



San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT



HEALTHY AIR LIVING™

MAR 12 2014

Mr. Mac McCullough
Pacific Southwest Container
4530 Leckron Rd
Modesto, CA 95353

**Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # N-3606
Project # N-1133573**

Dear Mr. McCullough:

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. This project is for the installation of a 20.4 MMBtu/hr natural gas-fired boiler.

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. Rupi Gill, Permit Services Manager, at (209) 557-6400.

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

Enclosures

cc: Mike Tollstrup, CARB (w/enclosure) via email
cc: Gerardo C. Rios, EPA (w/enclosure) via email

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District Rule 4301 Fuel Burning Equipment (12/17/92)
District Rule 4304 Equipment Tuning Procedure for Boilers, Steam Generators and Process Heaters (10/19/95)
District Rule 4305 Boilers, Steam Generators, and Process Heaters – Phase 2 (8/21/03)
District Rule 4306 Boilers, Steam Generators, and Process Heaters – Phase 3 (10/16/08)
District Rule 4320 Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr (10/16/08)
District Rule 4351 Boilers, Steam Generators, and Process Heaters – Phase 1 (8/21/03)
District Rule 4801 Sulfur Compounds (12/17/92)
CH&SC 41700 Health Risk Assessment
CH&SC 42301.6 School Notice
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

III. PROJECT LOCATION

This boiler is located at 4530 Leckron Rd in Modesto, CA. The District has verified that the boiler is not located within 1000' of a K-12 school. Therefore, the public notification requirements of California Health and Safety Code 42301.6 are not applicable to this project.

IV. PROCESS DESCRIPTION

Pacific Southwest Container manufactures corrugated cardboard and corrugated cardboard boxes. The facility first produces corrugated cardboard and then cuts the cardboard into box blanks with die-cutters and applies graphics with lithographic/flexographic printing presses.

The proposed boiler will be used to provide steam to the corrugator system to soften the paper for board manufacturing process. The boiler will operate up to 24 hr/day, 8760 hr/year.

V. EQUIPMENT LISTING

Equipment Description:

N-3606-30-1: 20.4 MMBTU/HR CLEAVER-BROOKS MODEL CBEX-700-500-200ST BOILER EQUIPPED WITH A CLEAVER-BROOKS MODEL NT INTEGRAL TYPE ULTRA LOW-NOX BURNER

VI. EMISSION CONTROL TECHNOLOGY EVALUATION

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

VII. GENERAL CALCULATIONS

A. Assumptions

- The unit will only be fired on PUC-Quality natural gas
- Natural Gas Heating Value: 1,000 Btu/scf (District Practice).
- F-Factor for Natural Gas: 8,578 dscf/MMBtu corrected to 60°F (40 CFR 60, Appendix B).
- Facility-wide VOC emissions will remain limited to 73,403 lb/rolling 12-months.
- All other assumptions will be stated as they are made.

B. Emission Factors

Pre-Project Emission Factors (EF1)

This is a new unit. Therefore, pre-project emission factors do not apply to this unit.

Post-Project Emission Factors (EF2)

The following post-project emission factors will be used for this project.

Pollutant	Emission Factor Natural Gas	Source
NO _x	7 ppmvd @ 3% O ₂ (0.008 lb/MMBtu)	Applicant
SO _x	0.00285 lb/MMBtu	District Policy APR 1720
PM10	0.0076 lb/MMBtu	AP-42 Table 1.4-2
CO	50 ppmvd @ 3% O ₂ (0.037 lb/MMBtu)	Applicant
VOC	0.0055 lb/MMBtu	AP-42 Table 1.4-2

C. Calculations

1. Pre-Project Potential to Emit (PE1)

The pre-project potential to emit for the boiler is equal to zero since this is a new unit.

2. Post-Project Potential to Emit (PE2)

The following formulas will be used to calculate emissions from the new boiler:

$$PE2_{\text{Daily}} = 20.4 \text{ MMBtu/hr} \times EF \text{ (lb/MMBtu)} \times 24 \text{ hr/day}$$

$$PE2_{\text{Annual}} = 20.4 \text{ MMBtu/hr} \times EF \text{ (lb/MMBtu)} \times 8,760 \text{ hr/year}$$

Pollutant	EF (lb/MMBtu)	Daily and Annual Post-Project Potential to Emit	
		PE2 (lb/day)	PE2 (lb/year)
NO _x	0.008	3.9	1,430
SO _x	0.00285	1.4	509
PM10	0.0076	3.7	1,358
CO	0.037	18.1	6,612
VOC	0.0055	2.7	983

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

Pursuant to Section 4.9 of District Rule 2201, the Pre-Project Stationary Source Potential to Emit (SSPE1) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site. The following SSPE1 data was taken from the application review for District Project N-1130130.

Unit	NO _x (lb/year)	SO _x (lb/year)	PM10 (lb/year)	CO (lb/year)	VOC (lb/year)	
N-3606-3-5	0	0	0	0	73,403	
N-3606-4-5	0	0	183	0		
N-3606-9-7	0	0	0	0		
N-3606-11-8	0	0	0	0		
N-3606-13-6	0	0	0	0		
N-3606-14-6	0	0	0	0		
N-3606-15-6	0	0	0	0		
N-3606-16-6	0	0	0	0		
N-3606-19-4	0	0	0	0		
N-3606-21-4	0	0	0	0		
N-3606-23-5	0	0	0	0		
N-3606-24-4	0	0	0	0		
N-2306-25-2	0	0	0	0		
N-2306-26-5	0	0	0	0		
N-3606-27-3	0	0	0	0		
N-3606-29-0	0	0	0	0		
N-3606-31-0	0	0	0	0		
SSPE1 Total	0	0	183	0		73,403

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

Pursuant to Section 4.10 of District Rule 2201, the Post-Project Stationary Source Potential to Emit (SSPE2) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

Unit	NOx (lb/year)	SOx (lb/year)	PM10 (lb/year)	CO (lb/year)	VOC (lb/year)	
N-3606-3-5	0	0	0	0	73,403	
N-3606-4-5	0	0	183	0		
N-3606-9-7	0	0	0	0		
N-3806-11-8	0	0	0	0		
N-3606-13-6	0	0	0	0		
N-3606-14-6	0	0	0	0		
N-3806-15-6	0	0	0	0		
N-3606-16-6	0	0	0	0		
N-3806-19-4	0	0	0	0		
N-3606-21-4	0	0	0	0		
N-3606-23-5	0	0	0	0		
N-3606-24-4	0	0	0	0		
N-2306-25-2	0	0	0	0		
N-2306-26-5	0	0	0	0		
N-3606-27-3	0	0	0	0		
N-3606-29-0	0	0	0	0		
N-3606-30-1	1,430	509	1,358	6,612		
N-3606-31-0	0	0	0	0		
SSPE2 Total	1,430	509	1,541	6,612		73,403

5. Major Source Determination

Rule 2201 Major Source Determination:

A Major Source is a source with an SSPE2 that equals or exceeds any of the following Major Source thresholds. The following table compares the pre-project and post-project facility-wide annual emissions in order to determine if the facility is already an existing Major Source or if the facility is becoming a Major Source as the result of this project. This facility does not contain ERCs which have been banked at the source.

Major Source Determination					
Pollutant	SSPE1 (lb/yr)	SSPE2 (lb/yr)	Major Source Threshold (lb/yr)	Existing Major Source?	Becoming a Major Source?
NO _x	0	1,430	20,000	No	No
SO _x	0	509	140,000	No	No
PM ₁₀	183	1,541	140,000	No	No
CO	0	6,612	200,000	No	No
VOC	73,403	73,403	20,000	Yes	No

Rule 2410 Major Source Determination:

The facility or the equipment evaluated under this project is listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). Therefore the following PSD Major Source thresholds are applicable.

PSD Major Source Determination (tons/year)							
	NO₂	VOC	SO₂	CO	PM	PM₁₀	CO_{2e}
Facility PE before Project Increase	0.0	36.7	0.0	0.0	0.1	0.1	0.0 ¹
PSD Major Source Thresholds	100	100	100	100	100	100	100,000
PSD Major Source ? (Y/N)	No	No	No	No	No	No	No

As shown above, the facility is not an existing major source for PSD.

6. Baseline Emissions (BE)

BE = Pre-project Potential to Emit 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 Section 3.23

Baseline emissions are used in offset calculations. The boiler is new, therefore BE is equal to zero for the boiler.

¹ Obtained from District Project N-1130130.

Since this facility is subject to a facility-wide limit for VOC emissions, the offset calculation for VOC emissions includes the baseline emissions for all units under the specific limiting condition (SLC). Thus, BE_{SLC} must be calculated for VOC emissions.

