



JUL 07 2010

Ron Crookham
Dart Container Corporation
1400 E Victor Rd
Lodi, CA 95240

**Re: Proposed Authority to Construct / Certificate of Conformity (Minor Mod)
District Facility # N-257
Project # N-1101503**

Dear Mr. Crookham:

Enclosed for your review is the District's analysis of your application for Authority to Construct for the facility identified above. You have requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. Modification to a 14.65 MMBtu/hr boiler to decrease NOx emission concentration from 15 ppmv to 9 ppmv, dry, corrected to 3% O2 for Rule 4320 compliance.

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

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

DW: FC/cm

Enclosures

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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4800 Enterprise Way
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JUL 07 2010

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

Re: **Proposed Authority to Construct / Certificate of Conformity (Minor Mod)**
District Facility # N-257
Project # N-1101503

Dear Mr. Rios:

Enclosed for your review is the District's engineering evaluation of an application for Authority to Construct for Dart Container Corporation, located at 1400 East Victor Road, Lodi, CA, which has been issued a Title V permit. Dart Container Corporation is requesting that a Certificate of Conformity, with the procedural requirements of 40 CFR Part 70, be issued with this project. Modification to a 14.65 MMBtu/hr boiler to decrease NOx emission concentration from 15 ppmv to 9 ppmv, dry, corrected to 3% O2 for Rule 4320 compliance.

Enclosed is the engineering evaluation of this application, a copy of the current Title V permit, and proposed Authority to Construct # N-257-4-6 with Certificate of Conformity. After demonstrating compliance with the Authority to Construct, the conditions will be incorporated into the facility's Title V permit through an administrative amendment.

Please submit your written comments on this project within the 45-day comment period that begins on the date you receive this letter. If you have any questions, please contact Mr. Rupi Gill, Permit Services Manager, at (209) 557-6400.

Thank you for your cooperation in this matter.

Sincerely,



David Warner
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San Joaquin Valley Air Pollution Control District Authority to Construct

Facility Name: Dart Container Corporation
Mailing Address: 1400 E Victor Road
Lodi, CA 95240
Contact Persons: Ron Crookham – Plant Manager
Telephone: (209) 333-8088 extension 5202
Fax: (209) 333-7338
Application Nos: N-257-4-6
Project No: N-1101503
Deemed Complete: May 10, 2010

Date: June 22, 2010
Engineer: Fred Cruz
Lead Engineer: Nick Peirce

I. PROPOSAL:

Dart Containers Corporation submitted an Authority to Construct (ATC) application to modify the NOx emission concentration from 15 ppmv to 9 ppmv for the boiler covered by permit N-257-4. The unit's most recent source test results indicate that this boiler is already in compliance with the Rule 4320 NOx emission limits. Per District Policy FYI 111, the changes to the NOx emission concentration is not considered as a NSR Rule modification since this change is required to meet the requirements of Rule 4320, Advanced Emission Reduction Options for Boilers, Steam Generators and Process Heaters greater than 5.0 MMbtu/hr. The applicant is not proposing any other changes or modifications to the emission concentrations or emissions limits for the other criteria pollutants for this boiler. Therefore, NSR calculations will not be performed for this project.

In addition, the facility currently follows Alternate Monitoring Scheme "A" using a portable analyzer according to District Policy SSP-1105, and is requesting to maintain the current monitoring arrangement for this boiler.

Dart Containers has been issued their Title V (TV) permit. This modification can be classified as a Title V minor modification pursuant to Rule 2520, Section 3.20, and can be processed with a Certificate of Conformity (COC). The applicant has requested that the Authority to Construct permit be issued with a Certificate of Conformity and Dart Containers will submit a Title V application to modify their existing Title V permit.

II. APPLICABLE RULES:

District Rule 2201 New and Modified Stationary Source Review Rule (9/21/2006)
District Rule 2520 Federal Mandated Operating Permits (6/21/2001)
District Rule 4001 New Source Performance Standards (4/14/1999)
District Rule 4101 Visible Emissions (2/17/2005)

District Rule 4102	Nuisance (12/17/1992)
District Rule 4201	Particulate Matter Concentration (12/17/1992)
District Rule 4301	Fuel Burning Equipment (12/17/1992)
District Rule 4304	Equipment Tuning Procedure for Boilers, Steam Generators and Process Heaters (10/19/1995)
District Rule 4305	Boilers, Steam Generators and Process Heaters – Phase 2 (8/21/2003)
District Rule 4306	Boilers, Steam Generators and Process Heaters – Phase 3 (3/17/2005)
District Rule 4320	Advanced Emission Reduction Options for Boilers, Steam Generators and Process Heaters greater than 5.0 MMbtu/hr (10/16/2008)
District Rule 4531	Boilers, Steam Generators and Process Heaters – Phase 1 (8/21/2003)
District Rule 4801	Sulfur Compounds (12/17/1992)
CH&SC 41700	Health Risk Assessment
CH&SC 42301.6	School Notice

III. PROJECT LOCATION:

The facility is located at 1400 East Victor Road, Lodi, California. The District has verified that the facility is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the school notification requirement of CH&SC 42301.6 is not required.

