



February 4, 2021

Mr. Wade Ingram  
Liberty Packing Co. - The Morning Star Co.  
12045 S. Ingomar Rd  
Los Banos, CA 93635

**Re: Proposed ATC / Certificate of Conformity (Significant Mod)**  
**Facility Number: N-1399**  
**Project Number: N-1203800**

Dear Mr. Ingram:

Enclosed for your review is the District's analysis of an application for Authority to Construct for the facility identified above. You requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. The proposed project is to install a 19.95 MMBtu/hr natural gas-fired boiler with a selective catalytic reduction system.

The notice of preliminary decision for this project has been posted on the District's website ([www.valleyair.org](http://www.valleyair.org)). After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the District intends to issue the Authority to Construct with a Certificate of Conformity. Please submit your comments within the 30-day public comment period, as specified in the enclosed public notice. Prior to operating with modifications authorized by the Authority to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

If you have any questions, please contact Mr. Nick Peirce, Permit Services Manager, at (209) 557-6400.

Thank you for your cooperation in this matter.

Sincerely,

Brian Clements  
Director of Permit Services

Enclosures

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

**Samir Sheikh**  
Executive Director/Air Pollution Control Officer

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# San Joaquin Valley Air Pollution Control District

## Authority to Construct Application Review

19.95 MMBtu/hr Natural Gas-Fired Boiler with a Selective Catalytic Reduction System

Facility Name: Liberty Packing Co.–The Morning Star Co. Date: March 3, 2021  
Mailing Address: 12045 S. Ingomar Grade Rd. Engineer: Jag Kahlon  
Los Banos, CA 93635 Lead Engineer: James Harader  
Contact Person: Brandon Salcido  
Telephone: (714) 689-7243  
Fax: N/A  
E-Mail: [Brandon.Salcido@aecom.com](mailto:Brandon.Salcido@aecom.com)  
Application #(s): N-1399-38-0  
Project #: N-1203800  
Deemed Complete: October 1, 2020

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### I. Proposal

Liberty Packing Company –The Morning Star Company (referred herein after as “Liberty Packing”) is requesting an Authority to Construct (ATC) permit to install a 19.95 MMBtu/hr natural gas-fired boiler. This boiler will be equipped with a selective catalytic reduction (SCR) system. NO<sub>x</sub>, CO and O<sub>2</sub> concentrations will be monitored measured using a portable analyzer monitor on a monthly basis. This boiler is going to be a part of existing facility-wide NO<sub>x</sub> emission limit of 33,705 pounds per year. The draft ATC is included in **Appendix A**.

Liberty Packing received their renewed Title V Permit on December 6, 2018. This modification can be classified as a Title V significant modification pursuant to Rule 2520, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. Liberty Packing must apply to administratively amend their Title V permit.

### II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (8/15/19)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
Rule 2520	Federally Mandated Operating Permits (8/15/19)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4002	National Emissions Standards for Hazardous Air Pollutants (5/20/04)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4201	Particulate Matter Concentration (12/17/92)

Rule 4301 Fuel Burning Equipment (12/17/92)  
Rule 4305 Boilers, Steam Generators, and Process Heaters – Phase 2 (8/21/03)  
Rule 4306 Boilers, Steam Generators, and Process Heaters – Phase 3 (12/17/20)  
Rule 4320 Advanced Emission Reduction Options for Boilers, Steam Generators,  
and Process Heaters Greater than 5.0 MMBtu/hr (12/17/20)  
Rule 4801 Sulfur Compounds (12/17/92)  
CH&SC 41700 Health Risk Assessment  
CH&SC 42301.6 School Notice  
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)  
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA  
Guidelines

### **III. Project Location**

The facility is located at 12045 S Ingomar Grade Rd in Los Banos, California. The equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

### **IV. Process Description**

Steam from the boiler will be used to carry-out various processes at the tomato processing operation.

### **V. Equipment Listing**

N-1399-38-0: 19.95 MMBTU/HR JOHNSTON BOILER MODEL PFTX500-2X200S (FIRE-TUBE BOILER) WITH ST JOHNSON MODEL NMA500A40V ULTRA LOW-NO<sub>x</sub> BURNER AND HALDOR TOPSOE DNX929 SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM

### **VI. Emission Control Technology Evaluation**

The proposed boiler will generate NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, CO and VOC emissions. SO<sub>x</sub>, PM<sub>10</sub>, CO and VOC emissions will be minimized with the use of PUC quality natural gas.

To reduce NO<sub>x</sub> emissions, the applicant has proposed to use low-NO<sub>x</sub> burners and an SCR system. Low-NO<sub>x</sub> burners reduce NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub>. In the secondary and tertiary stages, the combustion zone is maintained in a fuel-lean

environment. The excess air in these stages helps to reduce the flame temperature so that the reaction between the excess oxygen with nitrogen is minimized.

An SCR system operates as an external control device where flue gases and a reagent, in this case ammonia, are passed through an appropriate catalyst. Ammonia, will be injected upstream of the catalyst where it reacts and reduces NO<sub>x</sub>, over the catalyst bed, to form elemental nitrogen and other by-products. The use of a catalyst typically reduces the NO<sub>x</sub> emissions by up to 90%.

## VII. General Calculations

### A. Assumptions

- Assumptions will be stated as they are made during the evaluation.
- To streamline emission calculations, PM<sub>2.5</sub> emissions are assumed to be equal to PM<sub>10</sub> emissions. Only if needed to determine if a project is a Federal major modification for PM<sub>2.5</sub>, specific PM<sub>2.5</sub> emission calculations will be performed.

### B. Emission Factors

Pollutant		EF		Source
		lb/MMBtu	ppmvd @ 3% O <sub>2</sub>	
NO <sub>x</sub>	Startup	0.036	30	Applicant's proposal
	Steady-state	0.0042	3.5	
	Shutdown	0.036	30	
SO <sub>x</sub>		0.00285	--	District Policy APR-1720 (12/20/01)
PM <sub>10</sub>		0.003	--	District's FYI -328 (6/12/14)
CO	Startup, steady state and shutdown modes	0.037	50	Applicant's proposal
VOC		0.0042	10	Applicant's proposal
NH <sub>3</sub>		0.0045	10	District practice – EF based on the several permitted boilers with SCR systems

### C. Calculations

#### 1. Pre-Project Potential to Emit (PE1)

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

## 2. Post-Project Potential to Emit (PE2)

The potential emissions are estimated using the following equations:

$$\text{PE2 (lb/hr)} = \text{EF (lb/MMBtu)} \times \text{Heat input rate (MMBtu/hr)}$$

$$\text{PE2 (lb/day)} = \text{EF (lb/MMBtu)} \times \text{Heat input rate (MMBtu/hr)} \times \text{Operation (hr/day)}$$

$$\text{PE2 (lb/yr)} = \text{EF (lb/MMBtu)} \times \text{Heat input rate (MMBtu/hr)} \times \text{Operation (hr/yr)}$$

Per applicant, the maximum startup time will be 1 hour/day and 270 hours/year, and the maximum shutdown time will be 1 hour and 270 hours/year.

Pollutant	EF	Heat input rate	Operation		PE2 (lb/hr)	PE2 (lb/day)	PE2 (lb/yr)
	lb/MMBtu	MMBtu/hr	hr/day	hr/yr			
NOx Startup	0.036	19.95	2	270	0.718	1.4	194
NOx Steady state	0.0042	19.95	22	8,220	0.084	1.8	689
NOx Shutdown	0.036	19.95	1	270	0.718	0.7	194
<b>NOx (Total)</b>	--	--	--	--	--	<b>3.9</b>	<b>1,077</b>
SOx	0.00285	19.95	24	8,760	0.057	1.4	498
PM <sub>10</sub>	0.003	19.95	24	8,760	0.060	1.4	524
CO Startup, steady state and shutdown modes	0.037	19.95	24	8,760	0.738	17.7	6,466
VOC	0.0042	19.95	24	8,760	0.084	2.0	734
NH <sub>3</sub>	0.0045	19.95	24	8,760	0.090	2.2	786

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

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

The SSPE1 can be calculated by adding the PE1 from all units with valid ATCs or PTOs and the sum of the ERCs that have been banked at the source and which have not been used on-site (Total<sub>ERC</sub>).

$$\text{SSPE1}_{\text{Total}} = \text{SSPE1}_{\text{Permit Unit}} + \text{Total}_{\text{ERC}}$$

The potential emissions for all permit units are taken from the application review under project N-1201405 (December 21, 2020).

SSPE1 (lb/year)					
Permit Unit/ERC	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
SSPE1 <sub>Permit Unit</sub>	33,705	18,208	22,170	201,248	17,850
ERC N-33-1	--	--	--	--	241
ERC N-33-2	90,905	--	--	--	--
ERC N-33-4	--	--	3,215	--	--
ERC N-33-5	--	34,984	--	--	--
ERC N-96-2	1,701	--	--	--	--
ERC N-96-3	--	--	--	837	--
Total <sub>ERC</sub>	92,606	34,984	3,215	837	241
<b>SSPE1</b>	<b>126,311</b>	<b>53,192</b>	<b>25,385</b>	<b>202,085</b>	<b>18,091</b>

#### 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.

The SSPE2 can be calculated by adding the PE2 from all units with valid ATCs or PTOs and the sum of the ERCs that have been banked at the source and which have not been used on-site (Total<sub>ERC</sub>).

$$SSPE2_{Total} = SSPE2_{Permit Unit} + Total_{ERC}$$

SSPE2 (lb/year)					
Permit Unit	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
SSPE1 <sub>Permit Unit</sub>	33,705	18,208	22,170	201,248	17,850
N-1399-38-0	1,077	498	524	6,466	734
SSPE2 <sub>Permit Unit</sub>	33,705*	18,706	22,694	207,714	18,584
ERC N-33-1	--	--	--	--	241
ERC N-33-2	90,905	--	--	--	--
ERC N-33-4	--	--	3,215	--	--
ERC N-33-5	--	34,984	--	--	--
ERC N-96-2	1,701	--	--	--	--
ERC N-96-3	--	--	--	837	--
Total <sub>ERC</sub>	92,606	34,984	3,215	837	241
<b>SSPE2</b>	<b>126,311</b>	<b>53,690</b>	<b>25,909</b>	<b>208,551</b>	<b>18,825</b>

\*Facility-wide SLC

## 5. Major Source Determination

### Rule 2201 Major Source Determination:

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

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

Rule 2201 Major Source Determination (lb/year)						
	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	*PM <sub>2.5</sub>	CO	VOC
SSPE1	33,705	18,208	22,170	22,170	201,248	17,850
SSPE2	33,705	18,706	22,694	22,694	207,714	18,584
Major Source Threshold	20,000	140,000	140,000	140,000	200,000	20,000
Major Source?	Yes	No	No	No	Yes	No

\*PM<sub>2.5</sub> assumed to be equal to PM<sub>10</sub>

As seen in the table above, the facility is an existing Major Source for NO<sub>x</sub> and CO 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)(iii). Therefore the PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

PSD Major Source Determination (tons/year)						
	NO <sub>2</sub>	VOC	SO <sub>2</sub>	CO	PM	PM <sub>10</sub>
Estimated Facility PE before Project Increase	16.9	8.9	9.1	100.6	11.1	11.1
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source?	No	No	No	No	No	No

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

## 6. Baseline Emissions (BE)

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

Pursuant to District Rule 2201, BE = PE1 for:

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

otherwise,

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

N-1399-38-0:

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

This facility is a Major Source for NOx emissions, and has a facility-wide SLC for NOx emissions. The following table summarizes if each unit in the SLC qualifies as Clean Emission Unit per section 3.8.1.4 of Rule 2201. If all emission unit qualified as Clean Emission Units, then BE can be set equal to the facility-wide SLC limit. Note that the table below only lists permit units with NOx emissions.

Clean Emission Unit Determination				
Permit unit	Description	Achieved-in-practice limit or tech. accepted in the past five year (2015-2020)	Permitted NOx limit	Clean Emission Unit?
N-1399-4-6	220 MMBtu natural gas fired boiler	7 ppmv @ 3% O2	7 ppmv @ 3% O2	Yes
N-1399-5-6	220 MMBtu natural gas fired boiler	7 ppmv @ 3% O2	7 ppmv @ 3% O2	Yes
N-1399-11-3	94 bhp diesel fueled fire pump engine	6.9 g/bhp-hr (BACT guideline 3.1.4.D prior to 3/2/2020)	6.1 g-NOx/bhp-hr	Yes
N-1399-13-6	180 MMBtu/hr natural gas fired boiler	7 ppmv @ 3% O2	7 ppmv @ 3% O2	Yes
N-1399-16-4	10 MMBtu/hr tomato roaster	60 ppmvd @ 3% O2 (0.073 lb/MMBtu), BACT guideline 1.6.1	0.0364 lb-NOx/MMBtu	Yes



Clean Emission Unit Determination (Continued...)				
Permit unit	Description	Achieved-in-practice limit or tech. accepted in the past five year (2015-2020)	Permitted NOx limit	Clean Emission Unit?
N-1399-17-8	263 MMBtu/hr natural gas fired boiler	7 ppmv @ 3% O <sub>2</sub>	5 ppmv @ 3% O <sub>2</sub>	Yes
N-1399-20-5	36 MMBtu/hr natural gas fired boiler	7 ppmv @ 3% O <sub>2</sub>	7 ppmv @ 3% O <sub>2</sub>	Yes
N-1399-21-3	389 bhp diesel fueled gen set engine	Tier-3 certification (BACT guideline 3.1.1)	2.37 g/bhp-hr Tier 3 certified	Yes
N-1399-24-3	458.5 MMBtu/hr natural gas fired boiler	7 ppmv @ 3% O <sub>2</sub>	5 ppmv @ 3% O <sub>2</sub>	Yes
N-1399-30-1	3.5 MW Cogen system	2.5 ppm @ 15% O <sub>2</sub> (BACT guideline 3.4.3)	2.5 ppm @ 15% O <sub>2</sub>	Yes
N-1399-32-0	1,490 bhp diesel-fueled emergency IC engine	Tier-2 certification (BACT guideline 3.1.1)	3.95 g/bhp-hr, Tier-2 certified	Yes
N-1399-33-0	1,490 bhp diesel-fueled emergency IC engine	Tier-2 certification (BACT guideline 3.1.1)	3.95 g/bhp-hr, Tier-2 certified	Yes
N-1399-34-0	Tomato Pomace drying, pulverizing, handling operation	0.036 lb/MMBtu (BACT guideline 1.6.13)	0.036 lb/MMBtu <sub>[NP1]</sub>	Yes
N-1399-37-0	7.3 MW Cogen system	2.5 ppm @ 15% O <sub>2</sub> (BACT guideline 3.4.3)	2.5 ppm @ 15% O <sub>2</sub>	Yes

As shown in the table above, all NOx emitting emissions units under the SLC are Clean Emission Units. Therefore,

$$BE = 33,705 \text{ lb-NOx/yr}$$

## 7. SB 288 Major Modification

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

There is no SB 288 Major Modification threshold for CO, and this facility is not a major source for SOx, PM10 or VOC emissions; therefore, this project does not constitute an SB 288 major modification for these air contaminants.

