



December 21, 2020

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

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
Facility Number: N-1399
Project Number: N-1201405

Dear Mr. Ingram:

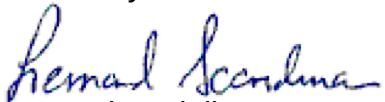
Enclosed for your review is the District's analysis of an application for Authority to Construct for the facility identified above. You requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. The project authorizes installation of a gas turbine.

The notice of preliminary decision for this project has been posted on the District's website (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. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

Thank you for your cooperation in this matter.

Sincerely,



Arnaud Marjollet
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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4800 Enterprise Way
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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 4703 Stationary Gas Turbines (09/20/07)
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 located at 12045 S. Ingomar Grade Rd., Los Banos, California 93635. 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.

A map identifying the facility boundaries and location of the proposed CHP equipment, K-12 school, and nearest business and residential receptors is provided in **Attachment I**.

IV. Process Description

The facility is a seasonal tomato paste processing plant that utilizes boilers to produce steam for the processing of the tomatoes. The facility operates approximately 100 days/year.

Liberty proposes to install one 7.2 MW CHP generation plant consisting of a Solar Turbines Taurus 70 natural gas-fired turbine engine with 87.5 MMBtu/hr dry low-NOx combustor, a cleaver brooks duct burner equipped with 190 MMBtu/hr natural gas-fired low-NOx combustors, an unfired heat recovery steam generator, all served by a selective catalytic reduction with ammonia injection and oxidation catalyst. The purpose of this equipment is to produce electricity and steam for the facility during tomato season.

Please note that the CHP system was purchased from Liberty which was previously permitted under PTO N-238-46-3 (project N-1172961). Emission rates during startup and shutdown are from project N-1172961.

Liberty plans to operate the duct burner intermittently, i.e. only when needed for additional facility steam. The duct burner will not be operated independently of the turbine engine, i.e. the duct burner will only operate simultaneously with the turbine engine. However, the turbine engine may operate without the duct burner.

The facility has requested approval of an 80 hr commissioning period for determining the appropriate ammonia injection rate for maintaining compliance with the NOx 2.5 ppmv @ 15%

O₂ steady state permit limit. Slightly elevated NO_x (up to 9 ppmv @ 15% O₂) and NH₃ emissions are expected during commissioning. The ATC will include the following conditions for commissioning:

During the commissioning period, the operator shall perform expeditious completion of commissioning activities, and shall use good work practice standards to minimize emissions. [District Rule 2201] Y

During commissioning period, use of SCR and oxidation catalyst is required. [District Rule 2201] N

Comment – Applicant has stated that the commissioning period will be performed when the unit is in steady state operation. The SCR and oxidation catalyst will be in operation the entire commissioning period.

Commissioning activities are defined as, but not limited to, all testing, adjustment, tuning, and calibration activities recommended by the equipment manufacturers and the construction contractor to ensure safe and reliable operation of the turbine and SCR control system. [District Rule 2201] N

Commissioning period shall commence when all mechanical, electrical, and control systems are installed and individual system startup has been completed, or when the turbine is first fired, whichever occurs first. The commissioning period shall terminate when the turbine and NO_x emissions control system is available for commercial operation. [District Rule 2201] N

The owner/operator shall minimize the emissions from the turbine to the maximum extent possible during the commissioning period not to exceed 80 hr in total time duration. [District Rule 2201] N

Commissioning period emissions all not exceed any of the following limits: NO_x (as NO₂): 9 ppmv @ 15% O₂; SO_x: 0.595 lb/hr, PM₁₀: 0.4 lb/hr, CO: 1.45 lb/hr and 6.0 ppmvd @ 15% O₂, VOC: 0.4 lb/hr and 2.0 ppmvd @ 15% O₂, and NH₃: 2.5 lb/hr and 10.0 ppmvd @ 15% O₂. NO_x emissions are based on 1-hour rolling averaging period. All other emission limits are based on a 3-hour rolling averaging period. [District Rule 2201] Y

During the commissioning period, permittee shall monitor and record the stack concentration of NO_x, O₂, and CO each minute using a portable emission monitor that meets District specifications. If NO_x concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emission concentration for commissioning, the SCR catalyst unit(s) shall be used as necessary to bring the unit back into compliance. [District Rule 2201] N

Comment - Applicant has stated that there will be no monitoring of NH₃ during commissioning. However, the molar ratio of NH₃ to NO_x will be monitored adjusted to approximately 1.0 to ensure that minimal NH₃ slip occurs. Annual source testing will confirm actual NH₃ emissions for compliance with the 2.5 lb/hr and 10.0 ppmvd @15% O₂.

During the initial commissioning period, acceptable ammonia injection rate(s) shall be determined in accordance with a District Approved commissioning protocol that provide a

reasonable assurance of ongoing compliance with the emissions limitations stated in this permit (with or without the duct burner operating). The permittee shall submit a detailed commissioning protocol for District Approval at least 60 days prior to the commencement of operation. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

If the ammonia injection rate is less than the minimum ammonia injection rate determined during the initial commissioning period, the permittee shall return the ammonia injection rate above the minimum ammonia injection rate established during the commissioning period as soon as possible, but no longer than 1 hours after detection. If the ammonia injection rate is not returned above the minimum ammonia injection rate within 1 hours, the permittee shall notify the District within the following 1 hour and conduct a source test within 60 days of the first exceedance to demonstrate compliance with the applicable emission limits at the reduced ammonia injection rate. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must 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 2201 and 4703] Federally Enforceable Through Title V Permit

The project triggers BACT and is a Federal Major Modification. Offsets and public notice are not required.

V. Equipment Listing

Post-Project Equipment Description:

N-1379-37-0: 7.2 MW COMBINED HEAT AND POWER GENERATION PLANT CONSISTING OF A SOLAR TURBINES TAURUS 70 NATURAL GAS-FIRED TURBINE ENGINE WITH 87.5 MMBTU/HR DRY LOW-NOX COMBUSTOR, A CLEAVER BROOKS DUCT BURNER EQUIPPED WITH 190 MMBTU/HR NATURAL GAS-FIRED LOW-NOX COMBUSTOR, AN UNFIRED HEAT RECOVERY STEAM GENERATOR, ALL SERVED BY A SELECTIVE CATALYTIC REDUCTION WITH AMMONIA INJECTION AND OXIDATION CATALYST

VI. Emission Control Technology Evaluation

Emissions from the proposed dryer include NO_x, CO, VOC, PM₁₀, and SO_x.

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

CHP system details are provided in **Attachment II**.

VII. General Calculations

A. Assumptions

N-1399-37-0

Startup (SU) durations: 1 hr/event, 4 events/day, 4 hr/day, 25 hr/yr.

Shutdown (SD) durations: 0.5 hr/event, 4 events/day, 2 hr/day, 13 hr/yr.

Total startup and shutdown, 6 hr/day, 38 hr/yr

Steady State (SS) duration: 18 hr/day, 8722 hr/yr

Steady state emissions calculations are based on a heat input rating of 277.5 MMBtu/hr

The proposed unit was originally permitted under project N-238, N-1160542. Emissions concentrations and rates of NO_x, SO_x, PM₁₀, CO, and VOC in units of ppmv @ 15% O₂ and lb/hr, lb/yr are based on the source test results for that project.

Commissioning

- The commissioning period will result only in an increase in daily emissions.
- The total commissioning period will not exceed 80 hours.
- NO_x emissions during the commissioning period are not expected to exceed 9 ppmv NO_x @15% O₂, based on a 1-hour rolling average, and will be monitored every minute, with 1-hour rolling average records kept.
- Only ammonia and NO_x emissions are expected to be elevated during commissioning. All other pollutants are expected to meet permit limits as required.
- There will be no monitoring of NH₃ during commissioning. However, the molar ratio of NH₃ to NO_x will be monitored adjusted to approximately 1.0 to ensure that minimal NH₃ slip occurs. Annual source testing will confirm actual NH₃ emissions for compliance with the 2.5 lb/hr and 10.0 ppmvd @15% O₂.

B. Emission Factors

N-1399-37

Gas Turbine

Steady State and Commissioning*

Applicant requested (7/2/20 email) the following steady state lb/hr emissions limits based on a source test done in 2018 which are slightly lower than the lb/MMBtu EF x MMBtu/hr maximum heat input.

Steady State

Pollutant	EF2*	lb/hr**
NO _x	2.5 ppmvd @ 15% O ₂ (0.0092 lb/MMBtu) 9.0 ppm @ 15% O ₂ (0.03312 lb/MMBtu) commissioning	2.0 3.6 commissioning
SO _x		0.595
PM10		0.40
CO	6 ppmvd @ 15% O ₂ (0.0134 lb/MMBtu)	1.45
VOC	2 ppmvd @ 15% O ₂ (0.0026 lb/MMBtu)	0.40
NH3	10 ppmvd @ 15% O ₂	2.50

* ppmvd @ 15% O₂ to lb/MMBtu, District calculator

**7/2/20 applicant email

Maximum heat input rating: 190 MMBtu/hr + 87.5 MMBtu/hr
= 277.5 MMBtu/hr

Startup/Shutdown

Pollutant	Startup PE2 (lb/hr)	Shutdown PE2 (lb/hr)
NO _x	14.56	14.06
SO _x	0.595	0.595
PM10	0.4	0.4
CO	213.76	231.61
VOC	12.39	13.29
NH3	3.14	3.14

C. Calculations

1. Pre-Project Potential to Emit (PE1)

The permit unit is new and therefore PE1 = 0 for all air contaminants.

2. Post-Project Potential to Emit (PE2)

N-1399-37

Startup emissions:

PE2 (lb/day) = PE2 lb/hr × 4 hr/day

PE2 (lb/yr) = PE2 lb/hr × 25 hr/yr

Pollutant	PE2 (lb/hour)	PE2 (lb/day)	PE2 (lb/yr)
NO _x	14.56	58.3	364
SO _x	0.595	2.4	15
PM10	0.4	1.6	10
CO	213.76	855.0	5,344
VOC	12.39	49.5	310
NH3	3.14	12.6	79

Shutdown emissions:

PE2 (lb/day) = PE2 lb/hr × 2 hr/day

PE2 (lb/yr) = PE2 lb/hr × 13 hr/yr

Pollutant	PE2 (lb/hour)	PE2 (lb/day)	PE2 (lb/yr)
NO _x	14.06	28.1	183
SO _x	0.595	1.2	8
PM10	0.4	0.8	5
CO	231.61	463.2	3,011
VOC	13.29	26.6	173
NH3	3.14	6.3	41

Steady state emissions:

$$\text{PE2 (lb/day)} = \text{lb/hr} \times 18 \text{ hr/day}$$

$$\text{PE2 (lb/yr)} = \text{lb/hr} \times 8,722 \text{ hr/yr}$$

Pollutant	EF2	PE2 (lb/hr)	PE2 (lb/day)	PE2 (lb/yr)
NO _x	2.5 ppmvd @ 15% O ₂ (0.0092 lb/MMBtu)	2.0	36.0	17,444
NO _x	9 ppmv @ 15% O ₂ Commissioning	7.2	129.6	17,444
SO _x		0.595*	10.7	5,190
PM10		0.4	7.2	3,489
CO	6 ppmvd @ 15% O ₂ (0.0134 lb/MMBtu)	1.45	26.1	12,647
VOC	2 ppmvd @ 15% O ₂	0.4	7.2	3,489
NH ₃	(0.0026 lb/MMBtu)	2.5	45.0	21,805

* (0.0075 gr S/scf) (scf/0.001 MMBtu)(1 lb S/7000 gr S)(2 lb SO_x/lbS)
x 277.5 MMBtu/hr = 0.595 lb/hr

N-1399-37 (SU, startup, SD shutdown, SS steady state)

Pollutant	Total PE2	
	lb/day	lb/yr
NO _x	129.6 (commissioning)	364 (SU) + 183 (SD) + 17,444 (SS) = 17,991
SO _x	2.4 (SU) + 1.2 (SD) + 10.7 (SS) = 14.3	15 (SU) + 8 (SD) + 5,190 (SS) = 5,213
PM ₁₀	1.6 (SU) + 0.8 (SD) + 7.2 (SS) = 9.6	10 (SU) + 5 (SD) + 3,489 (SS) = 3,504
CO	855.0 (SU) + 463.2 (SD) + 26.1 (SS) = 1,344.3	5,344 (SU) + 3,011 (SD) + 12,647 (SS) 21,002
VOC	49.5 (SU) + 26.6 (SD) + 7.2 (SS) 83.3	310 (SU) + 173 (SD) + 3,489 (SS) = 3,972
NH ₃	12.6 (SU) + 6.3 (SD) + 45 (SS) = 63.9	79 (SU) + 41 (SD) + 21,805 (SS) = 21,925

Emissions profiles are included in **Attachment III**.