BE_{SLC} Calculations

This facility is a Major Source for VOC emissions. As shown in the table below, all existing units at the facility are clean. Therefore,

BE_{SLC} = PE_{1SLC} = 73,403 lb-VOC/year

Clean Emissions Unit Determination for VOC emissions				
Permit Unit	BACT Guideline	Achieved in Practice	Permit Limit (Actual)	Clean Emissions Unit?
N-3606-3-6	4.9.12	0.044 lb/gal	0.06 lb/gal (0.013 lb/gal)	Yes
N-3606-19-4				
N-3606-21-4				
N-3606-25-2				
N-3606-27-3	4.9.12	0.044 lb/gal	0.044 lb/gal	Yes
N-3606-31-0	4.9.12	0.044 lb/gal	0.015 lb/gal	Yes
N-3606-4-5	4.11.3	0.021 lb/gal	0.083 lb/gal (single facer: 0.015 lb/gal; laminator: 0.01 lb/gal)	Yes
N-3606-11-8	4.9.12	0.044 lb/gal	1.25 lb/gal (0.013 lb/gal)	Yes
N-3606-13-6	4.7.15	Inks: 0.3 lb/gal Adhesive: 0.044 lb/gal	Inks: 0.3 lb/gal Adhesive 0.021 lb/gal	Yes
N-3606-14-6				
N-3606-15-6				
N-3606-16-6	4.7.2	Inks: <5% by wt Fountain Solution: <5% by vol Inks high end graphics: < 30% by wt Fountain Solution high end graphics: <8% by vol	Inks: <5% by wt Fountain Solution: <6% by vol (4.77% by vol) Inks high end graphics: <30% by wt Fountain Solution high end graphics: <8% by vol	Yes
N-3606-23-5				
N-3606-9-7				
N-3606-24-4				
N-3606-26-5				
N-3606-29-0	Not Applicable. There are no VOC emissions from this permit unit.			

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."

As discussed in Section VII.C.5 above, the facility is an existing Major Source for VOC emissions. Thus, an SB288 Major Modification could only be triggered for VOC emissions. The project by itself would need to be a significant increase in order to trigger an SB288 Major Modification. The emission unit in this project does not have a total potential to emit that is greater than the SB288 Major Modification threshold for VOC emissions (see following table). Therefore, the project cannot be a significant increase and the project does not trigger a SB 288 Major Modification.

SB 288 Major Modification Thresholds (Existing Major Source)			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB-288 Major Modification Calculation Required?
VOC	983	50,000	No

8. Federal Major Modification

District Rule 2201, Section 3.17 states that Federal Major Modifications are the same as "Major Modification" as defined in 40 CFR 51.165 and part D of Title I of the CAA. This facility is only a Major Source for VOC emissions; therefore, a Federal Major Modification can only be triggered for VOC emissions. This project will result in a net emission increase greater than the Federal Major Modification threshold of 0 lb/year for VOC emissions. Therefore, this project triggers a Federal Major Modification for VOC emissions. Thus, BACT is triggered for VOC emissions, the project is considered a significant modification to the Title V permit, and a public-notice must be performed prior to issuance of the Authority to Construct permit.

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

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

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

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

Since this is not an existing source that is not an existing PSD source, the second step of the PSD evaluation is to determine if the project, by itself, would be a PSD major source.

As a screening tool, the project potential to emit from all new and modified units is compared to the PSD major source threshold, and if total project potential to emit from all new and modified units is below this threshold, no further analysis will be needed.

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

PSD Major Source Determination: Potential to Emit (tons/year)							
	NO2	VOC	SO2	CO	PM	PM10	CO2e
Total PE from New and Modified Units	0.7	0.5	0.3	3.3	0.7	0.7	10,398.8 ²
PSD Major Source Threshold	250	250	250	250	250	250	100,000
New PSD Major Source?	No	No	No	No	No	No	No

As shown in the previous table, the project potential to emit, by itself, does not exceed any of the PSD major source thresholds. Therefore Rule 2410 is not applicable and no further discussion is required.

10. Quarterly Net Emissions Change (QNEC)

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

² CO₂e emissions for the new boiler are based upon the boiler's heat input rating, an 8,760 hr/year operating schedule, and an ARB emission factor of 0.0529 metric tons-CO₂e/MMBtu for natural gas combustion in the boiler.

PE CO₂e = 20.4 MMBtu/hr x 8,760 hr/year x 0.0529 metric tons-CO₂e/MMBtu x 1.1 tons/metric ton
PE CO₂e = 10,398.8 tons-CO₂e/year

VIII. COMPLIANCE

District Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

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

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

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

As discussed in Section I, the facility is proposing to install a new 20.4 MMBtu/hr boiler. This project will result in a Federal Major Modification for VOC emissions. Therefore, BACT is triggered for VOC emissions. For all other pollutants, BACT can only be triggered if the emission rates exceed the BACT Threshold for new units.

The daily emissions from the new boiler are compared to the BACT threshold levels in the following table:

New Emissions Unit BACT Applicability				
Pollutant	Daily Emissions for unit -30-1 (lb/day)	BACT Threshold (lb/day)	SSPE2 (lb/yr)	BACT Triggered?
NO _x	3.9	> 2.0	n/a	Yes
SO _x	1.4	> 2.0	n/a	No
PM ₁₀	3.7	> 2.0	n/a	Yes
CO	18.1	> 2.0 and SSPE2 ≥ 200,000 lb/yr	6,612	No

As shown above, BACT will be triggered for NO_x, PM10, and VOC emissions from the boiler.

2. BACT Guideline

The District adopted District Rule 4320 for boilers on October 16, 2008. The NO_x emission limit requirements in District Rule 4320 were lower than the limits contained within BACT Guideline 1.1.1 for boilers rated 20 MMBtu/hr and above. Therefore, the District rescinded BACT Guideline 1.1.1 and a project-specific BACT analysis is required for boilers.

3. Top Down BACT Analysis

Per District Policy APR 1305, Section IX, "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 for source categories or classes covered in the BACT Clearinghouse, relevant information under each of the following steps may be simply cited from the Clearinghouse without further analysis."

Pursuant to the attached Top-Down BACT Analysis, which appears in Appendix III of this report, BACT is satisfied with:

NO_x: 7 ppm @ 3% O₂
 PM10: The use of natural gas fuel
 SO_x: The use of natural gas fuel

B. Offsets

1. Offset Applicability

Pursuant to Rule 2201, offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the Post Project Stationary Source Potential to Emit (SSPE2) equals to or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

The following table compares the post-project facility-wide annual emissions in order to determine if offsets will be triggered for this project.

Offset Determination (lb/year)					
	NO _x	SO _x	PM10	CO	VOC
SSPE2	1,430	509	1,541	6,612	73,403
Offset Threshold	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	No	No	No	No	Yes

2. Quantity of Offsets Required

As seen above, the SSPE2 is greater than the offset threshold for VOC; therefore offset calculations will be required for this project.

The quantity of offsets in pounds per year is calculated as follows for sources with an SSPE1 greater than the offset threshold levels before implementing the project being evaluated and subject to a facility-wide SLC.

Offsets Required (lb/year) = $(PE_{2SLC} - BE_{SLC} + ICCE) \times DOR$, for all new or modified emissions units in the project,

Where,

PE_{2SLC} = Post Project Potential to Emit, (lb/year)

BE_{SLC} = Baseline Emissions, (lb/year)

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

DOR = Distance Offset Ratio

There are no increases in cargo carrier emissions; therefore offsets can be determined as follows:

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

$PE_{2SLC} = 73,403$ lb-VOC/year

As demonstrated earlier in this evaluation,

$BE_{SLC} = PE_{1SLC} = 73,403$ lb-VOC/year

Thus,

Offsets Required (lb/year) = $(73,403$ lb-VOC/year $- 73,403$ lb-VOC/year) $\times DOR$

Offsets Required (lb/year) = 0 lb-VOC/year

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

C. Public Notification

1. Applicability

Public noticing is required for:

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

a. New Major Source

As demonstrated in section VII.C.5 above, the facility is not becoming a new Major Source as a result of this project.

b. Major Modification

As demonstrated in VII.C.7, this project triggers a Federal Major Modification for VOC emissions. Therefore, a public notice is required.

c. PE > 100 lb/day

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

d. Offset Threshold

The following table compares the SSPE1 with the SSPE2 in order to determine if any offset thresholds have been surpassed with this project.