IV. PROCESS DESCRIPTION:

The boiler is used to provide steam/hot water requirements for various manufacturing operations at the facility.

V. EQUIPMENT LISTING:

With this modification, the equipment description for the boiler will not change. Therefore, the pre-project and post project equipment description will be the same.

Pre-project and Post Project Equipment Description – N-257-4:

14.65 MMBTU/HR CLEAVER BROOKS BOILER (MODEL CB 600-350-150) WITH A CLEAVER BROOKS MODEL CB-NTI LOW-NOX BURNER AND FLUE GAS RECIRCULATION

ATC Equipment Description – N-257-4-6:

MODIFICATION OF 14.65 MMBTU/HR CLEAVER BROOKS BOILER (MODEL CB 600-350-150) WITH A CLEAVER BROOKS MODEL CB-NTI LOW-NOX BURNER AND FLUE GAS RECIRCULATION TO REDUCE THE NOX EMISSION LIMIT FROM 15 PPMVD TO 9 PPMVD @ 3% O2 FOR DISTRICT RULE 4320 COMPLIANCE.

VI. EMISSION CONTROL TECHNOLOGY EVALUATION:

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 sometimes the air) in multiple stages. Generally, in the first combustion stage, the air-fuel mixture is fuel rich. In a fuel rich environment, all the oxygen will be consumed in reactions with the fuel, leaving no excess oxygen available to react with nitrogen to produce thermal NO_x. In the secondary and tertiary stages, the combustion zone is maintained in a fuel-lean environment. The excess air in these stages helps to reduce the flame temperature so that the reaction between the excess oxygen with nitrogen is minimized.

VII. CALCULATIONS:

This project does not meet the criteria for a Rule 2201 Modification, as defined in Section 3.24, and is therefore not subject to the requirements of Rule 2201. Therefore, calculations for Rule 2201 compliance are not required and only the Potential to Emit (PE) for the change in NO_x emissions will be calculated for emission profile purposes.

A. Assumptions

- The maximum operating schedule is 24 hours per day, and 8760 hours per year.
- The unit is fired on PUC regulated natural gas with pentane process emissions and #2 diesel fuel as a curtailment fuel.
- Combustion of #2 fuel oil is limited to 216 hours per calendar year, 168 hours plus 48 hours for testing and maintenance purposes.
- The natural gas heating value is 1,000 Btu/scf (per District Practice).
- F-Factor for Natural Gas: 8,578 dscf/MMBtu corrected to 60°F (40 CFR 60, Appendix B).
- Diesel Heating Value: 137,000 Btu/gal
- F-Factor for Diesel: 9,051 dscf/MMBtu at 60°F (40 CFR 60)
- Post project SO_x emission factor for the combustion of #2 fuel oil will be modified as required by Section 5.4.2 of Rule 4320 (sulfur content is limited to 15 ppm, by weight)
- The applicant is not proposing any modifications to the emission factors for the remaining pollutants for the combustion of either natural gas or #2 fuel oil.
- Other assumptions will be stated as each is made.

B. Emission Factors

Pre-Project Emission Factors (EF1)

The pre-project NO_x and SO_x emission factors (EF1) are listed below.

Pollutant	Pre-Project Emission Factors (EF1)		Fuel
NO _x	0.018 lb-NO _x /MMBtu	15 ppmvd NO _x (@ 3%O ₂)	Natural gas
	0.0512 lb-NO _x /MMBtu	40 ppmvd NO _x (@ 3% O ₂)	#2 Fuel oil
SO _x	0.00285 lb-SO _x /MMBtu		Natural gas
	0.26 lb-SO _x /MMBtu	Based on 0.25% sulfur content	#2 Fuel oil

Post-Project Emission Factors (EF2)

The post-project NO_x emission factors (EF2) are listed below.

Pollutant	Post-Project Emission Factors (EF2)		Source
NO _x	0.011 lb-NO _x /MMBtu	9 ppmvd NO _x (@ 3%O ₂)	Applicant's proposal
	0.0512 lb-NO _x /MMBtu	40 ppmvd NO _x (@ 3% O ₂)	Current permit
SO _x	0.00285 lb-SO _x /MMBtu		Natural gas
	0.0016 lb-SO _x /MMBtu	Based on 15 ppm sulfur content	#2 Fuel oil

C. Potential to Emit (PE)

This boiler can be fired on #2 fuel oil as a curtailment fuel for total of 216 hours per calendar year. Potential to emit calculations for NO_x and SO_x emissions will be performed for emission profile purposes only.