Since this facility is a major source for NO<sub>x</sub>, the project’s PE2 is compared to the SB 288 Major Modification Thresholds in the following table in order to determine if further SB 288 Major Modification calculation is required.

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
NO <sub>x</sub>	1,077	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 and no further discussion is required.

## 8. Federal Major Modification / New Major Source

### Federal Major Modification

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

As defined in 40 CFR 51.165, Section (a)(1)(v) and part D of Title I of the CAA, a Federal Major Modification is any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act. The significant net emission increase threshold for each criteria pollutant is included in Rule 2201.

There is no Federal Major Modification threshold for CO, and this facility is not a Major Source for SO<sub>x</sub>, PM<sub>10</sub>, or VOC emissions; therefore, this project does not constitute a Federal Major Modification for these air contaminants.

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

### Step 1: Project Emissions Increase

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

$$\text{Emission Increase} = \text{PE2}$$

### Project Emissions Increase

This project’s combined total emission increases 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?
NO <sub>x</sub> *	1,077	0	Yes

\*If there is any emission increases in NO<sub>x</sub> or VOC, this project is a Federal Major Modification and no further analysis is required.

Since there is an increase in NO<sub>x</sub> emissions, this project constitutes a Federal Major Modification.

### Federal Offset Quantity Calculation

The Federal Offset Quantity (FOQ) is only calculated for the pollutants for which a project is a Federal Major Modification or a New Major Source as determined above.

Pursuant to 40 CFR 51.165(a)(3)(ii)(J), the federal offset quantity is the sum of the annual emission changes for all new and modified emission units in a project calculated as the potential to emit after the modification (PE2) minus the actual emissions (AE) for each emission unit times the applicable federal offset ratio.

$$FOQ = \sum(PE2 - AE) \times \text{Federal offset ratio}$$

### Actual Emissions

As described in 40 CFR 51.165(a)(1)(xii), actual emissions (AE), as of a particular date, shall equal the average rate, in tons per year, at which the unit actually emitted the pollutant during a consecutive 24-month period which precedes the particular date and which is representative of normal source operation. The reviewing authority shall allow the use of a different time period upon a determination that it is more representative of normal source operation.

### Federal Offset Ratio

According the CAA 182(e), the federal offset ratio for VOC and NO<sub>x</sub> is 1.5 to 1 (due to the District extreme non-attainment status for ozone). Otherwise, the federal offset ratio for PM2.5, PM10, and SO<sub>x</sub> is 1.0 to 1.

### Federal Offset Quantity (FOQ)

The boiler emissions will be included in the existing NO<sub>x</sub> SLC. As such, the FOQ will be calculated in the following manner:

$$FOQ = [ (SLC - \sum AE_{\text{All new and modified units under the SLC}}) ] \times \text{Federal offset ratio}$$

NO<sub>x</sub> SLC condition, stated in the permit for the latest project N-1201405, is a Federally Enforceable condition. This condition will be replicated in the permit under this project. AE

is for year 2018 and 2019 for NOx emitting units. AE values are taken from latest project N-1201405.

Actual Emissions (AE)				
Permit unit	Description	2018 NOx AE (lb/yr)	2019 NOx AE (lb/yr)	Average NOx AE (lb/yr)
N-1399-4-6	220 MMBtu natural gas fired boiler	1,050.6	2,048.7	1,549.65
N-1399-5-6	220 MMBtu natural gas fired boiler	1991.1	2,252.7	2,121.90
N-1399-11-3	94 bhp diesel fueled fire pump engine	15.2	15.2	15.20
N-1399-13-6	180 MMBtu/hr natural gas fired boiler	348.4	2.0	175.20
N-1399-16-4	10 MMBtu/hr tomato roaster	202.7	365.5	284.10
N-1399-17-8	263 MMBtu/hr natural gas fired boiler	2,678.6	1,207.3	1,942.95
N-1399-20-5	36 MMBtu/hr natural gas fired boiler	310.6	255.2	282.90
N-1399-21-3	389 bhp diesel fueled gen set engine	0.5	0.5	0.50
N-1399-24-3	458.5 MMBtu/hr natural gas fired boiler	2,594.3	2,216.5	2,405.40
N-1399-30-1	3.5 MW Cogen system	--	398.8	398.8
N-1399-32-0	1,490 bhp diesel-fueled emergency IC engine	0.0	0.0	0.00
N-1399-33-0	1,490 bhp diesel-fueled emergency IC engine	0.0	0.0	0.00
N-1399-34-0	Tomato Pomace drying, pulverizing, handling operation	0.0	0.0	0.00
N-1399-37-0	7.3 MW Cogen system	0.0	0.0	0.00
Total:				9,177

Therefore,

$$\begin{aligned}
 \text{FOQ} &= [ (\text{SLC} - \sum \text{AE}_{\text{All new and modified units under the SLC}}) ] \times \text{Federal offset ratio} \\
 &= (33,705 - 9,177) \times 1.5 \\
 &= 36,792 \text{ lb-NOx/yr}
 \end{aligned}$$

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

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

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

**I. Project Emissions Increase - New Major Source Determination**

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

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

<b>PSD Major Source Determination: Potential to Emit (tons/year)</b>						
	<b>NO<sub>2</sub></b>	<b>VOC</b>	<b>SO<sub>2</sub></b>	<b>CO</b>	<b>PM</b>	<b>PM<sub>10</sub></b>
Total PE from New and Modified Units	0.5	0.4	0.2	3.2	0.3	0.3
PSD Major Source threshold	250	250	250	250	250	250
New PSD Major Source?	No	No	No	No	No	No

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

**10. Quarterly Net Emissions Change (QNEC)**

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

## VIII. Compliance Determination

### Rule 2201 New and Modified Stationary Source Review Rule

#### A. Best Available Control Technology (BACT)

##### 1. BACT Applicability

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

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

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

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

NO<sub>x</sub>:

As seen in Section VII.C.2 above, PE2 during startup, steady state, or shutdown modes, are not greater than 2.0 lb/day. However, assuming 24 hours of steady-state operation, results in 2.0 lb/day of NO<sub>x</sub> emissions. Since the NO<sub>x</sub> emissions are not greater than 2 lb/day, BACT is not triggered under this section.

SO<sub>x</sub>:

As seen in Section VII.C.2 above, PE2 is not greater than 2 lb/day for SO<sub>x</sub> emissions. Thus, BACT is not triggered.

PM<sub>10</sub>:

As seen in Section VII.C.2 above, PE2 is not greater than 2 lb/day for PM<sub>10</sub> emissions. Thus, BACT is not triggered.

CO:

As seen in Section VII.C.2 above, PE2 is greater than 2 lb/day for CO emissions. Further, facility's total CO emissions is greater than 200,000 lb/year. Thus, BACT is triggered for CO emissions.

VOC:

As seen in Section VII.C.2 above, PE2 is not greater than 2 lb/day for VOC emissions. Thus, BACT is not triggered.

NH<sub>3</sub>:

As seen in Section VII.C.2 above, PE2 is not greater than 2 lb/day for ammonia emissions from the SCR system. SCR system is an-add emission control device. Per District rules, emission control devices are not emission units; therefore, BACT is not applied to emission control devices.

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

None of the emission units are being relocated from one stationary source to another; therefore, BACT is not triggered.

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

None of the emission units are being modified under this project; therefore, BACT is not triggered.

**d. SB 288/Federal Major Modification**

As discussed in Sections VII.C.7, this project does not constitute an SB 288 Modification for any pollutant. Therefore BACT is not triggered.

As discussed in Sections VII.C.8 above, this project does constitute a Federal Major Modification for NO<sub>x</sub> emissions. Therefore, BACT is triggered for NO<sub>x</sub> emissions.

**2. BACT Guideline**

Since BACT guideline for a boiler with heat input rate of less than or equal to 20 MMBtu/hr has been rescinded, the District will conduct project specific BACT analysis for NO<sub>x</sub> and CO emissions.

**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<sub>x</sub>: To minimize the startup/shutdown emissions, the applicant will be required to use SCR system to maximum extent possible as long as it technologically feasible to do so.

To minimize steady-state emissions, the boiler is required to achieve and operate at or below 3.5 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub>.

CO: To minimize CO emissions, the boiler is required to use PUC quality fuel, and use combustion controls in a way to achieve 50 ppmvd CO @ 3% O<sub>2</sub> or less emissions

**B. Offsets**

**1. Offset Applicability**

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

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

Offset Determination (lb/year)					
	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
SSPE2	126,311	53,690	25,909	208,551	18,825
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets Triggered?	Yes	No	No	Yes	No

**2. Quantity of District Offsets Required**

As seen above, the SSPE2 is greater than the offset thresholds for NO<sub>x</sub> and CO emissions. Therefore offset calculations will be required for this project.

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

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

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

### NO<sub>x</sub>

Permit unit N-1399-38 is a part of the combined emission rate established for units N-1399-4, '-5, '-11, '-13, '-16, '-17, '-20, '-24, '-31, '-32, and '-33.

Pursuant to District Policy APR 1420, *NSR Calculations for Units with Specific Limiting Conditions (3/12/07)*, the quantity of ERCs for a project will be determined by comparing the post project PE, which is the SLC, to the pre project BE for the SLC.

Additionally, the policy states that if the SLC is for a pollutant exceeding the Major Source threshold and any single unit under the SLC is not a Highly-Utilized, Fully-Offset, or Clean Emissions Units, then the sum of the actual emissions from all units in SLC will be used to determine the pre project BE.

As calculated in Section VII.C.6 above, the BE is equal to the PE1 since the units under the combined limit are all Clean Emissions Units. Furthermore, there is no increase in cargo carrier emissions. Therefore, offsets can be determined as follows:

$$\text{Offsets Required (lb/year)} = ([PE_{2SLC} - BE_{SLC}]) \times \text{DOR}$$

$$PE_{2SLC} = 33,705 \text{ lb-NO}_x/\text{yr}$$

$$BE_{SLC} = 33,705 \text{ lb-NO}_x/\text{yr}$$

$$\begin{aligned} \text{Offsets Required (lb/year)} &= ([33,705 - 33,705]) \times \text{DOR} \\ &= 0 \text{ lb-NO}_x/\text{year} \end{aligned}$$

### CO

Pursuant to District Rule 2201 Section 4.6.1, emission offsets shall not be required for increases in carbon monoxide in attainment areas if the applicant demonstrates to the satisfaction of the APCO, that the Ambient Air Quality Standards are not violated in the areas to be affected, and such emissions will be consistent with Reasonable Further Progress, and will not cause or contribute to a violation of Ambient Air Quality Standards.

The proposed location is in an attainment area for NO<sub>x</sub>, CO, and SO<sub>x</sub>. As shown by the AAQA summary (**Appendix C**), the proposed equipment will not cause a violation of an air quality standard for NO<sub>x</sub>, CO, or SO<sub>x</sub>.

## **C. Public Notification**

### **1. Applicability**

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

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

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

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

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

As demonstrated in Section VII.C.8 of this evaluation, this project is a Federal Major Modification. Therefore, public noticing is required for this project.

**b. PE > 100 lb/day**

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

**c. Offset Threshold**

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

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO <sub>x</sub>	126,311	126,311	20,000 lb/year	No
SO <sub>x</sub>	53,192	53,690	54,750 lb/year	No
PM <sub>10</sub>	25,385	25,909	29,200 lb/year	No
CO	202,085	208,551	200,000 lb/year	No
VOC	18,091	18,825	20,000 lb/year	No

As seen in the table above, SSPE2 for NO<sub>x</sub> and CO is already above the offset threshold, and the SSPE2 for PM<sub>10</sub> and VOC is below the offset threshold. This project does result in surpassing the offset threshold for PM<sub>10</sub> or VOC emissions; 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.

<b>SSIPE Public Notice Thresholds</b>					
<b>Pollutant</b>	<b>SSPE2 (lb/year)</b>	<b>SSPE1 (lb/year)</b>	<b>SSIPE (lb/year)</b>	<b>SSIPE Public Notice Threshold</b>	<b>Public Notice Required?</b>
NO <sub>x</sub>	126,311	126,311	0	20,000 lb/year	No
SO <sub>x</sub>	53,690	53,192	498	20,000 lb/year	No
PM <sub>10</sub>	25,909	25,385	524	20,000 lb/year	No
CO	208,551	202,085	6,466	20,000 lb/year	No
VOC	18,825	18,091	734	20,000 lb/year	No

As demonstrated above, the SSIPE for each pollutant is less than 20,000 lb/year; therefore public noticing for SSIPE purposes is not required.

**e. Title V Significant Permit Modification**

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

**2. Public Notice Action**

As discussed above, this project is a Federal Major Modification. Therefore, public noticing is required for this project. The public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be electronically published on the District’s website prior to the issuance of the ATC for this equipment.