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

Project 1200345 (ATC N-1399-34-0, latest project in PAS)

SSPE1 (lb/year)					
	NO_x	SO_x	PM₁₀	CO	VOC
SSPE1 Permit Unit	33,705	12,618	15,296	159,208	12,323
ATC N-1399-34	5,098	377	3,370	21,038	1,555
Total permit units	33,705	12,995	18,666	180,246	13,878
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 _{ERC}	92,606	34,984	3,215	837	241
SSPE1	126,311	47,979	21,881	181,083	14,119

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

SSPE2 (lb/year)					
Permit Unit	NO_x	SO_x	PM₁₀	CO	VOC
SSPE1 Permit Unit	33,705*	12,995	18,666	180,246	13,878
N-1399-37	17,991	5,213	3,504	21,002	3,972
SSPE2 Permit Unit	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	--
ERC Total	92,606	34,984	3,215	837	241
SSPE2	126,311	53,192	25,385	202,085	18,091

*facility 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)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 51.165

Rule 2201 Major Source Determination (lb/year)						
	NO_x	SO_x	PM₁₀	PM_{2.5}	CO	VOC
SSPE1	33,705*	12,995	18,666	18,666	180,246	13,878
SSPE2*	33,705	18,208	22,170	22,170	201,248	17,850
Major Source Threshold	20,000	140,000	140,000	140,000	200,000	20,000
Major Source?	Yes	No	No	No	Yes	No

Note: PM_{2.5} assumed to be equal to PM₁₀

* facility emissions under proposed SLC

As seen in the table above, the facility is an existing Major Source for NO_x and is becoming a Major Source for CO emissions as a result of this project.

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)						
	NO₂	VOC	SO₂	CO	PM	PM₁₀
Estimated Facility PE before Project Increase	16.9	6.9	6.5	90.1	9.3	9.3
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.

As shown in Section VII.C.5 above, the facility is not a Major Source for any pollutant.

The CHP is new and therefore BE = 0 for all pollutants.

This facility is a Major Source for NO_x emissions, and has a facility-wide SLC for NO_x emissions. The following table summarizes if each unit in the SLC qualifies as Clean Emission Unit.

Existing permits units with NO_x emissions that are covered by the existing NO_x SLC are not being modified. However, NO_x baseline emissions for these units are determined below, and utilized in the offset calculations for the proposed new dryer.

In order to determine the BE, pursuant to Rule 3.8 definition of baseline emissions) for the emission units with NO_x emissions covered under the SLC, the following table summarizes if each unit in the SLC qualifies as Clean Emission Unit pursuant to Rule 2201 section 3.8.1.4. Please note that the table below only lists permit units with NO_x emissions.

NOx

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	220 MMBtu natural gas fired boiler	7 ppmv @ 3% O ₂	7 ppmv @ 3% O ₂	Yes
N-1399-5	220 MMBtu natural gas fired boiler	7 ppmv @ 3% O ₂	7 ppmv @ 3% O ₂	Yes
N-1399-11	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	180 MMBtu/hr natural gas fired boiler	7 ppmv @ 3% O ₂	7 ppmv @ 3% O ₂	Yes
N-1399-16	10 MMBtu/hr tomato roaster	Current BACT Guideline 1.6.1 0.073 lb-NOX/MMBtu)	0.0364 lb-NOx/MMBtu	Yes
N-1399-17	263 MMBtu/hr natural gas fired boiler	7 ppmv @ 3% O ₂	5 ppmv @ 3% O ₂	Yes
N-1399-20	36 MMBtu/hr natural gas fired boiler	7 ppmv @ 3% O ₂	7 ppmv @ 3% O ₂	Yes
N-1399-21	389 bhp diesel fueled gen set engine	Tier-3 certification	2.37 g/bhp-hr Tier 3 certified	Yes
N-1399-24	458.5 MMBtu/hr natural gas fired boiler	7 ppmv @ 3% O ₂	5 ppmv @ 3% O ₂	Yes
N-1399-30	3.5 MW Cogen with 51.7 MMBtu/hr gas turbine served by SCR	2.5 ppmv @ 15% O ₂	2.5 ppmv @ 15% O ₂	Yes
N-1399-32, N-1399-33	1492 bhp diesel-fired emergency IC engine	Tier 2 Certified	3.95 g/bhp-hr	Yes

As shown in the table above, all NOx emitting emissions units under the SLC are clean emissions units. As such, pursuant to Rule 2201 section 3.8, the NOx baseline emissions are set equal to the potential to emit for the NOx SLC, i.e. 33,705 lb/year.

Therefore, BE = 33,705 lb-NOx/yr (listed in the SSPE1 table above)

7. SB 288 Major Modification

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

Since this facility is not a major source for SO_x, PM₁₀, or VOCs, this project does not constitute an SB 288 major modification for these air contaminants.

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

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
NO _x	17,991	50,000	No

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

8. Federal Major Modification

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

Since this facility is not a major source for SO_x, PM₁₀, or VOCs, 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:

Emission Increase = PE2

Project Emissions Increase

In conclusion, the 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 _x *	17,991	0	Yes

*If there is any emission increases in NO_x or VOC, this project is a Federal Major Modification and no further analysis is required.

Since there is an increase in NO_x emissions, this project constitutes a Federal Major Modification. Federal Offset quantities are calculated below.

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.

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_x is 1.5 to 1 (due to the District extreme non-attainment status for ozone). Otherwise, the federal offset ratio for PM_{2.5}, PM₁₀, and SO_x is 1.0 to 1.

Federal Offset Quantity (FOQ)

The dryer NO_x emissions will be included in the existing NO_x SLC. AS such, the FOQ will be calculated as shown below.

The following equation is used, as the NO_x SLC is Federally Enforceable

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

For this project, a new ATC condition has been added to ensure that the SLC Condition is Federally Enforceable. AE is for the years 2018 and 2019. Fuel use and emissions

factor information for calculation of the NO_x AE listed in the table below is included in **Attachment IV**.

Actual Emissions:

PERMIT UNIT	DESIGNATION	2018 NO _x AE (lb/yr)	2019 NO _x AE (lb/yr)	Average NO _x AE (lb/yr)
N-1399-4-5	Boiler 3	1050.6	2048.7	1,549.7
'-5	Boiler 4	1991.1	2252.7	2,121.9
'-11	Diesel Fire Pump	15.2	15.2	15.2
'-13	Boiler 2	348.4	2.0	175.2
'-16	Fire Roaster	202.7	365.5	284.1
'-17	Boiler 1	2678.6	1207.3	1,943.0
'-20	Boiler 5	310.6	255.2	282.9
'-21	Diesel Generator	0.5	0.5	0.5
'-24	Boiler 6	2594.3	2216.5	2,405.4
'-30*	Gas Turbine 1	0.0	398.8	398.8
'-32	Backup Generator 1	0.0	0.0	0.0
'-33	Backup Generator 2	0.0	0.0	0.0
ATC '-34	Dryer	0.0	0.0	0.0
TOTAL		9,192	8,762	9,177

Therefore,

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

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.

PSD Major Source Determination: Potential to Emit (tons/year)						
	NO₂	VOC	SO₂	CO	PM	PM₁₀
Total PE from New and Modified Units	9	2	2.6	10.5	1.75	1.75
PSD Major Source threshold	250	250	250	250	250	250
New PSD Major Source?	N	N	N	N	N	N

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 below.

	PE2 (lb/yr)	PE1 (lb/yr)	QNEC (lb/qtr)
NOx	17,991	0	4497.75
SOx	5,213	0	1,303.25
PM10	3,504	0	876
CO	21,002	0	5250.5
VOC	3,972	0	993

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

As seen in Section VII.C.2 above, the applicant is proposing to install a new gas turbine with a PE greater than 2 lb/day for NO_x, SO_x, PM₁₀, CO, and VOC. As the source is becoming major for CO BACT is triggered for NO_x, SO_x, PM₁₀, CO, and VOC. There will be an increase in NO_x emissions greater than 2 lb/day (above steady state emissions during commissioning). There will no increase in emissions of SO_x, CO, PM₁₀ and VOC above steady state emissions for during commissioning.

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

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

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

As discussed in Section I above, there are no modified emissions units associated with this project. Therefore, BACT is not triggered.

d. SB 288/Federal Major Modification

As discussed in Sections VII.C.7 and VII.C.8 above, this project does constitute an SB 288 and/or Federal Major Modification for NO_x emissions. Therefore, BACT is triggered for NO_x for all emissions units in the project for which there is an emission increase.

2. BACT Guideline

BACT Guideline 3.4.3, applies to the gas turbine with heat recovery ≥ 3 MW and < 10 MW. (See **Attachment V**). A project specific BACT analysis is done for the 80 hour commissioning period.

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 **Attachment VI**), BACT has been satisfied with the following:

Steady State

NO_x: 2.5 ppmv @ 15% O₂ based on 3-hour average, SCR or equal
SO_x: PUC regulated natural gas with < 1.0 gr S/100scf
PM₁₀: air inlet cooler, lube oil vent coalescer, and natural gas fuel
CO: 6 ppmv @ 15% O₂ based on 3-hour average (catalytic oxidation or equal)
VOC: 2 ppmv @ 15% O₂ based on 3-hour average (catalytic oxidation or equal)

Commissioning

NO_x: 9 ppmv NO_x @ 3% O₂) – limited SCR catalyst

Operator shall perform expeditious completion of commissioning activities not to exceed 80 cumulative hours during the initial startup of the engine, and shall use good work practice standards to minimize 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 _x	SO _x	PM ₁₀	CO	VOC
SSPE2	126,311	53,192	25,385	202,085	18,091
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	Yes	No	No	Yes	No

2. Quantity of Offsets Required

As seen above, the SSPE2 is greater than the offset thresholds for NO_x and CO only. Therefore, offset calculations will be required for this project.

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

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

Where,

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

BE = Baseline Emissions, (lb/year)

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

DOR = Distance Offset Ratio, determined pursuant to Section 4.8

BE = PE1 for:

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

otherwise,

BE = HAE

The facility is proposing to install a new emissions unit; therefore BE = 0. Also, there is only one emissions unit associated with this project and there are no increases in cargo carrier emissions; therefore offsets can be determined as follows:

NO_x

Permit unit N-1399-37 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:

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

NO_x:

$$\text{PE}_{2\text{SLC}} = 33,705 \text{ lb/year}$$

$$\text{BE}_{\text{SLC}} = 33,705 \text{ lb/year}$$

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

CO

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

$$\text{Offsets Required (lb/year)} = [(\text{SSPE2} - 200,000 + \text{ICCE}) \times \text{DOR}]$$

Where,

SSPE2 = Post-Project Stationary Source Potential to Emit

ROT = Respective Offset Threshold, for the respective pollutant

ICCE = Increase in Cargo Carrier Emissions

DOR = Distance Offset Ratio, determined pursuant to Section 4.8

$$\text{Offsets Required (lb/year)} = [(\text{SSPE2} - \text{Emergency Equipment} - \text{ROT} + \text{ICCE}) \times \text{DOR}]$$

$$\text{SSPE2 CO} = 202,085 \text{ lb/year}$$

$$\text{Offset threshold (CO)} = 200,000 \text{ lb/year}$$

$$\text{ICCE} = 0 \text{ lb/year}$$

Assuming an offset ratio of 1.0:1, the amount of NO_x ERCs that need to be withdrawn is:

$$\begin{aligned} \text{Offsets Required (lb/year)} &= [(202,085 - 200,000 + 0) \times 1.0] \\ &= 2,085 \text{ lb CO/year} \end{aligned}$$

Note that pursuant to District Rule 2201 Section 4.6 Emission offsets shall not be required for the following:

- 4.6.1 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_x, CO, and SO_x. As shown by the AAQA summary (**Attachment VII**) sheet the proposed equipment will not cause a violation of an air quality standard for NO_x, CO, or SO_x.

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 SSIPE 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 is not a new facility, public noticing is not required for this project for New Major Source purposes.

As demonstrated in Sections VII.C.7 and VII.C.8, this project is an SB 288 or Federal Major Modification. Therefore, public noticing for SB 288 or Federal Major Modification purposes is required.

b. PE > 100 lb/day

Applications which include a new emissions unit with a PE greater than 100 pounds
The PE2 for this new unit is compared to the daily PE Public Notice thresholds in the following table:

PE > 100 lb/day Public Notice Thresholds			
Pollutant	PE2 (lb/day)	Public Notice Threshold	Public Notice Triggered?
NO _x	129.6	100 lb/day	Yes
SO _x	14.3	100 lb/day	No
PM ₁₀	9.6	100 lb/day	No
CO	1,344.3	100 lb/day	Yes
VOC	83.3	100 lb/day	No

Therefore, public noticing for PE > 100 lb/day purposes is 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 _x	126,311	126,311	20,000 lb/year	No
SO _x	47,979	53,192	54,750 lb/year	No
PM ₁₀	21,881	25,385	29,200 lb/year	No
CO	181,083	202,085	200,000 lb/year	Yes
VOC	14,119	18,091	20,000 lb/year	No

As demonstrated above, offset thresholds were surpassed for CO with this project; therefore public noticing is 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.