Offset Threshold				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Offset Threshold Surpassed?
NO _x	0	1,430	20,000 lb/year	No
SO _x	0	509	54,750 lb/year	No
PM ₁₀	183	1,541	29,200 lb/year	No
CO	0	6,612	200,000 lb/year	No
VOC	73,403	73,403	20,000 lb/year	No

The offset threshold for VOC emissions has already been surpassed and this project does not result in any increase in VOC emissions from the facility. As demonstrated above, an offset threshold will not be surpassed.

e. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a Stationary Source Increase in Permitted Emissions (SSIPE) of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE is calculated as the Post Project Stationary Source Potential to Emit (SSPE2) minus the Pre-Project Stationary Source Potential to Emit (SSPE1), i.e. $SSIPE = SSPE2 - SSPE1$. The values for SSPE2 and SSPE1 are calculated according to Rule 2201, Sections 4.9 and 4.10, respectively. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table:

Stationary Source Increase in Permitted Emissions [SSIPE] – Public Notice					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO _x	1,430	0	1,430	20,000 lb/year	No
SO _x	509	0	509	20,000 lb/year	No
PM ₁₀	1,541	183	1,358	20,000 lb/year	No
CO	6,612	0	6,612	20,000 lb/year	No
VOC	73,403	73,403	0	20,000 lb/year	No

As demonstrated in the above table, a public notice is not required for SSIPE greater than 20,000 lb/year.

2. Public Notice Action

As discussed above, public noticing is required for this project for Federal Major Modification for VOC. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB), US Environmental Protection Agency (USEPA), and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC for this equipment.

D. Daily Emission Limits (DELs)

Daily Emissions Limitations (DELs) and other enforceable conditions are required by Section 3.16 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. Per Sections 3.16.1 and 3.16.2, the DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT. The following DELs will be included on the Authority to Construct permit:

- *The boiler shall only be fired on PUC-quality natural gas. [District Rules 2201, 4305, 4306, and 4320]*

- *The emissions from the boiler shall not exceed any of the following limits when fired on natural gas fuel: 7 ppmvd NOx @ 3% O2 (equivalent to 0.008 lb-NOx/MMBtu), 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 50 ppmvd CO @ 3% O2 (equivalent to 0.037 lb-CO/MMBtu), and 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]*
- *Facility-wide VOC emissions shall not exceed 73,403 lb/year on a rolling 12-month basis. [District Rule 2201]*

E. Compliance Assurance

1. Source Testing

This boiler is subject to District Rule 4320. Source testing requirements will be discussed in Section VIII, *District Rule 4320*, of this evaluation.

2. Monitoring

This boiler is subject to the monitoring requirements of District Rule 4320. Therefore, the monitoring requirements will be discussed in Section VIII, *District Rule 4320*, of this evaluation.

3. Recordkeeping

This boiler is subject to the recordkeeping requirements of District Rule 4320. Therefore, the recordkeeping requirements will be discussed in Section VIII, *District Rule 4320*, of this evaluation. Additionally, records of facility-wide VOC emissions are required. Thus, the following condition will be included on the Authority to Construct permit:

- *The facility shall keep a record of the cumulative facility-wide VOC emissions on a rolling 12-month basis. The record shall be updated at least monthly. [District Rule 2201]*

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis

An ambient air quality analysis was performed to determine whether the increase in emissions would cause or contribute to a violation of an Ambient Air Quality Standard. The results of the Ambient Air Quality Analysis modeling are summarized in the following table. For full results, see Appendix V.

Criteria Pollutant Modeling Results

NG-Fired Boiler	1 Hour	3 Hours	8 Hours	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO _x	Pass ¹	X	X	X	Pass
SO _x	Pass	Pass	X	Pass	Pass
PM ₁₀	X	X	X	Pass ²	Pass ²
PM _{2.5}	X	X	X	Pass ²	Pass ²

1. The project was compared to the 1-hour NO₂ National Ambient Air Quality Standard that became effective on April 2, 2010 using the District's approved procedures.
2. The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165(b)(2).

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 Sections VIII-Rule 2201-C.1.a and VIII-Rule 2201-C.1.b, this source is undergoing a Federal Major Modification, therefore this requirement is applicable. The facility's compliance certification is included in Appendix VI.

H. Alternate Siting Analysis

Alternative siting analysis is required for any project, which constitutes a New Major Source or a Federal Major Modification.

In addition to printing presses, the operation of a package and container printing facility requires a large number support equipment, services and structures such as raw material receiving stations, silos, die cutters, boilers, warehouses, shipping facilities, and administration buildings.

Since the current project involves no change to any other facets of the operation, 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 and facilities on a much greater scale, and would therefore result in a much greater impact.

District Rule 2410 Prevention of Significant Deterioration

As stated earlier in this evaluation, this project is not subject to the requirements of District Rule 2410. No further discussion is required.

District Rule 2520 Federally Mandated Operating Permits

This facility is subject to this Rule, and has received their Title V Operating Permit. Section 3.29 defines a significant permit modification as a "permit amendment that does not qualify as a minor permit modification or administrative amendment."

Section 3.20.5 states that a minor permit modification is a permit modification that does not meet the definition of modification as given in Section 111 or Section 112 of the Federal Clean Air Act. Since this project is a Title I modification (i.e. Federal Major Modification), the proposed project is considered to be a modification under the Federal Clean Air Act. As a result, the proposed project constitutes a Significant Modification to the Title V Permit pursuant to Section 3.29.

As discussed above, the facility has applied for a Certificate of Conformity (COC); therefore, the facility must apply to modify their Title V permit with an administrative amendment, prior to operating with the proposed modifications. Continued compliance with this rule is expected.

District Rule 4001 New Source Performance Standards

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

This rule incorporates NSPS from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR); and applies to all new sources of air pollution and modifications of existing sources of air pollution listed in 40 CFR Part 60. 40 CFR Part 60, Subpart Dc applies to Small Industrial-Commercial-Institutional Steam Generators between 10 MMBtu/hr and 100 MMBtu/hr (post-6/9/89 construction, modification or, reconstruction). Subpart Dc has standards for SO_x and PM₁₀. The 20.4 MMBtu/hr boiler is subject to Subpart Dc requirements.

60.42c – Standards for Sulfur Dioxide

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

60.43c – Standards for Particulate Matter

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

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

Since the boiler in this project is not subject to the sulfur dioxide requirements of this subpart, no testing to show compliance is required. Therefore, the requirements of this section are not applicable to the boiler in this project.

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

Since the boiler in this project is not subject to the particulate matter requirements of this subpart, no testing to show compliance is required. Therefore, the requirements of this section are not applicable to the boiler in this project.

60.46c – Emission Monitoring for Sulfur Dioxide

Since the boiler in this project is not subject to the sulfur dioxide requirements of this subpart, no monitoring is required. Therefore, the requirements of this section are not applicable to the boiler in this project.

60.47c – Emission Monitoring for Particulate Matter

Since the boiler in this project is not subject to the particulate matter requirements of this subpart, no monitoring is required. Therefore, the requirements of this section are not applicable to the boiler in this project.

60.48c – Reporting and Recordingkeeping Requirements

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

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

The design heat input capacity and type of fuel combusted at the facility will be listed on the unit's equipment description. No conditions are required to show compliance with this requirement.

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

This requirement is not applicable since the unit is not subject to §60.42c or §40.43c.

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

The facility has not proposed an annual capacity factor; therefore one will not be required.

- (4) Notification if an emerging technology will be used for controlling SO₂ emissions. The Administrator will examine the description of the control device and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of §60.42c(a) or (b)(1), unless and until this determination is made by the Administrator

This requirement is not applicable since the unit will not be equipped with an emerging technology used to control SO₂ emissions.

Section 60.48 c (g) states that the owner or operator of each affected facility shall record and maintain records of the amounts of each fuel combusted during each day. The following conditions will be included on the Authority to Construct permit:

- *A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted in the unit shall be installed, utilized and maintained. [District Rules 2201 and 40 CFR 60.48 (c)(g)]*
- *Permittee shall maintain daily records of the type and quantity of fuel combusted by the boiler. [District Rules 2201 and 40 CFR 60.48 (c)(g)]*

Section 60.48 c (i) states that all records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record. District Rule 4320 requires that records be kept for five years.

District 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

This subpart is applicable to boilers and process heaters located at Major Sources of HAP emissions. As demonstrated in Appendix IV of this document, this facility is an Area Source of HAP emissions. Therefore the requirements of Subpart DDDDD are not applicable to the proposed boiler.

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

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

District Rule 4101 Visible Emissions

District Rule 4101, 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 the Authority to Construct 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]*

District Rule 4102 Nuisance

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

The following condition will be included in the Authority to Construct 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 perform an analysis to determine the possible impact to the nearest resident or worksite.

The results of the risk management review modeling are summarized in the following table. For full results, please see Appendix V.