**D. Daily Emission Limits (DELs)**

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

**Proposed Rule 2201 (DEL) Conditions:**

**Startup/shutdown:**

- During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. [District Rules 2201, 4305, 4306 and 4320]
- The total duration of startup events shall not exceed any of the following limits: 2.0 hour/day and 270 hours/year.[District Rules 2201, 4306 and 4320]
- The total duration of shutdown events shall not exceed any of the following limits: 1.0 hour/day and 270 hours/year.[District Rules 2201, 4306 and 4320]
- During startup or shutdown, NO<sub>x</sub> emissions shall not exceed 30 ppmvd @ 3% O<sub>2</sub> or 0.036 lb/MMBtu. [District Rule 2201]

**Steady state:**

- Except during startup and shutdown, NO<sub>x</sub> emissions shall not exceed 3.5 ppmvd @ 3% O<sub>2</sub> or 0.0042 lb/MMBtu, referenced as NO<sub>2</sub>. [District Rules 2201, 4306 and 4320]

**Startup/shutdown/steady state:**

- CO emissions shall not exceed 50 ppmvd @ 3% O<sub>2</sub> or 0.037 lb/MMBtu. [District Rules 2201, 4305, 4306 and 4320]
- SO<sub>x</sub> emissions shall not exceed 0.00285 lb/MMBtu. [District Rules 2201]
- PM<sub>10</sub> emissions shall not exceed 0.003 lb/MMBtu. [District Rule 2201]
- VOC emissions shall not exceed 10 ppmvd @ 3% O<sub>2</sub> or 0.0042 lb/MMBtu, referenced as methane. [District Rule 2201]
- NH<sub>3</sub> emissions from the SCR system shall not exceed 10 ppmvd @ 3% O<sub>2</sub>. [District Rule 2201]
- This unit shall only be fired on PUC-quality natural gas. [District Rules 2201 and 4320]

**E. Compliance Assurance**

**1. Source Testing**

*Startup/shutdown testing for NO<sub>x</sub> and CO emissions:*

The owner or operator will be required to conduct a source test to measure NO<sub>x</sub> and CO emissions within 60-days of initial startup of the unit.

*Steady state testing for measuring NO<sub>x</sub>, CO and NH<sub>3</sub> emissions*

The owner or operator will be required to conduct a source test to measure NO<sub>x</sub>, CO and NH<sub>3</sub> emissions within 60-days of the initial startup of the unit. Further, a periodic source test to measure NO<sub>x</sub>, CO and NH<sub>3</sub> emissions will also be required at least once

every twelve month. Successful compliance demonstration on two consecutive twelve-month periodic tests may defer the following source test up to thirty-six months. This testing frequency is consistent with the requirements in the boiler Rules 4306 and 4320 and other permitted boilers equipped with SCR systems.

#### *SO<sub>x</sub>, PM<sub>10</sub> and VOC*

The potential emissions are estimated using either generally accepted emission factors or source test data for similar units; therefore, source testing is not required for these pollutants.

### **2. Monitoring**

The applicant has proposed to monitor NO<sub>x</sub>, CO and O<sub>2</sub> concentrations using portable analyzer on a monthly basis. NH<sub>3</sub> slip from the SCR system is required to be measured using Draeger tubes (or other District approved equivalent technique) at least on a monthly basis at the time NO<sub>x</sub>, CO and O<sub>2</sub> measurements are taken. The proposed monitoring method(s) satisfies the requirements of Rule 2201 as well as the boiler rules 4306 and 4320.

### **3. Recordkeeping**

The owner or operator will be required to keep records of the results of monitoring measurements. The records are required to be kept for a period of at least 5 years from the date such records is entered in a logbook.

### **4. Reporting**

The owner or operator will be required to submit source test reports within 60 days after completing each source test.

## **F. Ambient Air Quality Analysis (AAQA)**

Section 4.14 of District Rule 2201 requires that an AAQA be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. The District's Technical Services Division conducted the required analysis. Refer to **Appendix C** of this document for the AAQA summary sheet.

The proposed location is in an attainment area for NO<sub>x</sub>, CO, and SO<sub>x</sub>. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for NO<sub>x</sub>, CO, or SO<sub>x</sub>.

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

## **G. Compliance Certification**

Section 4.15.2 of this Rule requires the owner of a New Major Source or a source undergoing a Federal Major Modification to demonstrate to the satisfaction of the District that all other Major Sources owned by such person and operating in California are in compliance or are on a schedule for compliance with all applicable emission limitations and standards. As discussed in Section VIII above, this facility is a new major source and this project does constitute a Federal Major Modification, therefore this requirement is applicable. Liberty Packing Company's compliance certification is included in **Appendix F**.

## **H. Alternate Siting Analysis**

The current project occurs at an existing facility. The applicant proposes to install a 19.95 MMBtu/hr natural gas-fired boiler equipped with an SCR system at an existing tomato processing facility.

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

## **Rule 2410 Prevention of Significant Deterioration**

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

## **Rule 2520 Federally Mandated Operating Permits**

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

Section 3.20.5 of Rule 2520 states a minor permit modifications are permit modifications that are not Title I modifications, modifications as defined in section 111 or 112 of the Federal Clean Air Act, or major modification under the prevention of significant deterioration (PSD) provisions of Title I of the CAA or under EPA PSD regulations. Since this project is a Title I modification (i.e. Federal Major Modification), the proposed project is considered to be a modification under the Federal Clean Air Act. As a result, the proposed project constitutes a Significant Modification to the Title V Permit pursuant to Section 3.29.

As discussed above, the facility has applied for a Certificate of Conformity (COC); 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 shall not implement the changes requested until the final permit is issued.

## **Rule 4001 New Source Performance Standards (NSPS)**

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

This subpart applies to steam generating units that are constructed, reconstructed, or modified after 6/9/89 and have a maximum design heat input capacity of 100 MMBtu/hr or less, but greater than or equal to 10 MMBtu/hr. Subpart Dc has standards for SO<sub>x</sub> and PM<sub>10</sub> emissions.

The proposed boiler is subject to the requirements of this subpart. The requirements are discussed in the following section:

#### *60.42c – Standards for Sulfur Dioxide*

Since coal is not combusted in the boiler, the requirements of this section are not applicable.

#### *60.43c – Standards for Particulate Matter*

The boiler is not fired on coal, combusts mixtures of coal with other fuels, combusts wood, combusts mixture of wood with other fuels, or oil; therefore these units are not subject to the requirements of this section.

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

The boiler is not subject to the sulfur dioxide requirements of this subpart. Therefore, this section does not apply.

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

The boiler is not subject to the particulate matter requirements of this subpart. Therefore, this section does not apply.

#### *60.46c – Emission Monitoring for Sulfur Dioxide*

The boiler is not subject to the sulfur dioxide requirements of this subpart. Therefore, this section does not apply.

#### *60.47c – Emission Monitoring for Particulate Matter*

The boiler is not subject to the particulate matter requirements of this subpart. Therefore, this section does not apply.

#### *60.48c – Reporting and Recordkeeping Requirements*

Section 60.48c (a) states that the owner or operator of each affected facility shall submit notification of the date of construction or reconstruction, anticipated startup, and actual startup, as provided by §60.7 of this part. This notification shall include:

- (1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.

The design heat input capacity and type of fuel combusted is listed in the equipment description of each unit. Therefore, no additional conditions are necessary.

- (2) If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for any fuel mixture of fuels under §60.42c or §40.43c.

This requirement is not applicable since the unit is not subject to §60.42c or §60.43c.

- (3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.

The facility is not proposing to establish an annual capacity factor for this unit.

- (4) Notification if an emerging technology will be used for controlling SO<sub>2</sub> emissions. The Administrator will examine the description of the control device and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of §60.42c(a) or (b)(1), unless and until this determination is made by the Administrator

This requirement is not applicable since the unit will not be equipped with emerging technology used to control SO<sub>2</sub> emissions.

Section 60.48c(g)(2), the owner or operator of an affected facility that combusts only natural gas, wood, fuels using fuel certification in §60.48c(f) to demonstrate compliance with the SO<sub>2</sub> standard, fuels not subject to an emissions standard (excluding opacity), or a mixture of these fuels may elect to record and maintain records of the amount of each fuel combusted during each calendar month. The following condition(s) will be listed in the permit:

- 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. [District Rule 2201 and 40 CFR 60.48c(g)]
- The owner or operator shall maintain records of the amount of fuel combusted during each week in this unit. [Rule 2201 and 40 CFR 60.48c(g)]

Section 60.48c(i) states that all records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record. The following condition(s) will be listed in the permit:

- All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 1070, 2201, 4305, 4306 and 4320, and 40 CFR 60.48c(i)]

Compliance is expected with this regulation.

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

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

This subpart is applicable to boilers and process heaters located at Major Sources of HAP emissions.



40 CFR 63.2 defines “major source” as any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants (HAPs), unless the Administrator establishes a lesser quantity, or in the case of radionuclides, different criteria from those specified in this sentence.

Per worksheets in **Appendix D** of this document, this facility is not a Major source of HAP emissions, as the HAPs from the facility operations are less than 10 tons/yr for single HAP and less than 25 tons/yr for combination of HAPs. Thus, the proposed unit is not subject to the requirements of this subpart.

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

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

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

**Rule 4101 Visible Emissions**

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

- 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]

Compliance is expected with this Rule.

**Rule 4102 Nuisance**

Rule 4102 prohibits discharge of air contaminants which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations, provided the equipment is well maintained. Therefore, compliance with this rule is expected.

**California Health & Safety Code 41700 (Health Risk Assessment)**

District Policy APR 1905 – *Risk Management Policy for Permitting New and Modified Sources* specifies that for an increase in emissions associated with a proposed new source or

modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite.

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

According to the Technical Services Memo for this project, 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 resulting prioritization score, acute hazard index, chronic hazard index, and cancer risk for this project is shown below.

<b>Health Risk Assessment Summary</b>	
	<b>Worst Case Potential</b>
<b>Prioritization Score</b>	0.01
<b>Cancer Risk</b>	2.80E-08
<b>Acute Hazard Index</b>	0.00
<b>Chronic Hazard Index</b>	0.00
<b>T-BACT Required?</b>	No

**Discussion of T-BACT**

BACT for toxic emission control (T-BACT) is required if the cancer risk exceeds one in one million. As demonstrated above, T-BACT is not required for this project because the HRA indicates that the risk is not above the District’s thresholds for triggering T-BACT requirements; therefore, compliance with the District’s Risk Management Policy is expected.

See **Appendix C: HRA & AAQA Summary**

The following permit conditions are required to ensure compliance with the assumptions made for the risk management review:

- 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]

Compliance is expected with this Rule.

### 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.

$$PM \left( \frac{\text{gr}}{\text{dscf}} \right) = \frac{\left( 0.003 \frac{\text{lb-PM}}{\text{MMBtu}} \right) \left( 19.95 \frac{\text{MMBtu}}{\text{hr}} \right) \left( 7,000 \frac{\text{gr-PM}}{\text{lb-PM}} \right)}{\left( 1,024.2 \frac{\text{ft}^3}{\text{min}} \right) \left( \frac{100\%}{12\%} \right) \left( 60 \frac{\text{min}}{\text{hr}} \right)} = 0.0008 \frac{\text{gr-PM}}{\text{dscf}} < 0.1 \frac{\text{gr-PM}}{\text{dscf}}$$

Compliance is expected with this Rule.

### Rule 4301 Fuel Burning Equipment

The requirements of section 5.0 are as follows:

- Combustion contaminants (TSP) - Not to exceed 0.1 gr/dscf @ 12% CO<sub>2</sub> and 10 lb/hr.
- SO<sub>x</sub> emissions - Not to exceed 200 /hr
- NO<sub>x</sub> emissions - Not to exceed 140 lb/hr

NO<sub>x</sub> = 0.718 lb/hr

SO<sub>x</sub> = 0.057 lb/hr

PM = 0.060 lb/hr

$$PM \left( \frac{\text{gr}}{\text{dscf}} \right) = \frac{\left( 0.003 \frac{\text{lb-PM}}{\text{MMBtu}} \right) \left( 19.95 \frac{\text{MMBtu}}{\text{hr}} \right) \left( 7,000 \frac{\text{gr-PM}}{\text{lb-PM}} \right)}{\left( 1,024.2 \frac{\text{ft}^3}{\text{min}} \right) \left( \frac{100\%}{12\%} \right) \left( 60 \frac{\text{min}}{\text{hr}} \right)} = 0.0008 \frac{\text{gr-PM}}{\text{dscf}} < 0.1 \frac{\text{gr-PM}}{\text{dscf}}$$

Since the potential emissions from the proposed boiler are below the threshold for each pollutant, compliance is expected with this rule.

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

Pursuant to Rules 4305 and 4306, Section 6.3.1, boilers are required to be tested at least once every 12-months. Upon demonstrating successful compliance on two consecutive 12-month source tests, the owner or operator may defer the following source test for up to 36 months. During 36-month source testing interval, the operator shall tune the boiler according to section 5.2.1 (tune up at least once each calendar year by qualified technician in accordance with Rule 4304). Tune-ups required under Sections 5.2.1 and 6.3.1 are not required for units that operate and maintain an APCO approved CEMS or an APCO approved Alternate Monitoring System where the applicable emission limits are periodically monitored.

NO<sub>x</sub>, CO and O<sub>2</sub> concentrations from the proposed unit will be measured using a portable analyzer monitor on a monthly basis. This monitoring scheme is approved under District Policy SSP-1105; therefore, periodic tune-ups are not required for the proposed unit.

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

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

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

### *Section 2.0 - Applicability*

This rule applies to any gaseous fuel or liquid fuel fired boiler, steam generator, or process heater with a total rated heat input greater than 5 million Btu per hour.

The heat input rate to the proposed boiler is greater than 5 MMBtu/hr. Therefore, this unit is subject to the requirements of this rule.

