



**San Joaquin Valley**  
AIR POLLUTION CONTROL DISTRICT



**JUL 09 2015**

Julia Bonardi  
Gallo Glass Company  
P.O. Box 1230  
Modesto, CA 95353

**Re: Notice of Preliminary Decision - Authority to Construct**  
**Facility Number: N-1662**  
**Project Number: N-1151826**

Dear Ms. Bonardi:

Enclosed for your review and comment is the District's analysis of Gallo Glass Company's application for an Authority to Construct for the replacement of the existing six burners on Furnace #4 with ten burners, at 605 S Santa Cruz Ave, Modesto, CA.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. After addressing all comments made during the 30-day public notice period, the District intends to issue the Authority to Construct. Please submit your written comments on this project within the 30-day public comment period, as specified in the enclosed public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. James Harader of Permit Services at (209) 557-6445.

Sincerely,

Arnaud Marjollet  
Director of Permit Services

AM:jh

Enclosures

cc: Mike Tollstrup, CARB (w/ enclosure) via email

**Seyed Sadredin**  
Executive Director/Air Pollution Control Officer

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**San Joaquin Valley Air Pollution Control District**  
**Authority to Construct Application Review**  
**Container Glass Furnace – Replace Burners**

Facility Name: Gallo Glass Company	Date: June 6, 2015
Mailing Address: P.O. Box 1230 Modesto, CA 95353	Engineer: Stanley Tom Lead Engineer: Joven Refuerzo
Contact Person: Julia Bonardi	
Telephone: (209) 341-4298	
E-Mail: Julia.Bonardi@ejgallo.com	
Application #(s): N-1662-4-18	
Project #: N-1151826	
Deemed Complete: May 28, 2015	

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**I. PROPOSAL**

Gallo Glass Company has requested an Authority to Construct (ATC) permit to install low fuel consumption Praxair WideFlame Gen III natural gas-fired burners to replace the existing Praxair WideFlame Gen I natural gas-fired burners.

The facility will initially install four of the Praxair WideFlame Gen III natural gas-fired burners to replace the existing six (6) WideFlame Gen I burners. If this installation is successful, Furnace #4 will be retrofitted with an additional six (6) Praxair WideFlame Gen III natural gas-fired burners for a total of ten (10) Praxair WideFlame Gen III natural gas-fired burners. The maximum heat capacity of the furnace will remain at 90 MMBtu/hr.

The facility has proposed to lower the VOC emission factor for Furnace #4 (listed in permit N-1662-4) from 0.23 lb/ton to 0.02 lb/ton to qualify the unit as a clean emissions unit as defined in Rule 2201. The highest source tested VOC emission rate from this facility is 0.011 lb/ton and is typically in the range of 0.003 to 0.007 lb/ton. As the facility operates with a sufficient compliance margin to the proposed VOC emission factor of 0.02 lb/ton, the facility will not be required to perform an initial VOC source test and will perform the source test at the next annual source test.

Gallo Glass Company has received their Title V Permit. This modification can be classified as a Title V minor modification pursuant to Rule 2520, and can be processed with a Certificate of Conformity (COC). But the facility has not requested that this project be processed in that manner; therefore, the facility will be required to submit a Title V minor modification application prior to operating under the revised provisions of the ATC permit issued with this project.

**II. APPLICABLE RULES**

**Rule 2201** New and Modified Stationary Source Review (4/21/11)  
**Rule 2410** Prevention of Significant Deterioration (6/16/11)

**Rule 2520** Federally Mandated Operating Permits (6/21/01)  
**Rule 4001** New Source Performance Standards (4/14/99)  
**Rule 4002** National Emission Standards for Hazardous Air Pollutants (5/20/04)  
**Rule 4101** Visible Emissions (2/17/05)  
**Rule 4102** Nuisance (12/17/92)  
**Rule 4201** Particulate Matter Concentration (12/17/92)  
**Rule 4202** Particulate Matter – Emission Rate (12/17/92)  
**Rule 4301** Fuel Burning Equipment (12/17/92)  
**Rule 4354** Glass Melting Furnaces (5/19/11)  
**Rule 4801** Sulfur Compounds (12/17/92)  
**CH&SC 41700** California Health & Safety Code, Sec 41700 - Health Risk Assessment  
**CH&SC 42301.6** California Health & Safety Code, Sec 42301.6 - School Notice  
 Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)  
 California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

### III. PROJECT LOCATION

This facility is located at 605 S Santa Cruz Ave, Modesto, CA. The District has verified that the facility is not located within 1,000 feet of any K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

### IV. PROCESS DESCRIPTION

The furnaces burn natural gas or LPG to melt cullet (crushed, recycled glass), sand, soda ash, limestone, and other raw materials. To assist in maintaining the melt, subsurface electrical heating elements are utilized. Once molten, the glass is pulled from the furnaces and used to form bottles.

### V. EQUIPMENT LISTING

#### Pre-Project Equipment Description

Permit #	Pre-Project Equipment Description
N-1662-4-17	GLASS FURNACE #4 WITH 12 MAXON GAS/OXYGEN BURNERS AND ASSOCIATED FORMING EQUIPMENT (90 MMBTU/HR MAX HEAT CAPACITY). THIS FURNACE IS DUCTED THROUGH A STACK COMMON TO PERMIT UNITS N-1662-1, N-1662-2, N-1662-3 AND N-1662-4. THE FURNACES ARE SERVED BY A SHARED SOX SCRUBBER AND AN ELECTROSTATIC PRECIPITATOR AND/OR A TRI-MER UTF460 CERAMIC FILTER TYPE DUST COLLECTOR.