1. Daily and Annual PE

Pre-Project Potential to Emit (PE1) N-257-4-4:

Natural gas combustion:

$$\begin{aligned}
 PE1_{NOx} &= EF \text{ (lb/MMBtu)} \times \text{Heat Input (MMBtu/hr)} \times \text{Operating Schedule} \\
 &\quad \text{(hr/day or hr/yr) EF lb/MMBtu} \\
 &= (0.018 \text{ lb-NO}_x\text{/MMBtu}) \times 14.65 \text{ MMBtu/hr} \times (24 \text{ hr/day, or } 8,544 \\
 &\quad \text{hr/yr [8,760 - 216 = 8,544 hr/yr]})
 \end{aligned}$$

$$\begin{aligned}
 PE1 &= 6.3 \text{ lb-NO}_x\text{/day} \\
 &= 2,253 \text{ lb-NO}_x\text{/yr}
 \end{aligned}$$

$$\begin{aligned}
 PE1_{SOx} &= EF \text{ (lb/MMBtu)} \times \text{Heat Input (MMBtu/hr)} \times \text{Op Sched (hr/day or} \\
 &\quad \text{hr/yr) EF lb/MMBtu} \\
 &= (0.00285 \text{ lb-SO}_x\text{/MMBtu}) \times 14.65 \text{ MMBtu/hr} \times (24 \text{ hr/day, or } 8,544 \\
 &\quad \text{hr/yr})
 \end{aligned}$$

$$\begin{aligned}
 PE1 &= 1.0 \text{ lb-SO}_x\text{/day} \\
 &= 357 \text{ lb-SO}_x\text{/yr}
 \end{aligned}$$

#2 fuel oil combustion:

$$\begin{aligned}
 PE1_{NOx} &= EF \text{ (lb/MMBtu)} \times \text{Heat Input (MMBtu/hr)} \times \text{Op Sched (hr/day or} \\
 &\quad \text{hr/yr) EF lb/MMBtu}
 \end{aligned}$$

$$= (0.0512 \text{ lb-NOx/MMBtu}) \times 14.65 \text{ MMBtu/hr} \times (24 \text{ hr/day, or } 216 \text{ hr/yr})$$

$$\begin{aligned} \text{PE1} &= 18.0 \text{ lb-NOx/day} \\ &= 162 \text{ lb-NOx/yr} \end{aligned}$$

$$\begin{aligned} \text{PE1}_{\text{SOx}} &= \text{EF (lb/MMBtu)} \times \text{Heat Input (MMBtu/hr)} \times \text{Op. Sched (hr/day or hr/yr)} \\ &= (0.26 \text{ lb-SOx/MMBtu}) \times 14.65 \text{ MMBtu/hr} \times (24 \text{ hr/day, or } 216 \text{ hr/yr}) \end{aligned}$$

$$\begin{aligned} \text{PE1} &= 91.4 \text{ lb-SOx/day} \\ &= 823 \text{ lb-SOx/yr} \end{aligned}$$

Combined annual NOx emissions: $(2,253 + 162) \text{ lb-NOx/yr} = 2,415 \text{ lb-NOx/yr}$

Combined annual SOx emissions: $(357 + 823) \text{ lb-SOx/yr} = 1,180 \text{ lb-SOx/yr}$

Post-Project Potential to Emit (PE2) N-257-4-6:

Natural gas combustion:

$$\begin{aligned} \text{PE2}_{\text{NOx}} &= \text{EF (lb/MMBtu)} \times \text{Heat Input (MMBtu/hr)} \times \text{Op. Sched (hr/day or hr/yr)} \\ &= (0.011 \text{ lb-NOx/MMBtu}) \times 14.65 \text{ MMBtu/hr} \times (24 \text{ hr/day, or } 8,544 \text{ hr/yr}) \end{aligned}$$

$$\begin{aligned} \text{PE2} &= 3.9 \text{ lb-NOx/day} \\ &= 1,377 \text{ lb-NOx/yr} \end{aligned}$$

PE2_{SOx} SOx emissions from the combustion of natural gas will equal the pre-project emission totals above.

#2 fuel oil combustion:

PE2_{NOx} NOx emissions from the combustion of #2 fuel oil will equal the pre-project emission totals above.

$$\begin{aligned} \text{PE2}_{\text{SOx}} &= \text{EF (lb/MMBtu)} \times \text{Heat Input (MMBtu/hr)} \times \text{Op. Sched (hr/day or hr/yr)} \\ &= (0.0016 \text{ lb-SOx/MMBtu}) \times 14.65 \text{ MMBtu/hr} \times (24 \text{ hr/day, or } 216 \text{ hr/yr}) \end{aligned}$$

$$\begin{aligned} \text{PE2} &= 0.6 \text{ lb-SOx/day} \\ &= 5 \text{ lb-SOx/yr} \end{aligned}$$

Combined annual NOx emissions: $(1,377 + 162) \text{ lb-NOx/yr} = 1,539 \text{ lb-NOx/yr}$

Combined annual SOx emissions: $(357 + 5) \text{ lb-SOx/yr} = 362 \text{ lb-SOx/yr}$