### *Section 5.0 - Requirements*

Section 5.1.1, the proposed boiler shall not exceed the following applicable limits:

#### Until December 30, 2023

NO<sub>x</sub>: 15 ppmvd @ 3% O<sub>2</sub>

CO: 400 ppmvd @ 3% O<sub>2</sub>

#### On and after December 31, 2023

NO<sub>x</sub>: 7 ppmvd @ 3% O<sub>2</sub>

CO: 400 ppmvd @ 3% O<sub>2</sub>

The applicant has proposed to achieve 3.5 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> (or less) and 50 ppmvd CO @ 3% O<sub>2</sub> (or less) for the proposed unit. Since the proposed limits are below the rule limits (above), compliance is expected with this section.

Section 5.2 lists the requirements for boilers limited to a heat input rate of less than 9 billion Btu per calendar year. The boiler will not be limited to a heat input rate of less than 9 billion Btu per calendar year. Therefore, this section is not applicable.

Section 5.3 states that the NO<sub>x</sub> and CO emission limits shall not apply to this unit during start-up and shutdown period provided that the duration of each start-up or each shutdown is not greater than 2.0 hours, and the emission control system is utilized during these periods. An operator may submit a request to allow more than two hours for each startup or each shutdown provided the operator meets all of the conditions specified in sections 5.3.3.1 to 5.3.3.3.

Per applicant, the duration of each startup and each shutdown event will not be more than 1.0 hour/day. The following condition(s) will be included in the permit:

- The total duration of startup events shall not exceed any of the following limits: 2.0 hour/day and 270 hours/year.[District Rules 2201, 4306 and 4320]

- The total duration of shutdown events shall not exceed any of the following limits: 1.0 hour/day and 270 hours/year.[District Rules 2201, 4306 and 4320]

Section 5.4.1 requires the operator to install and maintain a non-resettable, totalizing mass or volumetric flow meter for the units, which simultaneously uses gaseous and liquid fuels and is subject to the requirements of Section 5.1. The applicant is proposing to use gaseous fuel only. Therefore, they are not required to install and maintain a fuel flow meter under this section.

Section 5.4.2 requires that the units subject to District Rule 4306, Section 5.1 emissions limits, shall either install and maintain Continuous Emission Monitoring (CEM) equipment for NO<sub>x</sub>, CO and O<sub>2</sub>, or install and maintain APCO-approved alternate monitoring. In order to satisfy the requirements of District Rule 4306, the applicant has proposed to use pre-approved alternate monitoring scheme “H” of District Policy SSP-1105, which requires periodic monitoring of NO<sub>x</sub>, CO, NH<sub>3</sub> and O<sub>2</sub> exhaust emissions concentrations. The following condition(s) will be included in the permit:

- The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, NH<sub>3</sub> and O<sub>2</sub> at least once during each month in which source testing is not performed. NO<sub>x</sub>, CO and O<sub>2</sub> monitoring shall be conducted utilizing a portable analyzer that meets District specifications. NH<sub>3</sub> monitoring shall be conducted utilizing gas detection tubes (Draeger brand or District approved equivalent). 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 2201, 4305, 4306 and 4320]
- If either the NO<sub>x</sub>, CO or NH<sub>3</sub> concentrations, as measured by the portable analyzer or the District approved ammonia monitoring equipment, exceed the permitted levels the permittee shall return the emissions to compliant levels as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer or the ammonia monitoring equipment continue to show emission limit violations after 1 hour of operation following detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation that is subject to enforcement action has occurred. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 2201, 4305, 4306 and 4320]
- All NO<sub>x</sub>, CO, O<sub>2</sub> 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<sub>x</sub>, CO and O<sub>2</sub> analyzer as well as the NH<sub>3</sub> 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 2201, 4305, 4306 and 4320]

- Ammonia emissions readings shall be conducted at the time the NO<sub>x</sub>, CO and O<sub>2</sub> readings are taken. The readings shall be converted to ppmvd @ 3% O<sub>2</sub>. [District Rules 2201, 4305 and 4306]
- The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, NH<sub>3</sub> and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent by volume and the measured NO<sub>x</sub>, CO and NH<sub>3</sub> concentrations corrected to 3% O<sub>2</sub>, (3) make and model of the portable analyzer, (4) portable analyzer calibration records, (5) the method of determining the NH<sub>3</sub> emission concentration, and (6) a description of any corrective action taken to maintain the emissions at or below the acceptable levels. [District Rules 2201, 4305, 4306 and 4320]

Section 5.5.1 states the operator of any unit have the option of complying with either the applicable heat input (lb/MMBtu) emission limits or the concentration (ppmv) emission limit. The following condition(s) will be included in the permit:

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

Section 5.5.2 requires 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. The following condition(s) will be included in the permit:

- 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]

Section 5.5.3 requires that all CEMS data shall be averaged over a period of 15-consecutive minutes to demonstrate compliance with the applicable emission limits in this rule. The proposed boiler emissions will not be measured using CEMS system; therefore, this section is not applicable.

Section 5.5.4 requires emissions monitoring pursuant to Sections 5.4.2, 5.4.2.1, and 6.3.1 using a portable NO<sub>x</sub> analyzer as part of an APCO approved Alternate Emissions Monitoring System, emission readings shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15-consecutive-minute sample reading or by taking at least five readings evenly spaced out over the 15-consecutive-minute period. The following condition(s) will be included in the permit:

- All NO<sub>x</sub>, CO, O<sub>2</sub> 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<sub>x</sub>, CO and O<sub>2</sub> analyzer as well as the NH<sub>3</sub> 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 2201, 4305, 4306 and 4320]

Section 5.5.5 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. The following condition(s) will be included in the permit:

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

#### *Section 6.0 – Administrative Requirements*

Section 6.1 requires that the records required by Sections 6.1.1 through 6.1.3 shall be maintained for five calendar years and shall be made available to the APCO upon request. Failure to maintain records or information contained in the records that demonstrate noncompliance with the applicable requirements of this rule shall constitute a violation of this rule. The following condition(s) will be included in the permit:

- All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 1070, 2201, 4305, 4306 and 4320, and 40 CFR 60.48c(i)]

Section 6.2 identifies the test methods for determining higher heating value of fuel, NO<sub>x</sub>, CO, O<sub>2</sub>, stack gas velocities, and stack gas moisture content. The following condition(s) will be included in the permit:

- NO<sub>x</sub> 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]
- CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 4306 and 4320]
- Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306 and 4320]

In addition, the ammonia slip is required to be measured using BAAQMD Method ST-1B. The following condition will be included in the permit:

- Source testing for ammonia slip shall be conducted utilizing BAAQMD Method ST-1B. [District Rule 2201]

Section 6.3.1 requires that this unit be tested to determine compliance with the applicable requirements of section 5.1 and 5.2.3 not less than once every 12 months. Units that demonstrate compliance on two consecutive 12-month source tests may defer the following 12-month source test for up to 36 months (no more than 30 days before or after the required 36-month source test date). During the 36-month source testing interval, the operator shall tune the unit in accordance with the provisions of Section 5.2.1, and shall monitor, on a monthly basis, the unit's operational characteristics recommended by the manufacturer to ensure compliance with the applicable emission limits specified in Sections 5.1 or 5.2.3. Tune-ups required by Sections 5.2.1 and 6.3.1 do not need to be performed for units that operate and maintain an APCO approved CEMS or an APCO approved Alternate Monitoring System where the applicable emission limits are periodically monitored.

NO<sub>x</sub>, CO and O<sub>2</sub> concentrations will be measured on monthly basis using portable analyzer. Therefore, no periodic tune-ups are required. The following conditions will be included in the permit:

- Source testing to measure steady state NO<sub>x</sub>, CO and NH<sub>3</sub> emissions shall be conducted within 60 days of initial startup. [District Rules 2201, 4305, 4306 and 4320]
- Source testing to measure NO<sub>x</sub>, CO and NH<sub>3</sub> emissions during steady state operation 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]

Section 6.3.2 lists compliance testing procedure for units that represent a group of units. There will be only one boiler at this site; therefore, group testing is not considered.

Section 6.4 discusses emission control plan (ECP). The permit application for the proposed boiler satisfies the requirements of the Emission Control Plan, as listed in Section 6.4 of District Rule 4306. No further discussion is necessary.

#### *Section 7.0 – Compliance Schedule*

The proposed boiler is expected to be operating in compliance with this rule after initial startup. Therefore, no further discussion is required.

Compliance is expected with this Rule.



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

*Section 2.0 - Applicability*

Section 2.0 states that this rule applies to any gaseous fuel or liquid fuel fired boiler, steam generator, or process heater with a total rated heat input greater than 5 million Btu per hour.

The heat input rate to the boiler (N-9406-1) is greater than 5 MMBtu/hr. Therefore, this unit is subject to the requirements of this rule.

*Section 5.0 – Requirements*

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

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

The facility had chosen to comply with the emission limits specified in Section 5.2 and 5.4.

Section 5.2, the proposed boiler shall not exceed the following applicable limits:

Until December 30, 2023

NOx: 9 ppmvd @ 3% O<sub>2</sub>

CO: 400 ppmvd @ 3% O<sub>2</sub>

On and after December 31, 2023

NOx: 5 ppmvd @ 3% O<sub>2</sub>

CO: 400 ppmvd @ 3% O<sub>2</sub>

The applicant has proposed the following limits during steady-state operation:

NOx: 3.5 ppmvd @ 3% O<sub>2</sub> (or less);

CO: 50 ppmvd @ 3% O<sub>2</sub> (or less);

Therefore, compliance is expected with this section.

Section 5.2.2 requires that no unit fired on liquid fuel shall be operated in a manner to exceed emissions of 40 ppmv NOx and 400 ppmv CO.

The proposed boiler will not be fired on liquid fuel. As such, this section does not apply.

Section 5.4.1 requires to comply with one of particulate matter control requirement listed in below.

- Operators shall fire units exclusively on PUC-quality natural gas, commercial propane, butane, or liquefied petroleum gas, or a combination of such gases;
- Operators shall limit fuel sulfur content to no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet; or
- Operators shall install and properly operate an emission control system that reduces SO<sub>2</sub> emissions by at least 95% by weight; or limit exhaust SO<sub>2</sub> to less than or equal to 9ppmv corrected to 3.0% O<sub>2</sub>

The applicant has proposed to use PUC quality natural gas fuel with 1.0 gr-S/100 scf. Thus, compliance is expected with this section. The following conditions will be included in the permit:

- This unit shall only be fired on PUC-quality natural gas. [District Rules 2201 and 4320]
- SO<sub>x</sub> emissions shall not exceed 0.00285 lb/MMBtu. [District Rules 2201]

Section 5.6 states that the NO<sub>x</sub> and CO emission limits shall not apply to this unit during start-up and shutdown period provided that the duration of each start-up or each shutdown is not greater than 2.0 hours, and the emission control system is utilized during these periods.

Per applicant, the duration of each startup and each shutdown event will not be more than 1.0 hour/day. The following condition(s) will be included in the permit:

- The total duration of startup events shall not exceed any of the following limits: 2.0 hour/day and 270 hours/year.[District Rules 2201, 4306 and 4320]
- The total duration of shutdown events shall not exceed any of the following limits: 1.0 hour/day and 270 hours/year.[District Rules 2201, 4306 and 4320]

Section 5.7 discusses monitoring provisions to comply with NO<sub>x</sub> and CO limits. These provisions are similar to the provisions in Rule 4306 (discussed previously).

Section 5.7.6 requires the operator to provide annual fuel sulfur content analysis. The following conditions will satisfy the requirements of this section:

- Fuel sulfur content shall be determined using EPA Method 11 or EPA Method 15 or District, CARB and EPA approved alternative methods. [District Rule 4320]

Section 5.8 discusses compliance determination. The requirements in this section are similar to the requirements in Rule 4306 (discussed previously).

#### *Section 6.0 – Administrative Requirements*

Recordkeeping requirements of this Rule are similar to that of the Rule 4306. Please refer to section 6.0 of Rule 4306.

**Section 7.0 – Compliance Schedule**

This section refers to “Authority to Construct” and “Compliance Deadline” dates for existing units. The proposed unit is a new emission unit and is expected to comply with the requirements of this rule.

Compliance is expected with this Rule.

**Rule 4351 Boilers, Steam Generators, and Process Heaters – Phase 1**

Since the emission limits of District Rule 4306 and 4320 and all other requirements are equivalent or more stringent than this Rule, compliance with District Rule 4306 and 4320 requirements will satisfy requirements of District Rule 4351.

**Rule 4801 Sulfur Compounds**

Section 3.1 states that a person shall not discharge into the atmosphere sulfur compounds, which would exist as a liquid or gas at standard conditions, exceeding a concentration of two-tenths (0.2) percent by volume calculated as sulfur dioxide (SO<sub>2</sub>) at the point of discharge on a dry basis averaged over 15 consecutive minutes.

For the proposed gaseous fuel combustion at a reference state of 60 °F, the Rule 4801 limit of 2,000 ppmvd is equivalent to:

$$\frac{(2000 \text{ ppmvd}) \left( 8,578 \frac{\text{dscf}}{\text{MMBtu}} \right) \left( 64 \frac{\text{lb} - \text{SO}_x}{\text{lb} - \text{mol}} \right)}{\left( 379.5 \frac{\text{dscf}}{\text{lb} - \text{mol}} \right) (10^6)} \cong 2.9 \frac{\text{lb} - \text{SO}_x}{\text{MMBtu}}$$

SO<sub>x</sub> emissions from the proposed boiler are based on 1.0 gr-S/100 scf, equivalent to 0.00285 lb/MMBtu. Since the SO<sub>x</sub> emissions from each boiler are less than 2.9 lb/MMBtu, compliance is expected with this Rule.

**California Health & Safety Code 42301.6 (School Notice)**

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

**California Environmental Quality Act (CEQA)**

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

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities;

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

### **Greenhouse Gas (GHG) Significance Determination**

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

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

The California Air Resources Board (ARB) adopted a Cap-and-Trade regulation as part one of the strategies identified for AB 32. This Cap-and-Trade regulation is a statewide plan, supported by a CEQA compliant environmental review document, aimed at reducing or mitigating GHG emissions from targeted industries. Facilities subject to the Cap-and-Trade regulation are subject to an industry-wide cap on overall GHG emissions. Any growth in emissions must be accounted for under that cap such that a corresponding and equivalent reduction in emissions must occur to allow any increase. Further, the cap decreases over time, resulting in an overall decrease in GHG emissions.