### Proposed Modification

Permit #	ATC Permit Equipment Description
N-1662-4-18	MODIFICATION OF GLASS FURNACE #4 WITH 12 MAXON GAS/OXYGEN BURNERS AND ASSOCIATED FORMING EQUIPMENT (90 MMBTU/HR MAX HEAT CAPACITY). THIS FURNACE IS DUCTED THROUGH A STACK COMMON TO PERMIT UNITS N-1662-1, N-1662-2, N-1662-3 AND N-1662-4. THE FURNACES ARE SERVED BY A SHARED SOX SCRUBBER AND AN ELECTROSTATIC PRECIPITATOR AND/OR A TRI-MER UTF460 CERAMIC FILTER TYPE DUST COLLECTOR. REPLACE SIX (6) EXISTING WIDEFLAME GEN I NATURAL GAS-FIRED BURNERS WITH TEN (10) NEW PRAXAIR WIDEFLAME GEN III NATURAL GAS-FIRED BURNERS AND LOWER VOC EMISSION LIMIT FROM 0.23 LB/TON TO 0.02 LB/TON

### Post-Project Equipment Description

Permit #	Post-Project Equipment Description
N-1662-4-18	GLASS FURNACE #4 WITH 12 PRAXAIR GAS/OXYGEN BURNERS AND ASSOCIATED FORMING EQUIPMENT (90 MMBTU/HR MAX HEAT CAPACITY). THIS FURNACE IS DUCTED THROUGH A STACK COMMON TO PERMIT UNITS N-1662-1, N-1662-2, N-1662-3 AND N-1662-4. THE FURNACES ARE SERVED BY A SHARED SOX SCRUBBER AND AN ELECTROSTATIC PRECIPITATOR AND/OR A TRI-MER UTF460 CERAMIC FILTER TYPE DUST COLLECTOR.

## **VI. EMISSION CONTROL EQUIPMENT EVALUATION**

The furnaces are equipped with emission control technology for NO<sub>x</sub>, SO<sub>x</sub> and PM<sub>10</sub>. NO<sub>x</sub> is controlled utilizing oxy-fuel firing, SO<sub>x</sub> is controlled utilizing a scrubber and PM<sub>10</sub> is controlled utilizing an electrostatic precipitator (ESP) and/or a ceramic filter type dust collector.

### **Oxy-Fuel Firing**

Oxy-fuel firing is utilized to control NO emissions. In oxy-fuel firing, oxygen is generated and replaces air in the combustion process. The absence of nitrogen containing combustion air prevents the formation of thermal NO<sub>x</sub>.

### **SO<sub>x</sub> Scrubber**

Gallo Glass utilizes a scrubber for SO<sub>x</sub> control followed by an Electrostatic Precipitator (ESP) for SO<sub>x</sub>/particulate matter control.

From the furnace, the SO<sub>x</sub> contaminated airstream travels through a scrubber. Inside of the scrubber, SO<sub>x</sub> is absorbed by a reagent (lime, trona, etc.), which exits the scrubber in the form of particulate matter. The contaminated airstream (sulfur contaminated scrubber reagent and the particulate matter generated in the furnace) then enters the ESP. The ESP causes the influent particulate matter to be charged and captured on oppositely charged plates.

### **Electrostatic Precipitator**

An electrostatic precipitator (ESP) is utilized to control the particulate matter emissions generated in the glass melting process and from the SO<sub>x</sub> scrubber. The contaminated air stream is passed through positively or negatively charged electrodes that place a charge on the particulate matter. The contaminated air stream, including the charged particles, is then passed through oppositely charged electrodes that attract and collect the particulate matter.

### **Ceramic Filter Type Dust Collector**

The dust collector operates like a traditional fabric filter type baghouse but utilizes ceramic filters that will provide a reliably high filtering efficiency at high temperatures. The unit utilizes reverse pulse air type cartridge cleaning.

## **VII. CALCULATIONS**

### **A. Assumptions**

- Maximum operating schedule = 24 hours/day, 365 days/year
- 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)
- Maximum daily glass pull rate = 637.9 tons/day (current PTO)

### **B. Emission Factors**

#### **Pre-Project Emission Factors**

<b>Pre-Project Emission Factors</b>		
<b>Pollutant</b>	<b>EF1</b>	<b>Source</b>
NO <sub>x</sub>	1.3 lb/ton	Current PTO
SO <sub>x</sub> (≥ 25% mixed cullet)	0.99 lb/ton	Current PTO
SO <sub>x</sub> (< 25% mixed cullet)	0.81 lb/ton	Current PTO
PM <sub>10</sub> (normal mode)	0.45 lb/ton	Current PTO
PM <sub>10</sub> (ESP by-pass mode)	0.71 lb/ton	Current PTO
CO	0.20 lb/ton	Current PTO
VOC	0.23 lb/ton	Current PTO

## Post-Project Emission Factors

Post-Project Emission Factors		
Pollutant	EF2	Source
NO <sub>x</sub>	1.3 lb/ton	Current PTO
SO <sub>x</sub> (≥ 25% mixed cullet)	0.99 lb/ton	Current PTO
SO <sub>x</sub> (< 25% mixed cullet)	0.81 lb/ton	Current PTO
PM <sub>10</sub> (normal mode)	0.45 lb/ton	Current PTO
PM <sub>10</sub> (ESP by-pass mode)	0.71 lb/ton	Current PTO
CO	0.20 lb/ton	Current PTO
VOC	0.02 lb/ton	Applicant Proposal

### C. Calculations

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

The PE1 for each pollutant is calculated with the following equation:

- $PE1 = EF \text{ (lb/ton)} \times \text{Throughput (tons/day or tons/year)}$

For PM<sub>10</sub>, the maximum permitted amount of emission control system by-pass time is 144 hours/year (6 days/year). Therefore, the maximum daily emissions would occur if the unit operated for an entire day in emission control system by-pass mode.