2. Quarterly Emissions Changes:

The Quarterly Emissions Changes (QEC) is calculated for each pollutant, for each unit, as the difference between the quarterly PE2 and the quarterly baseline emissions (BE). There will be a decrease in NOx emissions from these modifications. The annual emissions are evenly distributed throughout each quarter using the following equation:

N-257-4-6:

$$\begin{aligned} \text{Quarter Net Emissions (lb/quarter)} &= [\text{Annual PE2} - \text{Annual PE1}] \text{ (lb/year)} / 4 \text{ (quarter/year)} \\ &= (1,539 - 2,415) \text{ lb-NOx/yr} \div 4 \text{ qtr/yr} \\ &= (362 - 1,180) \text{ lb-SOx/yr} \div 4 \text{ qtr/yr} \end{aligned}$$

The QEC for each pollutant is shown in the table below:

Pollutant	Quarterly Emission Changes (QEC)			
	1 st Quarter (lb/quarter)	2 nd Quarter (lb/quarter)	3 rd Quarter (lb/quarter)	4 th Quarter (lb/quarter)
NO _x	-219	-219	-219	-219
SO _x	-204	-204	-205	-205
PM ₁₀	0	0	0	0
CO	0	0	0	0
VOC	0	0	0	0

VIII. COMPLIANCE

District Rule 2201 New and Modified Stationary Source Review Rule

This project does not meet the criteria for a Modification, as defined in Section 3.24, and is therefore not subject to this rule, as demonstrated with the following discussion.

- Any change in hours of operation, production rate, or method of operation of an existing emissions unit, which would necessitate a change in permit conditions.

The facility has not proposed a change in hours of operation, production rate, or method of operation for this boiler, which would necessitate a change in permit conditions.

- Any structural change or addition to an existing emissions unit, which would necessitate a change in, permit conditions.

The facility has not proposed a structural change or addition to an existing emissions unit, which would necessitate a change in permit conditions.

- An increase in emissions from an emissions unit caused by a modification of the Stationary Source when the emissions unit is not subject to a daily emissions limitation.

There are no emissions increases associated with this project.

- Addition of any new emissions unit, which is subject to District permitting requirements.

The facility has not proposed the addition of a new emissions unit, which would be subject to District permitting.

- A change in a permit term or condition proposed by an applicant to obtain an exemption from an applicable requirement to which the source would otherwise be subject.

The facility has not proposed a change in a permit term or condition to obtain an exemption from an applicable requirement to which the source would otherwise be subject.

Therefore, compliance with this rule is expected.

District Rule 2520 Federally Mandated Operating Permits

Dart Containers is a Major Source facility and currently has a Title V permit. Therefore, this rule is applicable to this facility. The proposed project constitutes a Minor Modification to the Title V permit.

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 NSPS Subparts Db Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units (> 100 MMBtu/hr) and Dc Standards of Performance for Small Industrial-Commercial Institutional Steam Generating Units (> 10 MMBtu/hr and < 100 MMBtu/hr)

NSPS Subparts Db and Dc apply to steam generating units that are constructed, reconstructed, or modified after 6/19/84 and 6/9/89, respectively. No newly constructed or reconstructed units are proposed in this project. Furthermore, the unit is not modified (as defined in NSPS Subpart A), because there is no increase in emissions for pollutants regulated by the applicable standards, in this case SO_x, PM₁₀, or NO_x. Subpart Db has standards SO_x, PM₁₀, and NO_x, and Subpart DC has standards for PM₁₀.

Therefore, the unit is not subject to NSPS as a result of this project.

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 listed on the permit to ensure compliance:

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

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 listed on the permit to ensure compliance:

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

California Health & Safety Code 41700 (Risk Management Review)

District Policy APR 1905-1 (March 2, 2001) - 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. There will be no increase in emissions as a result of this project. Therefore, a health risk assessment is not required.

District Rule 4201 Particulate Matter Concentration

Section 3.0 prohibits discharge of dust, fumes, or total particulate matter into the atmosphere from any single source operation in excess of 0.1 grain per dry standard cubic foot.

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

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

= 0.006 grains/dscf

Fuel Oil #2:

PM₁₀ Emission Factor: 0.015 lb-PM₁₀/MMBtu
 Percentage of PM as PM₁₀ in Exhaust: 100%

$$GL = \left(\frac{0.015 \text{ lb-PM}}{\text{MMBtu}} \times \frac{7,000 \text{ grain}}{\text{lb-PM}} \right) / \left(\frac{9,051 \text{ ft}^3}{\text{MMBtu}} \right)$$

$$GL = 0.012 \text{ grain/dscf} < 0.1 \text{ grain/dscf}$$

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

- {14} 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/dscf @ 12% CO₂ and 10 (lb/hr). According to AP 42 (Table 1.4-2, footnote c), all PM emissions from natural gas combustion are less than 1 μm in diameter.