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

The GHG emissions increases associated with this project result from the combustion of fossil fuel(s), other than jet fuel, delivered from suppliers subject to the Cap-and-Trade regulation. Therefore, as discussed above, consistent with District Policies APR 2005 and APR 2025, the District concludes that the GHG emissions increases associated with

this project would have a less than significant individual and cumulative impact on global climate change.

**District CEQA Findings**

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing or former use. Furthermore, the District determined that the activity will not have a significant effect on the environment. Therefore, the District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15301 (Existing Facilities), and finds that the project is exempt per the common sense exemption that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

**Indemnification Agreement/Letter of Credit Determination**

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

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

**IX. Recommendation**

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue ATC N-1399-38-0 subject to the permit conditions on the attached draft ATC in **Appendix A**.

**X. Billing Information**

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
N-1399-38-0	3020-02 H	19.95 MMBtu/hr boiler	\$1,238

## **Appendixes**

- A: Draft ATC
- B: BACT Analysis
- C: HRA & AAQA Summary
- D: HAP Calculations
- E: Quarterly Net Emissions Change
- F: Compliance Certification

**Appendix A**  
**Draft ATC**

*San Joaquin Valley  
Air Pollution Control District*

## AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT  
**DRAFT**

**PERMIT NO:** N-1399-38-0

**LEGAL OWNER OR OPERATOR:** LIBERTY PACKING CO - THE MORNING STAR CO

**MAILING ADDRESS:** 12045 S INGOMAR GRADE RD  
LOS BANOS, CA 93635

**LOCATION:** 12045 S INGOMAR GRADE RD  
LOS BANOS, CA 93635

**EQUIPMENT DESCRIPTION:**

19.95 MMBTU/HR JOHNSTON BOILER MODEL PFTX500-2X200S (FIRE-TUBE BOILER) WITH ST JOHNSON MODEL NMA500A40V ULTRA LOW-NOX BURNER AND HALDOR TOPSOE DNX929 SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM

## 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. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
5. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
6. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
7. The unit shall only be fired on PUC-quality natural gas. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Samir Sheikh, Executive Director / APCO

**Brian Clements, Director of Permit Services**

N-1399-38-0 : Mar 3 2021 11:34AM - KAHLONJ : Joint Inspection NOT Required



8. 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. [District Rule 2201 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit
9. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. [District Rules 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
10. The facility-wide NO<sub>x</sub> emissions shall not exceed 33,705 pounds during any one rolling 12 month period. [District Rule 2201] Federally Enforceable Through Title V Permit
11. The total duration of startup events shall not exceed any of the following limits: 2.0 hour/day and 270 hours/year. [District Rules 2201, 4306 and 4320] Federally Enforceable Through Title V Permit
12. The total duration of shutdown events shall not exceed any of the following limits: 1.0 hour/day and 270 hours/year. [District Rules 2201, 4306 and 4320] Federally Enforceable Through Title V Permit
13. During startup or shutdown, NO<sub>x</sub> emissions shall not exceed 30 ppmvd @ 3% O<sub>2</sub> or 0.036 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Except during startup and shutdown, NO<sub>x</sub> emissions shall not exceed 3.5 ppmvd @ 3% O<sub>2</sub> or 0.0042 lb/MMBtu, referenced as NO<sub>2</sub>. [District Rules 2201, 4306 and 4320] Federally Enforceable Through Title V Permit
15. CO emissions shall not exceed 50 ppmvd @ 3% O<sub>2</sub> or 0.037 lb/MMBtu. [District Rules 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
16. SO<sub>x</sub> emissions shall not exceed 0.00285 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
17. PM<sub>10</sub> emissions shall not exceed 0.003 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
18. VOC emissions shall not exceed 10 ppmvd @ 3% O<sub>2</sub> or 0.0042 lb/MMBtu, referenced as methane. [District Rule 2201] Federally Enforceable Through Title V Permit
19. NH<sub>3</sub> emissions from the SCR system shall not exceed 10 ppmvd @ 3% O<sub>2</sub>. [District Rule 2201] Federally Enforceable Through Title V Permit
20. 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
21. Source testing to measure startup and shutdown NO<sub>x</sub> and CO emissions shall be conducted within 60 days of initial startup. [District Rule 2201] Federally Enforceable Through Title V Permit
22. Source testing to measure steady state NO<sub>x</sub>, CO and NH<sub>3</sub> emissions shall be conducted within 60 days of initial startup. [District Rules 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
23. Source testing to measure NO<sub>x</sub>, CO and NH<sub>3</sub> emissions during steady state operation shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. NO<sub>x</sub> 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
25. 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
26. Stack gas oxygen (O<sub>2</sub>) 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
27. Fuel sulfur content shall be determined using EPA Method 11 or Method 15. [District Rule 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

28. Source testing for ammonia slip shall be conducted utilizing BAAQMD Method ST-1B. [District Rule 2201] Federally Enforceable Through Title V Permit
29. 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
30. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. 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
32. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
33. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, NH<sub>3</sub> and O<sub>2</sub> at least once during each month in which source testing is not performed. NO<sub>x</sub>, CO and O<sub>2</sub> monitoring shall be conducted utilizing a portable analyzer that meets District specifications. NH<sub>3</sub> 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
34. If the NO<sub>x</sub>, CO or NH<sub>3</sub> 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
35. All NO<sub>x</sub>, CO, O<sub>2</sub> 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<sub>x</sub>, CO and O<sub>2</sub> analyzer as well as the NH<sub>3</sub> 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
36. Ammonia emission readings shall be conducted at the time the NO<sub>x</sub>, CO and O<sub>2</sub> readings are taken. The readings shall be converted to ppmvd @ 3% O<sub>2</sub>. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
37. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, NH<sub>3</sub> and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent by volume and the measured NO<sub>x</sub>, CO and NH<sub>3</sub> concentrations corrected to 3% O<sub>2</sub>, (3) make and model of the portable analyzer, (4) portable analyzer calibration records, (5) the method of determining the NH<sub>3</sub> 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
38. 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
39. The owner or operator shall maintain records of the amount of fuel combusted during each week in this unit. [Rule 2201 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

40. The owner or operator shall maintain records of the date, total duration of startup time (hours/day), total duration of shutdown time (hours/day), total duration of startup time per year (hours per year), and total duration of shutdown time per year (hours per year). The annual records shall be updated at least on a weekly basis. [District Rules 2201, 4306 and 4320] Federally Enforceable Through Title V Permit
41. A record of the facility-wide NOx emissions (in pounds) shall be kept. The record shall be on a rolling 12 month period and shall be updated at least weekly. [District Rule 2201] Federally Enforceable Through Title V Permit
42. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 1070, 2201, 4305, 4306 and 4320, and 40 CFR 60.48c(i)] Federally Enforceable Through Title V Permit

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**Appendix B**  
**BACT Analysis**

## Top-Down BACT Analysis

### NOx:

#### Step 1 - Identify all control technologies

##### Achieved in Practice or contained in the SIP:

The following references were consulted to determine emission limits and control required to reduce NOx emissions for boilers rated above 20 MMBtu/hr:

- EPA RACT/BACT/LAER clearinghouse
- CARB BACT clearinghouse
- South Coast AQMD BACT clearinghouse
- Bay Area AQMD BACT clearinghouse
- Sacramento Metro AQMD BACT Clearinghouse

Note that SJVAPCD BACT clearinghouse was not consulted because the BACT requirements are out of date and are being revised at this time. When a boiler triggers BACT, a case-by-case determination is conducted and the results of that determination are considered BACT for that industry.

The following Rules were also consulted:

- South Coast AQMD Rule 1146
- Bay Area AQMD Regulation 7, Rule 9
- Sacramento Metro AQMD Rule 411
- SJVAPCD Rule 4320

A survey of source test results for units located in the SJVAPCD was also conducted. The purpose of the survey was to determine the emission levels that are currently being met. Note that results of limited units with different heat input rating were reviewed.

##### *Survey of BACT Guidelines:*

Since NOx and CO are related, this analysis will also include CO. The table below shows NOx and CO data.

Agency	Heat input rate (MMBtu/hr)	NOx (ppmvd @ 3% O2)	CO (ppmvd @ 3% O2)
EPA	The EPA RACT/BACT/LAER clearinghouse does not include general guidelines, only determinations done by individual agencies. The NOx and CO ranges are shown in the section below.		
	≤20	9 to 90 RBLC ID (9 ppm): TX-0680 RBLC ID (90 ppm): NV-0046	100, 112 RBLC ID (100 ppm): TX-0680 RBLC ID (112 ppm): NV-0046
	*Note that out of 59 units, 14 units indicate NOx level of less than or equal to 9 ppmvd @ 3% O2, and the remaining units are greater than 9 ppmvd NOx @ 3% O2.		
CARB	The CARB clearinghouse does not include general guidelines, only individual determinations done by individual districts. None of the determinations are more stringent than most stringent standards shown below so the CARB data will not be listed.		
SCAQMD*	5 to < 20	7 – firetube boilers	50 – firetube boilers 100 – watertube boilers
	*Guidelines currently being revised to reflect the Rule 1146 NOx limits (in the cases where the BACT limit is less stringent than the rule limit).		
BAAQMD	5 to < 33.5	--	50 – firetube boilers 100 – watertube boilers
SMAQMD	5 to < 25	9	400

*Survey of Applicable Rules:*

Since NOx and CO are related, this analysis will also include CO. The table below shows NOx and CO data.

Agency	Heat input rate (MMBtu/hr)	NOx (ppmvd @ 3% O2)	CO (ppmvd @ 3% O2)
SCAQMD Rule 1146	≥5 to < 20	7 – fire tube boilers	400
BAAQMD Reg 9 Rule 7	>5 to <20	15	400
SMAQMD Rule 411	≥5 to < 20	15	400
SJVAPCD Rule 4320	>5 to ≤ 20	9 (until Dec 30, 2023) 5 – firetube boilers (on and after Dec 30, 2023)	400
EPA	40 CFR Part 60 Subparts Db does not contain NOx emission limits for the proposed boiler unit.		
CARB	No Rules		

*Survey of Source Tests:*

The following table summarizes source test results of new boilers >5 and ≤20 MMBtu/hr with active valid permits at food processing facilities.

Permit #	Heat Input Rate (MMBtu/hr)	Test Date	Emissions (ppmvd @ 3% O <sub>2</sub> )		NOx control technology	Facility Description
			NOx	CO		
S-4155-15	6	14-Mar-14	4.66	12.2	LN	AGRICULTURAL PRODUCTS PROCESSING
		14-Mar-18	7.15	9.6		
N-227-39	7.971	13-Nov-13	4.1	2.9	ULN	GRAIN AND FIELD BEANS
C-3058-2	8.4	3-Feb-16	3.5	0.3	ULN	FLUID MILK
		6-Feb-19	5.3	0.05		
N-398-6	10.1	7-Jan-11	4.87	1.95	ULN	WINERY
		13-Jul-18	4.6	0.97		
S-8027-1	11.5	24-Feb-12	3.34	9.8	SCR	JUICES: FRUIT OR VEGETABLE
		20-Mar-13	0.32	9.7		
		7-Mar-16	2.79	9.72		
N-3655-3	12.6	18-Mar-14	3.1	1.3	SCR	FOOD PREPARATIONS
		24-Feb-15	3.3	0.0		
		26-Jan-18	4.8	2.0		
C-3463-18	17.5	24-Jun-13	4.0	0.1	ULN	FOOD PREPARATIONS
		28-Apr-16	4.6	0.4		
		18-Apr-19	4.39	3.09		
N-8622-1	19.5	19-Sep-13	2.6	5.2	FGR&SCR	COOKING OIL PROCESSING
		9-Oct-14	3.7	0.3		
		12-Sep-17	4.6	1.1		
		19-Oct-18	1.6	0.2		
N-238-50-0	19.95	26-Jul-19	1.2	2.4	LN&SCR	FOOD PROCESSING

From the review of the above data, the following level of emissions is considered achieved-in-practice for a boiler >5 and ≤20 MMBtu/hr:

NOx: 5 ppmvd NOx @ 3% O<sub>2</sub> using SCR system or equivalent emission control equipment

Note that the above emission standard leaves about 39%<sup>1</sup> margin of compliance over the average tested value of 3.7 ppmvd for all units.

Technologically Feasible:

None

Alternate Basic Equipment:

None

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<sup>1</sup> (5 – 3.6)/3.6 = 0.39 or 39%

## **Step 2 - Eliminate technologically infeasible options**

There is no technologically infeasible option.

## **Step 3 - Rank remaining options by control effectiveness**

1. 5 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> using SCR system or equivalent emission control equipment

## **Step 4 - Cost Effectiveness Analysis**

There is no technically feasible option or alternative basic equipment listed in Step 3 (above). Therefore, no further discussion is required.

## **Step 5 – Select BACT**

BACT for the proposed boiler is to achieve 5 ppmvd @ 3% O<sub>2</sub> or less NO<sub>x</sub> emissions during normal source operation. The applicant has proposed to comply with 3.5 ppmvd @ 3% O<sub>2</sub> or less NO<sub>x</sub>. Therefore, BACT requirements are satisfied.

## **CO:**

### **Step 1 - Identify all control technologies**

#### Achieved in Practice or contained in the SIP:

The following references were consulted to determine emission limits and control required to reduce NO<sub>x</sub> emissions for boilers rated above 20 MMBtu/hr:

- EPA RACT/BACT/LAER clearinghouse
- CARB BACT clearinghouse
- South Coast AQMD BACT clearinghouse
- Bay Area AQMD BACT clearinghouse
- Sacramento Metro AQMD BACT Clearinghouse

Note that SJVAPCD BACT clearinghouse was not consulted because the BACT requirements are out of date and are being revised at this time. When a boiler triggers BACT, a case-by-case determination is conducted and the results of that determination are considered BACT for that industry.

