act."

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

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
VOC	2,303	50,000	No

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

8. Federal Major Modification

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

The determination of Federal Major Modification is based on a two-step test. For the first step, only the emission *increases* are counted. Emission decreases may not cancel out the increases for this determination.

For existing emissions units, the increase in emissions is calculated as follows.

$$\text{Emission Increase} = \text{PAE} - \text{BAE} - \text{UBC}$$

Where: PAE = Projected Actual Emissions, and
BAE = Baseline Actual Emissions
UBC = Unused baseline capacity

If there is no increase in design capacity or potential to emit, the PAE is equal to the annual emission rate at which the unit is projected to emit in any one year, selected by the operator, within 5 years after the unit resumes normal operation. If detailed PAE are not provided, the PAE is equal to the PE2 for each permit unit.

The BAE is calculated based on historical emissions and operating records for any 24 month period, selected by the operator, within the previous 10 year period. The BAE must be adjusted to exclude any non-compliant operation emissions and emissions that are no longer allowed due to lower applicable emission limits that were in effect when this application was deemed complete.

UBC: Since this project does not result in an increase in design capacity or potential to emit for VOC emissions, and it does not impact the ability of the emission unit to operate at a higher utilization rate, the UBC is the portion of PAE that the emission units could have accommodated during the baseline period.

The project's combined total emission increases for VOC emissions are compared to the Federal Major Modification Thresholds in the following table.

Federal Major Modification Thresholds for Emission Increases			
Pollutant	Total Emissions Increases (lb/yr)	Thresholds (lb/yr)	Federal Major Modification?
VOC	0	0	No

Since none of the Federal Major Modification Thresholds are being surpassed with this project, this project does not constitute a Federal Major Modification and no further analysis is required.

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

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

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

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

In the case the facility is an existing PSD Major Source, the second step of the PSD evaluation is to determine if the project results in a PSD significant increase.

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

In the case the facility is new source, the second step of the PSD evaluation is to determine if this new facility will become a new PSD major Source as a result of the project and if so, to determine which pollutant will result in a PSD significant increase.

I. Project Location Relative to Class 1 Area

As demonstrated in the “PSD Major Source Determination” Section above, the facility was determined to be a existing major source for PSD. Because the project is not located within 10 km of a Class 1 area – modeling of the emission increase is not required to determine if the project is subject to the requirements of Rule 2410.

II. Significance of Project Emission Increase Determination

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

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

PSD Significant Emission Increase Determination: Potential to Emit (tons/year)						
	NO2	SO2	CO	PM	PM10	CO2e
Total PE from New and Modified Units	4.5	0.6	30.6	1.6	1.6	24,413
PSD Significant Emission Increase Thresholds	40	40	100	25	15	75,000
PSD Significant Emission Increase?	N	N	N	N	N	N

As demonstrated above, because the project has a total potential to emit from all new and modified emission units below the PSD significant emission increase thresholds, this project is not subject to the requirements of Rule 2410 due to a significant emission increase and no further discussion is required.

10. Quarterly Net Emissions Change (QNEC)

The QNEC is calculated solely to establish emissions that are used to complete the District's PAS emissions profile screen. The QNEC will be calculated for NO_x, SO_x, PM₁₀, CO and VOC as the difference between the quarterly PE2 and the quarterly PE1. The QNEC for each pollutant is shown in the table below:

QNEC			
Pollutant	PE2 (lb/yr)	BE= PE1 (lb/yr)	QNEC (lb/qtr)¹
NO _x	8,940	4,606	1,084
SO _x	1,193	1,193	0
PM10	3,182	3,182	0
CO	61,134	61,134	0
VOC	2,303	2,303	0

¹ QNEC = [PE2 (lb/yr) – PE1 (lb/yr)] ÷ 4 (qtr/yr)

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

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

- a. Any new emissions unit with a potential to emit exceeding two pounds per day,
- b. The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
- c. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIPE exceeding two pounds per day, and/or
- d. Any new or modified emissions unit, in a stationary source project, which results in an SB288 Major Modification or a Federal Major Modification, as defined by the rule.

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

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

As discussed in Section I above, there are no new emissions units associated with this project. Therefore BACT for new units with PE > 2 lb/day purposes is not triggered.

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

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

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

$$\text{AIPE} = \text{PE2} - \text{HAPE}$$

Where,

AIPE = Adjusted Increase in Permitted Emissions, (lb/day)

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

HAPE = Historically Adjusted Potential to Emit, (lb/day)

$$\text{HAPE} = \text{PE1} \times (\text{EF2}/\text{EF1})$$

Where,

PE1 = The emissions unit's PE prior to modification or relocation, (lb/day)

EF2 = The emissions unit's permitted emission factor for the pollutant after modification or relocation. If EF2 is greater than EF1 then EF2/EF1 shall be set to 1

EF1 = The emissions unit's permitted emission factor for the pollutant before the modification or relocation

$$AIPE = PE2 - (PE1 * (EF2 / EF1))$$

Pollutant	PE ₂ (lb/day)	PE ₁ (lb/day)	EF ₁ (lb/MMBtu)	EF ₂ (lb/MMBtu)	EF ₂ /EF ₁	HAPE (lb/day)	AIPE (lb/day)
NO _x	24.5	12.6	0.011	0.0971*	1	12.6	11.9
SO _x	3.3	3.3	0.00285	0.00285	1	3.3	0
PM ₁₀	8.7	8.7	0.0076	0.0076	1	8.7	0
CO	167.5	167.5	0.146	0.146	1	167.5	0
VOC	6.3	6.3	0.0055	0.0055	1	6.3	0

*Higher value of NO_x emission factor during startup/shut down is used as a worst case.

As demonstrated above, the AIPE is greater than 2.0 lb/day for NO_x emissions for this boiler. Therefore BACT is triggered for NO_x emissions only.

2. BACT Guideline

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

3. Top-Down BACT Analysis

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

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

NO_x: 5 ppmvd @ 3% O₂ (0.0062 lb/MMBtu)

The following condition ensures compliance with BACT requirements:

- Except during start-up and shutdown, emissions from this unit shall not exceed any of the following limits: 5 ppmvd NO_x @ 3% O₂ or 0.0062 lb-NO_x/MMBtu, 0.00285 lb-SO_x/MMBtu, 0.0076 lb-PM₁₀/MMBtu, 200 ppmvd CO @ 3% O₂ or 0.146 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320]

B. Offsets

1. Offset Applicability

Offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the SSPE2 equals to or exceeds the offset threshold levels in Table 4-1 of Rule 2201. The SSPE2 is compared to the offset thresholds in the following table.

Offset Determination (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE2	14,611	1,701	3,501	63,994	161,065
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	No	No	No	No	Yes

2. Quantity of Offsets Required

As seen above, the facility is an existing Major Source for VOC and the SSPE2 is greater than the offset thresholds. Therefore offset calculations will be required for this project.

The quantity of offsets in pounds per year for VOC is calculated as follows for sources with an SSPE1 greater than the offset threshold levels before implementing the project being evaluated.