$$PM \left(\frac{\text{gr}}{\text{dscf}} \right) = \left[\text{PM emissions} \left(\frac{\text{lb-PM}}{\text{MMBtu}} \right) \times 7,000 \frac{\text{gr-PM}}{\text{lb-PM}} \right] / \left[F_{\text{factor}} \left(\frac{\text{dscf}}{\text{MMBtu}} \right) \right]$$

Permit and Rule Limits	Pollutants		
	NO _x (lb/hr)	SO _x (lb/hr)	PM ₁₀ (lb/hr)
District Rule 4301 Limits	140	200	10
ATC N-257-4-6 (Natural gas)	0.2	0.04	0.11
ATC N-257-4-6 (#2 Fuel oil)	0.8	0.02	0.22

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

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

Pursuant to District Rules 4305 and 4306, and 4320, the permittee is required to tune the boiler during years in which annual source testing is not required (i.e. during the 36-month source testing deferment period). However, units that are equipped with an APCO-approved CEMS or an APCO-approved alternate monitoring scheme where the applicable emissions are periodically monitored are not required to perform tuning.

The permittee has chosen to periodically monitor the NO_x, CO, and O₂ emissions for each boiler by using a District-approved portable emissions analyzer.

This boiler is not required to be tuned since it follows District approved Alternate Monitoring scheme "A" (District Policy SSP 1105) where the applicable emission limits are periodically monitored using. Therefore, this unit is not subject to this Rule.

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

Pursuant to Section 2.0 of District Rule 4305, these units are subject to District Rule 4305, *Boilers, Steam Generators and Process Heaters – Phase 2*.

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

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

Pursuant to Section 2.0 of District Rule 4306, these units are subject to District Rule 4306, *Boilers, Steam Generators and Process Heaters – Phase 3*.

Since the requirements of District Rule 4320 are either equivalent or more stringent than the requirements of District Rule 4306, compliance with District Rule 4320 requirements will satisfy requirements of District Rule 4306. Therefore, no further discussion is required.

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

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

Section 5.2, NO_x and CO Emissions Limits

Section 5.2 requires that, except for units subject to Sections 5.3, 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 unit is subject to the emission limit category listed in Section 5.2, Table 1, Category A, from District Rule 4320.

Rule 4320 Emissions Limits		
Category	Operated on gaseous fuel	
	NO_x Limit	CO Limit
A. Units with a total rated heat input > 5.0 MMBtu/hr and ≤ 20.0 MMBtu, except for categories C through G units	9 ppmv or 0.011 lb/MMBtu	400 ppmv

The applicant is proposing the following NO_x and CO emission limits for this boiler:

NO_x: 9 ppmvd @ 3% O₂ (0.011 lb/MMBtu), and
CO: 50 ppmvd @ 3% O₂ (0.037 lb/MMBtu)

Section 5.3, Annual Fee Calculation

Annual Fees are required if the unit will not be meeting the emission limits in Section 5.2 of this rule. Since this boiler will meet the emissions 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 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;

Section 5.4.2 requires that liquid fuel shall be used only during PUC quality natural gas curtailment periods, provided the requirements of Section 4.2 and 6.1.5 are met and the fuel contains no more than 15 ppm sulfur, as determined by the test method specified in Section 6.2. This unit is fired on PUC-regulated natural gas as the primary fuel and #2 fuel oil as the backup fuel with a maximum limit of 216 hours of operation (including 48 hours equipment testing) per year. These fuels will continue to be used. In addition, the sulfur content of #2 fuel oil will be limited to 15 ppm sulfur as specified in this rule. Therefore, compliance with section 5.4 of District Rule 4320 is expected.

Section 5.5, Low Use

The annual heat input from this boiler will exceed the 1.8 billion Btu heat input per calendar year criteria; therefore, the requirements of this section do not apply.

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 start-up or shutdown provided an operator complies with the requirements specified in Sections 5.6.1 through 5.6.5.

The applicant has not proposed that that the emissions from this boiler will be different for each startup and shutdown event. NO_x emissions during each startup and shutdown event will not exceed 9.0 ppmvd @ 3% O₂. Therefore, the requirements of Sections 5.6.1 through 5.6.5 are not applicable.

Section 5.7, Monitoring Provisions

Section 5.7.1 requires that permit units subject to the emission limits specified in Section 5.2 shall either install and maintain an operational APCO-approved Continuous Emission Monitoring System (CEMS) for NO_x, CO and O₂, or install an APCO-approved Alternate Monitoring System.

The applicant has proposed to perform periodic monitoring of NO_x, CO, and O₂ exhaust concentrations using a District-approved portable emission monitor. The following conditions will be listed:

- *The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once during each month in which source testing is not performed. NO_x, CO and O₂ monitoring shall be conducted utilizing a portable analyzer that meets District specifications. Monitoring shall not be required if 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 it 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, exceed the permitted emission levels, the permittee shall return the emissions to an acceptable level as soon as possible, but no longer than one hour after detection. If the portable analyzer shows that emissions continue to exceed the allowable levels after one 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]*
- *The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320]*

Since this unit is not subject to the requirements listed in Section 5.5.1 or 5.5.2, it is not subject to the requirements of Section 5.7.2 and 5.7.3.