Daily Pre-Project Potential to Emit			
Pollutant	Emissions Factor (lb/ton)	Throughput (tons/day)	PE1 (lb/day)
NO <sub>x</sub>	1.3	637.9	829.3
SO <sub>x</sub> (≥ 25% mixed cullet)	0.99	637.9	631.5
PM <sub>10</sub> (by-pass mode)	0.71	637.9	452.9
CO	0.20	637.9	127.6
VOC	0.23	637.9	146.7

For PM<sub>10</sub>, the maximum permitted amount of emission control system by-pass time is 144 hours/year (6 days/year). Therefore, the maximum annual emissions would occur if the unit operated 6 days in emission control system by-pass mode and 359 days in normal mode.

Annual Pre-Project Potential to Emit				
Pollutant	Emissions Factor (lb/ton)	Throughput (tons/day)	Schedule (days/year)	PE1 (lb/year)
NO <sub>x</sub>	1.3	637.9	365	302,684
SO <sub>x</sub> (≥ 25% mixed cullet)	0.99	637.9	365	230,505
PM <sub>10</sub> (normal mode)	0.45	637.9	359	103,053
PM <sub>10</sub> (by-pass mode)	0.71	637.9	6	2,717
PM <sub>10</sub> (total)	-	-	-	105,770
CO	0.20	637.9	365	46,567
VOC	0.23	637.9	365	53,552

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

The PE2 for each pollutant is calculated with the following equation:

- $PE2 = EF \text{ (lb/ton)} \times \text{Throughput (tons/day or tons/year)}$

For PM<sub>10</sub>, the maximum permitted amount of emission control system by-pass time is 144 hours/year (6 days/year). Therefore, the maximum daily emissions would occur if the unit operated for an entire day in emission control system by-pass mode.

Daily Post-Project Potential to Emit			
Pollutant	Emissions Factor (lb/ton)	Throughput (tons/day)	PE2 (lb/day)
NO <sub>x</sub>	1.3	637.9	829.3
SO <sub>x</sub> (≥ 25% mixed cullet)	0.99	637.9	631.5
PM <sub>10</sub> (by-pass mode)	0.71	637.9	452.9
CO	0.20	637.9	127.6
VOC	0.02	637.9	12.8

For PM<sub>10</sub>, the maximum permitted amount of emission control system by-pass time is 144 hours/year (6 days/year). Therefore, the maximum annual emissions would occur if the unit operated 6 days in emission control system by-pass mode and 359 days in normal mode.

Annual Post-Project Potential to Emit				
Pollutant	Emissions Factor (lb/ton)	Throughput (tons/day)	Schedule (days/year)	PE2 (lb/year)
NO <sub>x</sub>	1.3	637.9	365	302,684
SO <sub>x</sub> (≥ 25% mixed cullet)	0.99	637.9	365	230,505
PM <sub>10</sub> (normal mode)	0.45	637.9	359	103,053
PM <sub>10</sub> (by-pass mode)	0.71	637.9	6	2,717
PM <sub>10</sub> (total)	-	-	-	105,770
CO	0.20	637.9	365	46,567
VOC	0.02	637.9	365	4,657

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

Pursuant to 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.

$$SSPE1_{Total} = SSPE1_{Permit Unit} + Total_{ERC}$$

Pre-Project Stationary Source Potential to Emit [SSPE1] (lb/year)						
Permit #	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub> *	CO	VOC
N-1662-1-15	265,771	187,938	86,238	60,942	7,593	43,662
N-1662-2-16	179,923	127,231	58,382	41,257	115,665	29,559
N-1662-3-16	179,923	127,231	58,382	41,257	1,285	29,559
N-1662-4-17	302,684	230,505	105,770	74,744	46,567	53,552
N-1662-5-3	0	0	1,840	1,840	0	0
N-1662-6-6	0	0	27,156	27,156	0	0
N-1662-7-3	0	0	114	114	0	0
N-1662-8-7	1,199	1,552	11,570	11,570	1,890	78
N-1662-10-3	5,994	2	171	171	1,297	488
N-1662-11-3	5,994	2	171	171	1,297	488
N-1662-12-3	5,994	2	171	171	1,297	488
N-1662-14-4	0	0	112,524	112,524	0	0
N-1662-15-3	324	26	108	108	1,350	27
N-1662-16-0	0	0	5	5	0	0
N-1662-17-0	3,197	125	333	333	657	241
N-1662-18-0	3,197	125	333	333	657	241
SSPE1 <sub>Permit Unit</sub>	954,200	674,739	463,268	372,696	179,555	158,383
ERC N-3-2	379,472	-	-	-	-	-
ERC N-54-2	85,737	-	-	-	-	-
ERC N-56-2	305,681	-	-	-	-	-
ERC N-107-2	326,978	-	-	-	-	-
ERC N-3-3	-	-	-	-	3,417	-
ERC N-56-3	-	-	-	-	2,044	-
ERC N-161-4	-	-	92,898	-	-	-
Total <sub>ERC</sub>	1,097,868	0	92,898	0	5,461	0
Pre-project SSPE (SSPE1 <sub>Total</sub> )	2,052,068	674,739	556,166	372,696	185,016	158,383

\* Per AP-42 Section 11.5 Glass Manufacturing, Table 11.15-3 summarizes particle size distributions for melting furnaces used in glass manufacturing. The table shows for ESP controlled glass melting furnaces, 53 percent of the particle size distribution has an aerodynamic particle diameter of 2.5 µm and 75 percent of the particle size distribution has an aerodynamic particle diameter of 10 µm.