Offsets Required (lb/year) = $(\Sigma[PE2 - BE] + ICCE) \times DOR$, for all new or modified emissions units in the project,

Where,

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

BE = Baseline Emissions, (lb/year)

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

DOR = Distance Offset Ratio, determined pursuant to Section 4.8

BE = PE1 for:

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

otherwise,

BE = HAE

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

Also, there is only one emissions unit associated with this project and there are no increases in cargo carrier emissions. Therefore offsets can be determined as follows:

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

PE2 (VOC) = 2,303 lb/year
BE (VOC) = 2,303 lb/year
ICCE = 0 lb/year

Offsets Required (lb/year) = $([2,303 - 2,303] + 0) \times DOR$
= 0 lb VOC/year

As demonstrated in the calculation above, the amount of offsets is zero. Therefore, offsets will not be required for this project.

C. Public Notification

1. Applicability

Public noticing is required for:

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

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

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

As demonstrated in VII.C.7 and VII.C.8, this project constitutes neither an SB 288 Major Modification nor a Federal Major Modification; therefore, public noticing for SB 288 or Federal Major Modification purposes is not required.

b. PE > 100 lb/day

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. There are no new emissions units associated with this project; therefore, public noticing is not required for this project for PE > 100 lb/day.

c. Offset Threshold

The SSPE1 and SSPE2 are compared to the offset thresholds in the following table.

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO _x	10,277	14,611	20,000 lb/year	No
SO _x	1,701	1,701	54,750 lb/year	No
PM ₁₀	3,501	3,501	29,200 lb/year	No
CO	63,994	63,994	200,000 lb/year	No
VOC	161,065	161,065	20,000 lb/year	No

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

d. SSIPE > 20,000 lb/year

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

SSIPE Public Notice Thresholds					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO _x	14,611	10,277	4,334	20,000 lb/year	No
SO _x	1,701	1,701	0	20,000 lb/year	No
PM ₁₀	3,501	3,501	0	20,000 lb/year	No
CO	63,994	63,994	0	20,000 lb/year	No
VOC	161,065	161,065	0	20,000 lb/year	No

2. Public Notice Action

As discussed above, public notice will not be required for this project.

D. Daily Emission Limits (DELs)

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

The DELs for the unit is based on the use of natural gas as a fuel and will be stated in the form of emission factors as shown:

Proposed Rule 2201 (DEL) Conditions:

- Except during start-up and shutdown, emissions from this unit shall not exceed any of the following limits: 5 ppmvd NO_x @ 3% O₂ or 0.0062 lb-NO_x/MMBtu, 0.00285 lb-SO_x/MMBtu, 0.0076 lb-PM₁₀/MMBtu, 200 ppmvd CO @ 3% O₂ or 0.146 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320]
- {3261} During start-up and shutdown emissions from this unit shall not exceed any of the following limits: 80 ppmvd NO_x @ 3% O₂ or 0.0971 lb-NO_x/MMBtu, 0.00285 lb-SO_x/MMBtu, 0.0076 lb-PM₁₀/MMBtu, 200 ppmvd CO @ 3% O₂ or 0.146 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320]
- {modified 3419} Total duration of startup shall not exceed 2 hr/day. [District Rules 2201, 4305, 4306, and 4320]
- {modified 3420} Total duration of shutdown shall not exceed 2 hr/day. [District Rules 2201, 4305, 4306, and 4320]
- The ammonia emissions from the exhaust of the SCR system serving this boiler shall not exceed 10 ppmvd @ 3% O₂. [District Rule 2201]
- {2964} The unit shall only be fired on PUC-regulated natural gas. [District Rules 2201 and 4320]

E. Compliance Assurance

1. Source Testing

This unit is subject to District Rule 4305, *Boilers, Steam Generators and Process Heaters, Phase 2*, District Rule 4306, *Boilers, Steam Generators and Process Heaters, Phase 3*, and District Rule 4320 *Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr*. Source testing requirements, in accordance with District Rules 4305, 4306, and 4320 will be discussed in Section VIII, District Rule 4320 of this evaluation.

Additionally, the District Source Test Policy (APR 1705) requires annual testing for all pollutants controlled by catalysts. The control equipment will include a SCR system and ammonia slip is an indicator of how well the SCR system is performing.

Therefore, source testing for NO_x, CO, and ammonia will be required within 60 days of initial operation. Additional source testing requirements will be discussed in Section VIII of this evaluation. The following condition will be included on the ATC permit to ensure compliance with the initial source test requirement.

- Source testing to measure NO_x, CO, and NH₃ emissions from this unit while fired on natural gas shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320]

2. Monitoring

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

The applicant has proposed to utilize a pre-approved alternate monitoring scheme for *Monitoring NO_x, CO, and O₂ Utilizing a Portable Analyzer and Monitoring Ammonia Slip Utilizing Draeger Tubes or Equivalent* to meet the requirements of District Rules 4305, 4306, and 4302. This monitoring also satisfies the monitoring requirements for Rule 2201. No additional monitoring is required.

3. Recordkeeping

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

The following condition will be included on the ATC permit to ensure compliance with the start-up and shutdown requirements of Rule 2201:

- {3422} Daily records of start-up and shutdown durations and number of occurrences of each shall be maintained. [District Rule 2201]

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

Rule 2410 Prevention of Significant Deterioration

The 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. The intent of this Rule is to incorporate the federal PSD rule requirements into the District's Rules and Regulations by incorporating the federal requirements by reference.

The provisions of this rule shall apply to any source and the owner or operator of any source subject to any requirement under Title 40 Code of Federal Regulations (40 CFR) Part 52.21 as incorporated into this rule. This rule shall become effective upon the effective date of the federal Environmental Protection Agency's (EPA's) final and full approval of Rule 2410. The District expects the effective date to occur 30 days after EPA publishes their final approval in the federal register.

As demonstrated in Section VII.C.9 of this evaluation, because the project has a total potential to emit from all new and modified emission units below the PSD significant emission increase thresholds, this project is not subject to the requirements of Rule 2410 due to a significant emission increase and no further discussion is required.

Rule 2520 Federally Mandated Operating Permits

This facility is subject to this Rule, and has received their Title V Operating Permit. The proposed modification is a Minor Modification to the Title V Permit.

In accordance with Rule 2520, these modifications:

1. Do not violate requirements of any applicable federally enforceable local or federal requirement;
2. Do not relax monitoring, reporting, or recordkeeping requirements in the permit and are not significant changes in existing monitoring permit terms or conditions;
3. Do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis;
4. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:
 - a. A federally enforceable emission cap assumed to avoid classification as a modification under any provisions of Title I of the Federal Clean Air Act; and
 - b. An alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Federal Clean Air Act; and
5. Are not Title I modifications as defined in District Rule 2520 or modifications as defined in section 111 or 112 of the Federal Clean Air Act; and
6. Do not seek to consolidate overlapping applicable requirements.

As discussed above, the facility has applied for a Certificate of Conformity (COC). Therefore, the facility must apply to modify their Title V permit with an administrative amendment, prior to operating with the proposed modifications. Continued compliance with this rule is expected. The facility may construct/operate under the ATC upon submittal of the Title V administrative amendment application.