Section 5.7.4 allows units operated at seasonal sources and subject to 40 CFR 60 Subpart Db to install a parametric monitoring system in lieu of a CEMS. The facility is not a seasonal source and the requirements of Section 5.7.4 are not applicable. Therefore, no further discussion is necessary.

Section 5.7.6 outlines requirements for monitoring SO_x emissions. Section 5.7.6.1 requires the operator of any unit that proposes to comply with Section 5.4.1.1 (fire exclusively on PUC-quality natural gas, commercial propane, butane, LPG, or a combination of these fuel gases) or Section 5.4.1.2 (fuel sulfur content limit of 5 grains/100 scf) to provide an annual fuel analysis.

This unit is fired on PUC-Quality natural gas as the primary fuel, which per District Policy APR 1720, the District assumes has a sulfur content not exceeding 1.0 grains/100 scf. Therefore, the District will accept analyses or other equivalent certification documents from the fuel supplier for demonstrating compliance with the SO_x emission monitoring requirement. The following condition will be included on these permits:

- *The permittee shall submit an analysis showing the fuel's sulfur content at least once every year. Valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy this requirement, provided they establish the fuel parameters mentioned above. [District Rule 4320]*

Section 5.8, Compliance Determination

Section 5.8.1 requires that the operator of any unit shall have the option of complying with either the applicable heat input (lb/MMBtu) emission limits or the concentration (ppmv) emission limits specified in Section 5.1. The emission limits selected to demonstrate compliance shall be specified in the source test proposal pursuant to Rule 1081 (Source Sampling). Therefore, the following condition will be listed:

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

Section 5.8.2 requires that all emission 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. Therefore, the following permit condition will be listed:

- *{2972 Transformed} 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]*

Sections 5.8.3 and 5.8.4 specify requirements for units that are equipped with a CEMS or operators that elect to monitor emissions using a portable NO_x analyzer as a part of an APCO approved Alternate Emissions Monitoring System. The applicant has proposed to use an APCO-approved alternate monitoring system using a portable emissions analyzer for each boiler. Therefore, the following permit condition will be listed on this permit as follows:

- *Emissions measurements 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]*

Section 5.8.5 requires that for emissions source testing performed pursuant to Section 6.3.1 for the purpose of determining compliance with an applicable standard or numerical limitation of this rule, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. Therefore, the following permit condition will be listed:

- *{2980 Transformed} For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320]*

Section 6.1, 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 noncompliance with the applicable requirements of this rule shall constitute a violation of this rule. The following permit condition will be listed:

- *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. Since this unit is not subject to the requirements listed in Section 5.5, it is not subject to Section 6.1.2 requirements.

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

Section 6.1.4 requires that the operator of a unit with startup or shutdown provisions keep records of the duration of the startup or shutdowns. The applicant has not

proposed that the emissions from this boiler will be different during start-up or shutdown events, so there will be no startup or shutdown provisions required for this boiler.

Section 6.1.5 requires that the operator of a unit fired on liquid fuel during PUC-quality natural gas curtailment periods to record the sulfur content of the fuel, the amount of fuel used, and the duration of the natural gas curtailment period. The applicant has proposed to continue the use of #2 fuel oil as a curtailment fuel. Therefore, the requirements of this section apply to this unit.

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
Stack Gas Moisture Content	%	EPA Method 4

The following permit conditions will be listed:

- *{109} Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]*
- *{2977 Transformed} 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]*
- *{2978 Transformed} CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 4306, and 4320]*
- *{2979 Transformed} 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 following source test may be deferred for up to 36 months.

The following permit conditions will be listed on the permit as follows:

- *Source testing to measure NO_x and CO emissions from this unit while fired on natural gas 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]¹*
- *The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]*

Conclusion:

Conditions will be incorporated into this permit in order to ensure compliance with each section of this rule. Therefore, 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 NO_x Major Sources that are not located west of Interstate 5 in Fresno, Kings, or Kern counties. If applicable, the emission limits, monitoring provisions, and testing requirements of this rule are satisfied when the unit is operated in compliance with Rule 4320. The facility-wide permit contains a permit condition that limits the daily NO_x emissions to 150 lbs. from the entire facility. Therefore, this facility is a Major Source for NO_x emissions. Therefore, this rule is applicable and compliance with this rule is expected since it is subject to and meets the requirements of Rule 4320.

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.