SIPE Public Notice Thresholds					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO _x	126,311	126,311	0	20,000 lb/year	No
SO _x	53,192	47,979	5,213	20,000 lb/year	No
PM ₁₀	25,385	21,881	3,504	20,000 lb/year	No
CO	202,085	181,083	21,002	20,000 lb/year	Yes
VOC	18,091	14,119	3,972	20,000 lb/year	No

As demonstrated above, the SSIPEs for CO was greater than 20,000 lb/year; therefore public noticing for SSIPE purposes is 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, public noticing is required for this project. Therefore, 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:

The startup for the CHP system shall not exceed 1.0 hour/event, 4 events/day and 25 hours/year. [District Rules 2201 and 4703] Y

The total startup emissions from the CHP system shall not exceed any of the following limits: NOx (as NO₂): 14.56 lb/hr, SOx: 0.66 lb/hr, PM₁₀: 2.31 lb/hr, CO: 213.76 lb/hr, and VOC: 12.39 lb/hr. and NH₃: 3.14 lb/hr. [District Rule 2201] Y

The shutdown for the CHP system shall not exceed 0.5 hour/event, 4 events/day and 13 hours/year. [District Rules 2201 and 4703] Y

The total shutdown emissions from the CHP system shall not exceed any of the following limits: NOx (as NO₂): 14.06 lb/hr, SOx: 0.595 lb/hr, PM₁₀: 0.4 lb/hr, CO: 231.61 lb/hr, VOC: 13.29 lb/hr and NH₃: 3.14 lb/hr. [District Rule 2201] Y

Commissioning period emissions all not exceed any of the following limits: NOx (as NO₂): 9 ppmv @ 15% O₂; SOx: 0.595 lb/hr, PM₁₀: 0.4 lb/hr, CO: 1.45 lb/hr and 6.0 ppmvd @ 15% O₂, VOC: 0.4 lb/hr and 2.0 ppmvd @ 15% O₂, and NH₃: 2.5 lb/hr and 10.0 ppmvd @ 15% O₂. All emission limits are based on 1-hour rolling averaging period. [District Rule 2201] Y

Except during startup, shutdown, and commissioning, emissions from the CHP system shall not exceed any of the following limits: NOx (as NO₂): 2.00 lb/hr and 2.5 ppmvd @ 15% O₂, SOx: 0.595 lb/hr, PM₁₀: 0.4 lb/hr, CO: 1.45 lb/hr and 6.0 ppmvd @ 15% O₂, VOC: 0.4 lb/hr and 2.0 ppmvd @ 15% O₂, and NH₃: 2.5 lb/hr and 10.0 ppmvd @ 15% O₂. All emission limits are based on 3-hour rolling averaging period. [District Rules 2201 and 4703 and 40 CFR Part 60.4320(a)] Y

E. Compliance Assurance

1. Source Testing

Therefore, source testing for NO_x, CO, and ammonia will be required within 60 days of initial operation and at least once every 12 months thereafter.

Performance testing to measure the NO_x (ppmvd), CO (ppmvd), VOC (ppmvd), and NH₃ (ppmvd) emissions shall be conducted within 60 days of initial startup. Performance testing conducted under ATC N-1399-30-0 may be substituted to demonstrate compliance with the limits in this permit instead of conducting a separate performance test under this permit. [District Rules 2201, 4102, and 4703 and 40 CFR 60.4340 and 60.4400] N

Performance testing to measure the NO_x (ppmvd), CO (ppmvd), and NH₃ (ppmvd) emissions shall be conducted at least once every twelve months. [District Rules 2201, 4102, and 4703 and 40 CFR 60.4340 and 60.4400] N

2. Monitoring

No monitoring is required to demonstrate compliance with Rule 2201.

District Rule 4703 Section 6.2.1 states

Except for units subject to Section 6.2.3, for turbines with exhaust gas NO_x control devices, the owner or operator shall either install, operate, and maintain continuous emissions monitoring equipment for NO_x and oxygen, as identified in Rule 1080 (Stack Monitoring), or install and maintain APCO-approved alternate monitoring consisting of one or more of the following:

- 6.2.1.1 periodic NO_x emission concentrations,
- 6.2.1.2 turbine exhaust oxygen concentration,
- 6.2.1.3 air-to-fuel ratio,
- 6.2.1.4 flow rate of reducing agents added to turbine exhaust,
- 6.2.1.5 catalyst inlet and exhaust temperature,
- 6.2.1.6 catalyst inlet and exhaust oxygen concentration,

Weekly monitoring for NO_x, CO, and O₂ and periodic catalysts temperature measurements will be required.

Since the turbine will be equipped with a low NO_x burner and SCR, this requirement applies.

3. Recordkeeping

Recordkeeping is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201. The following condition(s) are listed on the permit to operate:

The permittee shall maintain a record of the cumulative 12 month rolling NO_x, CO, VOC, SO_x, PM₁₀, and NH₃ emissions total, in lb/year, from this unit. These records shall be updated at the end of each month. [District Rule 2201] Y

The permittee shall maintain a daily record of the ammonia injection rate and SCR catalyst inlet temperature. [District Rule 2201] Y

The permittee shall maintain a record of heat input rate (excluding heat input rate during startup and shutdown) on a rolling 12 month period. [District Rule 2201] N

A record of the facility-wide NO_x 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]

4. Reporting

The following reporting is required:

If the ammonia injection rate is less than the minimum ammonia injection rate determined during the initial commissioning period, the permittee shall return the ammonia injection rate above the minimum ammonia injection rate established during the commissioning period as soon as possible, but no longer than 1 hour after detection. If the ammonia injection rate is not returned above the minimum ammonia injection rate within 1 hour, the permittee shall notify the District within the following 1 hour and conduct a source test within 60 days of the first exceedance to demonstrate compliance with the applicable emission limits at the reduced ammonia injection rate. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must 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 2201 and 4703] Federally Enforceable Through Title V Permit

If the temperature of the oxidation catalyst is below the minimum temperature specified in the permit, the owner or operator shall adjust CHP system controls to maintain the minimum temperature as soon as possible, but no longer than eight hours after detection. If the oxidation catalyst temperature is not returned above the minimum temperature established during compliance testing within eight hours, the owner or operator shall notify the District within the following one hour and conduct a source test within 60 days of the first exceedance to demonstrate compliance with the applicable emission limits at the reduced oxidation catalyst temperature. In lieu of conducting a source test, the owner or operator may stipulate a violation has occurred, subject to enforcement action. The owner or operator must 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 owner or operator may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2201 and 4703] Y

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 **Attachment VII** of this document for discussion of the AAQA summary sheet which is presented below.

AAQA

Pollutant	Air Quality Standard (State/Federal)				
	1 Hour	3 Hours	8 Hours	24 Hours	Annual
CO	Pass		Pass		
NO _x	Pass				Pass
SO _x	Pass	Pass		Pass	Pass
PM ₁₀				Pass	Pass
PM _{2.5}				Pass	Pass

Notes:

1. Results were taken from the attached AAQA Report.
2. The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2) unless otherwise noted below.
3. Modeled PM₁₀ concentrations were below the District SIL for non-fugitive sources of 5 µg/m³ for the 24-hour average concentration and 1 µg/m³ for the annual concentration.
4. Modeled PM_{2.5} concentrations were below the District SIL for non-fugitive sources of 1.2 µg/m³ for the 24-hour average concentration and 0.2 µg/m³ for the annual concentration.

The proposed location is in an attainment area for NO_x, CO, and SO_x. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for NO_x, CO, or SO_x.

The proposed location is in a non-attainment area for the state's PM₁₀ as well as federal and state PM_{2.5} thresholds. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for PM₁₀ and PM_{2.5}.

G. Compliance Certification

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

H. Alternate Siting Analysis

The current project occurs at an existing facility. The applicant proposes to install a gas turbine with duct burner.

Since the project will provide new equipment 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.”

Minor permit modifications are not Title I modifications as defined in this rule. This project triggers a Federal Major Modification, as a result, the proposed project constitutes a Significant Modification to the Title V Permit. Liberty’s Title V Compliance Certification form is included in **Attachment VIII**.

Rule 4001 New Source Performance Standards

40 CFR Part 60 Subpart KKKK – Standards of Performance for Stationary Combustion Turbines

Introduction

This subpart establishes emission standards and compliance schedules for the control of emissions from stationary combustion turbines that commenced construction, modification or reconstruction after February 18, 2005.

Applicability

§60.4305 Does this subpart apply to my stationary combustion turbine?

- (a) If you are the owner or operator of a stationary combustion turbine with a heat input at peak load equal to or greater than 10.7 gigajoules (10 MMBtu) per hour, based on the higher heating value of the fuel, which commenced construction, modification, or reconstruction after February 18, 2005, your turbine is subject to this subpart. Only heat input to the combustion turbine should be included when determining whether or not this subpart is applicable to your turbine. Any additional heat input to associated heat recovery steam generators (HRSG) or duct burners should not be included when determining your peak heat input. However, this subpart does apply to emissions from any associated HRSG and duct burners.
- (b) Stationary combustion turbines regulated under this subpart are exempt from the requirements of subpart GG of this part. Heat recovery steam generators and duct burners regulated under this subpart are exempted from the requirements of subparts Da, Db, and Dc of this part.

The heat input rate to the proposed gas turbine is 87.5 MMBtu/hr. This turbine is expected to be installed sometime this year. Therefore, this unit is subject to the requirements of this subpart.

Emission Limits

§60.4320 What emission limits must I meet for nitrogen oxides (NO_x)?

- (a) You must meet the emission limits for NO_x specified in Table 1 to this subpart.
- (b) If you have two or more turbines that are connected to a single generator, each turbine must meet the emission limits for NO_x.

Per Table 1 of this subpart, new turbine firing on natural gas with a heat input at peak load between 50 MMBtu/hr and 850 MMBtu/hr, shall meet NO_x emissions limit of 25 ppmvd @ 15% O₂ or 150 ng/J of useful output (1.2 lb/MWh).

Liberty has proposed to achieve 2.5 ppmvd NO_x @ 15% O₂ or less. Therefore, compliance is expected with this section. The following condition(s) will be included in the permit:

Except during startup, shutdown, and commissioning, emissions from the CHP system shall not exceed any of the following limits: NO_x (as NO₂): 2.00 lb/hr and 2.5 ppmvd @ 15% O₂, SO_x: 0.595 lb/hr, PM₁₀: 0.4 lb/hr, CO: 1.45 lb/hr and 6.0 ppmvd @ 15% O₂, VOC: 0.4 lb/hr and 2.0 ppmvd @ 15% O₂, and NH₃: 2.5 lb/hr and 10.0 ppmvd @ 15% O₂. All emission limits are based on 3-hour rolling averaging period. [District Rules 2201 and 4703 and 40 CFR Part 60.4320(a)] Y

§60.4325 What emission limits must I meet for NO_x if my turbine burns both natural gas and distillate oil (or some other combination of fuels)?

The proposed turbine will solely be fired on PUC quality natural gas. Therefore, this section does not apply.

§60.4330 What emission limits must I meet for sulfur dioxide (SO₂)?

(a) If your turbine is located in a continental area, you must comply with either paragraph (a)(1), (a)(2), or (a)(3) of this section. If your turbine is located in Alaska, you do not have to comply with the requirements in paragraph (a) of this section until January 1, 2008.

(1) You must not cause to be discharged into the atmosphere from the subject stationary combustion turbine any gases which contain SO₂ in excess of 110 nanograms per Joule (ng/J) (0.90 pounds per megawatt-hour (lb/MWh)) gross output;

(2) You must not burn in the subject stationary combustion turbine any fuel which contains total potential sulfur emissions in excess of 26 ng SO₂/J (0.060 lb SO₂/MMBtu) heat input. If your turbine simultaneously fires multiple fuels, each fuel must meet this requirement; or

(3) For each stationary combustion turbine burning at least 50 percent biogas on a calendar month basis, as determined based on total heat input, you must not cause to be discharged into the atmosphere from the affected source any gases that contain SO₂ in excess of 65 ng SO₂/J (0.15 lb SO₂/MMBtu) heat input.

Liberty has proposed to use PUC quality natural gas with a sulfur content not exceeding 0.75 grain/ 100 scf or less.

General Compliance Requirements

§60.4333 What are my general requirements for complying with this subpart?

(a) You must operate and maintain your stationary combustion turbine, air pollution control equipment, and monitoring equipment in a manner consistent with good air

pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction.

The following condition will be included in the permit:

- *The owner or operator shall operate and maintain stationary combustion turbine, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction (except during the tuning/commissioning activities, unless the use of control equipment is required for any tuning activity). [40 CFR 60.4333(a)]*
- (b) When an affected unit with heat recovery utilizes a common steam header with one or more combustion turbines, the owner or operator shall either:
- (1) Determine compliance with the applicable NO_x emissions limits by measuring the emissions combined with the emissions from the other unit(s) utilizing the common heat recovery unit; or
 - (2) Develop, demonstrate, and provide information satisfactory to the Administrator on methods for apportioning the combined gross energy output from the heat recovery unit for each of the affected combustion turbines. The Administrator may approve such demonstrated substitute methods for apportioning the combined gross energy output measured at the steam turbine whenever the demonstration ensures accurate estimation of emissions related under this part.

The proposed unit will have its own HRSG and associated equipment including steam header. Therefore, no further discussion is required.

§60.4335 How do I demonstrate compliance for NO_x if I use water or steam injection?
The turbine is equipped with dry low-NO_x burner and an SCR system to reduce NO_x emissions. The system will not utilize water or steam injection technique to reduce NO_x emissions. Therefore, no further discussion is necessary.

§60.4340 How do I demonstrate continuous compliance for NO_x if I do not use water or steam injection?