The following Rules were also consulted:

- South Coast AQMD Rule 1146
- Bay Area AQMD Regulation 7, Rule 9
- Sacramento Metro AQMD Rule 411
- SJVAPCD Rule 4320

A survey of source test results for units located in the SJVAPCD was also conducted. The purpose of the survey was to determine the emission levels that are currently being met. Note that results of limited units with different heat input rating were reviewed.



*Survey of BACT Guidelines:*

Since NOx and CO are related, this analysis will also include CO. The table below shows NOx and CO data.

Agency	Heat input rate (MMBtu/hr)	NOx (ppmvd @ 3% O2)	CO (ppmvd @ 3% O2)
EPA	The EPA RACT/BACT/LAER clearinghouse does not include general guidelines, only determinations done by individual agencies. The NOx and CO ranges are shown in the section below.		
	≤20	9 to 90 RBLC ID (9 ppm): TX-0680 RBLC ID (90 ppm): NV-0046	100, 112 RBLC ID (100 ppm): TX-0680 RBLC ID (112 ppm): NV-0046
	*Note that out of 59 units, 14 units indicate NOx level of less than or equal to 9 ppmvd @ 3% O2, and the remaining units are greater than 9 ppmvd NOx @ 3% O2.		
CARB	The CARB clearinghouse does not include general guidelines, only individual determinations done by individual districts. None of the determinations are more stringent than most stringent standards shown below so the CARB data will not be listed.		
SCAQMD*	5 to < 20	7 – firetube boilers	50 – firetube boilers 100 – watertube boilers
	*Guidelines currently being revised to reflect the Rule 1146 NOx limits (in the cases where the BACT limit is less stringent than the rule limit).		
BAAQMD	5 to < 33.5	--	50 – firetube boilers 100 – watertube boilers
SMAQMD	5 to < 25	9	400

*Survey of Applicable Rules:*

Since NOx and CO are related, this analysis will also include CO. The table below shows NOx and CO data.

Agency	Heat input rate (MMBtu/hr)	NOx (ppmvd @ 3% O2)	CO (ppmvd @ 3% O2)
SCAQMD Rule 1146	≥5 to < 20	7 – fire tube boilers	400
BAAQMD Reg 9 Rule 7	>5 to <20	15	400
SMAQMD Rule 411	≥5 to < 20	15	400
SJVAPCD Rule 4320	>5 to ≤ 20	9 (until Dec 30, 2023) 5 – firetube boilers (on and after Dec 30, 2023)	400
EPA	40 CFR Part 60 Subparts Db does not contain NOx emission limits for the proposed boiler unit.		
CARB	No Rules		

*Survey of Source Tests:*

The following table summarizes source test results of new boilers >5 and ≤20 MMBtu/hr with active valid permits at food processing facilities.

Permit #	Heat Input Rate (MMBtu/hr)	Test Date	Emissions (ppmvd @ 3% O2)		NOx control technology	Facility Description
			NOx	CO		
S-4155-15	6	14-Mar-14	4.66	12.2	LN	AGRICULTURAL PRODUCTS PROCESSING
		14-Mar-18	7.15	9.6		
N-227-39	7.971	13-Nov-13	4.1	2.9	ULN	GRAIN AND FIELD BEANS
C-3058-2	8.4	3-Feb-16	3.5	0.3	ULN	FLUID MILK
		6-Feb-19	5.3	0.05		
N-398-6	10.1	7-Jan-11	4.87	1.95	ULN	WINERY
		13-Jul-18	4.6	0.97		
S-8027-1	11.5	24-Feb-12	3.34	9.8	SCR	JUICES: FRUIT OR VEGETABLE
		20-Mar-13	0.32	9.7		
		7-Mar-16	2.79	9.72		
N-3655-3	12.6	18-Mar-14	3.1	1.3	SCR	FOOD PREPARATIONS
		24-Feb-15	3.3	0.0		
		26-Jan-18	4.8	2.0		
C-3463-18	17.5	24-Jun-13	4.0	0.1	ULN	FOOD PREPARATIONS
		28-Apr-16	4.6	0.4		
		18-Apr-19	4.39	3.09		
N-8622-1	19.5	19-Sep-13	2.6	5.2	FGR&SCR	COOKING OIL PROCESSING
		9-Oct-14	3.7	0.3		
		12-Sep-17	4.6	1.1		
		19-Oct-18	1.6	0.2		
N-238-50-0	19.95	26-Jul-19	1.2	2.4	LN&SCR	FOOD PROCESSING

As shown the above tables, the minimum CO level that is required by an applicable rule is 400 ppmvd @ 3% O2 and the minimum CO level required by an applicable BACT guideline is 50 ppmvd @ 3% O2. Source test survey shows that all units were tested below 10 ppmvd CO @ 3% O2. NOx and CO are directly related; low CO corresponds to high NOx and vice versa. Allowing CO limit more than 10 ppmvd will allow facilities to tune their burner properly to meet low NOx levels. Therefore, CO levels of 50 ppmvd @ 3% O2 for fire tube units and 100 ppmvd @ 3% O2 for water tube units are chosen to be achieved-in-practice standard for new boilers >5 and ≤20 MMBtu/hr.

CO: 50 ppmvd @ 3% O2 (firtube units), 100 ppmvd CO @ 3% O2 (watertube units)

Technologically Feasible:

None

Alternate Basic Equipment:

None

## **Step 2 - Eliminate technologically infeasible options**

There is no technologically infeasible option.

## **Step 3 - Rank remaining options by control effectiveness**

1. 50 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> (fire tube units)

Note that the proposed boiler is a firetube boiler; therefore, only firetube boiler CO standard is listed here.

## **Step 4 - Cost Effectiveness Analysis**

There is no technically feasible option or alternative basic equipment listed in Step 3 (above). Therefore, no further discussion is required.

## **Step 5 – Select BACT**

BACT for the proposed boiler is to achieve 50 ppmvd @ 3% O<sub>2</sub> or less CO emissions during normal source operation. The applicant has proposed to comply with 50 ppmvd @ 3% O<sub>2</sub> or less CO emission concentrations. Therefore, BACT requirements are satisfied.

**Appendix C**  
**HRA & AAQA Summary**

# San Joaquin Valley Air Pollution Control District

## Revised Risk Management Review and Ambient Air Quality Analysis

To: Jag Kahlon – Permit Services  
 From: Will Worthley – Technical Services  
 Date: February 3, 2020  
 Facility Name: LIBERTY PACKING CO - THE MORNING STAR CO  
 Location: 12045 S INGOMAR GRADE RD, LOS BANOS  
 Application #(s): N-1399-38-0  
 Project #: N-1203800

### 1. Summary

#### 1.1 RMR

Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required	Special Permit Requirements
38-0	0.01	0.00	0.00	2.80E-08	No	Yes
<b>Project Totals</b>	0.01	0.00	0.00	2.80E-08		
<b>Facility Totals</b>	>1	0.01	0.01	1.76E-06		

#### 1.2 AAQA

Pollutant	Air Quality Standard (State/Federal)				
	1 Hour	3 Hours	8 Hours	24 Hours	Annual
<b>CO</b>	Pass		Pass		
<b>NO<sub>x</sub></b>	Pass				Pass
<b>SO<sub>x</sub></b>	Pass	Pass		Pass	Pass
<b>PM10</b>				Pass <sup>3</sup>	Pass <sup>3</sup>
<b>PM2.5</b>				Pass <sup>4</sup>	Pass <sup>4</sup>

Notes:

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

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

Unit # 38-0

1. 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.

## 2. Project Description

Technical Services received a request on October 01, 2020 to perform a Risk Management Review (RMR) and Ambient Air Quality Analysis (AAQA) for the following:

- Unit -38-0: 19.95 MMBTU/HR NATURAL GAS-FIRED BOILER WITH AN SCR SYSTEM

## 3. RMR Report

### 3.1 Analysis

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

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

Then, generally no further analysis is required.

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

If a refined assessment is greater than one in a million but less than 20 in one million for carcinogenic impacts (Cancer Risk) and less than 1.0 for the Acute and Chronic hazard indices(Non-Carcinogenic) on a unit by unit basis, project basis and on a facility-wide basis the proposed application is considered less than significant. For unit's that exceed a cancer risk of 1 in one million, Toxic Best Available Control Technology (TBACT) must be implemented.

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

- Toxic emissions for this proposed unit were calculated using 2001 Ventura County's Air Pollution Control District's emission factors for Natural Gas Fired external combustion.

These emissions were input into the San Joaquin Valley APCD's Hazard Assessment and Reporting Program (SHARP). In accordance with the District's Risk Management Policy, risks from the proposed unit's toxic emissions were prioritized using the procedure in the 2016 CAPCOA Facility Prioritization Guidelines. The prioritization score for this proposed facility was greater than 1.0 (see RMR Summary Table). Therefore, a refined health risk assessment was required.

The AERMOD model was used, with the parameters outlined below and meteorological data for 2004-2008 from Los Banos (rural dispersion coefficient selected) to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a receptor grid. These dispersion factors were input into the SHARP Program, which then used the Air Dispersion Modeling and Risk Tool (ADMRT) of the Hot Spots Analysis and Reporting

Program Version 2 (HARP 2) to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

Source Process Rates					
Unit ID	Process ID	Process Material	Process Units	Hourly Process Rate	Annual Process Rate
38	1	NG Usage	MMscf	0.01995	174.762
38	1	NH3 <sup>1</sup>	LB	0.08	699

1. Ammonia is added to reduce NOx Emissions.

Point Source Parameters						
Unit ID	Unit Description	Release Height (m)	Temp. (°K)	Exit Velocity (m/sec)	Stack Diameter (m)	Vertical/Horizontal/Capped
38	NG Fired Boiler	3.66	354	9.07	0.61	Vertical

#### 4. AAQA Report

The District modeled the impact of the proposed project on the National Ambient Air Quality Standard (NAAQS) and/or California Ambient Air Quality Standard (CAAQS) in accordance with District Policy APR-1925 (Policy for District Rule 2201 AAQA Modeling) and EPA's Guideline for Air Quality Modeling (Appendix W of 40 CFR Part 51). The District uses a progressive three level approach to perform AAQAs. The first level (Level 1) uses a very conservative approach. If this analysis indicates a likely exceedance of an AAQS or Significant Impact Level (SIL), the analysis proceeds to the second level (Level 2) which implements a more refined approach. For the 1-hour NO<sub>2</sub> standard, there is also a third level that can be implemented if the Level 2 analysis indicates a likely exceedance of an AAQS or SIL.

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

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

Monitoring Stations				
Pollutant	Station Name	County	City	Measurement Year
CO	Madera-Pump Yard	Madera	Madera	2018
NOx	Merced-Coffee	Merced	Merced	2018
PM10	2334 'M' ST.	Merced	Merced	2018
PM2.5	2334 'M' ST.	Merced	Merced	2018
SOx	Fresno - Garland	Fresno	Fresno	2018

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

Emission Rates (lbs/hour)						
Unit ID	Process	NOx	SOx	CO	PM10	PM2.5
38	1	0.718	0.057	0.738	0.06	0.06

Emission Rates (lbs/year)						
Unit ID	Process	NOx	SOx	CO	PM10	PM2.5
38	1	1,077	498	6,466	524	524

The AERMOD model was used to determine if emissions from the project would cause or contribute to an exceedance of any state of federal air quality standard. The parameters outlined below and meteorological data for 2004-2008 from Los Banos (rural dispersion coefficient selected) were used for the analysis:

The following parameters were used for the review:

Point Source Parameters						
Unit ID	Unit Description	Release Height (m)	Temp. (°K)	Exit Velocity (m/sec)	Stack Diameter (m)	Vertical/Horizontal/Capped
38	NG Fired Boiler	3.66	354	9.07	0.61	Vertical

## 5. Conclusion

### 5.1 RMR

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

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

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

### 5.2 AAQA

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



**6. Attachments**

- A. Modeling request from the project engineer
- B. Additional information from the applicant/project engineer
- C. Prioritization score w/ toxic emissions summary
- D. Facility Summary
- E. AAQA results

**Appendix D**  
**HAP Calculations**

Summary of HAP Emissions  
(N-1399)

Substances	N-1399-4-3 or '5-3	N-1399-11-3	N-1399-13-6	N-1399-16-4	N-1399-17-8	N-1399-20-5	N-1399-21-3	N-1399-24-3	N-1399-26-2	N-1399-29-2	N-1399-30-1
1,3-Butadiene	--	0	--	--	--	--	0	--	--	--	--
2,2,4-Trimethylpentane	--	--	--	--	--	--	--	--	--	--	--
Acetaldehyde	1	0.1	1.4	0.1	1	1	0.1	1.1	--	--	8.6
Acrolein	0.8	0	1.3	0.1	0.8	0.9	0	1	--	--	1.4
Benzene	1.8	0.1	2.7	0.1	1.8	1.8	0.1	2.2	--	--	2.6
Bromine	--	--	--	--	--	--	--	--	1.0	--	--
Chromium, hexavalent (& compound)	--	--	--	--	--	--	--	--	0.0	--	--
Copper	--	--	--	--	--	--	--	--	0.1	--	--
Ethyl benzene	2.1	--	3.2	0.1	2.1	2.2	--	2.5	--	--	6.9
Formaldehyde	3.8	0.1	5.7	0.3	3.8	3.9	0.2	4.6	--	--	152.7
Hexane	1.4	--	2	0.1	1.4	1.5	--	1.7	--	--	--
Lead	--	--	--	--	--	--	--	--	0.0	--	--
Manganese	--	--	--	--	--	--	--	--	0.1	--	--
Naphthalene	0.3	0	0.5	0	0.3	0.1	0	0.4	--	--	0.3
Nickel	--	--	--	--	--	--	--	--	0.0	--	--
PAH's	0.1	0	0.2	0	0.1	0	0	0.1	--	--	0.5
Propylene	16.4	--	24.5	11.4	16.4	167.1	--	19.7	--	--	--
Propylene Oxide	--	--	--	--	--	--	--	--	--	--	6.2
Propylenede	--	0.2	--	--	--	--	0.4	--	--	--	--
Toluene	8.2	0	12.3	0.6	8.3	8.4	0.1	9.9	--	--	28
Xylenes	6.1	0	9.1	0	6.1	0	0	7.4	--	--	13.8
Zinc	--	--	--	--	--	--	--	--	0.1	--	--