¹ Initial source testing within 60 days of the start-up date of these modifications is not required since this boiler has successfully met the 9 ppmv, dry corrected to 3% O₂ on the past source test. See Appendix C for past source test results

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

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

With: n = moles of SO₂
 T (Standard Temperature) = 60°F = 520°R
 P (Standard Pressure) = 14.7 psi
 R (Universal Gas Constant) = $\frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}}$

Natural gas:

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

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

Fuel oil:

$$\frac{0.0016 \text{ lb-SO}_x}{\text{MMBtu}} \times \frac{\text{MMBtu}}{9,051 \text{ dscf}} \times \frac{1 \text{ lb} \cdot \text{mol}}{64 \text{ lb}} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}} \times \frac{520^\circ\text{R}}{14.7 \text{ psi}} \times \frac{1,000,000 \cdot \text{parts}}{\text{million}} = 1.05 \frac{\text{parts}}{\text{million}}$$

$$\text{SulfurConcentration} = 1.05 \frac{\text{parts}}{\text{million}} < 2,000 \text{ ppmv (or 0.2\%)}$$

Therefore, compliance with District Rule 4801 requirement is expected.

California Health & Safety Code 42301.6 (School Notice)

This facility is not located within 1,000 feet 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 (ATC) permit N-257-4-6 subject to the permit conditions on the attached ATC in Appendix A.

X. BILLING INFORMATION:

Annual Permit Fees				
Permit Number	Fee Schedule	Fee Description	Annual Fee	Previous Fee Schedule
N-257-4-6	3020-02-G	14.65 MMBtu/hr	\$815	Same

APPENDICES

- Appendix A: Authority to Construct (ATC) permit N-257-4-6*
- Appendix B: Current Permit to Operate N-257-4-4*
- Appendix C: Past Source Test Results*

APPENDIX A

Authority to Construct permit N-257-4-6

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: N-257-4-6

LEGAL OWNER OR OPERATOR: DART CONTAINER CORPORATION
MAILING ADDRESS: 1400 EAST VICTOR ROAD
LODI, CA 95240

LOCATION: 1400 EAST VICTOR ROAD
LODI, CA 95240

EQUIPMENT DESCRIPTION:

MODIFICATION TO REDUCE THE NOX EMISSION LIMIT FROM 15 PPMVD TO 9 PPMVD @ 3% O2 FOR DISTRICT RULE 4320 COMPLIANCE. POST PROJECT DESCRIPTION: 14.65 MMBTU/HR CLEAVER BROOKS BOILER (MODEL CB 600-350-150) WITH A CLEAVER BROOKS MODEL CB-NTI LOW-NOX BURNER AND FLUE GAS RECIRCULATION SYSTEM .

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] 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 NSR Rule] Federally Enforceable Through Title V Permit
4. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO2, nor 10 lb/hr. [District Rule 4201 and District Rule 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
5. The boiler shall be fired only on natural gas, fuel oil #2, or pentane. [District NSR Rule] Federally Enforceable Through Title V Permit
6. The sulfur content of the fuel oil #2 shall not exceed 15 ppm, 0.0015% by weight. [District NSR Rule and Rule 4320, 5.4.2] 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-257-4-6: Jul 7 2010 9:00AM - CRUZP : Joint Inspection NOT Required

Northern Regional Office • 4800 Enterprise Way • Modesto, CA 95356-8718 • (209) 557-6400 • Fax (209) 557-6475

7. Fuel oil #2 shall only be used during a natural gas curtailment for a period not to exceed 168 cumulative hours during any one calendar year plus 48 cumulative hours during any one calendar year for equipment testing and maintenance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
8. This boiler shall not be fired on fuel oil when the boiler permitted under N-257-5 is in operation. [District NSR Rule] Federally Enforceable Through Title V Permit
9. The permittee shall maintain a log of the cumulative annual hours of operation when the unit is fired on #2 fuel oil during natural gas curtailment periods and during testing and maintenance periods, the sulfur content of the fuel oil, the amount of fuel oil used and the duration of the natural gas curtailment period (in hours). [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
10. Operator shall provide that fuel hhv be certified by third party fuel supplier or determined annually by: ASTM D 240 or D 2382 for liquid hydrocarbon fuels; ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4320] Federally Enforceable Through Title V Permit
11. Operator shall maintain copies of fuel invoices and supplier certifications. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
12. The pentane emissions collected from the pre-expanders shall be ducted to the boilers permitted under N-257-4 or N-257-5. [District NSR Rule] Federally Enforceable Through Title V Permit
13. Emissions rates when this unit is firing on natural gas shall not exceed any of the following limits: 9.0 ppmv NO_x @ 3% O₂ or 0.011 lb-NO_x/MMBtu, 0.00285 lb-SO_x/MMBtu, 0.0076 lb-PM₁₀/MMBtu, 50 ppmv CO @ 3% O₂ or 0.039 lb-CO/MMBtu, or 0.0042 lb-VOC/MMBtu. [District NSR Rule and Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
14. Emissions rates when this unit is firing on fuel oil #2 shall not exceed any of the following limits: 40.0 ppmv NO_x @ 3% O₂ or 0.0512 lb-NO_x/MMBtu, 0.0016 lb-SO_x/MMBtu, 0.015 lb-PM₁₀/MMBtu, 100 ppmv CO @ 3% O₂ or 0.078 lb-CO/MMBtu, or 0.0045 lb-VOC/MMBtu. [District NSR Rule and Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
15. 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
16. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve months. After demonstrating compliance on two consecutive annual source tests, the unit shall be tested not less than once every thirty-six months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
17. 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
18. 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
19. 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
20. 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
21. 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