- (a) If you are not using water or steam injection to control NO_x emissions, you must perform annual performance tests in accordance with §60.4400 to demonstrate continuous compliance. If the NO_x emission result from the performance test is less than or equal to 75 percent of the NO_x emission limit for the turbine, you may reduce the frequency of subsequent performance tests to once every 2 years (no more than 26 calendar months following the previous performance test). If the results of any subsequent performance test exceed 75 percent of the NO_x emission limit for the turbine, you must resume annual performance tests.
- (b) As an alternative, you may install, calibrate, maintain and operate one of the following continuous monitoring systems:

- (1) Continuous emission monitoring as described in §§60.4335(b) and 60.4345, or
- (2) Continuous parameter monitoring as follows:
 - (i) For a diffusion flame turbine without add-on selective catalytic reduction (SCR) controls, you must define parameters indicative of the unit's NO_x formation characteristics, and you must monitor these parameters continuously.
 - (ii) For any lean premix stationary combustion turbine, you must continuously monitor the appropriate parameters to determine whether the unit is operating in low-NO_x mode.
 - (iii) For any turbine that uses SCR to reduce NO_x emissions, you must continuously monitor appropriate parameters to verify the proper operation of the emission controls.
 - (iv) For affected units that are also regulated under part 75 of this chapter, with state approval you can monitor the NO_x emission rate using the methodology in appendix E to part 75 of this chapter, or the low mass emissions methodology in §75.19, the requirements of this paragraph (b) may be met by performing the parametric monitoring described in section 2.3 of part 75 appendix E or in §75.19(c)(1)(iv)(H).

Liberty has proposed to conduct annual performance test to determine NO_x, CO and O₂ concentration using EPA/CARB approved methods. Therefore, compliance is expected with this section.

§60.4345 What are the requirements for the continuous emission monitoring system equipment, if I choose to use this option?

Liberty is not proposing to install NO_x CEMS. Therefore, this section does not apply. Note that Liberty has proposed to conduct annual performance test to demonstrate on-going compliance with this section.

§60.4350 How do I use data from the continuous emission monitoring equipment to identify excess emissions?

This section discusses how CEMS data can be used to identify excess emissions. Liberty is not proposing to install NO_x CEMS. Therefore, no further discussion is necessary.

§60.4355 How do I establish and document a proper parameter monitoring plan?

- (a) The steam or water to fuel ratio or other parameters that are continuously monitored as described in §§60.4335 and 60.4340 must be monitored during the performance test required under §60.8, to establish acceptable values and ranges. You may

supplement the performance test data with engineering analyses, design specifications, manufacturer's recommendations and other relevant information to define the acceptable parametric ranges more precisely. You must develop and keep on-site a parameter monitoring plan which explains the procedures used to document proper operation of the NO_x emission controls. The plan must:

- (1) Include the indicators to be monitored and show there is a significant relationship to emissions and proper operation of the NO_x emission controls,
- (2) Pick ranges (or designated conditions) of the indicators, or describe the process by which such range (or designated condition) will be established,
- (3) Explain the process you will use to make certain that you obtain data that are representative of the emissions or parameters being monitored (such as detector location, installation specification if applicable),
- (4) Describe quality assurance and control practices that are adequate to ensure the continuing validity of the data,
- (5) Describe the frequency of monitoring and the data collection procedures which you will use (e.g., you are using a computerized data acquisition over a number of discrete data points with the average (or maximum value) being used for purposes of determining whether an exceedance has occurred), and
- (6) Submit justification for the proposed elements of the monitoring. If a proposed performance specification differs from manufacturer recommendation, you must explain the reasons for the differences. You must submit the data supporting the justification, but you may refer to generally available sources of information used to support the justification. You may rely on engineering assessments and other data, provided you demonstrate factors which assure compliance or explain why performance testing is unnecessary to establish indicator ranges. When establishing indicator ranges, you may choose to simplify the process by treating the parameters as if they were correlated. Using this assumption, testing can be divided into two cases:
 - (i) All indicators are significant only on one end of range (e.g., for a thermal incinerator controlling volatile organic compounds (VOC) it is only important to insure a minimum temperature, not a maximum). In this case, you may conduct your study so that each parameter is at the significant limit of its range while you conduct your emissions testing. If the emissions tests show that the source is in compliance at the significant limit of each parameter, then as long as each parameter is within its limit, you are presumed to be in compliance.
 - (ii) Some or all indicators are significant on both ends of the range. In this case, you may conduct your study so that each parameter that is significant at both ends of its range assumes its extreme values in all possible combinations of the extreme values (either single or double) of all of the other parameters. For example, if there were only two parameters, A and B, and A had a range of

values while B had only a minimum value, the combinations would be A high with B minimum and A low with B minimum. If both A and B had a range, the combinations would be A high and B high, A low and B low, A high and B low, A low and B high. For the case of four parameters all having a range, there are 16 possible combinations.

Liberty has proposed to monitor oxidation catalyst temperature to satisfy Rule 4703 and this section of the Subpart.

- (b) For affected units that are also subject to part 75 of this chapter and that have state approval to use the low mass emissions methodology in §75.19 or the NO_x emission measurement methodology in appendix E to part 75, you may meet the requirements of this paragraph by developing and keeping on-site (or at a central location for unmanned facilities) a QA plan, as described in §75.19(e)(5) or in section 2.3 of appendix E to part 75 of this chapter and section 1.3.6 of appendix B to part 75 of this chapter.

Liberty has proposed to conduct annual performance test to demonstrate on-going compliance with this section. Therefore, no further discussion is required.

§60.4360 How do I determine the total sulfur content of the turbine's combustion fuel?

The unit will combust exclusively PUC-regulated natural gas and therefore sulfur monitoring of sulfur is unnecessary.

Reporting

§60.4375 What reports must I submit?

- (a) For each affected unit required to continuously monitor parameters or emissions, or to periodically determine the fuel sulfur content under this subpart, you must submit reports of excess emissions and monitor downtime, in accordance with §60.7(c). Excess emissions must be reported for all periods of unit operation, including start-up, shutdown, and malfunction.
- (b) For each affected unit that performs annual performance tests in accordance with §60.4340(a), you must submit a written report of the results of each performance test before the close of business on the 60th day following the completion of the performance test.

Liberty will be required to submit annual performance test reports within 60 days of completing the test. The following condition will be included in the permit:

The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081 and 40 CFR 60.4375(b)]

§60.4380 How are excess emissions and monitor downtime defined for NO_x?

For the purpose of reports required under §60.7(c), periods of excess emissions and monitor downtime that must be reported are defined as follows:

- (c) For turbines required to monitor combustion parameters or parameters that document proper operation of the NO_x emission controls:
 - (1) An excess emission is a 4-hour rolling unit operating hour average in which any monitored parameter does not achieve the target value or is outside the acceptable range defined in the parameter monitoring plan for the unit.
 - (2) A period of monitor downtime is a unit operating hour in which any of the required parametric data are either not recorded or are invalid.

Liberty has chosen to perform annual performance testing rather than conducting operating a continuous monitoring under this subpart. Therefore, no further discussion is necessary.

§60.4385 How are excess emissions and monitoring downtime defined for SO₂?

This section is not relevant as the unit will combust only PUC natural gas gas.

§60.4390 What are my reporting requirements if I operate an emergency combustion turbine or a research and development turbine?

The proposed gas turbine is not an emergency combustion turbine or a research and development turbine. Therefore, this section does not apply.

§60.4395 When must I submit my reports?

All reports required under §60.7(c) must be postmarked by the 30th day following the end of each 6-month period.

§60.7(c) states that each owner or operator required to install a continuous monitoring device shall submit excess emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and-or summary report form (see paragraph (d) of this section) to the Administrator semiannually, except when: more frequent reporting is specifically required by an applicable subpart; or the Administrator, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. All reports shall be postmarked by the 30th day following the end of each six-month period. Written reports of excess emissions shall include the following information:

- (1) The magnitude of excess emissions computed in accordance with §60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.
- (2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of

any malfunction (if known), the corrective action taken or preventative measures adopted.

(3) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

(4) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

Liberty is not required to install a CEMS under this subpart since have proposed to conduct annual performance test under section 60.4340 for periodically monitoring of NO_x, CO and O₂ concentrations. The annual testing reports are required to be submitted within 60-days after completing the performance test. Therefore, no additional reporting is required under this subpart.

Performance Tests

§60.4400 How do I conduct the initial and subsequent performance tests, regarding NO_x?

- (a) You must conduct an initial performance test, as required in §60.8. Subsequent NO_x performance tests shall be conducted on an annual basis (no more than 14 calendar months following the previous performance test).
- (b) The performance test must be done at any load condition within plus or minus 25 percent of 100 percent of peak load. You may perform testing at the highest achievable load point, if at least 75 percent of peak load cannot be achieved in practice. You must conduct three separate test runs for each performance test. The minimum time per run is 20 minutes.

Liberty will be required to source test within 60-days of initial startup, and annually thereafter to be done in accordance with the methods and procedures specified in paragraphs (a)(1) [i.e., measure NO_x concentration using EPA Method 7E or EPA Method 20], (a)(2) [i.e., sampling traverse points are to be selected using EPA Method 20], and (a)(3) [i.e., may test at fewer points than specified in EPA Method 1 or Method 20 provided condition of this section are met). The following conditions will ensure compliance with the requirements of this section:

Source testing to determine compliance with the steady state NO_x, CO, NH₃ (lb/hr and ppmvd @ 15% O₂) and PM₁₀ (lb/hr) shall be conducted within 60-days of initial startup of the turbine and annually thereafter both with the duct burner ON and OFF. [District Rules 2201 and 4703, 40 CFR 60.4400(a)]

The following test methods shall be used: NO_x - EPA Method 7E or 20 or CARB Method 100; CO - EPA Method 10 or 10B or CARB Method 100; VOC - EPA Method 18 or 25; PM₁₀ - EPA Method 5 (front half and back half) or 201 and 202a; ammonia - BAAQMD

ST-1B; and O₂ - EPA Method 3, 3A, or 20 or CARB Method 100. EPA approved alternative test methods as approved by the District may also be used to address the source testing requirements of this permit. [District Rules 1081 and 4703 and 40 CFR 60.4400(a)]

§60.4405 How do I perform the initial performance test if I have chosen to install a NO_x-diluent CEMS?

Liberty has not chosen to install a NO_x diluent CEMS. Therefore, no further discussion is necessary.

§60.4410 How do I establish a valid parameter range if I have chosen to continuously monitor parameters?

If you have chosen to monitor combustion parameters or parameters indicative of proper operation of NO_x emission controls in accordance with §60.4340, the appropriate parameters must be continuously monitored and recorded during each run of the initial performance test, to establish acceptable operating ranges, for purposes of the parameter monitoring plan for the affected unit, as specified in §60.4355.

The applicant has chosen to perform an annual performance test under section 60.4340, rather than establishing continuously monitoring parameters under this section. Therefore, no further discussion is required.

§60.4415 How do I conduct the initial and subsequent performance tests for sulfur?

The unit will combust exclusively PUC-regulated natural gas and therefore performance testing for sulfur is unnecessary.

Compliance is expected with this Subpart.

Rule 4002 National Emission Standards for Hazardous Air Pollutants

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

40 CFR Part 63 Subpart YYYY National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines

§63.6085 Am I subject to this subpart?

You are subject to this subpart if you own or operate a stationary combustion turbine located at a major source of HAP emissions. This facility is not a major source of HAP emissions. Therefore, the requirements of this subpart do not apply.

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 Ringelmann 1 or equivalent to 20% opacity. The following condition will be included in each 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

Section 4.0 prohibits discharge of air contaminants, which could cause injury, detriment, nuisance or annoyance to the public. The following condition will be included in each permit:

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

California Health & Safety Code 41700 - Health Risk Assessment

District Policy APR 1905 - Risk Management Policy for Permitting New and Modified Sources specifies that for an increase in emissions associated with a proposed new source or modification, the District performs 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.

RMR

Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required	Special Permit Requirements
37-0	0.35	0.00	0.00	7.12E-08	No	Yes
Project Totals	0.35	0.00	0.00	7.12E-08		
Facility Totals	>1	0.01	0.01	1.72E-06		

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

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.

In accordance with District policy APR 1905, no further analysis is required, and compliance with District Rule 4102 requirements is expected.

See **Attachment VII**: Health Risk Assessment Summary

To ensure that the human health risks will not exceed District allowable levels, the following requirements shall be included in permit N-1399-37:

The exhaust sack 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 3.0 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. The unit will combust PUC-regulated natural gas and therefore compliance with the rule is expected.

The following condition will be listed on the ATC:

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

Compliance is expected with this Rule.

Rule 4301 Fuel Burning Equipment

Rule 4301 limits air contaminant emissions from fuel burning equipment as defined in the rule. Section 3.1 defines fuel burning equipment as "any furnace, boiler, apparatus,

stack, and all appurtenances thereto, used in the process of burning fuel for the primary purpose of producing heat or power by indirect heat transfer”.

Section 5.0 gives the requirements of the rule.

A person shall not discharge into the atmosphere combustion contaminants exceeding in concentration at the point of discharge, 0.1 grain per cubic foot of gas calculated to 12% of carbon dioxide at dry standard conditions.

A person shall not build, erect, install or expand any non-mobile fuel burning equipment unit unless the discharge into the atmosphere of contaminants will not and does not exceed any one or more of the following rates:

- 200 pound per hour of sulfur compounds, calculated as sulfur dioxide (SO₂)
- 140 pounds per hour of nitrogen oxides, calculated as nitrogen dioxide (NO₂)
- Ten pounds per hour of combustion contaminants as defined in Rule 1020 and derived from the fuel.

District Rule 4301 Limits			
Unit	NO ₂	Total PM	SO ₂
S-1399-37 (lb/hr)	14.56	0.4	0.596
Rule Limit (lb/hr)	140	10	200

The turbine will not exceed the above limits. Compliance is expected.

Rule 4307 Stationary Gas Turbines

Section 2.0 – Applicability

The provisions of this rule apply to all stationary gas turbine systems, which are subject to District permitting requirements, and with ratings equal to or greater than 0.3 megawatt (MW) or a maximum heat input rating of more than 3,000,000 Btu per hour, except as provided in Section 4.0.