Summary of HAP Emissions  
(N-1399)

Substances	N-1399-31-1	N-1399-32-0	N-1399-33-0	N-1399-34-0	N-1399-37-0	N-1399-38-0	Total , all permit units on page 1 and page 2, (lb/yr)	HAP	HAP, Total of all permit units on page 1 and page 2, (lb/yr)
1,3-Butadiene	--	0	0	--	--	--	0	Y	0
2,2,4-Trimethylpentane	1.2	--	--	--	--	--	1	Y	1
Acetaldehyde	--	0.4	0.4	0.5	97.2	0.5	113	Y	113
Acrolein	--	0	0	0.4	15.6	0.5	23	Y	23
Benzene	0.7	0.5	0.5	0.9	29.2	1	46	Y	46
Bromine	--	--	--	--	--	--	1		0
Chromium, hexavalent (& compound)	--	--	--	--	--	--	0	Y	0
Copper	--	--	--	--	--	--	0		0
Ethyl benzene	2.3	--	--	1	77.8	1.2	101	Y	101
Formaldehyde	--	0.6	0.6	1.9	1725.9	2.1	1906	Y	1906
Hexane	2.3	--	--	0.7	--	0.8	12	Y	12
Lead	--	--	--	--	--	--	0	Y	0
Manganese	--	--	--	--	--	--	0	Y	0
Naphthalene	--	0	0	0	3.2	0.1	5	Y	5
Nickel	--	--	--	--	--	--	0	Y	0
PAH's	0.8	0	0	0	5.3	0	7	Y	7
Propylene	--	--	--	80.1	--	92.6	428		0
Propylene Oxide	--	--	--	--	70.5	--	77	Y	77
Propylenede	--	1.3	1.3	--	--	--	3		0
Toluene	1.8	0.2	0.2	4	316	4.6	403	Y	403
Xylenes	0.7	0.1	0.1	0	155.6	0	199	Y	199
Zinc	--	--	--	--	--	--	0		0
								<b>Total (lb/yr):</b>	<b>2894</b>
								<b>Total (tons/yr):</b>	<b>1.4</b>

N-1399-4 and '5 (220 MMBtu/hr each, combined heat input rate of 1,056,019 MMBtu/yr)

<b>Substances</b>	<b>Emission Factor (lb/MMBtu)<sup>(1)</sup></b>	<b>Maximum Hourly Emissions (lb/hr)<sup>(2)</sup></b>	<b>Maximum Annual Emissions (lb/yr)<sup>(3)</sup></b>	
Acetaldehyde	9.00E-07	1.98E-04	1	
Acrolein	8.00E-07	1.76E-04	1	
Benzene	1.70E-06	3.74E-04	2	
Ethyl benzene	2.00E-06	4.40E-04	2	
Formaldehyde	3.60E-06	7.92E-04	4	
Hexane	1.30E-06	2.86E-04	1	
Naphthalene	3.00E-07	6.60E-05	0	
PAH's	1.00E-07	2.20E-05	0	
Propylene	1.55E-05	3.42E-03	16	
Toluene	7.80E-06	1.72E-03	8	
Xylenes	5.80E-06	1.28E-03	6	
Notes:				
1. These emission factors are obtained from Ventura County APCD, "AB2588 Combustion Emission Factors" natural gas fired external combustion equipment greater than 100 MMBtu/hr, available at <a href="http://www.vcapcd.org/pubs/Engineering/AirToxics/combem.pdf">http://www.vcapcd.org/pubs/Engineering/AirToxics/combem.pdf</a>				
2. Hourly emissions = EF (lb/MMBtu) x 220 (MMBtu/hr)				
3. Annual emissions = EF (lb/MMBtu) x 1,056,019 (MMBtu/yr) for both units				

N-1399-11 (96 bhp diesel-fueled emergency fire pump engine)

<b>Substances</b>	<b>Emission Factor (lb/MMBtu)<sup>(1)</sup></b>	<b>Maximum Hourly Emissions (lb/hr)<sup>(2)</sup></b>	<b>Maximum Annual Emissions (lb/yr)<sup>(3)</sup></b>		
Acetaldehyde	7.67E-04	5.37E-04	0.1		
Acrolein	9.25E-05	6.48E-05	0.0		
Benzene	9.33E-04	6.53E-04	0.1		
1,3-Butadiene	3.91E-05	2.74E-05	0.0		
Formaldehyde	1.18E-03	8.26E-04	0.1		
Naphthalene	8.48E-05	5.94E-05	0.0		
PAH's	8.32E-05	5.82E-05	0.0		
Propylenede	2.58E-03	1.81E-03	0.2		
Toluene	4.09E-04	2.86E-04	0.0		
Xylenes	2.85E-04	2.00E-04	0.0		
Notes:					
1. The emission are taken from AP-42 Table 3.3-2 (10/96)					
2. Hourly emissions are based on a heat input rate of 0.7 MMBtu/hr (5.09 gal/hr x 0.137 MMBtu/gal)					
3. Annual emissions are based on non-emergency hours of operations (100 hr/yr)					

N-1399-13 (180 MMBtu/hr boiler)

<b>Substances</b>	<b>Emission Factor (lb/MMBtu)<sup>(1)</sup></b>	<b>Maximum Hourly Emissions (lb/hr)<sup>(2)</sup></b>	<b>Maximum Annual Emissions (lb/yr)<sup>(3)</sup></b>	
Acetaldehyde	9.00E-07	1.62E-04	1	
Acrolein	8.00E-07	1.44E-04	1	
Benzene	1.70E-06	3.06E-04	3	
Ethyl benzene	2.00E-06	3.60E-04	3	
Formaldehyde	3.60E-06	6.48E-04	6	
Hexane	1.30E-06	2.34E-04	2	
Naphthalene	3.00E-07	5.40E-05	1	
PAH's	1.00E-07	1.80E-05	0	
Propylene	1.55E-05	2.80E-03	25	
Toluene	7.80E-06	1.40E-03	12	
Xylenes	5.80E-06	1.04E-03	9	
<b>Notes:</b>				
1. These emission factors are obtained from Ventura County APCD, "AB2588 Combustion Emission Factors" natural gas fired external combustion equipment greater than 100 MMBtu/hr, available at <a href="http://www.vcapcd.org/pubs/Engineering/AirToxics/combem.pdf">http://www.vcapcd.org/pubs/Engineering/AirToxics/combem.pdf</a>				
2. Hourly emissions = EF (lb/MMBtu) x 180 (MMBtu/hr)				
3. Annual emissions = EF (lb/MMBtu) x 180 (MMBtu/hr) x 8,760 (hr/yr)				

N-1399-16 (10 MMBtu/hr tomato roaster)

<b>Substances</b>	<b>Emission Factor (lb/MMBtu)<sup>(1)</sup></b>	<b>Maximum Hourly Emissions (lb/hr)<sup>(2)</sup></b>	<b>Maximum Annual Emissions (lb/yr)<sup>(3)</sup></b>	
Acetaldehyde	3.10E-06	3.10E-05	0	
Acrolein	2.70E-06	2.70E-05	0	
Benzene	5.80E-06	5.80E-05	0	
Ethyl benzene	6.90E-06	6.90E-05	0	
Formaldehyde	1.23E-05	1.23E-04	0	
Hexane	4.60E-06	4.60E-05	0	
Naphthalene	3.00E-07	3.00E-06	0	
PAH's	1.00E-07	1.00E-06	0	
Propylene	5.30E-04	5.30E-03	11	
Toluene	2.65E-05	2.65E-04	1	
Xylenes	6.40E-08	6.40E-07	0	
<b>Notes:</b>				
1. These emission factors are obtained from Ventura County APCD, "AB2588 Combustion Emission Factors" natural gas fired external combustion equipment 10-100 MMBtu/hr, available at <a href="http://www.vcapcd.org/pubs/Engineering/AirToxics/combem.pdf">http://www.vcapcd.org/pubs/Engineering/AirToxics/combem.pdf</a>				
2. Hourly emissions = EF (lb/MMBtu) x 10 (MMBtu/hr)				
3. Annual emissions = EF (lb/MMBtu) x 10 (MMBtu/hr) x 24 (hr/day) x 90 (days/yr)				



N-1399-17 (260 MMBtu/hr natural gas fired boiler)

<b>Substances</b>	<b>Emission Factor (lb/MMBtu)<sup>(1)</sup></b>	<b>Maximum Hourly Emissions (lb/hr)<sup>(2)</sup></b>	<b>Maximum Annual Emissions (lb/yr)<sup>(3)</sup></b>	
Acetaldehyde	9.00E-07	2.34E-04	1	
Acrolein	8.00E-07	2.08E-04	1	
Benzene	1.70E-06	4.42E-04	2	
Ethyl benzene	2.00E-06	5.20E-04	2	
Formaldehyde	3.60E-06	9.36E-04	4	
Hexane	1.30E-06	3.38E-04	1	
Naphthalene	3.00E-07	7.80E-05	0	
PAH's	1.00E-07	2.60E-05	0	
Propylene	1.55E-05	4.04E-03	16	
Toluene	7.80E-06	2.03E-03	8	
Xylenes	5.80E-06	1.51E-03	6	
Notes:				
1. These emission factors are obtained from Ventura County APCD, "AB2588 Combustion Emission Factors" natural gas fired external combustion equipment greater than 100 MMBtu/hr, available at <a href="http://www.vcapcd.org/pubs/Engineering/AirToxics/combem.pdf">http://www.vcapcd.org/pubs/Engineering/AirToxics/combem.pdf</a>				
2. Hourly emissions = EF (lb/MMBtu) x 260 (MMBtu/hr)				
3. Annual emissions = EF (lb/MMBtu) x 1,059,019 (MMBtu/yr)				

N-1399-20 (36 MMBtu/hr natural gas fired boiler)

<b>Substances</b>	<b>Emission Factor (lb/MMBtu)<sup>(1)</sup></b>	<b>Maximum Hourly Emissions (lb/hr)<sup>(2)</sup></b>	<b>Maximum Annual Emissions (lb/yr)<sup>(3)</sup></b>	
Acetaldehyde	3.10E-06	1.12E-04	1	
Acrolein	2.70E-06	9.72E-05	1	
Benzene	5.80E-06	2.09E-04	2	
Ethyl benzene	6.90E-06	2.48E-04	2	
Formaldehyde	1.23E-05	4.43E-04	4	
Hexane	4.60E-06	1.66E-04	2	
Naphthalene	3.00E-07	1.08E-05	0	
PAH's	1.00E-07	3.60E-06	0	
Propylene	5.30E-04	1.91E-02	167	
Toluene	2.65E-05	9.54E-04	8	
Xylenes	6.40E-08	2.30E-06	0	
<b>Notes:</b>				
1. These emission factors are obtained from Ventura County APCD, "AB2588 Combustion Emission Factors" natural gas fired external combustion equipment 10-100 MMBtu/hr, available at <a href="http://www.vcapcd.org/pubs/Engineering/AirToxics/combem.pdf">http://www.vcapcd.org/pubs/Engineering/AirToxics/combem.pdf</a>				
2. Hourly emissions = EF (lb/MMBtu) x 36 (MMBtu/hr)				
3. Annual emissions = EF (lb/MMBtu) x 36 (MMBtu/hr) x 8,760 (hr/yr)				

N-1399-21

(389 bhp diesel-fueled emergency IC engine powering electric generator)

Substances	Emission Factor (lb/MMBtu) <sup>(1)</sup>	Maximum Hourly Emissions (lb/hr) <sup>(2)</sup>	Maximum Annual Emissions (lb/yr) <sup>(3)</sup>		
Acetaldehyde	7.67E-04	2.15E-03	0.1		
Acrolein	9.25E-05	2.59E-04	0.0		
Benzene	9.33E-04	2.61E-03	0.1		
1,3-Butadiene	3.91E-05	1.09E-04	0.0		
Formaldehyde	1.18E-03	3.30E-03	0.2		
Naphthalene	8.48E-05	2.37E-04	0.0		
PAH's	8.32E-05	2.33E-04	0.0		
Propylenede	2.58E-03	7.22E-03	0.4		
Toluene	4.09E-04	1.15E-03	0.1		
Xylenes	2.85E-04	7.98E-04	0.0		
Notes:					
1. The emission are taken from AP-42 Table 3.3-2 (10/96)					
2. Hourly emissions are based on a heat input rate of 2.8 MMBtu/hr (20.6 gal/hr x 0.137 MMBtu/gal)					
3. Annual emissions are based on non-emergency hours of operations (50 hr/yr)					

N-1399-24 (458.5 MMBtu/hr natural gas fired boiler)

<b>Substances</b>	<b>Emission Factor (lb/MMBtu)<sup>(1)</sup></b>	<b>Maximum Hourly Emissions (lb/hr)<sup>(2)</sup></b>	<b>Maximum Annual Emissions (lb/yr)<sup>(3)</sup></b>
Acetaldehyde	9.00E-07	4.13E-04	1.1
Acrolein	8.00E-07	3.67E-04	1
Benzene	1.70E-06	7.79E-04	2.2
Ethyl benzene	2.00E-06	9.17E-04	2.5
Formaldehyde	3.60E-06	1.65E-03	4.6
Hexane	1.30E-06	5.96E-04	1.7
Naphthalene	3.00E-07	1.38E-04	0.4
PAH's	1.00E-07	4.59E-05	0.1
Propylene	1.55E-05	7.12E-03	19.7
Toluene	7.80E-06	3.58E-03	9.9
Xylenes	5.80E-06	2.66E-03	7.4
<b>Notes:</b>			
<p>These emission factors are obtained from Ventura County Air Quality Management District's "Combustion Emission Factors" natural gas fired external combustion equipment greater than 100 MMBtu/hr, available at <a href="http://www.vcapcd.org/pubs/Engineering/AirToxics/combem.pdf">http://www.vcapcd.org/pubs/Engineering/AirToxics/combem.pdf</a></p>			
2. Hourly emissions = EF (lb/MMBtu) x 458.5 (MMBtu/hr)			
3. Annual emissions = EF (lb/MMBtu) x 1,271,700 (MMBtu/yr)			

N-1399-26-2 (Wood Bin/Wood Pallet Manufacturing Operation)

Substances	Emission Factor	Maximum Hourly Emissions (lb/hr) <sup>(1)</sup>	Maximum Annual Emissions (lb/yr) <sup>(1)</sup>
Bromine	--	1.60E-04	1.0
hexavalent (& c	--	3.63E-08	0.0
Copper	--	1.45E-05	0.1
Lead	--	7.25E-07	0.0
Manganese	--	1.45E-05	0.1
Nickel	--	7.25E-07	0.0
Zinc	--	1.45E-05	0.1
<b>Notes:</b>			
1. The hourly and annual emissions are taken from the Prioritization worksheet under project N-1151381			

N-1399-29-2 (Wood Working Operation)

Wood is not treated; therefore, no HAPs are associated with this operation.