Annual PE<sub>N-1662-1-15</sub> = 86,238 lb-PM<sub>10</sub>/year

Annual PE<sub>N-1662-1-15</sub> = 86,238 lb-PM<sub>10</sub>/year ÷ 0.75 = 114,984 lb-PM/year

Annual PE<sub>N-1662-1-15</sub> = 114,984 lb-PM/year × 0.53 = 60,942 lb-PM<sub>2.5</sub>/year

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

Pursuant to 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.

$$SSPE1_{Total} = SSPE1_{Permit Unit} + Total_{ERC}$$

Post-Project Stationary Source Potential to Emit [SSPE2] (lb/year)						
Permit #	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO	VOC
N-1662-1-15	265,771	187,938	86,238	60,942	7,593	43,662
N-1662-2-16	179,923	127,231	58,382	41,257	115,665	29,559
N-1662-3-16	179,923	127,231	58,382	41,257	1,285	29,559
ATC N-1662-4-18	302,684	230,505	105,770	74,744	46,567	4,657
N-1662-5-3	0	0	1,840	1,840	0	0
N-1662-6-6	0	0	27,156	27,156	0	0
N-1662-7-3	0	0	114	114	0	0
N-1662-8-7	1,199	1,552	11,570	11,570	1,890	78
N-1662-10-3	5,994	2	171	171	1,297	488
N-1662-11-3	5,994	2	171	171	1,297	488
N-1662-12-3	5,994	2	171	171	1,297	488
N-1662-14-4	0	0	112,524	112,524	0	0
N-1662-15-3	324	26	108	108	1,350	27
N-1662-16-0	0	0	5	5	0	0
N-1662-17-0	3,197	125	333	333	657	241
N-1662-18-0	3,197	125	333	333	657	241
SSPE2 <sub>Permit Unit</sub>	954,200	674,739	463,268	372,696	179,555	109,488
ERC N-3-2	379,472	-	-	-	-	-
ERC N-54-2	85,737	-	-	-	-	-
ERC N-56-2	305,681	-	-	-	-	-
ERC N-107-2	326,978	-	-	-	-	-
ERC N-3-3	-	-	-	-	3,417	-
ERC N-56-3	-	-	-	-	2,044	-
ERC N-161-4	-	-	92,898	-	-	-
Total <sub>ERC</sub>	1,097,868	0	92,898	0	5,461	0
Post-project SSPE (SSPE2 <sub>Total</sub> )	2,052,068	674,739	556,166	372,696	185,016	109,488

## 5. Major Source Determination

### Rule 2201 Major Source Determination

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

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

Rule 2201 Major Source Determination (lb/year)						
	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO	VOC
Post Project SSPE (SSPE2)	954,200	674,739	463,268	372,696	179,555	109,488
Major Source Threshold	20,000	140,000	140,000	200,000	200,000	20,000
Major Source?	Yes	Yes	Yes	Yes	No	Yes

### Rule 2410 Major Source Determination

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

PSD Major Source Determination (tons/year)					
	NO <sub>2</sub>	SO <sub>2</sub>	PM <sub>10</sub>	CO	VOC
Estimated Facility PE before Project Increase	477.1	337.4	231.6	89.8	79.2
PSD Major Source Thresholds	250	250	250	250	250
PSD Major Source ? (Y/N)	Y	Y	N	N	N

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

## 6. Baseline Emissions (BE)

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

Pursuant to District Rule 2201, BE = PE1 for:

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

otherwise,

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

Clean Emissions Unit, Located at a Major Source

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

Clean Emissions Unit Determination			
Pollutant	BACT Guideline	Achieved in Practice	Clean Emissions Unit?
NO <sub>x</sub>	1.5.9	1.3 lb/ton	Yes, EF = 1.3 lb/ton
SO <sub>x</sub> (≥ 25% mixed cullet)		0.99 lb/ton	Yes, EF = 0.99 lb/ton
SO <sub>x</sub> (< 25% mixed cullet)		0.8 lb/ton	Yes, EF = 0.8 lb/ton
PM <sub>10</sub>		0.45 lb/ton	Yes, EF = 0.45 lb/ton
CO		0.20 lb/ton	Yes, EF = 0.20 lb/ton
VOC		0.02 lb/ton	Yes, EF = 0.02 lb/ton

NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, CO, and VOC

As shown above, Furnace #4 is a clean emissions unit for NO<sub>x</sub>, SO<sub>x</sub>, and PM<sub>10</sub>, CO, and VOC.

Therefore, BE = PE1.

**7. SB 288 Major Modification**

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

Since this facility is a major source for all pollutants, the PE2 for the emission units within this project is compared to the SB 288 Major Modification Threshold in the following table in order to determine if the SB 288 Major Modification calculation is required.