The proposed gas turbine is rated at 7.3 MW. Therefore, this unit is subject to the requirements of this rule.

Section 5.0 – Requirements

Section 5.1 list NO_x emission limits including Tier 1, Tier 2 and Tier 3 requirements for various gas turbine systems.

Tier 3 limits are applicable (see table below). The applicant has proposed to achieve 2.5 ppmvd NO_x @ 15% O₂ (or less) during steady state operation. The applicable limit is 5 ppmv NO_x @ 15%. Please refer to the table below.

Applicant has proposed to achieve 9 ppmvd NOx @ 15% O₂ (or less) during the 80 hr commissioning period. The applicable limit is 9 ppmv NOx @ 15%. Please refer to the table below.

Therefore, compliance is expected with this section.

Table 5-3: Tier 3 NOx Compliance Limits

Turbine Classification Rating	NOx Compliance Limit, ppmvd at 15% O ₂	
	Gas Fuel	Liquid Fuel
a) Less than 3 MW.	9	25
b) 3 MW to 10 MW pipeline gas turbine.	8 during steady state and 12 during non-steady state	25
c) 3 MW to 10 MW and permit condition for less than 877 hrs/yr operation and not listed above.	9	25
d) 3 MW to 10 MW and permit condition for 877 hrs/yr operation or greater and not listed above.	5	25

Section 5.2 limits CO emissions to 200 ppmvd @ 15% O₂ for the proposed gas turbine. The applicant has proposed to achieve 6 ppmvd CO @ 15% O₂ (or less). Therefore, compliance is expected with this section.

Section 5.3 states NOx and CO emission limit of this rule shall not apply during transitional operation period provided the operator complies with the applicable requirements in section 5.3.1 and 5.3.2.

Section 5.3.1 states that except as provided in section 5.3.3, the operator shall meet the following conditions:

- The duration of each startup or each shutdown shall not exceed two hours.

- For each bypass transition period, the requirements specified in Section 3.2 shall be met.
- For each primary re-ignition period, the requirements specified in Section 3.20 shall be met.
- Each reduced load period shall not exceed one hour.

The duration of each startup is 1.0 hour/event and each shutdown is 0.5 hour/event. The proposed configuration does not have any bypass stack; therefore, bypass transition period does not apply. The applicant has not requested to explicitly include time duration and NOx or CO concentrations during re-ignition period; therefore, one will not be established. Similarly, no explicit request to establish NOx or CO emissions during reduced load period; therefore, no such period will be established in the permit.

The following condition(s) will be included in permit N-238-46-1:

The startup for the CHP system shall not exceed 1.0 hour/event, 4 events/day and 25 hours/year. [District Rules 2201 and 4703] Y

The shutdown for the CHP system shall not exceed 0.5 hour/event, 4 events/day and 13 hours/year. [District Rules 2201 and 4703] Y

Section 5.3.2 states the emission control system shall be in operation and emissions shall be minimized insofar as technologically feasible during each transitional operation period.

The applicant has proposed to use SCR system and oxidation catalyst during startup and shutdown emissions to minimize NOx and CO emissions. Therefore, compliance is expected with this section.

The following condition(s) will be included in permit N-1399-37-0:

The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown period (except during the tuning/commissioning activities, unless the use of control equipment is required for any tuning activity). [District Rule 4703]

Section 5.4 states for existing facilities, a replacement unit installed for the sole purpose of complying with the requirements of this rule shall be considered to be an emission control technique and may be exempt from the BACT and Offsets requirements of Rule 2201 provided that all other requirements of Rule 2201 are met.

The proposed gas turbine will not replace the existing unit; therefore, this section does not apply.

Section 6.0 – Administrative Requirements

Section 6.1 discusses emission control plan. In general, emission control is required for existing units that are becoming subject to the requirements in the rule.

The proposed gas turbine system is a new emission unit and it is not subject to the emission control plan requirements at this time.

Section 6.2 includes monitoring and recordkeeping requirements.

Section 6.2.1 states that except for units subject to Section 6.2.3, for turbines with exhaust gas NO_x control devices, the owner or operator shall either install, operate, and maintain continuous emissions monitoring equipment for NO_x and oxygen, as identified in Rule 1080 (Stack Monitoring), or install and maintain APCO-approved alternate monitoring consisting of one or more of the following:

- Periodic NO_x emission concentrations,
- Turbine exhaust oxygen concentration,
- Air-to-fuel ratio,
- Flow rate of reducing agents added to turbine exhaust,
- Catalyst inlet and exhaust temperature,
- Catalyst inlet and exhaust oxygen concentration,
- Other operational characteristics (ammonia injection rate)

NO_x:

Liberty will monitor periodic NO_x emission concentrations, catalyst inlet and exhaust temperatures, and ammonia injection rate. The latter will be established during doing the 80 hr commissioning period.

The following condition(s) will be included in permit N-1399-37:

- *Ammonia shall be injected whenever the selective catalytic reduction system catalyst temperature exceeds the minimum ammonia injection temperature recommended by the manufacturer. [District Rule 2201 and 4703] Y*
- *During the initial commissioning period, acceptable ammonia injection rate(s) shall be determined in accordance with a District approved commissioning protocol that provide a reasonable assurance of ongoing compliance with the emissions limitations stated in this permit (with or without the duct burner operating). The permittee shall submit a detailed commissioning protocol for District Approval at least 60 days prior to the commencement of operation. [District Rules 2201 and 4703] Y*
- *If the ammonia injection rate is less than the minimum ammonia injection rate demonstrated during commissioning, the permittee shall return the ammonia injection rate above the minimum ammonia injection rate established during compliance testing as soon as possible, but no longer than 8 hours after detection. If the ammonia injection rate is not returned above the minimum ammonia injection rate established during compliance testing within 8 hours, the permittee shall notify the District within the following 1 hour and conduct a source test within 60 days of*

the first exceedance to demonstrate compliance with the applicable emission limits at the reduced ammonia injection rate. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must 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 2201 and 4703] Y

The oxidation catalyst temperature is required to be monitored and recorded at least once every 15-minute period to obtain an average temperature over an hour period. These readings will be used to determine average temperature on a 3-hour rolling basis. This value is required to be compared with the minimum temperature of 500 deg F while demonstrating compliance with the CO and VOC limits.

The following condition(s) will be included on the ATC:

The oxidation catalyst system shall be equipped with a continuous temperature monitoring system to measure the temperature at the catalyst face. [District Rule 2201] Y

The minimum temperature at the face of the oxidation catalyst shall stay at or above 500 degrees Fahrenheit. [District Rules 2201 and 4703] Y

The owner or operator shall monitor and record temperature (°F) at the face of the oxidation catalyst at least once every 15-minute period. This data shall be used to determine the average temperature of the oxidation catalyst over a 1-hour period. The hourly data shall be averaged over 3-hour period on a rolling basis. The obtained value shall be compared with the compared to the 500 deg. F permit limit to determine compliance with the CO and VOC emission limits in this permit. [District Rules 2201 and 4703] Y

If the temperature of the oxidation catalyst is below the minimum temperature specified in the permit, the owner or operator shall adjust CHP system controls to maintain the minimum temperature as soon as possible, but no longer than eight hours after detection. If the oxidation catalyst temperature is not returned above the minimum temperature established during compliance testing within eight hours, the owner or operator shall notify the District within the following one hour and conduct a source test within 60 days of the first exceedance to demonstrate compliance with the applicable emission limits at the reduced oxidation catalyst temperature. In lieu of conducting a source test, the owner or operator may stipulate a violation has occurred, subject to enforcement action. The owner or operator must 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 owner or operator may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2201 and 4703] Y

NO_x, CO and NH₃:

The following condition(s) will be included on the ATC:

- *NO_x (as NO₂), CO, and O₂ emission readings shall be taken with the unit operating at conditions representative of normal operation or under the conditions specified in the Permit to Operate. The NO_x, CO and O₂ analyzer 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 and 4703]*
- *The permittee shall monitor and record the stack concentration of NO_x (as NO₂), CO, and O₂ weekly. If compliance with the NO_x and CO emissions is demonstrated for eight (8) consecutive weeks, then the monitoring frequency will be reduced to monthly. If deviations are observed in two consecutive months, monitoring shall revert to weekly until 8 consecutive weeks show no deviations. 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 one (1) day of restarting the unit unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the week if on a weekly monitoring schedule. [District Rules 2201 and 4703 and 40 CFR 60.4415] Y*
- *If the NO_x and/or CO concentrations, as measured by the permittee with a portable analyzer, exceed the permitted emission limits, the permittee shall notify the District and return the NO_x and CO concentrations to the permitted emission limits as soon as possible but no longer than eight (8) hours after detection. If the permittee's portable analyzer readings continue to exceed the permitted emissions limits after eight (8) hours, the permittee shall notify the District within the following one (1) hour, and conduct a certified source test within 60 days to demonstrate compliance with the permitted emissions limits. In lieu of conducting a source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must 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 and 4703 and 40 CFR 60.4415] Y*

Section 6.2.2 states that except for units subject to Section 6.2.3, for turbines without exhaust-gas NO_x control devices and without continuous emissions monitoring equipment, the owner or operator shall monitor operational characteristics recommended by the turbine manufacturer or emission control system supplier, and approved by the APCO.

The proposed gas turbine is equipped with an SCR system and oxidation catalyst. Therefore, this section does not apply.

Section 6.2.3 states that for units 10 MW and greater that operated an average of more than 4,000 hours per year over the last three years before August 18, 1994, the owner or operator shall monitor the exhaust gas NOx emissions. The NOx monitoring system shall meet EPA requirements as specified in 40 CFR Part 60 App. B, Spec. 2, 40 CFR Part 60 App. F, and 40 CFR Part 60.7 (c), 60.7 (d), and 60.13, or other systems that are acceptable to the EPA. The owner or operator shall submit to the APCO information demonstrating that the emission monitoring system has data gathering and retrieval capability.

The proposed gas turbine system is rated at 7.3 MW. Therefore, this section does not apply.

Section 6.2.4 states that the owner or operator shall maintain all records for a period of five years from the date of data entry and shall make such records available to the APCO upon request. The following condition(s) will be included on the ATC:

- *The owner or operator shall maintain all records of required monitoring data and support information for a period of five years from the date of data entry and shall make such records available to the District upon request. [District Rules 1070, 2201 and 4703]*

Section 6.2.5 states that the owner or operator shall submit to the APCO, before issuance of the Permit to Operate, information correlating the control system operating parameters to the associated measured NOx output. This information may be used by the APCO to determine compliance when there is no continuous emission monitoring system for NOx available or when the continuous emission monitoring system is not operating properly.

The applicant has proposed to determine minimum ammonia injection rate while demonstrating compliance with NOx emissions. Therefore, compliance is expected with this section. Note that Liberty is not proposing CEMS system for the proposed gas turbine system.

Section 6.2.6 states that the owner or operator shall maintain a stationary gas turbine system operating log that includes, on a daily basis, the actual local start-up time and stop time, length and reason for reduced load periods, total hours of operation, type and quantity of fuel used (liquid/gas).

Section 6.2.7 states that the owner or operator shall maintain a stationary gas turbine system operating log for units exempt under Section 4.2 that includes, on a daily basis, the actual local start-up time and stop time, total hours of operation, and cumulative hours of operation to date for the calendar year.

Section 6.2.8 states that the operator performing start-up or shutdown of a unit shall keep records of the duration of start-up or shutdown. The following condition(s) will be included in permit N-238-46-1:

- *The owner or operator shall maintain a stationary gas turbine system operating log that includes, on a daily basis, the actual local startup and stop time, length and reason for reduced load periods, total hours of operation, the type and quantity of fuel used, duration of start-up, and duration of shutdown. [District Rule 4703]*

Section 6.2.9 applies to units greater than 10 MW, simple cycle, and permit condition for no greater than 200 hr/yr operation unless Cal ISO declare stage 1, 2 or 3 emergency, or a transmission emergency, or TID declared alert level 1, 2 or 3 energy emergency.

The proposed gas turbine is rated at 7.3 MW and is not limited to 200 hr/yr of operation. Therefore, this turbine is not subject to the requirements of this section.

Section 6.2.10 requires that the operator of a unit subject to Section 6.5.2 (a public service unit operating during state of emergency) shall identify in the stationary gas turbine system operating log the date and start time and end time that the unit was operated pursuant to Section 6.5.2 and keep a copy of the emergency declaration.

The proposed gas turbine will be supply electric needs for the facility and will not be operated as public service unit. Therefore, no further discussion is necessary.

Section 6.2.11 states that the operator of a unit shall keep records of the date, time and duration of each bypass transition period and each primary re-ignition period.

The proposed gas turbine will not have intermediate bypass exhaust between the gas turbine system and HRSG. Further, no separate primary re-ignition periods are being established. Therefore, no records are required under this section.

Section 6.2.12 states that the operator of a unit subject to subsection (b) of Table 5-3 (i.e., 3 MW to 10 MW pipeline gas turbine) shall keep records of the date, time and duration of each steady state period and non-steady state period and the quantity of fuel used during each period.

The proposed gas turbine system is not used to transport gases or liquids in a pipeline. Therefore, no further discussion is necessary.