The following conditions will be included on the ATC to ensure compliance with this requirement.

- {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201]
- {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4]

Rule 4001 New Source Performance Standards (NSPS)

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

40 CFR Part 60, Subpart A, section 14, defines the meaning of modification to which the standards are applicable. §60.14, paragraph (e)(5) states that the following will not be considered as a modification: "the addition or use of any system or device whose primary function is the reduction of air pollutants, except when an emission control system is removed or replaced by a system which the Administrator determines to be less environmentally beneficial".

No newly constructed or reconstructed units are proposed in this project, nor is the unit being modified (as defined above). Since the permittee is retrofitting the unit with an SCR system for compliance with District rules and regulations and there is no increase in design capacity, the requirements of this subpart is not applicable to this project.

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

This rule incorporates NESHAPs from Part 61, Chapter I, Subchapter C, Title 40, CFR and the NESHAPs from Part 63, Chapter I, Subchapter C, Title 40, CFR; and applies to all sources of hazardous air pollution listed in 40 CFR Part 61 or 40 CFR Part 63. However, no subparts of 40 CFR Part 61 or 40 CFR Part 63 apply to industrial-commercial-institutional boiler operations.

Rule 4101 Visible Emissions

District Rule 4101, Section 5.0, states that no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour, which is dark or darker than Ringelmann 1 or equivalent to 20% opacity. The following condition will be included on the permit to ensure compliance:

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

Rule 4102 - Nuisance

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

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

California Health & Safety Code 41700 (Health Risk Assessment)

District Policy APR 1905 – *Risk Management Policy for Permitting New and Modified Sources* specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite.

An HRA is not required for a project with a total facility prioritization score of less than one. According to the Technical Services Memo for this project (Appendix C), the total facility prioritization score including this project was greater than one; therefore, an HRA was required to determine the short-term acute and long-term chronic exposure from this project.

The cancer risk for this project is shown below:

HRA Summary		
Unit	Cancer Risk	T-BACT Required
C-629-2-8	N/A*	No

*The Maximum Individual Cancer Risk was not calculated since there are no risk factors associated with any of the Hazardous Air Pollutants (HAPs) under analysis.

The acute and chronic indices are below 1.0; and there is no Cancer Risk associated with any of the HAPs under review. In accordance with the District's Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT); therefore, compliance with the District's Risk Management Policy is expected.

To ensure that human health risks will not exceed District allowable levels; the following permit condition will be included on the ATC to ensure compliance:

- {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]

Rule 4201 Particulate Matter Concentration

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

F-factor for Natural Gas: 8,578 dscf/MMBtu (@ 60°F)
 PM₁₀ Emission Factor: 0.0076 lb-PM10/MMBtu
 PM₁₀ fraction of PM: 100% (i.e., 100% of PM is PM₁₀)

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

GL = 0.0062 grain/dscf < 0.1 grain/dscf

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

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

Rule 4301 Fuel Burning Equipment

This rule specifies maximum emission rates in lb/hr for SO₂, NO₂, and combustion contaminants (defined as total PM in Rule 1020). This rule also limits combustion contaminants to ≤ 0.1 gr/scf. The emissions rates from this boiler are shown in the table below:

District Rule 4301 Limits (Natural Gas Combustion) [lb/hr]			
Pollutant	NO ₂	Total PM	SO ₂
ATC C-629-2-8	0.30	0.36	0.14
Rule Limit (lb/hr)	140	10	200

The above table indicates compliance with the maximum lb/hr emissions in this rule; therefore, continued compliance is expected.

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

Rule 4304 details the tuning procedure required for boilers, steam generators, and process heaters under Rules 4305, 4306, and 4320. Those rules include an exemption from tune-ups for units that operate an APCO-approved CEMS or alternate monitoring system where the applicable emission limits are periodically monitored. The applicant has proposed to use pre-approved alternate monitoring system for *Monitoring of NO_x, CO, and O₂ Using a Portable Analyzer and Monitoring Ammonia Slip Using Draeger Tubes or Equivalent*. Therefore, unit C-629-2 is not subject to Rule 4304 and no further discussion is required.

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

Pursuant to Section 2.0 of District Rule 4305, this boiler is subject to District Rule 4305, *Boilers, Steam Generators and Process Heaters – Phase 2*.

Since the requirements of District Rule 4320 are either equivalent to or more stringent than the requirements of District Rule 4305, compliance with District Rule 4320 requirements will satisfy requirements of District Rule 4305. Therefore, no further discussion is required.

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

Pursuant to Section 2.0 of District Rule 4306, this boiler is subject to District Rule 4306, *Boilers, Steam Generators and Process Heaters – Phase 3*.

The facility proposes to comply with the requirements of Rule 4320 by reducing the NO_x emission concentration to 5 ppmv. This limit is lower than the limit required for compliance with Rule 4306 and all other requirements of Rule 4320 are at least as stringent as the requirements of Rule 4306. Therefore, compliance with Rule 4320 will be sufficient to ensure compliance with Rule 4306 and no further discussion is required.

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

Pursuant to Section 2.0 of District Rule 4320, this unit is subject to District Rule 4320.

The following table details compliance with the requirements of this rule for unit C-629-2:

District Rule 4320 Requirements	Method of Compliance												
<p>Section 5.1 lists three options for facilities to comply with the requirements of the rule. The facility has proposed to comply with the option described in Section 5.1.1, which requires the facility to comply with the emission limits in Sections 5.2 and 5.4.</p> <p>Section 5.2, NOx and CO emission limits. The applicant has proposed to meet the emission limits listed in Table 1, Category B Enhanced Schedule. All ppmv emission limits specified in this section are referenced at dry stack gas conditions and 3.0 percent (%) by volume stack gas oxygen.</p> <table border="1" data-bbox="131 974 781 1308"> <thead> <tr> <th colspan="3">Rule 4320 Emission Limits</th> </tr> <tr> <th>Category</th> <th colspan="2">Units Operated on Gaseous Fuel (standard option)</th> </tr> <tr> <th>C-629-2</th> <th>NOx</th> <th>CO</th> </tr> </thead> <tbody> <tr> <td>B. Units with a total rated heat input > 20.0 MMBtu/hr.</td> <td>b) Enhanced Schedule 5 ppmv or 0.0062 lb/MMBtu</td> <td>400 ppmv</td> </tr> </tbody> </table>	Rule 4320 Emission Limits			Category	Units Operated on Gaseous Fuel (standard option)		C-629-2	NOx	CO	B. Units with a total rated heat input > 20.0 MMBtu/hr.	b) Enhanced Schedule 5 ppmv or 0.0062 lb/MMBtu	400 ppmv	<p>The applicant has proposed to modify the boiler by installing an SCR system and lowering the NOx emissions limit to 5 ppmv. The CO emissions limit will remain as 200 ppmv.</p> <p>The proposed NOx and CO emission limits meet the requirements of this section.</p> <p>The following conditions will be included on the permit:</p> <ul style="list-style-type: none"> <i>Except during start-up and shutdown, emissions from this unit shall not exceed any of the following limits: 5 ppmvd NOx @ 3% O2 or 0.0062 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 200 ppmvd CO @ 3% O2 or 0.146 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]</i>
Rule 4320 Emission Limits													
Category	Units Operated on Gaseous Fuel (standard option)												
C-629-2	NOx	CO											
B. Units with a total rated heat input > 20.0 MMBtu/hr.	b) Enhanced Schedule 5 ppmv or 0.0062 lb/MMBtu	400 ppmv											
<p>Section 5.4, Particulate Matter Control Requirements, requires the operator to comply with one of the following:</p> <ol style="list-style-type: none"> 1. Fire the boiler exclusively on PUC-quality natural gas, commercial propane, or a combination of such gases. 2. Limit fuel sulfur content to no more than five grains of total sulfur per 100 standard cubic feet. 3. Install and properly operate an emission control system that reduces SO₂ emissions by at least 95%, by weight, or limit exhaust SO₂ to less than or equal to 9 ppmv, corrected to 3.0% O₂. 	<p>The boiler will be fired exclusively on PUC-quality natural gas, pursuant to section 5.4.1.1. Therefore the requirements of Section 5.4.1 will be satisfied.</p> <p>The following condition will be included on the permit:</p> <ul style="list-style-type: none"> <i>The unit shall only be fired on PUC-regulated natural gas. [District Rules 2201 and 4320]</i> 												