RMR Summary			
Categories	Type of Unit (Unit 30-1)	Project Totals	Facility Totals
Prioritization Score	0.04	0.04	>1
Acute Hazard Index	8.19E-04	8.19E-04	8.49E093
Chronic Hazard Index	2.31E-04	2.31E-04	1.53E-01
Maximum Individual Cancer Risk	6.54E-07	6.54E-07	1.24E-06
T-BACT Required?	No		
Special Permit Conditions?	Yes		

The following special condition will be included on the Authority to Construct permit:

- {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]

District Rule 4201 Particulate Matter Concentration

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

F-Factor for Natural Gas: 8,578 dscf/MMBtu at 60 °F
 Maximum PM₁₀ Emission Factor: 0.0076 lb-PM₁₀/MMBtu
 Percentage of PM as PM₁₀ in Exhaust: 100%

$$GL = \left(\frac{0.0076 \text{ lb-PM}}{\text{MMBtu}} \times \frac{7,000 \text{ grain}}{\text{lb-PM}} \right) / \left(\frac{8,578 \text{ ft}^3}{\text{MMBtu}} \right) = 0.0062 \text{ grains/dscf}$$

Therefore, compliance is expected. The following condition will be included on the Authority to Construct permit:

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

District Rule 4301 Fuel Burning Equipment

This rule specifies maximum emission rates in lb/hr for SO₂, NO₂, and combustion contaminants (defined as total PM in Rule 1020). This rule also limits combustion contaminants to ≤ 0.1 gr/scf. According to AP 42 (Table 1.4-2, footnote c), all PM emissions from natural gas combustion are less than 1 μm in diameter. As shown below, emission rates for the boiler are below the Rule 4301 limits.

District Rule 4301 Limits			
Unit	NO ₂	Total PM	SO ₂
N-3606-30-1	0.16 lb/hr	0.15 lb/hr	0.06 lb/hr
Rule 4301 Limit	140 lb/hr	10 lb/hr	200 lb/hr

As shown in the previous table, compliance with this rule is expected.

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

This rule includes tune-up requirements for boilers. Boiler tuning is not required if monitoring the emissions with a portable analyzer. Pacific Southwest Container has chosen to monitor emissions monthly using a portable analyzer. Therefore, compliance with this Rule is not required and no further analysis is necessary.

District Rule 4305 Boilers, Steam Generators, and Process Heaters – Phase II

This boiler is subject to District Rule 4305, *Boilers, Steam Generators and Process Heaters – Phase 2*. In addition, the boiler is also subject to District Rule 4306, *Boilers, Steam Generators and Process Heaters – Phase 3* and District Rule 4320, *Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr*.

Since emissions limits of District Rule 4320 and all other requirements are equivalent or more stringent than District Rule 4305 requirements, compliance with District Rule 4320 requirements will satisfy requirements of District Rule 4305.

District Rule 4306 Boilers, Steam Generators, and Process Heaters – Phase III

This boiler is subject to District Rule 4306, *Boilers, Steam Generators and Process Heaters – Phase 3*. In addition, the boiler is also subject to *District Rule 4320, Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr*.

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

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

This boiler is subject to District Rule 4320 requirements pursuant to Section 2.0 of District Rule 4320.

Section 5.2, NO_x and CO Emissions Limits

Section 5.2 requires NO_x and carbon monoxide (CO) emissions shall not exceed the limits specified in the following table. All ppmv emission limits specified in this section are referenced at dry stack gas conditions and 3.00 percent by volume stack gas oxygen.

This boiler is rated 20.4 MMBtu/hr; thus, the applicable emission limit category is Section 5.2, Table 1, Category B, from District Rule 4320.

Rule 4320 Emissions Limits		
Category	Operated on gaseous fuel	
	NO_x Limit	CO Limit
B. Units with a total rated heat input > 20.0 MMBtu/hr, except for Categories C through G units (Standard Schedule)	7 ppmv or 0.008 lb/MMBtu	400 ppmv

This boiler will be limited to 7 ppmvd NO_x and 50 ppmvd CO, both corrected to 3% O₂. Thus, compliance with the District Rule 4320 NO_x and CO emission limits is expected.

Section 5.3, Annual Fee Calculation

Annual Fees are required if an emissions unit will not be meeting the emission limits in Section 5.2 of this rule. Since the proposed boiler will meet the emission limits of Section 5.2, the annual fee requirements are not applicable.

Section 5.4, Particulate Matter Control Requirements

Section 5.4.1 of this rule requires the operator to comply with one of the following requirements:

1. Fire the boiler exclusively on PUC-quality natural gas, commercial propane, butane, or liquefied petroleum gas, or a combination of such gases;
2. Limit fuel sulfur content to no more than five grains of total sulfur per one hundred (100) standard cubic feet;
3. Install and properly operate an emission control system that reduces SO₂ emissions by at least 95% by weight; or limit exhaust SO₂ to less than or equal to 9 ppmv corrected to 3.0% O₂;

The following condition will be included on the Authority to Construct permit:

- *The boiler shall only be fired on PUC-quality natural gas. [District Rules 2201, 4305, 4306, and 4320]*

Section 5.5, Low Use

This boiler's annual heat input will exceed the 1.8 billion Btu heat input per calendar year criteria limit addressed by this section. Thus, the requirements of Section 5.5 are not applicable.

Section 5.6, Startup and Shutdown Provisions

Section 5.6 states that on and after the full compliance deadline in Section 5.0, the applicable emission limits of Sections 5.2 Table 1 and 5.5.2 shall not apply during startup or shutdown provided an operator complies with the requirements specified in Sections 5.6.1 through 5.6.5.

The facility has not requested startup provisions be included on the permit.

Section 5.7, Monitoring Provisions

Section 5.7.1 requires that permit units subject to District Rule 4320, Section 5.2 emissions limits shall either install and maintain Continuous Emission Monitoring (CEM) equipment for NO_x, CO and O₂, or install and maintain APCO-approved alternate monitoring.

The facility has proposed to monitor NO_x, CO, and O₂ to comply with this requirement. The following conditions will be included on the Authority to Construct permit:

- *The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within five days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320]*
- *If the NO_x or CO concentrations, as measured by the portable analyzer or the District approved ammonia monitoring equipment, exceed the permitted levels, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than one hour of operation after detection. If the portable analyzer continues to show emission limit violations after 1 hour of operation following detection, the permittee shall notify the District within the following one hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320]*
- *All NO_x, CO, and O₂ emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The 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. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320]*

- *The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent by volume and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions at or below the acceptable levels. [District Rules 4305, 4306, and 4320]*

Section 5.7.6 includes monitoring requirements for SO_x emissions and requires an annual fuel analysis to demonstrate that the fuel is indeed PUC-quality natural gas. The following condition will be included on the Authority to Construct permit:

- *Permittee shall determine the natural gas fuel sulfur content annually or shall demonstrate that the combusted gas is provided from a PUC or FERC regulated source. [District Rules 1081 and 4320]*

Section 6.1, Recordkeeping

Section 6.1 requires that the records required by Sections 6.1.1 through 6.1.5 shall be maintained for five calendar years and shall be made available to the APCO upon request. Failure to maintain records or information contained in the records that demonstrate non-compliance with the applicable requirements of this rule shall constitute a violation of this rule.

The following condition will be included on the Authority to Construct permit:

- *All records shall be maintained and retained on-site for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320]*

Section 6.1.2 requires that the operator of a unit subject to Section 5.5 shall record the amount of fuel use at least on a monthly basis. This boiler is not subject to the requirements listed in Section 5.5, Section 6.1.2 requirements are not applicable.

Section 6.1.3 requires that the operator of a unit subject to Section 5.5.1 or 6.3.1 shall maintain records to verify that the required tune-up and the required monitoring of the operational characteristics have been performed. This boiler is not subject to Sections 5.5.1 or 6.3.1. Therefore, the requirements of this section do not apply.

Section 6.1.4 requires that the operator of a unit with startup or shutdown provisions keep records of the duration of the startup or shutdowns. This boiler is not subject to the startup or shutdown provisions; therefore, the requirements of this section do not apply.

Section 6.1.5 requires that the operator of a unit fired on liquid fuel during PUC-quality natural gas curtailment periods record the sulfur content of the fuel, amount of fuel used, and duration of the natural gas curtailment period. This applicant has not proposed the use of a curtailment fuel; therefore, the requirements of this section do not apply.