Section 6.3.1 states that the owner or operator of any stationary gas turbine systems subject to the provisions of Section 5.0 of this rule shall provide source test information annually regarding the exhaust gas NO_x and CO concentrations, and, if used as a basis for Tier 1 emission limit calculations, the demonstrated percent efficiency (EFF) of the stationary gas turbine, or, for turbines complying with Section 5.1.2.2 or Section 5.1.3.2, the control efficiency of the emission control device.

Liberty will be required to perform a source test on an annual basis to verify compliance with NO_x and CO emission limit.

Section 6.3.2 states that the owner or operator of any stationary gas turbine system operating less than 877 hours per year shall provide source test information biennially regarding the exhaust gas NO_x concentrations at standard conditions and if used as a basis

for Tier 1 emission limit calculations, the percent efficiency (EFF) of the stationary gas turbine.

The proposed turbine system will be operated more than 877 hours per year. Therefore, no further discussion is necessary.

Section 6.3.3 requires that the owner or operator of any unit with an intermittently operated auxiliary burner shall demonstrate compliance with the auxiliary burner both on and off. The following condition(s) will be included in permit N-238-46-1:

- *Source testing to determine compliance with the steady state NO_x, CO, NH₃ (lb/hr and ppmvd @ 15% O₂) and PM₁₀ (lb/hr) shall be conducted within 60-days of initial startup of the turbine and annually thereafter both with the duct burner ON and OFF. [District Rules 2201 and 4703, 40 CFR 60.4400(a)]*

Section 6.4 lists various test methods for measuring NO_x, CO, O₂, HHV and LHV. The following condition(s) will be included:

- *NO_x emissions (referenced as NO₂) shall be determined using EPA Method 7E or EPA Method 20. The test results shall be corrected to ISO standard conditions as defined in 40 CFR 60.4400. [District Rules 1081, 2201, and 4703 and 40 CFR 60.4400] Y*
- *VOC emissions (referenced as methane) shall be determined using EPA Method 18 or EPA Method 25. [District Rules 1081 and 2201] Y*
- *CO emissions shall be determined using EPA Method 10 or EPA Method 10B. [District Rule 1081, 2201, and 4703] Y*
- *Ammonia (NH₃) emissions shall be determined using BAAQMD Method ST-1B. [District Rules 1081, 2201, and 4102] Y*
- *The oxygen content of the exhaust gas shall be determined by using EPA Method 3, EPA Method 3A, or EPA Method 20. [District Rules 1081, 2201, and 4703] Y*

Section 7.0 – Compliance Schedule

This section list compliance dates for units subject to Tier 1, Tier2 or Tier 3 NO_x limits. The proposed new gas turbine system is expected to operate in compliance after its installation.

Compliance is expected with this rule.

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 (SO₂) at

the point of discharge on a dry basis averaged over 15 consecutive minutes. The unit will combust only PUC-regulates natural gas with a sulfur content not exceeding 0.75 gr-S/100 scf.

Compliance with this Rule is expected.

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

District is a Lead Agency & GHG emissions increases are from the combustion of fossil fuel other than jet fuels

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 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 S-1399-37-0 subject to the permit conditions on the attached draft ATC in **Attachment VIII**.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
N-1399-37-0	3020-02-H	277.5 MMBtu/hr	\$ 1238.00

Attachments

- I: Location Map
- II: Manufacturer's Details
- III: Emissions Profiles
- IV: Baseline Emissions Information
- V: BACT Guideline
- VI: BACT Analysis
- VII: Title V Compliance Certification Form and Statewide Compliance Statement
- VIII: Draft ATC

ATTACHMENT I

Location Map

Figure 1. Equipment Location Map



ATTACHMENT II

Manufacturer's Details



INGREDION Incorporated for
Heat Recovery Steam Generator
Project #: 21220138822

18.0 EXHIBIT 6: PERFORMANCE GUARANTEES

Cleaver-Brooks offers the following performance guarantees specific to this project:

Unfired Performance

	Guaranteed	Nominal	
Steam Flow:	31,800	32,537	lb/hr
Steam Pressure:	150	150	psig at outlet of non-return valve
Steam Temperature:	Saturated	Saturated	at outlet of non-return valve
Steam Quality:	99.97%	99.97%	dry steam

Fired Performance

	Guaranteed	Nominal	
Steam Flow:	165,000	165,000	lb/hr
Steam Pressure:	150	150	psig at outlet of non-return valve
Steam Temperature:	Saturated	Saturated	at outlet of non-return valve
Steam Quality:	99.97%	99.97%	dry steam
Duct Burner Heat Input (LHV):	143.5	140.6	mmBtu/hr
System Draft Loss:	≤ 10	9.0	InH ₂ O

STACK EMISSIONS

NO _x	2.5	ppm _{vd} @ 15% O ₂
CO	6	ppm _{vd} @ 15% O ₂
VOC*	2	ppm _{vd} @ 15% O ₂
NH ₃	10	ppm _{vd} @ 15% O ₂

- The above guarantees are based on the turbine performance and boiler feedwater temperature as listed in the table below. The nominal performance is based on the predicted performance.

Turbine Performance at 59°F

Exhaust Flowrate:	188,791	lb/hr
Exhaust Temperature:	951	°F
Exhaust Analysis:		
N ₂ :	74.80	% vol. (wet)
Ar:	0.89	% vol. (wet)
O ₂ :	14.13	% vol. (wet)
CO ₂ :	3.04	% vol. (wet)
H ₂ O:	7.14	% vol. (wet)
SO ₂ :	0	ppm _{vd} @ 15% O ₂
NO _x :	15	ppm _{vd} @ 15% O ₂
CO:	25	ppm _{vd} @ 15% O ₂
VOC*:	5	ppm _{vd} @ 15% O ₂
Boiler Feedwater Temp.:	180	°F



INGREDION Incorporated for
Heat Recovery Steam Generator
Project #: 21220138822

Continuous Blowdown: 2%

- Boiler water and feed water quality shall be per the ASME water quality limits for the appropriate drum operating pressure as listed in this proposal.
- Emission and capacity guarantees are specific to the fuel analysis listed in this proposal. Performance with any other fuel composition that will result in more than 1% Oxygen content variation in flue gas needs to be evaluated.
- *VOCs defined as non-methane, non-ethane hydrocarbons, 20% saturated.

We are offering the above guarantees. All other data contained in this proposal is predicted only and will be finalized at time of engineering submittal after receipt of award. Guarantees are based on the unit being operated per the requirements of the operation and maintenance manual. Guarantee points are also based on the unit operating at 100% MCR, unless otherwise stated. It is the Buyer's responsibility to have the equipment tested during the stated warranty period. If equipment passes such tests or the tests are not performed before the end of the warranty period, it will be assumed that the equipment is accepted. The cost of all tests is the responsibility of the Buyer.

ATTACHMENT III Emissions Profile

 NORTHNT1 PAS - [View Application Emissions: N-1399-37-0]

 File Actions Window

Permit #: N 1399-37 -0

Issued: //
Implemented: //

Last Updated

10/12/20 EDGEHILR

Facility: LIBERTY PACKING CO - THE MORNING ST,

☐ Use PTO
emissions

Equipment
Prebaselined: ☐ Yes
☐ No

PM2.5/PM10 %

PM2.5 (lb/Yr)

NOX

SOX

PM10

CO

VOC

Potential to Emit (lb/Yr):

17991

5213

3504

21002

3972

Daily Emis. Limit (lb/Day):

129.6

14.3

9.6

1344.3

83.3

Quarterly Net Emissions
Change (lb/Qtr)

1:

4497

1303

876

5250

993

2:

4498

1303

876

5250

993

3:

4498

1303

876

5251

993

4:

4498

1304

876

5251

993

Check if offsets are triggered
but exemption applies

☐

☐

☐

☐

☐

Offset Ratio:

1:

Quarterly Offset
Amounts (lb/Qtr)

2:

3:

4:

SLC ID (PTE):

SLC ID (DEL):

Facility SLC

Exit

ATTACHMENT IV Baseline Emissions Information

Liberty Packing Company Baseline Actual Emissions

PERMIT UNIT	DESIGNATION	2018 Fuel Flow (MMBTU/YR)	2018 NOx EF (lb/MMBTU)	2019 Fuel Flow (MMBTU/YR)	2019 NOx EF (lb/MMBTU)	EF Source**
N-1399- 4-5	Boiler 3	177,409	0.0059	295,461	0.0069	AEMS
-5	Boiler 4	310,250	0.0064	309,821	0.0073	AEMS
-11	Diesel Fire Pump	60 gallons	0.2536***	60 gallons	0.2536***	AEIR
-13	Boiler 2	56,095	0.0062	3,098	0.0065	AEMS
-16	Fire Roaster	5,570	0.0364	10,040	0.0364	AEIR
-17	Boiler 1	345,162	0.0078	158,801	0.0076	PEMS
-20	Boiler 5	38,824	0.0080	31,905	0.0080	PTO
-21	Diesel Generator	7 gallons	0.0994***	7 gallons	0.0994***	AEIR
-24	Boiler 6	663,728	0.0039	614,960	0.0036	PEMS
-30*	Gas Turbine 1	0	0	63,827	0.0063	AEIR
-32	Backup Generator 1	-----		-----		DNO
-33	Backup Generator 2	-----		-----		DNO

* Gas Turbine first started in 2019, therefore 2018 is not averaged.

**AEMS, Alternative Monitoring System

***lbs/gal per required SJVAPCD Reporting

AEIR, SJVAPCD Annual Emission Inventory Report

PEMS, Predictive Emission Monitoring System

DNO, did not operate

NOTES

1. The AEMS (-4, -5, -13) uses baseline values at 5 different loads per the requirements of the EPA protocol. These baseline values are measured annually in the EPA-required AEMS test. With the annual testing, the emissions will at times vary year to year due to changes in several factors, such as transmitter drift, wear of firing components, etc. The fuel flow, NO_x, CO and O₂ are averaged on an hourly basis. Every 5 seconds, the NO_x and CO are determined as a result of the AEMS operation and used in the hourly averaging. Per requirements, these hourly averages are then used to create a daily average and total. Since the emissions factors are load variable, and since the loads on each boiler vary throughout the day, the emissions factors will vary hour to hour and day-to-day.
2. The PEMS (-17, -24) calculates mass emissions hourly based on variations in firing parameters. Every 5 seconds, the NO_x and CO are determined as a result of the PEMS operation and used in the hourly averaging. Per requirements, these hourly averages are then used to create a daily average and total. Since the emissions factors are load variable, and since the loads on each boiler vary throughout the day, the emissions factors will vary hour to hour and day-to-day.
3. Boiler 5 (-20) was not required to have a PEMS or an AEMS due to its small size, therefore the permit limit was used as an emission factor for emission totals/tracking.
4. The diesel engines (-11, -21) are required to be reported annually in gallons on the SJVAPCD annual emission inventory form. The emission factor listed in the attached table is in lbs/gal as determined by the SJVAPCD and supplied in the annual inventory form.
5. The gas turbine (-30) emission factor listed in the attached table is determined by the SJVAPCD and supplied in the annual inventory form.
6. The Fire Roaster (-16) used the emission factor from the annual inventory form supplied by the District.

ATTACHMENT V

BACT Guideline

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 3.4.3*

Last Update: 1/18/2005

Gas Turbine with Heat Recovery (= > 3 MW and = < 10 MW)

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
VOC	2.0 ppmv @ 15% O ₂ , based on a three-hour average (catalytic oxidation or equal)		
SOx	PUC-regulated natural gas, LPG, or non-PUC-regulated natural gas with < 0.75 grains/S/100 dscf, or equal		
PM10	air inlet cooler, lube oil vent coalescer, and natural gas fuel		
NOx	2.5 ppmv @ 15% O ₂ , based on a three-hour average (selective catalytic reduction or equal)		
CO	6.0 ppmv @ 15% O ₂ , based on a three-hour average (catalytic oxidation or equal)		

BACT is the most stringent control technique for the emissions unit and class of source. Control techniques that are not achieved in practice or contained in a State Implementation Plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is required for all determinations that are not achieved in practice or contained in an EPA approved State Implementation Plan.

***This is a Summary Page for this Class of Source**

ATTACHMENT VI BACT Analysis

NOx Emissions

Steady State Operation

Step 1 – Identify All Control Technologies

BACT Guideline 3.4.3 lists an emissions limit of 2.5 ppmv NOx @ 15% O₂ based on 3-hr average and SCR or equal as Achieved-in-Practice BACT.

Step 2 – Eliminate Technologically Infeasible Options

The control technology from Step 1 are technologically feasible.

Step 3 – Rank Remaining Control Technologies by Control Effectiveness

2.5 ppmv NOx @ 15% O₂ with SCR or equal

Step 4 – Cost Effectiveness Analysis

The applicant is proposing the most stringent control technology from Step 3, above. Therefore, no cost-effectiveness analysis is required.

Step 5 – Select BACT

BACT is an emission limit of 2.5 ppmv NOx @ 15% O₂, using SCR.

Commissioning

The facility has request approval of an 80 hr commissioning period for determining the appropriate ammonia injection rate for maintaining compliance with the NOx 2.5 ppmv @ 15% O₂ steady state permit limit. Slightly elevated NOx (up to 9 ppmv @ 15% O₂) and NH₃ emissions are expected for up to 20 hr during commissioning. The ATC will include the following conditions for commissioning:

Step 1 – Identify All Control Technologies

9 ppmv NOx @ 3% O₂) – limited SCR catalyst

Operator shall perform expeditious completion of commissioning activities not to exceed 40 cumulative hours during the initial startup of the engine, and shall use good work practice standards to minimize emissions.