N-1399-30-1 (3.5 MW Cogeneration System)

Substances	Emission Factor (lb/MMBtu) <sup>(1)</sup>	Maximum Hourly Emissions (lb/hr) <sup>(2)</sup>	Maximum Annual Emissions (lb/yr) <sup>(3)</sup>		
1,3 Butadiene	4.30E-07	0.0	0.1		
Acetaldehyde	4.00E-05	0.0	8.6		
Acrolein	6.40E-06	0.0	1.4		
Benzene	1.20E-05	0.0	2.6		
Ethyl Benzene	3.20E-05	0.0	6.9		
Formaldehyde	7.10E-04	0.0	152.7		
Naphthalene	1.30E-06	0.0	0.3		
PAH's	2.20E-06	0.0	0.5		
Propylene Oxide	2.90E-05	0.0	6.2		
Toluene	1.30E-04	0.0	28		
Xylenes	6.40E-05	0.0	13.8		
Notes:					
1. The emission factors are derived from table 3.1-3, "Emission Factors for Hazardous Air Pollutants from Natural Gas-Fired Stationary Gas Turbines" in April 2000 AP 42 Chapter 3 Stationary Internal Combustion Sources, Section 3 Stationary Gas Turbines. Assumes 1,000 Btu's per scf natural gas.					
2. Hourly emissions = EF (lb/MMBtu) x 51.7 (MMBtu/hr)					
3. Annual emissions = EF (lb/MMBtu) x [212,539 (MMBtu/yr) steady state + 2,481.6 (MMBtu/yr) startup and shutdown]					

N-1399-31-1 (Gasoline Dispensing Operation)

<b>Substances</b>	<b>Emission Factor (lb-HAP/100 lb-Total VOC)<sup>(1)</sup></b>	<b>Maximum Hourly Emissions (lb/hr)<sup>(2)(4)</sup></b>	<b>Maximum Annual Emissions (lb/yr)<sup>(3)</sup></b>	
Benzene	4.00E-01	8.50E-04	0.7	
Ethyl benzene	1.40E+00	2.98E-03	2.3	
Hexane	1.40E+00	2.98E-03	2.3	
PAH's	5.00E-01	1.06E-03	0.8	
Toluene	1.10E+00	2.34E-03	1.8	
Xylenes	4.00E-01	8.50E-04	0.7	
2,2,4-Trimethylpentane	7.00E-01	1.49E-03	1.2	
<b>Notes:</b>				
1. These emission factors are obtained from Table 4 (Reformulated with Ethanol) of a paper titled "Developing a Consistent Methodology to Calculate VOC and HAP Evaporative Emissions for Stage I and Stage II Operations at Gasoline Service Stations for the 1999 National Emission Inventory" (Draft Version 2.0)				
2. Hourly emissions = EF (lb-HAP/100 lb-VOC) x 5.1 (lb-VOC/day) x 1/24 (day/hr)				
3. Annual emissions = EF (lb-HAP/100 lb-VOC) x 167 (lb-VOC/yr)				
4. Daily and annual VOC emissions are taken from the application review under project N-1183314				
PAH's = Polycyclic organic matter as 16-PAHs				



N-1399-32-0 (1,490 BHP Diesel-fueled Emergency IC Engine)

<b>Substances</b>	<b>Emission Factor (lb/MMBtu)<sup>(1)</sup></b>	<b>Maximum Hourly Emissions</b>	<b>Maximum Annual Emissions</b>		
Acetaldehyde	7.67E-04	7.59E-03	0.4		
Acrolein	9.25E-05	9.16E-04	0.0		
Benzene	9.33E-04	9.24E-03	0.5		
1,3-Butadiene	3.91E-05	3.87E-04	0.0		
Formaldehyde	1.18E-03	1.17E-02	0.6		
Naphthalene	8.48E-05	8.40E-04	0.0		
PAH's	8.32E-05	8.24E-04	0.0		
Propylenede	2.58E-03	2.55E-02	1.3		
Toluene	4.09E-04	4.05E-03	0.2		
Xylenes	2.85E-04	2.82E-03	0.1		
<b>Notes:</b>					
1. The emission are taken from AP-42 Table 3.3-2 (10/96)					
2. Hourly emissions are based on a heat input rate of 9.9 MMBtu/hr (72.2 gal/hr x 0.137 MMBtu/gal)					
3. Annual emissions are based on non-emergency hours of operations (50 hr/yr)					

N-1399-33-0 (1,490 BHP Diesel-fueled Emergency IC Engine)

<b>Substances</b>	<b>Emission Factor (lb/MMBtu)<sup>(1)</sup></b>	<b>Maximum Hourly Emissions</b>	<b>Maximum Annual Emissions</b>		
Acetaldehyde	7.67E-04	7.59E-03	0.4		
Acrolein	9.25E-05	9.16E-04	0.0		
Benzene	9.33E-04	9.24E-03	0.5		
1,3-Butadiene	3.91E-05	3.87E-04	0.0		
Formaldehyde	1.18E-03	1.17E-02	0.6		
Naphthalene	8.48E-05	8.40E-04	0.0		
PAH's	8.32E-05	8.24E-04	0.0		
Propylenede	2.58E-03	2.55E-02	1.3		
Toluene	4.09E-04	4.05E-03	0.2		
Xylenes	2.85E-04	2.82E-03	0.1		
<b>Notes:</b>					
1. The emission are taken from AP-42 Table 3.3-2 (10/96)					
2. Hourly emissions are based on a heat input rate of 9.9 MMBtu/hr (72.2 gal/hr x 0.137 MMBtu/gal)					
3. Annual emissions are based on non-emergency hours of operations (50 hr/yr)					

N-1399-34-0 (Tomato Pomace Drying Operation)

<b>Substances</b>	<b>Emission Factor (lb/MMBtu)<sup>(1)</sup></b>	<b>Maximum Hourly Emissions (lb/hr)<sup>(2)</sup></b>	<b>Maximum Annual Emissions (lb/yr)<sup>(3)</sup></b>	
Acetaldehyde	3.10E-06	1.09E-04	1	
Acrolein	2.70E-06	9.45E-05	0	
Benzene	5.80E-06	2.03E-04	1	
Ethyl benzene	6.90E-06	2.42E-04	1	
Formaldehyde	1.23E-05	4.31E-04	2	
Hexane	4.60E-06	1.61E-04	1	
Naphthalene	3.00E-07	1.05E-05	0	
PAH's	1.00E-07	3.50E-06	0	
Propylene	5.30E-04	1.86E-02	80	
Toluene	2.65E-05	9.28E-04	4	
Xylenes	6.40E-08	2.24E-06	0	
Notes:				
1. These emission factors are obtained from Ventura County APCD, "AB2588 Combustion Emission Factors" natural gas fired external combustion equipment 10-100 MMBtu/hr, available at <a href="http://www.vcapcd.org/pubs/Engineering/AirToxics/combem.pdf">http://www.vcapcd.org/pubs/Engineering/AirToxics/combem.pdf</a>				
2. Hourly emissions = EF (lb/MMBtu) x 35 (MMBtu/hr)				
3. Annual emissions = EF (lb/MMBtu) x 35 (MMBtu/hr) x 4,320 (hr/yr)				

N-1399-37-0 (7.3 MW Cogeneration System)

<b>Substances</b>	<b>Emission Factor (lb/MMBtu)<sup>(1)</sup></b>	<b>Maximum Hourly Emissions (lb/hr)<sup>(2)</sup></b>	<b>Maximum Annual Emissions (lb/yr)<sup>(3)</sup></b>
1,3 Butadiene	4.30E-07	0.0	1
Acetaldehyde	4.00E-05	0.0	97.2
Acrolein	6.40E-06	0.0	15.6
Benzene	1.20E-05	0.0	29.2
Ethyl Benzene	3.20E-05	0.0	77.8
Formaldehyde	7.10E-04	0.2	1725.9
Naphthalene	1.30E-06	0.0	3.2
PAH's	2.20E-06	0.0	5.3
Propylene Oxide	2.90E-05	0.0	70.5
Toluene	1.30E-04	0.0	316
Xylenes	6.40E-05	0.0	155.6

Notes:

1. The emission factors are derived from table 3.1-3, "Emission Factors for Hazardous Air Pollutants from Natural Gas-Fired Stationary Gas Turbines" in April 2000 AP 42 Chapter 3 Stationary Internal Combustion Sources, Section 3 Stationary Gas Turbines. Assumes 1,000 Btu's per scf natural gas.
2. Hourly emissions = EF (lb/MMBtu) x 277.5 (MMBtu/hr) for turbine and duct burner
3. Annual emissions = EF (lb/MMBtu) x 277.5 (MMBtu/hr) x 8,760 (hr/yr)

N-1399-38-0 (19.95 MMBtu/hr Natural Gas-Fired Boiler)

<b>Substances</b>	<b>Emission Factor (lb/MMBtu)<sup>(1)</sup></b>	<b>Maximum Hourly Emissions (lb/hr)<sup>(2)</sup></b>	<b>Maximum Annual Emissions (lb/yr)<sup>(3)</sup></b>	
Acetaldehyde	3.10E-06	6.18E-05	1	
Acrolein	2.70E-06	5.39E-05	1	
Benzene	5.80E-06	1.16E-04	1	
Ethyl benzene	6.90E-06	1.38E-04	1	
Formaldehyde	1.23E-05	2.45E-04	2	
Hexane	4.60E-06	9.18E-05	1	
Naphthalene	3.00E-07	5.99E-06	0	
PAH's	1.00E-07	2.00E-06	0	
Propylene	5.30E-04	1.06E-02	93	
Toluene	2.65E-05	5.29E-04	5	
Xylenes	6.40E-08	1.28E-06	0	
<b>Notes:</b>				
1. These emission factors are obtained from Ventura County APCD, "AB2588 Combustion Emission Factors" natural gas fired external combustion equipment 10-100 MMBtu/hr, available at <a href="http://www.vcapcd.org/pubs/Engineering/AirToxics/combem.pdf">http://www.vcapcd.org/pubs/Engineering/AirToxics/combem.pdf</a>				
2. Hourly emissions = EF (lb/MMBtu) x 19.95 (MMBtu/hr)				
3. Annual emissions = EF (lb/MMBtu) x 19.95 (MMBtu/hr) x 8,760 (hr/yr)				

**Appendix E**  
**Quarterly Net Emissions Change**

### Quarterly Net Emissions Change (QNEC)

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

NO<sub>x</sub>:

For unit covered under the SLC,

$QNEC_{SLC} = PE2_{SLC} - PE1_{SLC}$ , where:

$QNEC_{SLC}$  = Quarterly Net Emissions Change for units covered by the SLC.

$PE2_{SLC}$  = PE2 for all units covered by the SLC.

$PE1_{SLC}$  = PE1 for all units covered by the SLC.

SO<sub>x</sub>, PM<sub>10</sub>, CO and VOC:

$QNEC = PE2 - PE1$ , where:

QNEC = Quarterly Net Emissions Change for each emissions unit, lb/qtr.

PE2 = Post-Project Potential to Emit for each emissions unit, lb/qtr.

PE1 = Pre-Project Potential to Emit for each emissions unit, lb/qtr.

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

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

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

The proposed unit is covered by the SLC for NO<sub>x</sub> emissions.

<b>Quarterly NEC [QNEC]</b>			
<b>Pollutant</b>	<b>PE2 (lb/qtr)</b>	<b>PE1 (lb/qtr)</b>	<b>QNEC (lb/qtr)</b>
NO <sub>x</sub>	0	0	0
SO <sub>x</sub>	124.5	0	124.5
PM <sub>10</sub>	131	0	131
CO	1,616.5	0	1,616.5
VOC	183.5	0	183.5

**Appendix F**  
**Compliance Certification**



September 22, 2020

Mr. Nick Peirce  
San Joaquin Valley Air Pollution Control District  
4800 Enterprise Way  
Modesto CA 95356-8718

Subject: Compliance Statement for Liberty Packing Co. – The Morning Star Co. (Fac. ID: N-1399)

Dear Mr. Peirce:

Liberty Packing is providing the following compliance statement for project number N-1203800 to permit a new 19.95 MMBtu/hr boiler, in accordance with Rule 2201, Section 4.15 “Additional Requirements for New Major Sources and Federal Major Modifications.”

All major stationary sources in California owned or operated by Liberty Packing, or by any entity controlling, controlled by, or under common control with Liberty Packing, and which are subject to emission limitations, are in compliance or on a schedule for compliance with all applicable emission limitations and standards. These sources include one or more of the following facilities:

Facility #1: The Morning Star Packing Company – Los Banos  
13448 Volta Road  
Los Banos, CA 93635

Facility #2: The Morning Star Packing Company – Williams  
2211 Old Highway 99 W.  
Williams, CA 95987

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

Please contact me if you have any questions regarding this certification.

Sincerely,



Wade Ingram, Steam Generating Colleague  
Liberty Packing