SB 288 Major Modification Threshold (Existing Major Source)			
Pollutant	Project PE (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
NO <sub>x</sub>	302,684	50,000	Yes
SO <sub>x</sub>	230,505	80,000	Yes
PM <sub>10</sub>	105,770	30,000	Yes
VOC	4,657	50,000	No

### Baseline Actual Emissions (BAE)

The actual emission values were provided by the applicant and/or taken from the facility emission inventory submittals.

- $BAE \text{ (Furnace)} = EF \text{ (lb/ton)} \times \text{Throughput (tons/year)}$

<b>NO<sub>x</sub> Annual Actual Emissions (BAE)</b>			
Year	Process Rate (tons/year)	Emission Factor (lb/ton)	NO <sub>x</sub> Emissions (lb/year)
2009	129,517	1.3	168,372
2010	147,013	1.3	191,117
2011	165,573	1.3	215,245
2012	165,511	1.3	215,164
2013	96,204	1.3	125,065

A worst case SO<sub>x</sub> emission factor of 0.8 lb/ton will be used for the SB 288 Major Modification HAE calculations.

<b>SO<sub>x</sub> Annual Actual Emissions (BAE)</b>			
Year	Process Rate (tons/year)	Emission Factor (lb/ton)	SO <sub>x</sub> Emissions (lb/year)
2009	129,517	0.8	103,614
2010	147,013	0.8	117,610
2011	165,573	0.8	132,458
2012	165,511	0.8	132,409
2013	96,204	0.8	76,963

<b>PM<sub>10</sub> Annual Actual Emissions (BAE)</b>			
Year	Process Rate (tons/year)	Emission Factor (lb/ton)	PM <sub>10</sub> Emissions (lb/year)
2009	129,517	0.45	58,283
2010	147,013	0.45	66,156
2011	165,573	0.45	74,508
2012	165,511	0.45	74,480
2013	96,204	0.45	43,292

<b>Summary Annual Actual Emissions (lb/year)</b>				
Permit Unit	Year	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>
N-1662-4 (Furnace #4)	2009	168,372	103,614	58,283
	2010	191,117	117,610	66,156
	2011	215,245	132,458	74,508
	2012	215,164	132,409	74,480
	2013	125,065	76,963	43,292
	Total	914,963	563,054	316,719
	Annual Average	182,993	112,611	63,344

Per Rule 2201 Section 3.9.1 and 3.9.2, the baseline period is the two consecutive years of operation immediately prior to the submission date of the Complete Application or at least two consecutive years within the five years immediately prior to the submission date of the Complete Application if determined by the APCO as more representative of normal source operation.

<b>Baseline Actual Emissions (BAE) (tons/year)</b>				
Permit Unit	Two Year Average	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>
N-1662-4 (Furnace #4)	2009-2010	179,745	110,612	62,220
	2010-2011	203,181	125,034	70,332
	2011-2012	215,205	132,434	74,494
	2012-2013	170,115	104,686	58,886

<b>(Two Year Average – Annual Average)   Historical Actual Emissions (HAE) (lb/year)</b>				
Permit Unit	Two Year Average	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>
N-1662-4 (Furnace #4)	2009-2010	3,249	1,999	1,125
	2010-2011	20,188	12,423	6,988
	2011-2012	32,212	19,823	11,150
	2012-2013	12,879	7,925	4,458

As shown above, the two year average for years 2009 and 2010 have the smallest absolute value difference from the five year average. Therefore, years 2009 and 2010 will be taken to be the baseline period for this project.

<b>Baseline Actual Emissions (BAE) (tons/year)</b>				
Permit Unit	Two Year Average	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>
N-1662-4 (Furnace #4)	2009-2010	179,745	110,612	62,220

#### Potential to Emit (PE)

As shown above, the Potential to Emit values are as follows:

<b>Potential to Emit (PE2)</b>	
Pollutant	PE2 (lb/year)
NO <sub>x</sub>	302,684
SO <sub>x</sub>	230,505
PM <sub>10</sub>	105,770

#### Net Emissions Increase

Net Emissions Increase (NEI) is calculated as follows:

$$NEI = PE2 - BAE$$

<b>Net Emissions Increase (NEI)</b>			
Pollutant	PE2 (lb/year)	BAE (lb/year)	NEI (lb/year)
NO <sub>x</sub>	302,684	179,745	122,939
SO <sub>x</sub>	230,505	110,612	119,893
PM <sub>10</sub>	105,770	62,220	43,550

<b>SB 288 Major Modification Threshold (Existing Major Source)</b>			
Pollutant	NEI (lb/year)	Threshold (lb/year)	SB 288 Major Modification?
NO <sub>x</sub>	122,939	50,000	Yes
SO <sub>x</sub>	119,893	80,000	Yes
PM <sub>10</sub>	43,550	30,000	Yes

The NEI for this project will be greater than the SB 288 Major Modification thresholds for NO<sub>x</sub>, SO<sub>x</sub>, and PM<sub>10</sub>. Therefore, this project does not qualify for a "Less-Than-Significant Emissions Increase" exclusion and is thus determined to be a SB 288 Major Modification for NO<sub>x</sub>, SO<sub>x</sub>, and PM<sub>10</sub>.

## 8. Federal Major Modification

District Rule 2201 states that major modifications are also federal major modifications, unless they qualify for either a "Less-Than-Significant Emissions Increase" exclusion or a "Plantwide Applicability Limit" (PAL) exclusion.

A Less-Than-Significant Emissions Increase exclusion is for an emissions increase for the project, or a Net Emissions Increase for the project (as defined in 40 CFR 51.165 (a)(2)(ii)(B) through (D), and (F)), that is not significant for a given regulated NSR pollutant, and therefore is not a federal major modification for that pollutant.