Step 2 – Eliminate Technologically Infeasible Options

The control technologies from Step 1 are technologically feasible.

Step 3 – Rank Remaining Control Technologies by Control Effectiveness

9 ppmv NO_x @ 3% O₂) – limited SCR catalyst

Operator shall perform expeditious completion of commissioning activities not to exceed 40 cumulative hours during the initial startup of the engine, and shall use good work practice standards to minimize emissions.

Step 4 – Cost Effectiveness Analysis

The applicant is proposing the most stringent control technology from Step 3, above. Therefore no cost-effectiveness analysis is required.

Step 5 – Select BACT

9 ppmv NO_x @ 3% O₂) – limited SCR catalyst

Operator shall perform expeditious completion of commissioning activities not to exceed 80 cumulative hours during the initial startup of the engine, and shall use good work practice standards to minimize emissions.

SO_x Emissions

Step 1 – Identify All Control Technologies

PUC regulated natural gas with < 1.0 gr S/100scf

Step 2 – Eliminate Technologically Infeasible Options

The control technologies from Step 1 are technologically feasible.

Step 3 – Rank Remaining Control Technologies by Control Effectiveness

PUC regulated natural gas with < 1.0 gr S/100scf

Step 4 – Cost Effectiveness Analysis

The applicant is proposing the most stringent control technology from Step 3, above. Therefore no cost-effectiveness analysis is required.

Step 5 – Select BACT

PUC regulated natural gas with < 1.0 gr S/100scf

PM10 Emissions

No increase in PM10 emission is expected during commissioning

Step 1 – Identify All Control Technologies

Air inlet cooler, lube oil vet coalescer, natural gas fuel as Achieved-in-Practice BACT.

Step 2 – Eliminate Technologically Infeasible Options

The control technologies from Step 1 are technologically feasible.

Step 3 – Rank Remaining Control Technologies by Control Effectiveness

Air inlet cooler, lube oil vet coalescer, natural gas fuel

Step 4 – Cost Effectiveness Analysis

The applicant is proposing the most stringent control technology from Step 3, above. Therefore no cost-effectiveness analysis is required.

Step 5 – Select BACT

BACT for the engines is air inlet cooler, lube oil vet coalescer, natural gas fuel

CO Emissions

No increase in CO emissions is expected during commissioning

Steady State

Step 1 – Identify All Control Technologies

6.0 ppmv CO @ 15% O₂ with catalytic oxidation or equal as Achieved-in-Practice BACT.

Step 2 – Eliminate Technologically Infeasible Options

All options are technologically feasible and none will be eliminated.

Step 3 – Rank Remaining Control Technologies by Control Effectiveness

6.0 ppmv CO @ 15% O₂ with catalytic oxidation or equal

Step 4 – Cost Effectiveness Analysis

The applicant is proposing the most stringent control technology from Step 3, above. Therefore no cost-effectiveness analysis is required.

Step 5 – Select BACT

6.0 ppmv CO @ 15% O₂ with catalytic oxidation or equal

VOC Emissions

No increase in VOC emission is expected during commissioning.

Step 1 – Identify All Control Technologies

2.0 ppmv VOC @ 15% O₂ with catalytic oxidation or equal as Achieved-in-Practice BACT.

Step 2 – Eliminate Technologically Infeasible Options

There are no technologically infeasible options listed.

Step 3 – Rank Remaining Control Technologies by Control Effectiveness

2.0 ppmv VOC @ 15% O₂ with catalytic oxidation or equal

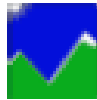
Step 4 – Cost Effectiveness Analysis

The applicant is proposing the most stringent control technology from Step 3, above. Therefore no cost-effectiveness analysis is required.

Step 5 – Select BACT

2.0 ppmv VOC @ 15% O₂ with catalytic oxidation or equal

ATTACHMENT VII
Title V Compliance Certification Form
Statewide Compliance Statement



San Joaquin Valley Air Pollution Control District



TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

☐ ADMINISTRATIVE AMENDMENT ☐ MINOR MODIFICATION ☒ SIGNIFICANT MODIFICATION

COMPANY NAME: Liberty Packing Co. -The Morning Star Co.		FACILITY ID: N-1399
1. Type of Organization: ☐ Corporation ☒ Sole Ownership ☐ Government ☐ Partnership ☐ Utility		
2. Owner's Name: Chris Rufer		
3. Agent to the Owner: Wade Ingram		

II. COMPLIANCE CERTIFICATION (Read each statement carefully and initial applicable circles for confirmation):

- WR* ☒ Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s).
- WR* ☒ Based on information and belief formed after reasonable inquiry, the equipment identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.
- WR* ☐ Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.
- WR* ☐ Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true, accurate, and complete.
- WR* ☐ For minor modifications, this application meets the criteria for use of minor permit modification procedures pursuant to District Rule 2520.

I declare, under penalty of perjury under the laws of the state of California, that the foregoing is correct and true:

Wade Ingram
Signature of Responsible Official

04/07/2020
Date

Wade Ingram
Name of Responsible Official (please print)

Steam Generating Colleague
Title of Responsible Official (please print)

May 14, 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-1201405 to permit a combined heat and power generation plant, 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,

A handwritten signature in black ink, appearing to read "Wade Ingram", with a long horizontal flourish extending to the right.

Wade Ingram, Steam Generating Colleague
Liberty Packing

ATTACHMENT VIII
HRA

San Joaquin Valley Air Pollution Control District Risk Management Review and Ambient Air Quality Analysis

To: Richard Egdehill – Permit Services
From: Keanu Morin – Technical Services
Date: May 29, 2020
Facility Name: Liberty Packing Co - The Morning Star Co
Location: 12045 S Ingomar Grade Rd. Los Banos, CA
Application #(s): N-1399-37-0
Project #: N-1201405

1. Summary

1.1 RMR

Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required	Special Permit Requirements
37-0	0.35	0.00	0.00	7.12E-08	No	Yes
Project Totals	0.35	0.00	0.00	7.12E-08		
Facility Totals	>1	0.01	0.01	1.72E-06		

1.2 AAQA

Pollutant	Air Quality Standard (State/Federal)				
	1 Hour	3 Hours	8 Hours	24 Hours	Annual
CO	Pass		Pass		
NO _x	Pass				Pass
SO _x	Pass	Pass		Pass	Pass
PM10				Pass	Pass
PM2.5				Pass	Pass

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/m³ for the 24-hour average concentration and 1 µg/m³ for the annual concentration.
- Modeled PM2.5 concentrations were below the District SIL for non-fugitive sources of 1.2 µg/m³ for the 24-hour average concentration and 0.2 µg/m³ 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 # 37-0

- 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 May 14, 2020 to perform a Risk Management Review (RMR) and Ambient Air Quality Analysis (AAQA) for the following:

- Unit -37-0: Liberty Packing Company has proposed to install a 7.2 MW Combined Heat & Power (CHP) generation plant consisting of a 87.5 MMBtu/hr Solar Taurus 70 natural gas-fired turbine with dry low-NOx combustor, a 190 MMBtu/hr natural gas-fired Cleaver Brooks duct burner, and an unfired heat recovery steam generator, all served by a selective catalytic reduction (SCR) with ammonia injection and oxidation catalyst 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 Natural Gas Fired Tubrine emission factors based on AP-42 Chapter 3.1 Stationary Gas Turbines.
- 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.
- Ammonia emissions for this proposed unit were calculated and provided by the processing engineer.

These emissions were input into the San Joaquin Valley APCD's Hazard Assessment and Reporting Program (SHARP). In accordance with the District's Risk Management Policy, risks from the proposed unit's toxic emissions were prioritized using the procedure in the 2016 CAPCOA Facility Prioritization Guidelines. The prioritization score for this proposed facility was greater than 1.0 (see RMR Summary Table). 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
37-0	1	Natural Gas	MMscf	0.09	766.50
37-0	2	Natural Gas	MMscf	0.19	1664.4
37-0	3	Ammonia	Lbs.	3.774	33080.0

Point Source Parameters						
Unit ID	Unit Description	Release Height (m)	Temp. (°K)	Exit Velocity (m/sec)	Stack Diameter (m)	Vertical/ Horizontal/ Capped
37-0	190 MMBtu/hr Natural Gas Burner Catalytic Reduction	12.92	784	20.05	1.83	Vertical
37-0	87.5 MMBtu/hr Natural Gas Turbine	12.92	784	20.05	1.83	Vertical
37-0	Ammonia Injection	12.92	784	20.05	1.83	Vertical

4. AAQA Report

The District modeled the impact of the proposed project on the National Ambient Air Quality Standard (NAAQS) and/or California Ambient Air Quality Standard (CAAQS) in accordance with District Policy APR-1925 (Policy for District Rule 2201 AAQA Modeling) and EPA's Guideline for Air Quality Modeling (Appendix W of 40 CFR Part 51). The District uses a progressive three level approach to perform AAQAs. The first level (Level 1) uses a very conservative approach. If this analysis indicates a likely exceedance of an AAQS or Significant Impact Level (SIL), the analysis proceeds to the second level (Level 2) which implements a more refined approach. For the 1-hour NO₂ standard, there is also a third level that can be implemented if the Level 2 analysis indicates a likely exceedance of an AAQS or SIL.

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

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	Tranquillity	Fresno	Tranquillity	2018
NOx	TRACY AIRPORT	San Joaquin	Tracy	2018
PM10	TRACY AIRPORT	San Joaquin	Tracy	2018
PM2.5	Tranquillity	Fresno	Tranquillity	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
37-0	1	14.56	0.79	231.61	2.78	2.78

Emission Rates (lbs/year)						
Unit ID	Process	NOx	SOx	CO	PM10	PM2.5
37-0	1	22,814	6,928	40,788	24,309	24,309

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 04-08 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
37-0	Co-Generation Plant	12.92	784	20.05	1.83	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

ATTACHMENT IX
Draft ATC

*San Joaquin Valley
Air Pollution Control District*

AUTHORITY TO CONSTRUCT

PERMIT NO: N-1399-37-0

ISSUANCE DATE: DRAFT

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:

7.3 MW (ISO RATING) COMBINED HEAT AND POWER (CHP) GENERATION PLANT CONSISTING OF A SOLAR TURBINES TAURUS 70 NATURAL GAS-FIRED TURBINE ENGINE WITH 87.5 MMBTU/HR DRY LOW-NOX COMBUSTORS, A CLEAVER BROOKS DUCT BURNER EQUIPPED WITH 190 MMBTU/HOUR NATURAL GAS-FIRED NATCOM DB-209-G-5 LOW-NOX BURNER, AND AN UNFIRED HEAT RECOVERY STEAM GENERATOR, ALL SERVED BY A SELECTIVE CATALYTIC REDUCTION WITH AMMONIA INJECTION AND AN OXIDIZATION CATALYST

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. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The owner or operator shall operate and maintain stationary combustion turbine, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction (except during the tuning/commissioning activities, unless the use of control equipment is required for any tuning activity). [40 CFR 60.4333(a)] Federally Enforceable Through Title V Permit
5. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

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

Samir Sheikh, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services

N-1399-37-0 : Dec 21 2020 1:21PM -- SCANDURL : Joint Inspection NOT Required

6. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
7. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
8. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
9. A selective catalytic reduction (SCR) system shall serve the gas turbine engine and duct burner. Exhaust ducting may be equipped (if required) with a fresh air inlet blower, to lower the exhaust temperature prior to the inlet of the SCR catalyst. [District Rule 2201] Federally Enforceable Through Title V Permit
10. The turbine/electrical generator shall be equipped with an air inlet filter and a lube oil vent coalescer (or equivalent) sufficient to limit the visible emissions from the lube oil vents to not exceed 5% opacity, except for a period not exceeding three minutes in any one hour. [District Rule 2201] Federally Enforceable Through Title V Permit
11. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of natural gas combusted in the CHP system shall be installed, utilized and maintained. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
12. The turbine and duct burner shall be fired on PUC-quality natural gas with a total sulfur content not exceeding 0.75 gr/100 scf. [District Rules 2201 and 4801 and 40 CFR 60.4330] Federally Enforceable Through Title V Permit
13. Startup shall be defined as the period of time during which a unit is brought from a shutdown status to its SCR operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown shall be defined as the period of time during which a unit is taken from an operational to a non-operational status as the fuel supply to the unit is completely turned off. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
14. The startup for the CHP system shall not exceed 1.0 hour/event, 4 events/day and 25 hours/year. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
15. The total startup emissions from the CHP system shall not exceed any of the following limits: NO_x (as NO₂): 14.56 lb/hr, SO_x: 0.66 lb/hr, PM₁₀: 2.31 lb/hr, CO: 213.76 lb/hr, and VOC: 12.39 lb/hr, and NH₃: 3.14 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
16. The shutdown for the CHP system shall not exceed 0.5 hour/event, 4 events/day and 13 hours/year. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
17. The total shutdown emissions from the CHP system shall not exceed any of the following limits: NO_x (as NO₂): 14.06 lb/hr, SO_x: 0.595 lb/hr, PM₁₀: 0.4 lb/hr, CO: 231.61 lb/hr, VOC: 13.29 lb/hr and NH₃: 3.14 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Commissioning period emissions all not exceed any of the following limits: NO_x (as NO₂): 9 ppmv @ 15% O₂; SO_x: 0.595 lb/hr, PM₁₀: 0.4 lb/hr, CO: 1.45 lb/hr and 6.0 ppmvd @ 15% O₂, VOC: 0.4 lb/hr and 2.0 ppmvd @ 15% O₂, and NH₃: 2.5 lb/hr and 10.0 ppmvd @ 15% O₂. All emission limits are based on 1-hour rolling averaging period. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Except during startup, shutdown, and commissioning, emissions from the CHP system shall not exceed any of the following limits: NO_x (as NO₂): 2.00 lb/hr and 2.5 ppmvd @ 15% O₂, SO_x: 0.595 lb/hr, PM₁₀: 0.4 lb/hr, CO: 1.45 lb/hr and 6.0 ppmvd @ 15% O₂, VOC: 0.4 lb/hr and 2.0 ppmvd @ 15% O₂, and NH₃: 2.5 lb/hr and 10.0 ppmvd @ 15% O₂. All emission limits are based on 3-hour rolling averaging period. [District Rules 2201 and 4703 and 40 CFR Part 60.4320(a)] Federally Enforceable Through Title V Permit
20. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rule 4703] Federally Enforceable Through Title V Permit
21. The owner/operator shall minimize the emissions from the engine to the maximum extent possible during the commissioning period, not to exceed 80 hr in total time duration. [District Rule 2201]