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CONDITIONS CONTINUE ON NEXT PAGE

22. 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
23. 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
24. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
25. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
26. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
27. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
28. On and after July 1, 2012, the permittee shall submit an analysis showing the fuel's sulfur content at least once every year. Valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy this requirement, provided they establish the fuel parameters mentioned above. [District Rule 4320]
29. {4253} Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]
30. 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 B

Current Permit to Operate N-257-4-4

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: N-257-4-4

EXPIRATION DATE: 04/30/2009

EQUIPMENT DESCRIPTION:

14.65 MMBTU/HR CLEAVER BROOKS BOILER (MODEL CB 600-350-150) WITH A CLEAVER BROOKS MODEL CB-NTI LOW-NOX BURNER AND FLUE GAS RECIRCULATION

PERMIT UNIT REQUIREMENTS

1. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
2. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rule 4201 and District Rule 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
3. The boiler shall be fired only on natural gas, fuel oil #2, or pentane. [District NSR Rule] Federally Enforceable Through Title V Permit
4. The sulfur content of the fuel oil #2 shall not exceed 0.25% by weight. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Fuel oil #2 shall only be used during a natural gas curtailment for a period not to exceed 168 cumulative hours during any one calendar year plus 48 cumulative hours during any one calendar year for equipment testing and maintenance. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
6. This boiler shall not be fired on fuel oil when the boiler permitted under N-257-5 is in operation. [District NSR Rule] Federally Enforceable Through Title V Permit
7. Maintain a log of the cumulative annual hours of operation on #2 fuel oil during natural gas curtailment and during testing. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
8. Operator shall provide that fuel hhv be certified by third party fuel supplier or determined annually by: ASTM D 240 or D 2382 for liquid hydrocarbon fuels; ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 6.2.1] Federally Enforceable Through Title V Permit
9. Operator shall maintain copies of fuel invoices and supplier certifications. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
10. Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NO_x emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NO_x emission limit listed in Rule 4320. [District Rule 4320]
11. The pentane emissions collected from the pre-expanders shall be ducted to the boilers permitted under N-257-4 or N-257-5. [District NSR Rule] Federally Enforceable Through Title V Permit
12. Emissions rates from the natural gas-fired unit shall not exceed any of the following limits: 15.0 ppmv NO_x @ 3% O₂ or 0.018 lb-NO_x/MMBtu, 0.00285 lb-SO_x/MMBtu, 0.0076 lb-PM₁₀/MMBtu, 50 ppmv CO @ 3% O₂ or 0.039 lb-CO/MMBtu, or 0.0042 lb-VOC/MMBtu. [District NSR Rule and Rules 4305, and 4306] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

13. Emissions rates from firing on fuel oil #2 shall not exceed any of the following limits: 40.0 ppmv NO_x @ 3% O₂ or 0.0512 lb-NO_x/MMBtu, 0.26 lb-SO_x/MMBtu, 0.015 lb-PM₁₀/MMBtu, 100 ppmv CO @ 3% O₂ or 0.078 lb-CO/MMBtu, or 0.0045 lb-VOC/MMBtu. [District NSR Rule and Rules 4305, and 4306] Federally Enforceable Through Title V Permit
14. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
15. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve months. After demonstrating compliance on two consecutive annual source tests, the unit shall be tested not less than once every thirty-six months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve months. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
16. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
17. 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
18. NO_x emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
19. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
20. Stack gas oxygen (O₂) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
21. 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 and 4306] Federally Enforceable Through Title V Permit
22. 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
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 emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
24. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

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

25. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
26. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
27. On and after July 1, 2012, the permittee shall submit an analysis showing the fuel's sulfur content at least once every year. Valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy this requirement, provided they establish the fuel parameters mentioned above. [District Rule 4320]
28. Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]
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, and 4306] Federally Enforceable Through Title V Permit

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APPENDIX C

Past Source Test Results

Source Test Tracking



File Reports

Facility: N 257 CART CONTAINER CORPORATION

Permit ID: 4

Mod#: 4

Test Tracking

Periodic Test Setup

Test Equipment Details

Test Result Details

Representative Test

Unit Identification:

Default

1 Unit Total

Description:

Add New Unit

Save

Cancel

Test Results For: BOILER

Pollutant	Units	Limit	Result	Failed	O2 Correction (%)	# Runs	Description
CO	ppm @ 3% O2	50.0	2.1	<input type="checkbox"/>	3	3	
NOx	ppm @ 3% O2	15.0	6.9	<input type="checkbox"/>	3	3	

Add New Pollutant...

Close

Save