- To determine the post-project projected actual emissions from existing units, the provisions of 40 CFR 51.165 (a)(1)(xxviii) shall be used.
- To determine the pre-project baseline actual emissions, the provisions of 40 CFR 51.165 (a)(1)(xxxv)(A) through (D) shall be used.
- If the project is determined not to be a federal major modification pursuant to the provisions of 40 CFR 51.165 (a)(2)(ii)(B), but there is a reasonable possibility that the project may result in a significant emissions increase, the owner or operator shall comply with all of the provisions of 40 CFR 51.165 (a)(6) and (a)(7).
- Emissions increases calculated pursuant to this section are significant if they exceed the significance thresholds specified in the table below.

Significant Threshold	
Pollutant	Threshold (lb/year)
VOC	0
NO <sub>x</sub>	0
PM <sub>2.5</sub>	20,000 of direct PM <sub>2.5</sub> emissions or
	80,000 of sulfur dioxide emissions or
	80,000 of nitrogen oxide emissions
PM <sub>10</sub>	30,000
SO <sub>x</sub>	80,000

The Net Emissions Increases (NEI) for purposes of determination of a “Less-Than-Significant Emissions Increase” exclusion will be calculated below to determine if this project qualifies for such an exclusion.

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

### Step 1

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

$$\text{Net Emission Increase (NEI)} = \text{PAE} - \text{BAE} - \text{UBC}$$

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

If there is no increase in design capacity or potential to emit, the PAE is equal to the annual emission rate at which the unit is projected to emit in any one year, selected by the operator, within 5 years after the unit resumes normal operation (10 years for existing units with an increase in design capacity or potential to emit). If detailed PAE are not provided, the PAE is equal to the PE2 for each permit unit.

The BAE is calculated based on historical emissions and operating records for any 24 month period, selected by the operator, within the previous 10 year period (5 years for electric utility steam generating units). The BAE must be adjusted to exclude any non-compliant operation emissions and emissions that are no longer allowed due to lower applicable emission limits that were in effect when this application was deemed complete.

### NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, VOC

The replacement burners will have the same heat input rating as the existing burners. However, the replacement burners are expected to reduce fuel consumption by two percent. Emissions from Furnace #4 is based upon glass throughput and not fuel use. The more efficient burners will not allow the facility to increase glass production. The current permit has

a limit on glass production which will not change in this project. In addition, based on discussions with the facility engineering department, the bottleneck point of the glass production process with regards to the amount of glass that can be produced is at the glass forming machines. The facility recently expanded Furnace #2 and increased the throughput limit from 352 tons/day to 430 tons/day. To do so, the facility had to add additional glass forming machines and increase the furnace dimensions. In that project, the facility removed two burners and lowered the total heat input to the furnace.

As the replacement burners will not have any affect on the operation of the glass forming machines, the more efficient burners will not allow an increase in glass production in any form, and the project does not result in an increase in design capacity or potential to emit, and it does not impact the ability of the emission unit to operate at a higher utilization rate.

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

Net Emission Increase (NEI) = PAE – BAE – UBC = 0

The NEI for this project will be less than the federal Major Modification threshold for NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and VOC. Therefore, this project does qualify for a “Less-Than-Significant Emissions Increase” exclusion and is thus determined not to be a Federal Major Modification for NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, or VOC.

## **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:

- NO<sub>2</sub> (as a primary pollutant)
- SO<sub>2</sub> (as a primary pollutant)
- CO
- PM
- PM<sub>10</sub>

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

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

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



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

### I. Project Location Relative to Class 1 Area

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

### II. Significance of Project Emission Increase Determination

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

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

<b>PSD Significant Emission Increase Determination: Potential to Emit (tons/year)</b>					
	NO <sub>2</sub>	SO <sub>2</sub>	CO	PM	PM <sub>10</sub>
Total PE from New and Modified Units	151.3	115.3	23.3	52.9	52.9
PSD Significant Emission Increase Thresholds	40	40	100	25	15
PSD Significant Emission Increase?	Y	Y	N	Y	Y

#### b. Emission Increase for Each Attainment/Unclassified Pollutant with a Significant Emission Increase vs PSD Significant Emission Increase Thresholds

In this step, the emission increase for each attainment/unclassified pollutant is compared to the PSD significant emission increase thresholds, and if emission increase for each attainment pollutant is below this threshold, no further analysis is needed.

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

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

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

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

If there is no increase in design capacity or potential to emit, the PAE is equal to the annual emission rate at which the unit is projected to emit in any one year, selected by the operator, within 5 years after the unit resumes normal operation (10 years for existing units with an

increase in design capacity or potential to emit). If detailed PAE are not provided, the PAE is equal to the PE2 for each permit unit.

The BAE is calculated based on historical emissions and operating records for any 24 month period, selected by the operator, within the previous 10 year period (5 years for electric utility steam generating units). The BAE must be adjusted to exclude any non-compliant operation emissions and emissions that are no longer allowed due to lower applicable emission limits that were in effect when this application was deemed complete.

As explained in the Federal Major Modification section, since the replacement burners will not have any affect on the operation of the glass forming machines, the more efficient burners will not allow an increase in glass production in any form, and the project does not result in an increase in design capacity or potential to emit, and it does not impact the ability of the emission unit to operate at a higher utilization rate.

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

$$\text{Net Emission Increase (NEI)} = \text{PAE} - \text{BAE} - \text{UBC} = 0$$

As shown above, the project emission increase, for all new and modified emission units, does not exceed any of the PSD significant emission increase thresholds. Therefore the project does not result in a PSD major modification due to a significant emission increase and no further discussion is required.