Section 6.2, Test Methods

Section 6.2 identifies the following test methods as District-approved source testing methods for the pollutants listed:

Pollutant	Units	Test Method Required
NO _x	ppmv	EPA Method 7E or ARB Method 100
NO _x	lb/MMBtu	EPA Method 19
CO	ppmv	EPA Method 10 or ARB Method 100
Stack Gas O ₂	%	EPA Method 3 or 3A, or ARB Method 100
Stack Gas Velocities	ft/min	EPA Method 2 or 19
Stack Gas Moisture Content	%	EPA Method 4

The following permit conditions will be listed on the Authority to Construct:

- *Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]*
- *NO_x emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 4306, and 4320]*
- *CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 4306, and 4320]*
- *Stack gas oxygen (O₂) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306, and 4320]*

Section 6.3, Compliance Testing

Section 6.3.1 requires that this unit be tested to determine compliance with the applicable requirements of section 5.2 not less than once every 12 months. Upon demonstrating compliance on two consecutive compliance source tests, the source test may be deferred for up to thirty-six months. Additionally, initial testing is required. The following conditions will be included on the Authority to Construct permit:

- *Source testing to measure NOx and CO emissions from the boiler shall be conducted at least once every 12 months. After demonstrating compliance on two consecutive annual source tests, the unit shall be tested not less than once every 36 months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every 12 months. [District Rules 2201, 4305, 4306, and 4320]*
- *Source testing to measure NOx and CO emissions from the boiler shall be conducted within 60 days of initial startup. [District Rules 2201, 4305, 4306, and 4320]*

Conclusion.

Compliance with District Rule 4320 requirements is expected.

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

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

District Rule 4801 Sulfur Compounds

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

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

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

N = moles SO₂

T (Standard Temperature) = 60°F = 520°R

P (Standard Pressure) = 14.7 psi

R (Universal Gas Constant) = $\frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot \text{°R}}$

Natural Gas Combustion:

EPA F-Factor for Natural Gas: 8,710 dscf/MMBtu at 68 °F, equivalent to

$$\text{Corrected F-factor} = \left(\frac{8,710 \text{ dscf}}{\text{MMBtu}} \right) \times \left(\frac{60^\circ \text{F} + 459.6}{68^\circ \text{F} + 459.6} \right) = 8,578 \frac{\text{dscf}}{\text{MMBtu}} \text{ at } 60^\circ \text{F}$$

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

$$\text{Sulfur Concentration} = 1.97 \frac{\text{parts}}{\text{million}} < 2,000 \text{ ppmv (or 0.2\%)}$$

Therefore, compliance with District Rule 4801 requirements is expected.

California Environmental Quality Act (CEQA)

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

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

Greenhouse Gas (GHG) Significance Determination

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

Project specific impacts on global climate change were evaluated consistent with the adopted District policy – *Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency*. Emissions from the proposed operation are greater than 230 metric tons of CO₂ equivalent per year. The only greenhouse gas emission unit is the proposed boiler.

Per the District's Draft Policy titled CEQA Determinations of Significance for Projects Subject to ARB's GHG Cap-and-Trade Regulation (September 30, 2013), all increases in GHG emissions caused by the use of transportation fuels, natural gas and other fuels (except jet fuel) are considered mitigated by the fuel supplier and are not significant under CEQA. The unit currently under consideration will fire solely on natural gas, therefore, its GHG emission increases are not significant under CEQA.

District CEQA Findings

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

California Health & Safety Code 42301.6 (School Notice)

This boiler is not located within 1000' of a k-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IX. RECOMMENDATION

Compliance with all applicable rules and regulations is expected. Issue Authority to Construct permit N-3606-30-1 subject to the permit conditions on the attached draft Authority to Construct permit in Appendix I.

X. BILLING INFORMATION

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Previous Fee Schedule
N-3606-30-1	3020-02-H	20.4 MMBtu/hr	N/A, new unit

APPENDICES

- Appendix I: Draft Authority to Construct Permit N-3606-30-1
- Appendix II: Authority to Construct N-3606-30-0
- Appendix III: Top-Down BACT Analysis for unit N-3606-30-1
- Appendix IV: HAP Emission Calculations
- Appendix V: Risk Management Review and Ambient Air Quality Analysis Results
- Appendix VI: Compliance Certification Form
- Appendix VII: QNEC Calculations

APPENDIX I

Draft Authority to Construct Permit N-3606-30-1

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: N-3606-30-1

LEGAL OWNER OR OPERATOR: PACIFIC SOUTHWEST CONTAINER
MAILING ADDRESS: ATTN: ACCOUNTS PAYABLE
4530 LECKRON RD
MODESTO, CA 95357

LOCATION: 4530 LECKRON RD
MODESTO, CA 95357

EQUIPMENT DESCRIPTION:
20.4 MMBTU/HR CLEAVER-BROOKS MODEL CBEX-700-500-200ST BOILER EQUIPPED WITH A CLEAVER-BROOKS
MODEL NT INTEGRAL TYPE ULTRA LOW-NOX BURNER

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. Authority to Construct N-3606-30-0 shall be cancelled upon the implementation of this Authority to Construct permit. [District Rule 2201] Federally Enforceable Through Title V Permit
4. 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
5. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
6. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
7. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (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.

Seyed Sadredin, Executive Director APCO

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DAVID WARNER, Director of Permit Services

N-3606-30-1 Feb 13 2014 8:58AM - HARADERJ Joint Inspection NOT Required

Northern Regional Office • 4800 Enterprise Way • Modesto, CA 95358-8718 • (209) 557-6400 • Fax (209) 557-6475

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 non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of natural gas combusted in the unit shall be installed, utilized and maintained. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
10. This boiler shall only be fired on PUC-regulated natural gas. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. The emissions from the boiler shall not exceed any of the following limits when fired on natural gas fuel: 7 ppmvd NO_x @ 3% O₂ (equivalent to 0.008 lb-NO_x/MMBtu), 0.00285 lb-SO_x/MMBtu, 0.0076 lb-PM₁₀/MMBtu, 50 ppmvd CO @ 3% O₂ (equivalent to 0.037 lb-CO/MMBtu), and 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
12. Facility-wide VOC emissions shall not exceed 73,403 lb/year on a rolling 12-month basis. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Source testing to measure NO_x and CO emissions from the boiler shall be conducted within 60 days of initial startup. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
14. Source testing to measure NO_x and CO emissions from the boiler shall be conducted at least once every 12 months. After demonstrating compliance on two consecutive annual source tests, the unit shall be tested not less than once every 36 months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every 12 months. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
15. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
17. NO_x emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. Stack gas oxygen (O₂) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
22. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emissions monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

24. If the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 operation days of the first exceedance. An operational day is any calendar day in which the unit operates. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. All NO_x, CO, and O₂ emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The 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. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4102, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. Permittee shall determine the natural gas fuel sulfur content annually or shall demonstrate that the combusted gas is provided from a PUC or FERC regulated source. [District Rules 1081 and 4320] Federally Enforceable Through Title V Permit
28. The facility shall keep a record of the cumulative facility-wide VOC emissions on a rolling 12-month basis. The record shall be updated at least monthly. [District Rule 2201] Federally Enforceable Through Title V Permit
29. All records shall be maintained and retained on-site for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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APPENDIX II

Authority to Construct N-3606-30-0

INSPECTION
ISSUANCE DATE: 07/09/2013

LEGAL OWNER OR OPERATOR: PACIFIC SOUTHWEST CONTAINER
MAILING ADDRESS: ATTN: ACCOUNTS PAYABLE

4530 LECKRON RD
MODESTO, CA 95357

LOCATION: 4530 LECKRON RD
MODESTO, CA 95357

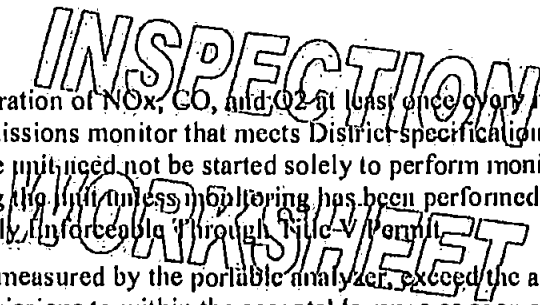
INSPECT PROGRAM PARTICIPANT: NO

EQUIPMENT DESCRIPTION:

19.9 MMBTU/HR CLEAVER-BROOKS MODEL CBEX-700-500-200ST BOILER EQUIPPED WITH A CLEAVER-BROOKS MODEL NT INTEGRAL TYPE ULTRA LOW-NOX BURNER

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(e). [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. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. 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
6. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
7. {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]
8. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of natural gas combusted in the unit shall be installed, utilized and maintained. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
9. This unit shall only be fired on PUC-regulated natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Emissions from this unit shall not exceed any of the following limits: 5.0 ppmvd NOx @ 3% O2 or 0.0060 lb/MMBtu, 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 50 ppmvd CO @ 3% O2 or 0.037 lb-CO/MMBtu, 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. Facility-wide VOC emissions shall not exceed 73,403 lb/year on a rolling 12-month basis. [District Rule 2201] Federally Enforceable Through Title V Permit
12. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit



13. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emissions monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit, unless monitoring has been performed within the last month [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
14. If the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 operation days of the first exceedance. An operational day is any calendar day in which the unit operates. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
15. All NO_x, CO, and O₂ emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The 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. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4102, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. Source testing to measure NO_x and CO emissions from this unit shall be conducted at least once every 12 months. After demonstrating compliance on two consecutive annual source tests, the unit shall be tested not less than once every 36 months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every 12 months. [District Rules 220], 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
18. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
20. NO_x emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
22. Stack gas oxygen (O₂) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit

CONDITIONS FOR APPLICATION N-3606-30-0

**INSPECTION
WORKSHEET**

- 25. The permittee shall obtain, maintain, and submit at least once per year a copy of valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts that contains the methane content (%), heating value (Btu/dscf), and sulfur content (gr-S/100 dscf) of the natural gas and propane fuel. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
- 26. The facility shall keep a record of the cumulative facility-wide VOC emissions on a rolling 12-month basis. The record shall be updated at least monthly. [District Rule 2201] Federally Enforceable Through Title V Permit
- 27. All records shall be maintained and retained on-site for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

APPENDIX III

Top-Down BACT Analysis for N-3606-30-1

Top Down BACT Analysis for Boiler N-3606-30-1

I. BACT Analysis for Boiler N-3606-30-1:

BACT is required for NO_x, PM₁₀, and VOC.

a. Step 1 - Identify All Possible Control Technologies

The following control technologies have been identified:

Pollutant	Achieved In Practice or contained in SIP	Technologically Feasible	Alternate Basic Equipment
NO _x	7.0 ppmvd @ 3% O ₂ (0.008 lb/MMBtu)	5.0 ppmvd @ 3% O ₂ (0.006 lb/MMBtu)	
VOC, PM ₁₀	Natural gas fuel with LPG backup		

b. Step 2 - Eliminate Technologically Infeasible Options

There are no infeasible options for NO_x, PM₁₀, or VOC.

c. Step 3 - Rank Remaining Control Technologies by Control Effectiveness

NO_x Emissions:

Rank	Control Technology	Achieved in Practice
1	5.0 ppmvd @ 3% O ₂ (0.006 lb/MMBtu)	N
2	7.0 ppmvd @ 3% O ₂ (0.008 lb/MMBtu)	Y

VOC and PM₁₀ Emissions:

Rank	Control Technology	Achieved in Practice
1	Natural gas fuel with LPG backup	Y

d. Step 4 - Cost Effectiveness Analysis

The applicant is proposing the most effective control technology for PM10 and VOC; therefore, a cost effectiveness analysis is not required for those pollutants.

The applicant is not proposing the technologically feasible option of 5 ppmvd NOx @ 3% O₂. Therefore, a cost analysis must be conducted to determine the cost effectiveness of the 5 ppmvd NOx @ 3% O₂ BACT option.

1. Cost Effective Analysis for 5 ppmvd NOx @ 3% O₂

Controlling NOx emissions to 5 ppmvd NOx @ 3% O₂ is typically only achieved in a boiler equipped with a Selective Catalytic Reduction System (SCR). 7 ppmvd NOx @ 3% O₂ is equivalent to the District Rule 4320 NOx requirement and a 7 ppmvd boiler without SCR will be considered to be the industry standard emission rate for a typical boiler.

Capital Cost for a 5 ppmvd NOx SCR System

The District recently collected a capital cost quote of \$283,259.50 for an SCR system controlling a 10.0 MMBtu/hr boiler (quote attached at end of this appendix). This cost will be used to determine the cost effectiveness of an SCR system.

Annualized Capital Cost of 5 ppmvd NOx SCR System

Per District BACT Policy, an equivalent annual capital cost is calculated assuming 10 year equipment life and a 10% interest rate. The following formula is used to calculate the equivalent annual cost:

$$A = P \frac{i(1+i)^n}{(1+i)^n - 1}$$

Where,

- A = Equivalent Annual Control Equipment Capital Cost
- B = Present Value of the control equipment
- i = Interest rate (District typically assumes 10%)
- n = Equipment life (District typically assumes 10 years)

$$B = \$283,259.50$$

The equivalent annual control equipment capital cost is:

$$A = \$283,259.50 \frac{0.1(1+0.1)^{10}}{(1+0.1)^{10} - 1} = \$46,099/\text{year}$$

Emission Reductions Achievable if using a 5 ppmvd NOx SCR System

Annual industry standard NOx emissions will be calculated assuming an 8,760 hour/year operating schedule, a 20.4 MMBtu/hr burner rating, and an emissions factor of 0.008 lb-NOx/MMBtu. Using these values, the annual industry standard emissions are:

$$\begin{aligned} PE_{\text{annual, industry standard NOx}} &= 20.4 \text{ MMBtu/hr} \times 8760 \text{ hr/yr} \times 0.008 \text{ lb/MMBtu} \\ PE_{\text{annual, industry standard NOx}} &= 1,430 \text{ lb-NOx/year} \end{aligned}$$

The technologically feasible BACT emissions level is 5 ppmvd @ 3% O₂ (0.006 lb/MMBtu). The annual NOx emissions at this emissions level would be:

$$\begin{aligned} PE_{\text{annual, 5 ppmvd NOx}} &= 20.4 \text{ MMBtu/hr} \times 8760 \text{ hr/year} \times 0.006 \text{ lb/MMBtu} \\ PE_{\text{annual, 5 ppmvd NOx}} &= 1,072 \text{ lb-NOx/year} \end{aligned}$$

The emission reduction that can be achieved if using the technologically feasible control system, compared to industry standard, is:

$$\begin{aligned} \text{Emission Reduction} &= PE_{\text{annual, industry standard NOx}} - PE_{\text{annual, 5 ppmvd NOx}} \\ \text{Emission Reduction} &= 1,430 \text{ lb-NOx/year} - 1,072 \text{ lb-NOx/year} \\ \text{Emission Reduction} &= 358 \text{ lb-NOx/year (0.18 tons-NOx/year)} \end{aligned}$$

Cost per Ton of Emission Reductions for a 5 ppmvd NOx SCR System

The cost per ton of emission reductions is:

$$\begin{aligned} \$/\text{ton} &= \$46,099/\text{year} \div 0.18 \text{ tons-NOx/year} \\ \$/\text{ton} &= \$256,106/\text{ton-NOx} \end{aligned}$$

Since the cost/ton of NOx reduced for the technologically feasible control option is greater than the NOx cost effectiveness threshold of \$24,500/ton, the use of an SCR system to achieve 5 ppmvd NOx is not considered to be cost effective and will not be required.

e. Step 5 - Select BACT

BACT for NOx is 7 ppmvd NOx @ 3% O₂ (0.008 lb-NOx/MMBtu). The applicant has proposed a system that meets 7 ppmvd NOx @ 3% O₂; therefore, BACT requirements for NOx are satisfied.

BACT for VOC and PM10 is the use of Natural gas fuel with LPG backup. The proposed boiler will be fired exclusively on PUC-Quality natural gas. Therefore, BACT requirements for VOC and PM10 are satisfied.

One (1) CataStak SCR Package
To Serve One (1) 300 HP Boiler At Rated Capacity

SYSTEM / PROCESS SUMMARY:

The CataStak NOx reduction system is designed for low cost operation and maximum stand-alone operation with minimum operator intervention. It includes all critical components to enable startup, control and shutdown.

Design Basis:

California Boiler proposes implementing a ground mounted selective catalytic reduction (SCR) system to reduce NOx emissions from 60 ppmvd to <5 ppmvd on the new 300hp Hurst firetube boiler. The typical operating temperature window of package boilers has been proven to be an excellent application for the CataStak. The CataStak has set the bar for meeting the lowest emissions standards throughout the country, leads the package boiler industry in Green Technology, carries the smallest CO2 footprint, and allows the boiler to operate at the lowest O2 and excess air levels. We have experienced and evaluated alternative approaches for Sub 5 ppm NOx reduction, and are confident that we are proposing the most efficient and trouble-free solution available. This solution ensures that the reduction of NOx in the stack does not impede combustion or burner operation, nor is flame stability, load response, and turndown compromised. In accordance with our discussion, we are proposing a ground mounted system including inlet and outlet transitions and the interconnecting ductwork between the boiler and SCR. per your request.

PERFORMANCE & REPRESENTATION

The proposed NOx reduction system is designed in accordance with the process information received for the general design parameters data as follows:

Inlet Conditions:

Flue Gas Flow: 12,420 lb/hr (300HP boiler)

Flue Gas Temperature: 375F

Fuel: NG

NOx Inlet: 60 ppm @ 3% O2

Outlet Conditions:

NOx Outlet: <5 ppm @ 3% O2

Ammonia Slip: <10 ppm @ 3% O2

Pressure Drop: 1.5"wc maximum (complete system from AIG to SCR outlet)

NH3 consumption: 0.5 lb/hr at full load

Haldor Topsøe DNX DeNOx SCR Catalyst

The DNX-1029 catalyst features:

- High NOx removal activity at low temperatures
- Low pressure drop

- Low SO₂ oxidation rate
- Excellent durability

DNX catalysts are based on a corrugated, fiber reinforced titanium dioxide (TiO₂) carrier. The carrier is impregnated with the active components: vanadium pentoxide (V₂O₅) and tungsten trioxide (WO₃). The catalyst is shaped to a monolithic structure with a large number of parallel channels.