<p>Section 5.6 of this rule states that neither the Section 5.2 (Section 5.7, Monitoring Provisions: Section 5.4.2 requires each unit subject to Section 5.1 to either install a continuous emissions monitoring system (CEMS) for NOx, CO and oxygen or implement an APCO-approved Alternate Emission Monitoring System. Table 1) NOx emission standard or the section 5.5.2 CO emission standard apply during start-up and shutdown periods provided the duration of no start-up or shutdown event is longer than 2 hours and the emissions are controlled to the maximum extent possible during these periods.</p>	<ul style="list-style-type: none"> • <i>{modified 3419} Total duration of startup shall not exceed 2 hr/day. [District Rules 2201, 4305, 4306, and 4320]</i> • <i>{modified 3420} Total duration of shutdown shall not exceed 2 hr/day. [District Rules 2201, 4305, 4306, and 4320]</i> • <i>{modified 3421} Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 4305, 4306, and 4320]</i> • <i>{3422} Daily records of start-up and shutdown durations and number of occurrences of each shall be maintained. [District Rule 2201]</i>
<p>5.7.1 The operator of any unit subject to the applicable emission limits in Sections 5.2 shall install and maintain an operational APCO approved Continuous Emissions Monitoring System (CEMS) for NOx, CO, and oxygen, or implement an APCO-approved Alternate Monitoring System. An APCO approved CEMS shall comply with the requirements of 40 Code of Federal Regulations (CFR) Part 51, 40 CFR Parts 60.7 and 60.13 (except subsection h), 40 CFR Part 60 Appendix B (Performance Specifications) and 40 CFR Part 60 Appendix F (Quality Assurance Procedures), and applicable provisions of Rule 1080 (Stack Monitoring). An APCO approved Alternate Monitoring System shall monitor one or more of the following:</p> <p>5.7.1.1 Periodic NOx and CO exhaust emission concentrations, 5.7.1.2 Periodic exhaust oxygen concentration, 5.7.1.3 Flow rate of reducing agent added to exhaust, 5.7.1.4 Catalyst inlet and exhaust temperature, 5.7.1.5 Catalyst inlet and exhaust oxygen concentration, 5.7.1.6 Periodic flue gas recirculation rate, or 5.7.1.7 Other operational characteristics.</p>	<p>The applicant has proposed to use a pre-approved alternate emissions monitoring scheme (monitoring using a District-approved portable analyzer for NOx, CO and O2 and using Draeger tubes, or equivalent for ammonia slip).</p> <p>The following conditions will be included on the permit:</p> <ul style="list-style-type: none"> • <i>{4319} The permittee shall monitor and record the stack concentration of NOx, CO, NH3 and O2 at least once during each month in which source testing is not performed. NOx, CO and O2 monitoring shall be conducted utilizing a portable analyzer that meets District specifications. NH3 monitoring shall be conducted utilizing Draeger tubes or a District approved equivalent method. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless it has been performed within the last month. [District Rules 4305, 4306 and 4320]</i> • <i>{4320} If the NOx, CO or NH3 concentrations, as measured by the portable analyzer or the District approved ammonia</i>

monitoring equipment, exceed the permitted levels the permittee shall return the emissions to compliant levels as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer or the ammonia monitoring equipment continue to show emission limit violations after 1 hour of operation following detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation that is subject to enforcement action has occurred. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320]

- {4321} All NO_x, CO, O₂ and ammonia emission readings shall be taken with the unit operating at conditions representative of normal operation or under the conditions specified in the Permit to Operate. The NO_x, CO and O₂ analyzer as well as the NH₃ emission monitoring equipment shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Analyzer readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4320]
- {4322} Ammonia emission readings shall be conducted at the time the NO_x, CO and O₂ readings are taken. The readings shall be converted to ppmvd @ 3% O₂. [District Rules 4305, 4306 and 4320]
- {4323} The permittee shall maintain records of: (1) the date and time of NO_x, CO, NH₃

	<p>and O₂ measurements, (2) the O₂ concentration in percent by volume and the measured NO_x, CO and NH₃ concentrations corrected to 3% O₂, (3) make and model of the portable analyzer, (4) portable analyzer calibration records, (5) the method of determining the NH₃ emission concentration, and (6) a description of any corrective action taken to maintain the emissions at or below the acceptable levels. [District Rules 4305, 4306 and 4320]</p>
<p>Section 5.7.6 outlines requirements for monitoring SO_x emissions. Section 5.7.6.1 requires the operator of any unit that proposes to comply with Section 5.4.1.1 (fired exclusively on PUC-quality natural gas, commercial propane, butane, LPG, or a combination of these fuel gases) or Section 5.4.1.2 (fuel sulfur content limit of 5 grains/100 scf) to provide an annual fuel analysis.</p>	<p>The unit will be fired exclusively on PUC-quality natural gas, which per District Policy APR 1720, the District assumes has a sulfur content not exceeding 1.0 grains/100 scf. Therefore, the District will accept analyses or other equivalent certification documents from the fuel supplier for demonstrating compliance with the SO_x emission monitoring requirement. The following condition will be included on the permit:</p> <ul style="list-style-type: none"> • {4356} Permittee shall determine sulfur content of combusted gas annually or shall demonstrate that the combusted gas is provided from a PUC or FERC regulated source. [District Rules 1081 and 4320]
<p>Section 5.8.1 requires that the operator of any unit shall have the option of complying with either the applicable heat input (lb/MMBtu) emission limits or the concentration (ppmv) emission limits specified in Section 5.2. The emission limits selected to demonstrate compliance shall be specified in the source test proposal pursuant to Rule 1081 (Source Sampling).</p>	<p>To ensure compliance with this section, the following condition will be listed on the permit:</p> <ul style="list-style-type: none"> • {Modified 2976} The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320]
<p>Section 5.8.2 requires that all emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0.</p>	<p>Therefore, the following permit condition will be listed on the permit as follows:</p> <ul style="list-style-type: none"> • {Modified 2972} All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 4305, 4306, and