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

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

QNEC = PE2 - PE1, where:

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

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

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

Using the values in Sections VII.C.2 and VII.C.6 in the evaluation above, quarterly PE2 and quarterly PE1 can be calculated as follows:

Quarterly NEC [QNEC]			
	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO <sub>x</sub>	302,684	302,684	0
SO <sub>x</sub>	230,505	230,505	0
PM <sub>10</sub>	105,770	105,770	0
CO	46,567	46,567	0
VOC	4,657	53,552	-48,895

## VIII. COMPLIANCE

### Rule 2201 New and Modified Stationary Source Review

#### 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 a Major Modification.

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

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

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

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

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

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

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

Where,

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

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

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

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

Where,

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

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

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

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

There are no emission factor changes in this project; therefore, EF2 / EF1 = 1.

Adjusted Increase in Permitted Emissions				
Pollutant	PE2 (lb/day)	PE1 (lb/day)	AIPE (lb/day)	BACT Triggered?
NO <sub>x</sub>	829.3	829.3	0.0	No
SO <sub>x</sub>	631.5	631.5	0.0	No
PM <sub>10</sub>	452.9	452.9	0.0	No
CO	127.6	127.6	0.0	No
VOC	12.8	146.7	-133.9	No

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

As discussed in Sections VII.C.7 and VII.C.8 above, this project does constitute an SB 288 Major Modification for NO<sub>x</sub>, SO<sub>x</sub>, and PM<sub>10</sub> emissions. Therefore BACT is triggered for NO<sub>x</sub>, SO<sub>x</sub>, and PM<sub>10</sub> for all emissions units in the project for which there is an emission increase.

## 2. BACT Guideline

BACT Guideline 1.5.9, applies to the container glass melting furnace. [Container Glass Melting Furnace] (See Appendix C)

## 3. Top-Down BACT Analysis

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

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

NO<sub>x</sub>: 1.3 lb-NO<sub>x</sub>/ton of glass pulled on a rolling 30-day average, except during periods of startup, shutdown, and idling; and compliance with District Rule 4354 requirements for startup, shutdown, and idling.

SO<sub>x</sub>: Oxy-fuel fired furnaces while processing material where > or = 25.0 percent of the total cullet is mixed color cullet: 0.99 lb-SO<sub>x</sub>/ton of glass pulled on a rolling 30-day average; and compliance with District Rule 4354 requirements for startup, shutdown, and idling.

All other Container Glass Furnaces: 0.8 lb-SO<sub>x</sub>/ton of glass pulled on a rolling 30-day average; And compliance with District Rule 4354 requirements for startup, shutdown, and idling.

PM<sub>10</sub>: 0.45 lb-PM<sub>10</sub>/ton of glass pulled, except during periods of startup, shutdown, and idling; And compliance with District Rule 4354 requirements for startup, shutdown, and idling.

## B. Offsets

### 1. Offset Applicability

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 required for this project.

Offset Determination					
	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
Post Project SSPE (SSPE2)	2,052,068	674,739	556,166	185,016	109,488
Offset Threshold	20,000	54,750	29,200	200,000	20,000
Offsets Triggered?	Yes	Yes	Yes	No	Yes

### 2. Quantity of Offsets Required

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

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

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

Where,

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

BE = Baseline Emissions, (lb/year)

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

DOR = Distance Offset Ratio

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)

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

$$\text{Offsets Required (lb/year)} = ([\text{PE2} - \text{BE}]) \times \text{DOR}$$

Offset Requirement				
Pollutant	NOx (lb/year)	SOx (lb/year)	PM <sub>10</sub> (lb/year)	VOC (lb/year)
PE2	302,684	230,505	105,770	4,657
BE	302,684	230,505	105,770	53,552
PE2 – BE	0	0	0	-48,895 → 0

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

## C. Public Notification

### 1. Applicability

Public noticing is required for:

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

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

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

As demonstrated in VII.C.7 and VII.C.8, this project does constitute an SB 288 Major Modification for NO<sub>x</sub>, SO<sub>x</sub>, and PM<sub>10</sub> emissions; therefore, public noticing for SB 288 Major Modification purposes is required.

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

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

**c. Offset Threshold**

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	Public Notice Required?
NO <sub>x</sub>	2,052,068	2,052,068	20,000 lb/year	No
SO <sub>x</sub>	674,739	674,739	54,750 lb/year	No
PM <sub>10</sub>	556,166	556,166	29,200 lb/year	No
CO	185,016	185,016	200,000 lb/year	No
VOC	158,383	109,488	20,000 lb/year	No

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

**d. SSIPE > 20,000 lb/year**

Public notification is required for any permitting action that results in a 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 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 <sub>x</sub>	2,052,068	2,052,068	0	20,000 lb/year	No
SO <sub>x</sub>	674,739	674,739	0	20,000 lb/year	No
PM <sub>10</sub>	556,166	556,166	0	20,000 lb/year	No
CO	185,016	185,016	0	20,000 lb/year	No
VOC	109,488	158,383	-48,895	20,000 lb/year	No

As demonstrated above, the SSIPEs for all pollutants were less than 20,000 lb/year; therefore public noticing for SSIPE purposes is not required.

#### **e. Title V Significant Permit Modification**

As shown in the Discussion of Rule 2520 below, this project does not constitute a Title V Significant Modification. Therefore, public noticing for Title V Significant Modification is not required for this project.