The unique catalyst design provides a highly porous structure with a large surface area and an ensuing large number of active sites.

The high and well-defined porosity is the key to:

- A high NO_x removal level with minimum ammonia slip
- A low activity towards SO₂ oxidation, minimizing the risk of fouling downstream equipment
- A high poison resistance ensuring a long and stable service life
- A substantially lower weight than conventional plate or extruded catalysts, allowing a fast response to changes in operation

Catalyst Housing and Skid

The SCR housing will be designed for horizontal flow and include a structural steel skid for direct placement and anchoring on customer's foundation. The structural steel housing will include custom inlet and outlet flanged transitions with test port connections and access doors for inspection purposes. The entire skid will be insulated and covered with an aluminum lagging.

Ammonia Injection Grid

The Ammonia Injection Grid (AIG) consists of a stainless steel header feeding a group of stainless steel injection lances distributed across the flue gas duct. The AIG provides uniform injection of the ammonia/air mixture over the duct cross section. The AIG will be mounted in a 20" flanged spool piece matching the boiler's flue gas outlet flange.

Interconnecting Ductwork

California Boiler, Inc. will design and supply the approximately 20' of required ductwork between the Boiler/AIG and the SCR inlet. This 20" steel ductwork will include necessary 90 degree bends with turning vanes for even air flow distribution. This ductwork will come pre-insulated with aluminum lagging. Some field fitting may be required.

Ammonia Delivery System

A detailed analysis of ammonia injection options led us to the conclusion that with the small amount of ammonia required the most economic solution is a skid mounted system comprised of three (3) anhydrous ammonia cylinders (150 lb. each) connected to a common header with instruments. This system eliminates the capital cost associated with conventional ammonia injection systems involving ammonia storage tanks, ammonia vaporizers, and ammonia control instrumentation based on NO_x measurements.

Moreover, by staying under 500 lbs. you avoid the cost and effort to develop, implement, and maintain a detailed risk management plan as required by OSHA.

Anhydrous ammonia will be stored in customer supplied standard 150 lb. gas cylinders.

The cylinders will connect to a manifold which will accommodate three cylinders, and allow them to be isolated and switched over on-line. Anhydrous ammonia gas cylinders are the most cost-effective and practical storage method for a system of this capacity.

Ammonia Delivery System (continued)

Ammonia flow control unit (AFCU) components will be skid mounted in a compact space-saving arrangement where all operating devices are within close proximity of each other and within easy access for the operator. The skid includes brackets and chains for securing (3) 150# ammonia cylinders, bottle connectors, an all stainless steel vapor ammonia header with safety valves, switches, pressure regulator, and a "smart" mass flow control valve. This manifold will be heat traced and insulated to prevent freezing. The skid will also contain one NEMA 4X stainless steel panel with a Siemens 353 PID loop controller, indicating lights, on/off switches, and alarm bell. A dilution air blower will be provided mounted, piped, and wired on the skid. The control panel has Ethernet and/or Modbus capability for remote monitoring.

Ammonia flow rate for the boiler will be controlled based on a 4-20ma signal representing fuel flow or boiler load signal and pre-determined uncontrolled NOx emissions. Dilution air flow rate will be held constant at about 30 SCFM for all ammonia flow rates.

Equipment Dimensions

Overall SCR Size: 10' L x 5' W x 6'H (including square to round inlet/outlet transitions)

Weight: 7,220 lbs.

NH3 Flow Control Skid: 6' H x 6' L x 4' W

Weight: 4,250 lbs.

SUMMARIZED SCOPE OF WORK

California Boiler, Inc. will provide the equipment listed below to reduce NOx emissions:

- Stainless Steel Ammonia Injection Grid In flanged round spool piece
- 20' of insulated and lagged 20" ductwork for connection between the AIG and SCR Inlet.
- Insulated and lagged carbon steel reactor housing with flanged inlet and outlet transitions with access doors, designed for horizontal flow ground mounting

- Haldor Topsoe DNX-1029 SCR DeNOx catalyst, 9 cassettes factory mounted in a support frame
- Ammonia flow control skid designed for three (3) 150 lb. ammonia cylinders
- One (1) type K thermocouple
- NBI standard CataStak drawing package (GA, P&ID, Process Flow, B of M)
- All freight to Jobsite
- Initial start-up and operator training services

Item 4 of 4 Pricing

**Total Cost For One (1) CataStak SCR System As Described Above
Excluding Tax, Freight And Installation.....\$ 283,259.50**

**Estimated Freight To Jobsite = Price Includes Freight To The Jobsite
 Delivery = 12 Weeks**

Scope of Supply by Others

- Ammonia source (suggest Hill Brothers or Airgas)
- Foundations or footings for structure
- Power supply

- Prices Are Guaranteed For Thirty (30) Days From The Date Of This Proposal.
- Labor Is Based On Standard Working Hours; From Monday ☺ Friday, 8:00am ☺ 5:00pm Unless Specifically Stated Otherwise.

APPENDIX IV

HAP Emission Calculations

HAP Emission Calculations

Pacific Southwest Container provided an estimate of the projected maximum annual HAP emissions for the entire facility in District Project N-1011143. With the exception of the addition of the boiler in this project, all other projects since that time have been for similar units that were added into the existing SLC's. Therefore, the total HAP emissions for the facility may be calculated as sum of the projected maximum annual HAP emissions provided in District Project N-1011143 and the HAP emissions from the new boiler.

The following table shows the total maximum HAP emissions from the VOC emitting units at this facility, as obtained from District Project N-1011143:

Facility-Wide HAP Emissions from Existing Units	
Hazardous Air Pollutant	PE (lb/year)
Acetaldehyde	21
Ethyl benzene	357
Ethylene Glycol	136
Formaldehyde	1
Glycol Ethers	165
Styrene	0.73
Toluene	2.9
Vinyl Acetate	700
Xylene	1,532

The following table shows the estimated HAP emissions from the boiler. The HAP emissions were calculated using the maximum annual fuel usage for the boiler and the District's Toxic Air Contaminants Spreadsheet Calculator for external natural gas combustion (attached at end of this appendix).

Maximum Fuel Usage = 20.4 MMBtu/hr x MMscf/1000 MMBtu x 8,760 hr/year
Maximum Fuel Usage = 178.7 MMscf/year

New Boiler HAP Emissions (N-3606-30-1)	
Hazardous Air Pollutant	PE (lb/year)
Acetaldehyde	0.6
Acrolein	0.5
Benzene	1.0
Ethyl Benzene	1.2
Formaldehyde	2.2
Hexane	0.8
Naphthalene	0.1
PAH's	0.1
Propylene	94.7
Toluene	4.7
Xylene	3.5

Total HAP emissions from the facility are summed in the table below. As shown in the below table, HAP emissions are less than 20,000 lb/year for each HAP and 50,000 lb/year for total HAPs; therefore, this facility is an Area Source of HAP Emissions.

Post-Project Facility-Wide HAP Emissions			
Hazardous Air Pollutant	PE from Existing Units (lb/year)	PE from New Boiler (lb/year)	Total PE (lb/year)
Acetaldehyde	21	0.6	21.6
Acrolein	0	0.5	0.5
Benzene	0	1.0	1.0
Ethyl benzene	357	1.2	358.2
Ethylene Glycol	136	0	136
Formaldehyde	1	2.2	3.2
Glycol Ethers	165	0	165
Hexane	0	0.8	0.8
Naphthalene	0	0.1	0.1
PAH's	0	0.1	0.1
Propylene	0	94.7	94.7
Styrene	0.73	0	0.73
Toluene	2.9	4.7	7.6
Vinyl Acetate	700	0	700
Xylene	1,532	3.5	1,535.5
Total Facility-Wide HAP Emissions			3,025