	4320]
Section 5.8.5 requires that for emissions source testing performed pursuant to Section 6.3.1 for the purpose of determining compliance with an applicable standard or numerical limitation of this rule, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit.	Therefore, the following permit condition will be listed on the permit as follows: <ul style="list-style-type: none"> <i>{Modified 2980} For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320]</i>
Section 6.1 requires that the records required by Sections 6.1.1 through 6.1.5 shall be maintained for five calendar years and shall be made available to the APCO upon request. Failure to maintain records or information contained in the records that demonstrate noncompliance with the applicable requirements of this rule shall constitute a violation of this rule.	The following permit condition will be listed on the permit as shown below: <ul style="list-style-type: none"> <i>{Modified 2983} All records shall be maintained and retained on-site for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320]</i>
Section 6.1.2 requires that the operator of a unit subject to Section 5.5 shall record the amount of fuel use at least on a monthly basis.	Since this unit is not subject to the requirements listed in Section 5.5, it is not subject to Section 6.1.2 requirements.
Section 6.1.3 requires that the operator of a unit subject to Section 5.5.1 or 6.3.1 shall maintain records to verify that the required tune-up and the required monitoring of the operational characteristics have been performed.	This unit is not subject to Section 5.5.1. Therefore, the requirements of this section do not apply.
Section 6.1.4 requires that the operator of a unit with startup or shutdown provisions keep records of the duration of the startup or shutdowns.	The applicant has not proposed that the NOx emissions from this boiler will be different during start-up or shutdown events; therefore, the requirements of this section do not apply.
Section 6.1.5 requires that the operator of a unit fired on liquid fuel during PUC-quality natural gas curtailment periods record the sulfur content of the fuel, amount of fuel used, and duration of the natural gas curtailment period.	The applicant has not proposed the use of curtailment fuels; therefore, the requirements of this section do not apply.
Section 6.2, Test Methods, identifies the test methods as District-approved source testing methods for all applicable pollutants.	The following permit conditions will be listed on the permit to ensure the applicable source test are performed: <ul style="list-style-type: none"> <i>{109} Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any</i>

	<p><i>compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]</i></p> <ul style="list-style-type: none"> • <i>{Modified 2977} NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis or EPA Method 19 on a heat input basis. [District Rules 4305, 4306, and 4320]</i> • <i>{Modified 2978} CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 4306, and 4320]</i> • <i>{Modified 2979} Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306, and 4320]</i> • <i>{3278} Source testing for ammonia slip shall be conducted utilizing BAAQMD Method ST-1B. [District Rule 1081]</i>
<p>Section 6.3.1 requires that units be tested to determine compliance with the applicable requirements of section 5.1 and 5.3 not less than once every 12 months. Upon demonstrating compliance on two consecutive compliance source tests, the following source test may be deferred for up to thirty-six months.</p>	<p>The following conditions will be included on the permit to verify compliance with the proposed NOx and CO emission limits:</p> <ul style="list-style-type: none"> • <i>Source testing to measure NOx, CO, and NH3 emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320]</i> • <i>{110} The results of each source test shall be submitted to the District within 60 days thereafter. Source tests must be submitted for all District authorized compliance source tests regardless of pass, fail or reschedule because of failure status. A District authorized compliance source test shall not be discontinued solely due to the failure of one or more runs to meet applicable standards. [District Rule 1081]</i>

Conditions will be incorporated into the permit to ensure compliance with each section of this rule. Compliance with District Rule 4320 is expected.

Rule 4351 - Boilers, Steam Generators and Process Heaters – Phase I

This rule applies to boilers, steam generators, and process heaters at NOx Major Sources that are not located west of Interstate 5 in Fresno, Kings, or Kern counties. This facility is not a Major Source for NOx emissions; therefore, this unit is not subject to the requirements of this rule.

Rule 4801 - Sulfur Compounds

A person shall not discharge into the atmosphere sulfur compounds, which would exist as a liquid or gas at standard conditions, exceeding in concentration at the point of discharge: 0.2 % by volume calculated as SO₂, on a dry basis averaged over 15 consecutive minutes.

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

$$\text{Volume SO}_2 = \frac{n RT}{P}$$

With:

- N = moles SO₂
- T (Standard Temperature) = 60°F = 520°R
- P (Standard Pressure) = 14.7 psi
- R (Universal Gas Constant) = $\frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}}$
- EPA F-Factor for Natural Gas = 8,578 dscf/MMBtu at 60 °F

Natural Gas Combustion:

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

Sulfur Concentration = 1.97 ppmv < 2,000 ppmv (or 0.2%)

Therefore, compliance with District Rule 4801 requirements is expected.

California Health & Safety Code 42301.6 (School Notice)

The District has verified that this site is located within 1,000 feet of Riverview Elementary School. There are no other schools located within a quarter mile of the project site. This project involves the retrofit of a 47.8 MMBtu/hr natural gas-fired boiler by authorizing the installation of an ammonia-injected SCR system. The proposed modification will result in an increase in emissions. Therefore, pursuant to California Health and Safety Code 42301.6, a school notice is required for Riverview Elementary School.

California Environmental Quality Act (CEQA)

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

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

Greenhouse Gas (GHG) Significance Determination

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

The District's engineering evaluation (this document) demonstrates that the project would not result in an increase in project specific greenhouse gas emissions. The District therefore concludes that the project would have a less than cumulatively significant impact on global climate change.

District CEQA Findings

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

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful 30-day school notice and the 45-day EPA comment period, issue ATC C-629-2-8 with COC subject to the permit conditions on the attached draft ATC in Appendix D.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
C-629-2-8	3020-02-H	47.8 MMBtu/hr boiler	\$1,030.00

Appendices

- A: Current PTO
- B: BACT Analysis
- C: HRA Summary
- D: Draft ATC
- E: Emissions Profile
- F: PSD Calculations

APPENDIX A

Current PTO

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: C-629-2-7

EXPIRATION DATE: 07/31/2015

EQUIPMENT DESCRIPTION:

47.8 MMBTU/HR BABCOCK AND WILCOX NATURAL GAS-FIRED BOILER (SERIAL #NB21232) WITH AN AMERICAN COMBUSTION TECH MODEL ACI-04G LOW NOX BURNER WITH INDUCED FLUE GAS RECIRCULATION

PERMIT UNIT REQUIREMENTS

1. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
3. The flue gas recirculation system shall be in operation at all times when the boiler is firing. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The unit shall only be fired on PUC-regulated natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
5. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted in the unit shall be installed, utilized and maintained. [40 CFR 60.48 (c)(g)] Federally Enforceable Through Title V Permit
6. Emissions rates from the natural gas-fired unit shall not exceed any of the following limits: 9 ppmvd NO_x @ 3% O₂ or 0.011 lb-NO_x/MMBtu, 0.00285 lb-SO_x/MMBtu, 0.0076 lb-PM₁₀/MMBtu, 200 ppmvd CO @ 3% O₂ or 0.146 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, and 4306] Federally Enforceable Through Title V Permit
7. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 2520, 4305, and 4306] Federally Enforceable Through Title V Permit
8. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 2520, 4305, and 4306] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
These terms and conditions are part of the Facility-wide Permit to Operate.

9. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 2520, 4305, and 4306] Federally Enforceable Through Title V Permit
10. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 2520, 4305, and 4306] Federally Enforceable Through Title V Permit
11. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
12. Source testing to measure NO_x and CO emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
13. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
14. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
15. NO_x emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
16. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
17. Stack gas oxygen (O₂) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
18. A scheduled source test may not be discontinued solely due to the failure of one or more runs to meet applicable standards. [District Rule 1081] Federally Enforceable Through Title V Permit
19. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 1081, 6.1, 4305 and 4306] Federally Enforceable Through Title V Permit
20. In the event that a sample is accidentally lost or conditions occur in which one of three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sampling train, extreme meteorological conditions presenting a hazard to the sampling team, or other circumstances beyond the owner or operators control, upon the APCO's approval, compliance may be determined using the arithmetic mean of the other two runs. [District Rule 1081] Federally Enforceable Through Title V Permit
21. Source sampling to determine the compliance status of an emissions source shall be witnessed or authorized by District personnel. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

22. The results of each source test shall be submitted to the District within 60 days thereafter. Source tests must be submitted for all District authorized compliance source tests regardless of pass, fail or reschedule because of failure status. A District authorized compliance source test shall not be discontinued solely due to the failure of one or more runs to meet applicable standards. [District Rule 1081] Federally Enforceable Through Title V Permit
23. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 2520, 4305, and 4306] Federally Enforceable Through Title V Permit
24. The permittee shall keep daily records of the amount of natural gas combusted for a period of five years, and shall make records available for inspection upon request. [District Rule 2520, 9.4.2, and 40 CFR 60.48 (c)(g)] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

APPENDIX B

BACT Analysis

Top-Down BACT Determination for NO_x Emissions

Step 1 - Identify All Possible Control Technologies

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

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

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

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

Step 2 - Eliminate Technologically Infeasible Options

There are no technologically infeasible options.

Step 3 – Rank Remaining Control Technologies by Control Efficiency

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

Step 4 – Cost Effectiveness Analysis

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

Step 5 - Select BACT

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

APPENDIX C

HRA Summary

**San Joaquin Valley Air Pollution Control District
Risk Management Review
REVISED**

To: Sajjad Ahmad – Permit Services
 From: Cheryl Lawler – Technical Services
 Date: December 18, 2012
 Facility Name: O'Neill Beverages Company
 Location: 8418 S. Lac Jac Avenue, Parlier
 Application #(s): C-629-2-8
 Project #: C-1123344

A. RMR SUMMARY

RMR Summary			
Categories	Add SCR System (Unit 2-8)	Project Totals	Facility Totals
Prioritization Score	0.01	0.01	>1
Acute Hazard Index	0.00	0.00	0.00
Chronic Hazard Index	0.00	0.00	0.00
Maximum Individual Cancer Risk	N/A*	N/A*	1.80E-08
T-BACT Required?	No		
Special Permit Conditions?	Yes		

*The Maximum Individual Cancer Risk was not calculated since there are no risk factors associated with any of the Hazardous Air Pollutants (HAPs) under analysis.

Proposed Permit Conditions

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

Unit 2-8

1. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction.
[District Rule 4102] N

I. Project Description

Technical Services received a request on December 17, 2012, to re-run a Risk Management Review where the facility is proposing to add a SCR system to control NOX emissions. The project is being re-run because of an increase in NOX emissions submitted by the processing engineer.

II. Analysis

Ammonia emission rates from the SCR system were calculated and supplied by the processing engineer. In accordance with the District's *Risk Management Policy for Permitting New and Modified Sources* (APR 1905-1, March 2, 2001), risks from the project were prioritized using the procedures in the 1990 CAPCOA Facility Prioritization Guidelines and incorporated in the District's HEART's database. The prioritization score for the project was less than 1.0 (see RMR Summary Table); however, the facility's combined prioritization scores totaled to greater than one. Therefore, a refined Health Risk Assessment was required and performed for the project. AERMOD was used with point source parameters outlined below and concatenated 5-year meteorological data from Fresno to determine maximum dispersion factors at the nearest residential and business receptors. The dispersion factors were input into the HARP model to calculate the Chronic and Acute Hazard Indices and the Carcinogenic Risk.

The following parameters were used for the review:

Analysis Parameters			
Source Type	Point	Closest Receptor (m)	366
Stack Height (m)	12.19	Type of Receptor	Residence
Stack Diameter (m)	1.37	Location Type	Rural
Stack Gas Temperature (K)	389	Stack Gas Velocity (m/sec)	4.15

III. Conclusions

The acute and chronic indices are below 1.0; and there is no Cancer Risk associated with any of the HAPs under review. In accordance with the District's Risk Management Policy, the project is approved **without** Toxic Best Available Control Technology (T-BACT).

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

These conclusions are based on the data provided by the applicant and the project engineer. Therefore, this analysis is valid only as long as the proposed data and parameters do not change.

Attachments:

RMR Request Form
Prioritization
Risk Results
Project Summary

APPENDIX D

Draft ATC

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: C-629-2-8

LEGAL OWNER OR OPERATOR: O'NEILL BEVERAGES CO LLC
MAILING ADDRESS: 8418 S LAC JAC AVE
PARLIER, CA 93648-9708

LOCATION: 8418 S LAC JAC AVE
PARLIER, CA 93648

EQUIPMENT DESCRIPTION:

MODIFICATION OF 47.8 MMBTU/HR BABCOCK AND WILCOX NATURAL GAS-FIRED BOILER (SERIAL #NB21232) WITH AN AMERICAN COMBUSTION TECH MODEL ACI-04G LOW NOX BURNER WITH INDUCED FLUE GAS RECIRCULATION: INSTALL SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM TO ACHIEVE 5 PPMVD-NOX @ 3% O2 (0.0062 LB-NOX/MMBTU) FOR RULE 4320 COMPLIANCE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
5. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

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DAVID WARNER, Director of Permit Services
C-629-2-8 Dec 20 2012 5:02PM - AHMADS : Joint Inspection NOT Required