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22. During the commissioning period, the operator shall perform expeditious completion of commissioning activities, and shall use good work practice standards to minimize emissions. [District Rule 2201] Federally Enforceable Through Title V Permit
23. During commissioning period, use of SCR and oxidation catalyst is required. [District Rule 2201] Federally Enforceable Through Title V Permit
24. Commissioning activities are defined as, but not limited to, all testing, adjustment, tuning, and calibration activities recommended by the equipment manufacturers and the construction contractor to ensure safe and reliable operation of the turbine and SCR control system. [District Rule 2201] Federally Enforceable Through Title V Permit
25. Commissioning period shall commence when all mechanical, electrical, and control systems are installed and individual system startup has been completed, or when the turbine is first fired, whichever occurs first. The commissioning period shall terminate when the turbine and NO_x emissions control system is available for commercial operation. [District Rule 2201] Federally Enforceable Through Title V Permit
26. The owner/operator shall minimize the emissions from the turbine to the maximum extent possible during the commissioning period not to exceed 80 hr in total time duration. [District Rule 2201] Federally Enforceable Through Title V Permit
27. During the commissioning period, permittee shall monitor and record the stack concentration of NO_x, O₂, and CO each minute using a portable emission monitor that meets District specifications. If NO_x concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emission concentration for commissioning, the SCR catalyst unit(s) shall be used as necessary to bring the unit back into compliance. [District Rule 2201] Federally Enforceable Through Title V Permit
28. During the initial commissioning period, acceptable ammonia injection rate(s) shall be determined in accordance with a District Approved commissioning protocol that provide a reasonable assurance of ongoing compliance with the emissions limitations stated in this permit (with or without the duct burner operating). The permittee shall submit a detailed commissioning protocol for District Approval at least 60 days prior to the commencement of operation. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
29. If the ammonia injection rate is less than the minimum ammonia injection rate determined during the initial commissioning period, the permittee shall return the ammonia injection rate above the minimum ammonia injection rate established during the commissioning period as soon as possible, but no longer than 1 hours after detection. If the ammonia injection rate is not returned above the minimum ammonia injection rate within 1 hours, the permittee shall notify the District within the following 1 hour and conduct a source test within 60 days of the first exceedance to demonstrate compliance with the applicable emission limits at the reduced ammonia injection rate. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must 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 2201 and 4703]
30. A mass or volumetric fuel flow meter shall be installed, utilized and maintained to measure the amount of fuel combusted in the unit. [District Rule 2201]
31. The facility-wide NO_x emissions shall not exceed 33,705 pounds during any one rolling 12 month period. [District Rule 2201] Federally Enforceable Through Title V Permit
32. Permittee shall notify the District of any breakdown condition as soon as reasonably possible, but no later than one hour after its detection, unless the owner or operator demonstrates to the District's satisfaction that the longer reporting period was necessary. [District Rule 1100] Federally Enforceable Through Title V Permit
33. The District shall be notified in writing within ten days following the correction of any breakdown condition. The breakdown notification shall include a description of the equipment malfunction or failure, the date and cause of the initial failure, the estimated emissions in excess of those allowed, and the methods utilized to restore normal operations. [District Rule 1100] Federally Enforceable Through Title V Permit

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34. Source testing to determine compliance with the steady state NO_x, CO, NH₃ (lb/hr and ppmvd @ 15% O₂) and PM₁₀ (lb/hr) shall be conducted within 60-days of initial startup of the turbine and annually thereafter both with the duct burner ON and OFF. [District Rules 2201, 4102, and 4703 and 40 CFR 60.4340 and 60.4400]
35. Performance testing to measure the NO_x (ppmvd), CO (ppmvd), and NH₃ (ppmvd) emissions shall be conducted at least once every twelve months. [District Rules 2201, 4102, and 4703 and 40 CFR 60.4340 and 60.4400]
36. Any gas turbine with an intermittently operated auxiliary burner shall demonstrate compliance with the auxiliary burner both on and off. [District Rule 4703] Federally Enforceable Through Title V Permit
37. The owner or operator shall be required to conform to the sampling facilities and testing procedures described in District Rule 1081 (as amended 12/16/93), Sections 3.0 and 6.1. [District Rule 1081] Federally Enforceable Through Title V Permit
38. The District must be notified 30 days prior to any performance testing and a test plan shall be submitted for District Approval 15 days prior to such testing. [District Rule 1081] Federally Enforceable Through Title V Permit
39. Performance testing shall be witnessed or authorized by District personnel. Test results must be submitted to the District within 60 days of performance testing. [District Rule 1081] Federally Enforceable Through Title V Permit
40. NO_x emissions (referenced as NO₂) shall be determined using EPA Method 7E or EPA Method 20. The test results shall be corrected to ISO standard conditions as defined in 40 CFR 60.4400. [District Rules 1081, 2201, and 4703 and 40 CFR 60.4400] Federally Enforceable Through Title V Permit
41. VOC emissions (referenced as methane) shall be determined using EPA Method 18 or EPA Method 25. [District Rules 1081 and 2201] Federally Enforceable Through Title V Permit
42. CO emissions shall be determined using EPA Method 10 or EPA Method 10B. [District Rule 1081, 2201, and 4703] Federally Enforceable Through Title V Permit
43. Ammonia (NH₃) emissions shall be determined using BAAQMD Method ST-1B. [District Rules 1081, 2201, and 4102] Federally Enforceable Through Title V Permit
44. The oxygen content of the exhaust gas shall be determined by using EPA Method 3, EPA Method 3A, or EPA Method 20. [District Rules 1081, 2201, and 4703] Federally Enforceable Through Title V Permit
45. HHV and LHV of the fuel shall be determined using ASTM D3588, ASTM 1826, or ASTM 1945. [District Rule 4703] Federally Enforceable Through Title V Permit
46. Ammonia shall be injected whenever the selective catalytic reduction system catalyst temperature exceeds the minimum ammonia injection temperature recommended by the manufacturer. [District Rule 2201 and 4703] Federally Enforceable Through Title V Permit
47. If the ammonia injection rate is less than the minimum ammonia injection rate demonstrated during commissioning, the permittee shall return the ammonia injection rate above the minimum ammonia injection rate established during compliance testing as soon as possible, but no longer than 8 hours after detection. If the ammonia injection rate is not returned above the minimum ammonia injection rate established during compliance testing within 8 hours, the permittee shall notify the District within the following 1 hour and conduct a source test within 60 days of the first exceedance to demonstrate compliance with the applicable emission limits at the reduced ammonia injection rate. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must 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 2201 and 4703] Federally Enforceable Through Title V Permit
48. NO_x (as NO₂), CO, and O₂ emission readings shall be taken with the unit operating at conditions representative of normal operation or under the conditions specified in the Permit to Operate. The NO_x, CO and O₂ analyzer 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 and 4703] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

49. The permittee shall monitor and record the stack concentration of NO_x (as NO₂), CO, and O₂ weekly. If compliance with the NO_x and CO emissions is demonstrated for eight (8) consecutive weeks, then the monitoring frequency will be reduced to monthly. If deviations are observed in two consecutive months, monitoring shall revert to weekly until 8 consecutive weeks show no deviations. 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 one (1) day of restarting the unit unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the week if on a weekly monitoring schedule. [District Rules 2201 and 4703 and 40 CFR 60.4415] Federally Enforceable Through Title V Permit
50. If the NO_x and/or CO concentrations, as measured by the permittee with a portable analyzer, exceed the permitted emission limits, the permittee shall notify the District and return the NO_x and CO concentrations to the permitted emission limits as soon as possible but no longer than eight (8) hours after detection. If the permittee's portable analyzer readings continue to exceed the permitted emissions limits after eight (8) hours, the permittee shall notify the District within the following one (1) hour, and conduct a certified source test within 60 days to demonstrate compliance with the permitted emissions limits. In lieu of conducting a source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must 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 and 4703 and 40 CFR 60.4415] Federally Enforceable Through Title V Permit
51. Compliance with ammonia emission limit shall be demonstrated utilizing one of the following procedures: 1) The permittee may utilize a continuous in-stack ammonia monitor to verify compliance with the ammonia emissions limit. 2) The permittee may utilize a District-03 calculation method using measured surrogate parameters to determine the daily ammonia emissions in ppmvd @ 15% O₂. The permittee shall submit a detailed calculation protocol or monitoring plan for District Approval at least 60 days prior to the commencement of operation. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
52. The oxidation catalyst system shall be equipped with a continuous temperature monitoring system to measure the temperature at the catalyst face. [District Rule 2201] Federally Enforceable Through Title V Permit
53. The minimum temperature at the face of the oxidation catalyst shall stay at or above 500 degrees Fahrenheit. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
54. The owner or operator shall monitor and record temperature (°F) at the face of the oxidation catalyst at least once every 15-minute period. This data shall be used to determine the average temperature of the oxidation catalyst over a 1-hour period. The hourly data shall be averaged over 3-hour period on a rolling basis. The obtained value shall be compared with the compared to the 500 deg. F permit limit to determine compliance with the CO and VOC emission limits in this permit. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
55. If the temperature of the oxidation catalyst is below the minimum temperature specified in the permit, the owner or operator shall adjust CHP system controls to maintain the minimum temperature as soon as possible, but no longer than eight hours after detection. If the oxidation catalyst temperature is not returned above the minimum temperature established during compliance testing within eight hours, the owner or operator shall notify the District within the following one hour and conduct a source test within 60 days of the first exceedance to demonstrate compliance with the applicable emission limits at the reduced oxidation catalyst temperature. In lieu of conducting a source test, the owner or operator may stipulate a violation has occurred, subject to enforcement action. The owner or operator must 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 owner or operator may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
56. The sulfur content of each fuel source shall be: (i) documented in a valid purchase contract, a supplier certification, a tariff sheet or transportation contract, or (ii) monitored within 60 days of initial startup and weekly thereafter. If the sulfur content is less than or equal to 0.75 gr/100 dscf for eight consecutive weeks, then the monitoring frequency shall be every six months. If the result of any six month monitoring demonstrates that the fuel does not meet the fuel sulfur content limit, weekly monitoring shall resume until compliance is demonstrated for eight consecutive weeks. [District Rule 2201 and 40 CFR 60.4360, 60.4365(a) and 60.4370(c)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

57. The owner or operator shall maintain a stationary gas turbine system operating log that includes, on a daily basis, the actual local startup and stop time, length and reason for reduced load periods, total hours of operation, the type and quantity of fuel used, duration of start-up, and duration of shutdown. [District Rule 4703] Federally Enforceable Through Title V Permit
58. The permittee shall provide notification and recordkeeping as required under 40 CFR, Part 60, Subpart A, 60.7. [40 CFR 60.7] Federally Enforceable Through Title V Permit
59. The permittee shall maintain a record of the cumulative 12 month rolling NO_x, CO, VOC, SO_x, PM₁₀, and NH₃ emissions total, in lb/year, from this unit. These records shall be updated at the end of each month. [District Rule 2201] Federally Enforceable Through Title V Permit
60. The permittee shall maintain a daily record of the ammonia injection rate and SCR catalyst inlet temperature. [District Rule 2201] Federally Enforceable Through Title V Permit
61. The permittee shall maintain a record of heat input rate (excluding heat input rate during startup and shutdown) on a rolling 12 month period. [District Rule 2201]
62. A record of the facility-wide NO_x 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
63. The owner or operator shall submit a written report of excess emissions and monitoring downtime to the APCO. The report is due on the 30th day following the end of the calendar quarter and shall include the following: Time intervals, data and magnitude of excess emissions, nature and the cause of excess (if known), corrective actions taken and preventative measures adopted; Applicable time and date of each period during monitor downtime; A negative declaration when no excess emissions occurred. [District Rule 1080 and 40 CFR 60.4375 and 60.4395] Federally Enforceable Through Title V Permit
64. When valid purchase contracts, tariff sheets or transportation contracts showing the fuel sulfur content are not available, fuel sulfur content shall be monitored using one of the following methods: ASTM Methods D1072, D3246, D4084, D4468, D4810, D6228, D6667 or Gas Processors Association Standard 2377. [40 CFR 60.4415(a)(1)(i)] Federally Enforceable Through Title V Permit
65. The owner or operator shall maintain all records of required monitoring data and support information for a period of five years from the date of data entry and shall make such records available to the District upon request. [District Rule 1070, 2201, and 4703] Federally Enforceable Through Title V Permit

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