Name		Natural Gas-Fired External Combustion											
Applicability		Use this spreadsheet for Natural Gas-Fired External Combustion (Boilers, heaters, flares). Entries required in yellow areas, output in grey areas.											
Author or updater		Matthew Cegielski			Last Update		May 20, 2013						
Facility:		Pacific Southwest Containers											
ID#:		N-3606-30-1											
Project #:		N-1133573											
Inputs	Rate MMscf /hr	Rate MMscf /yr	Formula										
<10 MMBTU/hr	8.00E-03	0	Choose one of the MMBtu ratings and supply the necessary rate. Emissions are calculated by the multiplications of each corresponding Fuel Rate and Emission Factor.										
10-100 MMBTU/hr	5.00E-02	178.7											
> 100 MMBTU/hr	1.50E-01	0											
Flare	8.00E-03	0											
Substances	CAS#	<10 MMBTU/hr Emission Factor lbs/ MMscf	LB/HR	LB/YR	10-100 MMBTU/hr Emission Factor lbs/ MMscf	LB/HR	LB/YR	>100 MMBTU/hr Emission Factor lbs/ MMscf	LB/HR	LB/YR	Flare Emission Factor lbs/ MMscf	LB/HR	LB/YR
Acetaldehyde	75070	4.30E-03	3.44E-05	0.00E+00	3.10E-03	1.55E-04	5.54E-01	9.00E-04	1.35E-04	0.00E+00	4.30E-02	3.44E-04	0.00E+00
Acrolein	107028	2.70E-03	2.16E-05	0.00E+00	2.70E-03	1.35E-04	4.82E-01	8.00E-04	1.20E-04	0.00E+00	1.00E-02	8.00E-05	0.00E+00
Benzene	71432	8.00E-03	6.40E-05	0.00E+00	5.80E-03	2.90E-04	1.04E+00	1.70E-03	2.55E-04	0.00E+00	1.59E-01	1.27E-03	0.00E+00
Ethyl Benzene	100414	9.50E-03	7.60E-05	0.00E+00	6.90E-03	3.45E-04	1.23E+00	2.00E-03	3.00E-04	0.00E+00	1.44E+00	1.16E-02	0.00E+00
Formaldehyde	50000	1.70E-02	1.36E-04	0.00E+00	1.23E-02	6.15E-04	2.20E+00	3.60E-03	5.40E-04	0.00E+00	1.17E+00	9.35E-03	0.00E+00
Hexane	110543	6.30E-03	5.04E-05	0.00E+00	4.60E-03	2.30E-04	8.22E-01	1.30E-03	1.95E-04	0.00E+00	2.90E-02	2.32E-04	0.00E+00
Naphthalene	91203	3.00E-04	2.40E-06	0.00E+00	3.00E-04	1.50E-05	5.36E-02	3.00E-04	4.50E-05	0.00E+00	1.10E-02	8.80E-05	0.00E+00
PAH's	1151	4.00E-04	3.20E-06	0.00E+00	4.00E-04	2.00E-05	7.15E-02	4.00E-04	6.00E-05	0.00E+00	1.40E-02	1.12E-04	0.00E+00
Propylene	115071	7.31E-01	5.85E-03	0.00E+00	5.30E-01	2.65E-02	9.47E+01	1.55E-02	2.33E-03	0.00E+00	2.44E+00	1.95E-02	0.00E+00
Toluene	108883	3.66E-02	2.93E-04	0.00E+00	2.65E-02	1.33E-03	4.74E+00	7.80E-03	1.17E-03	0.00E+00	5.80E-02	4.64E-04	0.00E+00
Xylenes	1330207	2.72E-02	2.18E-04	0.00E+00	1.97E-02	9.85E-04	3.52E+00	5.80E-03	8.70E-04	0.00E+00	2.90E-02	2.32E-04	0.00E+00
References:													
* The emission factors were based on the May 2001 update of VCAPCD AB 2588 Combustion Emission Factors													

APPENDIX V

Risk Management Review

and

Ambient Air Quality Analysis Results

San Joaquin Valley Air Pollution Control District Risk Management Review

To: James Harader – Permit Services
 From: Kou Thao – Technical Services
 Date: 1-23-14
 Facility Name: Pacific Southwest Container
 Location: 4530 Leckron Rd, Modesto, CA
 Application #(s): N-3606-30-1
 Project #: N-1133573

A. RMR SUMMARY

RMR Summary			
Categories	NG boiler (Unit 30-1)	Project Totals	Facility Totals
Prioritization Score	0.04	0.04	>1
Acute Hazard Index	8.19E-04	8.19E-04	8.49E-03
Chronic Hazard Index	2.31E-04	2.31E-04	1.53E-01
Maximum individual Cancer Risk (10^{-6})	6.54E-07	6.54E-07	1.24E-06
T-BACT Required?	No		
Special Permit Conditions?	Yes		

¹There are no HAP's associated with the emissions from these units.

Proposed Permit Conditions

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

Unit # 30-1

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

B. RMR REPORT

I. Project Description

Technical Services received a request on January 23, 2014 to perform a Risk Management Review for a proposed installation of a 20.4 mmbtu/hr natural gas boiler. The applicant is proposing to install this new unit instead of the 19.9 mmbtu/hr natural gas boiler previously approved under ATC 30-0.

II. Analysis

Technical Services performed a prioritization for proposed unit -30-1 using the District's HEARTs database. Since the total facility prioritization score was greater than one, a refined health risk assessment was required. Emissions calculated using Ventura County emission factors for internal combustion of natural gas were input into the HEARTs database. The AERMOD model was used, with the parameters outlined below and meteorological data for 2005-2009 from Modesto 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 Hot Spots Analysis and Reporting Program (HARP) risk assessment module to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

Analysis Parameters Unit -30-1			
Source Type	Point	Location Type	Rural
Stack Height (m)	7.32	Closest Receptor (m)	82
Stack Diameter. (m)	0.61	Type of Receptor	Business
Stack Exit Velocity (m/s)	12.78	Max Hours per Year	8760
Stack Exit Temp. (°K)	515.22	Fuel Type	NG
Burner Rating (MMBtu/hr)	20.4		

In addition to the RMR, Technical Services performed modeling for criteria pollutants CO, NO_x, SO_x and PM₁₀; as well. The emission rates used for criteria pollutant modeling were 0.75 lb/hr CO, 0.16 lb/hr NO_x, 0.06 lb/hr SO_x, and 0.15 lb/hr PM₁₀. The engineer supplied the maximum fuel rate for the natural gas boiler used during the analysis.

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

NG Boiler	1 Hour	3 Hours	8 Hours.	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO _x	Pass ¹	X	X	X	Pass
SO _x	Pass	Pass	X	Pass	Pass
PM ₁₀	X	X	X	Pass ²	Pass ²
PM _{2.5}	X	X	X	Pass ²	Pass ²

¹The project was compared to the 1-hour NO₂ National Ambient Air Quality Standard that became effective on April 12, 2010 using the District's approved procedures.

²The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

III. Conclusion

The acute and chronic indices are below 1.0 and the cancer risk factor associated with the 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 conditions listed on page 1 of this report must be included for this proposed unit.

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

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.

IV. Attachments

- A. RMR request from the project engineer
- B. Additional information from the applicant/project engineer
- C. Toxic emissions summary
- D. Prioritization score
- E. Facility Summary

APPENDIX VI

Compliance Certification Form



RECEIVED

FEB 20 ;

February 20/2013

SJVAPCD
NORTHERN REGION

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

Subject: Compliance Statement for Pacific Southwest Container LLC

Dear Mr. Gill:

In accordance with Rule 2201, Section 4.15, "Additional Requirements for New Major Sources and Federal Major Modifications," Pacific Southwest Container LLC is pleased to provide this compliance statement regarding its proposed corrugator project N-1130130 in facility N-3606.

All major stationary sources in California owned or operated by Pacific Southwest Container LLC, or by any entity controlling, controlled by, or under common control with Pacific Southwest Container LLC 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: PSC Modesto – 4330 Leckron Road - Modesto, CA 95357
- Facility #2: PSC Visalia – 9525 West Nicholas Avenue – Visalia, CA 93291
- Facility #3: PSC Stockton – 4343 East Fremont Street – Stockton, CA 95212

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

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

Sincerely,

"Mac" McCullough
Sr Vice President Quality & Environmental Mgmt

RECEIVED

FEB 20 2013

SJVAPCD
NORTHERN REGION

Corrugated Containers	◇	Folding Cartons	◇	Singleface Lamination	◇	Foam Packaging
4530 Leckron Road		P.O. Box 3351		Modesto CA 95353		(209) 526-0444

APPENDIX VII

QNEC Calculations

QNEC Calculations

$$\text{QNEC} = (\text{PE2} - \text{BE}) + 4$$

As shown in Section VII.C.5, BE is equal to zero for all pollutants. Therefore, the equation for QNEC reduces to:

$$\text{QNEC} = \text{PE2} \div 4$$

VOC emissions are subject to a facility-wide limit that will not be modified. Therefore, the QNEC for VOC will be equal to zero. The QNEC for all other pollutants is shown below:

Pollutant	PE2 (lb/year)	QNEC (lb/qtr)
NOx	1,430	357.5
SOx	509	127.25
PM10	1,358	339.5
CO	6,612	1,653.0