7. The flue gas recirculation system shall be in operation at all times when the boiler is firing. [District Rule 2201] Federally Enforceable Through Title V Permit
8. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
9. The unit shall only be fired on PUC-regulated natural gas. [District Rule 2201 and 4320] Federally Enforceable Through Title V Permit
10. Permittee shall determine sulfur content of combusted gas annually or shall demonstrate that the combusted gas is provided from a PUC or FERC regulated source. [District Rules 1081 and 4320] Federally Enforceable Through Title V Permit
11. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted in the unit shall be installed, utilized and maintained. [40 CFR 60.48 (c)(g)] Federally Enforceable Through Title V Permit
12. Except during start-up and shutdown, emissions from this unit shall not exceed any of the following limits: 5 ppmvd NO_x @ 3% O₂ or 0.0062 lb-NO_x/MMBtu, 0.00285 lb-SO_x/MMBtu, 0.0076 lb-PM₁₀/MMBtu, 200 ppmvd CO @ 3% O₂ or 0.146 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
13. During start-up and shutdown emissions from this unit shall not exceed any of the following limits: 80 ppmvd NO_x @ 3% O₂ or 0.0971 lb-NO_x/MMBtu, 0.00285 lb-SO_x/MMBtu, 0.0076 lb-PM₁₀/MMBtu, 200 ppmvd CO @ 3% O₂ or 0.146 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
14. The ammonia emissions from the exhaust of the SCR system serving this boiler shall not exceed 10 ppmvd @ 3% O₂. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Total duration of startup shall not exceed 2 hr/day. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. Total duration of shutdown shall not exceed 2 hr/day. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. The permittee shall monitor and record the stack concentration of NO_x, CO, NH₃ and O₂ at least once during each month in which source testing is not performed. NO_x, CO and O₂ monitoring shall be conducted utilizing a portable analyzer that meets District specifications. NH₃ monitoring shall be conducted utilizing Draeger tubes or a District approved equivalent method. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless it has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. If the NO_x, CO or NH₃ concentrations, as measured by the portable analyzer or the District approved ammonia monitoring equipment, exceed the permitted levels the permittee shall return the emissions to compliant levels as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer or the ammonia monitoring equipment continue to show emission limit violations after 1 hour of operation following detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation that is subject to enforcement action has occurred. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

20. All NO_x, CO, O₂ and ammonia emission readings shall be taken with the unit operating at conditions representative of normal operation or under the conditions specified in the Permit to Operate. The NO_x, CO and O₂ analyzer as well as the NH₃ emission monitoring equipment shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Analyzer readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. Ammonia emission readings shall be conducted at the time the NO_x, CO and O₂ readings are taken. The readings shall be converted to ppmvd @ 3% O₂. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
22. The permittee shall maintain records of: (1) the date and time of NO_x, CO, NH₃ and O₂ measurements, (2) the O₂ concentration in percent by volume and the measured NO_x, CO and NH₃ concentrations corrected to 3% O₂, (3) make and model of the portable analyzer, (4) portable analyzer calibration records, (5) the method of determining the NH₃ emission concentration, and (6) a description of any corrective action taken to maintain the emissions at or below the acceptable levels. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. Source testing to measure NO_x, CO, and NH₃ emissions from this unit while fired on natural gas shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. Source testing to measure NO_x, CO, and NH₃ emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
27. NO_x emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. Stack gas oxygen (O₂) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. Source testing for ammonia slip shall be conducted utilizing BAAQMD Method ST-1B. [District Rule 1081] Federally Enforceable Through Title V Permit
31. A scheduled source test may not be discontinued solely due to the failure of one or more runs to meet applicable standards. [District Rule 1081] Federally Enforceable Through Title V Permit
32. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

34. In the event that a sample is accidentally lost or conditions occur in which one of three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sampling train, extreme meteorological conditions presenting a hazard to the sampling team, or other circumstances beyond the owner or operators control, upon the APCO's approval, compliance may be determined using the arithmetic mean of the other two runs. [District Rule 1081] Federally Enforceable Through Title V Permit
35. Source sampling to determine the compliance status of an emissions source shall be witnessed or authorized by District personnel. [District Rule 1081] Federally Enforceable Through Title V Permit
36. The results of each source test shall be submitted to the District within 60 days thereafter. Source tests must be submitted for all District authorized compliance source tests regardless of pass, fail or reschedule because of failure status. A District authorized compliance source test shall not be discontinued solely due to the failure of one or more runs to meet applicable standards. [District Rule 1081] Federally Enforceable Through Title V Permit
37. The permittee shall keep daily records of the amount of natural gas combusted for a period of five years, and shall make records available for inspection upon request. [District Rule 2520 and 40 CFR 60.48 (c)(g)] Federally Enforceable Through Title V Permit
38. Daily records of start-up and shutdown durations and number of occurrences of each shall be maintained. [District Rule 2201] Federally Enforceable Through Title V Permit
39. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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APPENDIX E
Emissions Profile

Permit #: C-629-2-8	Last Updated
Facility: O'NEILL BEVERAGES CO LLC	12/17/2012 AHMADS

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	8940.0	1193.0	3182.0	61134.0	2303.0
Daily Emis. Limit (lb/Day)	24.5	3.3	8.7	167.5	6.3
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	1084.0	0.0	0.0	0.0	0.0
Q2:	1084.0	0.0	0.0	0.0	0.0
Q3:	1084.0	0.0	0.0	0.0	0.0
Q4:	1084.0	0.0	0.0	0.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

APPENDIX F

PSD Calculations

1) Facility-Wide PE Calculations for PSD Purpose:

SSPE1 for the facility is converted from units of lb/year into tons/year by dividing SSPE1 calculated in Section VII.C.3 by 2,000 lb/ton as summarized in the following table:

	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE1 (lb/year)	10,277	1,701	3,501	63,994	161,065
SSPE1 (ton/year)	5.1	0.9	1.8	32.0	80.5

Calculating GHG on a Carbon Dioxide Equivalent (CO_{2e}) Basis:

i) CO₂ Emissions from Fermentation for O’Neill Beverages:

Basis:

- O’Neill has a Specific Limiting Condition which limits annual fermentation emissions to 410,503 lb-VOC/year
- Assume all wine produced is white wine.
- The VOC emission factor is 2.5 lb-VOC per 1000 gallons of white wine fermented.
- Maximum practical ethanol content for wine fermentation is 15 volume percent (higher concentrations have a negative impact on yeast reproduction with death of the yeast occurring at around 18%)
- Molecular weight of ethanol and CO₂ are 46 and 44 lb/mole respectively.
- The fermentation reaction produces one mole of carbon dioxide for each mole of ethanol produced.
- Liquid density for ethanol is 6.61 lb/gal at 60 F.

Calculation:

$$\text{Maximum Annual Wine Production Based on 100\% White Wine} = 410,503 \frac{\text{lb-VOC}}{\text{year}} \div 2.5 \frac{\text{lb-VOC}}{1000 \text{ gallons}}$$

$$\text{Maximum Annual Wine Production Based on 100\% White Wine} = 164,201,200 \text{ gallons per year}$$

$$\text{Maximum Annual Ethanol Production} = 164,201,200 \frac{\text{gal}}{\text{year}} \times 15\% \text{ ethanol} \times 6.61 \frac{\text{lb-ethanol}}{\text{gallon}}$$

$$\text{Maximum Annual Ethanol Production} = 162,805,500 \text{ lb-ethanol per year}$$

$$\text{Maximum Annual CO}_2 \text{ Production} = 162,805,500 \frac{\text{lb}}{\text{year}} \times \frac{1 \text{ mole}}{46 \text{ lb ethanol}} \times \frac{1 \text{ mole CO}_2}{1 \text{ mole ethanol}} \times \frac{44 \text{ lb CO}_2}{\text{mole CO}_2}$$

$$\text{Maximum Annual CO}_2 \text{ Production} = 155,727,000 \text{ lb-CO}_2 \text{ per year}$$

$$\text{Maximum Annual CO}_2 \text{ Production} = 77,864 \text{ ton-CO}_2 \text{ per year}$$

ii) Calculating GHG on a Carbon Dioxide Equivalent (CO₂e) Basis from Combustion Sources:

The main source of GHG from this winery is the wine fermentation process as calculated above. In addition, there are three permit units that are involved with combustion emissions from combustion of natural gas fuel, as summarized below:

Permit Unit	Burner Heat Ratings (MMBtu/hr)	Total Heat Input (MMBtu/hr)
S-629-2 (47.8)	47.8	47.8
S-629-282-2 (Brandy Storage)	0.289 + 1.7	1.989
S-629-283-2 (Brandy Storage)	0.289 + 1.7	1.989
Total Heat Input (MMBtu/hr)		51.778

Note: For a worst case assumption, GHG from combustion of natural gas only will be considered to demonstrate that this facility is an existing PSD Major Source. The regenerative thermal oxidizers (RTO) associated with permit units C-629-282 and -283 are capable of combusting LPG as a supplemental fuel in addition to natural gas. The use of natural gas will serve as worst case since LPG has higher GHG emission factors. In addition, RTOs combust ethanol vapors recovered from the brandy storage and aging operation and thus generate significant amount of GHG. Detailed calculations will not be performed and it will be demonstrated that GHG emissions from combustion of natural gas supplemental fuel are enough to make this facility an existing PSD major source.

GHG from this permit units are calculated based on the overall heat input rating using the District's "Title V and Greenhouse Gases Fact Sheet" posted on the AirNet as follows:

Carbon dioxide equivalents are found by multiplying the mass emissions of a GHG by its global potential (GWP). For Title V purposes, the GWP are taken from the Mandatory Reporting Rule found in 40 CFR Part 98, Subpart A, Table A-1. There is a table at the end of this fact sheet warming detailing the GWP of the 6 GHG included in Title V. The full table is available at the following link:

http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&tpl=/ecfrbrowse/Title40/40cfr98_main_02.tpl

Calculating GHG on a Mass Basis

EPA has established default GHG emission factors for combustion sources in 40 CFR Part 98, Subpart A, Tables C-1 and C-2 at the following link:

http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&tpl=/ecfrbrowse/Title40/40cfr98_main_02.tpl

GHG Calculations

For the 51.778 MMBtu/hr burners, allowed to operate 24/7 (8760 hours per year), the GHG emissions factors are:

CO₂: 116.5 lb/MMBtu
CH₄: 0.002 lb/MMBtu
N₂O: 0.0002 lb/MMBtu

Thus GHG is calculated as follows:

$$\begin{aligned}\text{CO}_2 &= 51.778 \text{ MMBtu/hr} * 8760 \text{ hr/yr} * 116.5 \text{ lb/MMBtu} * 1 \text{ lb CO}_{2e}/1 \text{ lb CO}_2 * 1 \text{ ton}/2,000 \text{ lb} \\ &= 26,420.8 \text{ tons CO}_{2e}\end{aligned}$$

$$\begin{aligned}\text{CH}_4 &= 51.778 \text{ MMBtu/hr} * 8760 \text{ hr/yr} * 0.002 \text{ lb/MMBtu} * 21 \text{ lb CO}_{2e}/1 \text{ lb CH}_4 * 1 \text{ ton}/2,000 \text{ lb} \\ &= 9.5 \text{ tons CO}_{2e}\end{aligned}$$

$$\begin{aligned}\text{N}_2\text{O} &= 51.778 \text{ MMBtu/hr} * 8760 \text{ hr/yr} * 0.0002 \text{ lb/MMBtu} * 310 \text{ lb CO}_{2e}/1 \text{ lb N}_2\text{O} * 1 \text{ ton}/2,000 \text{ lb} \\ &= 14.1 \text{ tons CO}_{2e}\end{aligned}$$

$$\begin{aligned}\text{CO}_{2e} &= 26,420.8 + 9.5 + 14.1 \\ &= 26,444.3 \text{ tons CO}_{2e}\end{aligned}$$

iii) Facility-Wide GHG on a Carbon Dioxide Equivalent (CO_{2e}) Basis:

$$\begin{aligned}\text{CO}_{2e} &= 26,444.3 \text{ ton-CO}_{2e}/\text{year} + 77,864 \text{ ton-CO}_{2e}/\text{year} \\ &= \mathbf{104,308.3 \text{ ton-CO}_{2e}/\text{year}}\end{aligned}$$

3) Modified Emissions Unit C-629-2 PE Calculations for PSD Purpose:

	NO _x	SO _x	PM ₁₀	CO	VOC
C-629-2-8 PE (lb/year)	8,940	1,193	3,182	61,134	2,303
C-629-2-8 PE (ton/year)	4.5	0.6	1.6	30.6	1.2

GHG Calculations

For the 47.8 MMBtu/hr burners, allowed to operate 24/7 (8760 hours per year), the GHG emissions factors are:

CO₂: 116.5 lb/MMBtu

CH₄: 0.002 lb/MMBtu

N₂O: 0.0002 lb/MMBtu

Thus GHG is calculated as follows:

$$\begin{aligned} \text{CO}_2 &= 47.8 \text{ MMBtu/hr} * 8760 \text{ hr/yr} * 116.5 \text{ lb/MMBtu} * 1 \text{ lb CO}_{2e}/1 \text{ lb CO}_2 * 1 \text{ ton}/2,000 \text{ lb} \\ &= 24,390.9 \text{ tons CO}_{2e} \end{aligned}$$

$$\begin{aligned} \text{CH}_4 &= 47.8 \text{ MMBtu/hr} * 8760 \text{ hr/yr} * 0.002 \text{ lb/MMBtu} * 21 \text{ lb CO}_{2e}/1 \text{ lb CH}_4 * 1 \text{ ton}/2,000 \text{ lb} \\ &= 8.8 \text{ tons CO}_{2e} \end{aligned}$$

$$\begin{aligned} \text{N}_2\text{O} &= 47.8 \text{ MMBtu/hr} * 8760 \text{ hr/yr} * 0.0002 \text{ lb/MMBtu} * 310 \text{ lb CO}_{2e}/1 \text{ lb N}_2\text{O} * 1 \text{ ton}/2,000 \text{ lb} \\ &= 13.0 \text{ tons CO}_{2e} \end{aligned}$$

$$\begin{aligned} \text{CO}_{2e} &= 24,390.9 + 8.8 + 13.0 \\ &= 24,413 \text{ tons CO}_{2e} \end{aligned}$$