### **2. Public Notice Action**

As discussed above, public noticing is required for this project for SB 288 Major Modification for NO<sub>x</sub>, SO<sub>x</sub>, and PM<sub>10</sub> emissions. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC permit for this equipment.

### **D. Daily Emission Limits**

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

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

- The amount of glass produced shall not exceed 637.9 tons during any one day. [District Rules 2201 and 4354]
- The NO<sub>x</sub> emissions shall not exceed 1.3 lb/ton of glass produced. This performance based limit is to enforce the NO<sub>x</sub> emission reductions granted by emission reduction credit certificate N-107-2. [District Rule 2201]
- The CO emissions shall not exceed 0.20 lb/ton of glass produced. [District Rule 2201]
- The VOC emissions shall not exceed 0.23 lb/ton of glass produced. [District Rule 2201]
- The combined SO<sub>x</sub> emissions from permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4, while producing glass with equal to or greater than 25% by weight mixed color cullet, shall not exceed 0.99 lb/ton of glass produced (over a rolling 30 day average). [District Rules 2201 and 4354]
- The combined SO<sub>x</sub> emissions from permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4, while producing glass with less than 25% by weight mixed color cullet, shall not exceed 0.81 lb/ton of glass produced (over a rolling 30 day average). [District Rules 2201 and 4354]
- The PM<sub>10</sub> emissions, except during full or partial emission control system bypass episodes, shall not exceed 0.45 lb/ton of glass produced. [District Rules 2201 and 4354]



- The PM10 emissions, during full or partial emission control system bypass episodes, shall not exceed 0.71 lb/ton of glass produced. [District Rule 2201]
- During furnace idling, NOx emissions shall not exceed 956.9 pounds in any one day. [District Rules 2201 and 4354]
- During furnace idling, CO emissions shall not exceed 637.9 pounds in any one day. [District Rules 2201 and 4354]
- During furnace idling, VOC emissions shall not exceed 159.5 pounds in any one day. [District Rules 2201 and 4354]
- During furnace idling, SOx emissions shall not exceed 701.7 pounds in any one day while producing glass with equal to or greater than 25% by weight mixed color cullet. [District Rules 2201 and 4354]
- During furnace idling, SOx emissions shall not exceed 574.1 pounds in any one day while producing glass with less than 25% by weight mixed color cullet. [District Rules 2201 and 4354]
- During furnace idling, PM10 emissions shall not exceed 319.0 pounds in any one day. [District Rules 2201 and 4354]

## **E. Compliance Assurance**

### **1. Source Testing**

Rule 4354 requires emission testing at least once every calendar year, but not more than every 18 months and not sooner than every 6 months, to demonstrate compliance with the applicable requirements of Section 5.0 of the rule.

- Source testing to demonstrate compliance with permit conditions and all rules and regulations for both natural gas and LPG shall be conducted at least once every calendar year. NOx and CO testing shall be performed using CARB Method 100. VOC testing shall be performed using EPA method 25A. PM10 testing shall be performed using EPA methods 201 and 202, EPA methods 201a and 202, or CARB methods 501 and 5. SOx testing shall be performed using EPA Method 8 and CARB Method 1-100. [District Rules 1081; 2520; and 4354]
- Source testing when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. A source test shall be performed within 90 days after this furnace exceeds 100 hours of operation, on LPG, on an annual basis. [District Rule 1081]
- Source testing shall be conducted by a CARB-certified source testing contractor. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to source testing. The results of each source test shall be submitted to the District within 60 days after the source test date. [District Rule 1081]
- Source test conditions shall be representative of operations equal to or greater than 60 percent of the fuel use capacity for each furnace as stated in the Permit to Operate. [District Rule 4354]
- PM and PM10 source testing shall be conducted down stream of the particulate matter control equipment in the common stack. Furnaces #1, #2, #3, and #4

must operate simultaneously during source testing unless prior approval is obtained from the District. [District Rule 1081]

## **2. Monitoring**

The furnace is equipped with operational CEMs for NO<sub>x</sub> and SO<sub>x</sub>. Provisions are included in the operating permit which are consistent with the requirements of this rule.

- The furnace shall have continuous monitoring systems for NO<sub>x</sub> and SO<sub>x</sub>. The monitoring devices shall have continuous recording devices, and all records shall be kept on site. [District Rules 1080 and 4354]
- One continuous emissions monitoring (CEM) system may be used for monitoring oxy-fuel fired furnaces #1, #2, #3, and #4 provided all of the exhaust gases of each of these furnaces are ducted to a common stack, and monitored down stream of the common stack. The CEMS shall comply with the requirements of 40 Code of Federal Regulations (CFR) Part 51, 40 CFR Parts 60.7 and 60.13, 40 CFR Part 60 Appendix B (Performance Specifications) and Appendix F (Quality Assurance Procedures) and the applicable sections of Rule 1080 (Stack Monitoring). [District Rule 4354]
- The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080]

## **3. Recordkeeping**

Recordkeeping is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201.

- A daily record of the hours of operation, the amount of glass pulled from the furnace (in tons), the NO<sub>x</sub> emissions (in lb/ton of glass pulled), the SO<sub>x</sub> emissions (in lb/ton of glass pulled), the weight of mixed color mix cullet used, the total amount of cullet used (by weight) and the ratio of the mixed color cullet weight to the total cullet weight (in percent) shall be kept. [District Rules 2201 and 4354]
- The oxygen to fuel ratio shall be continuously monitored and recorded. [District Rule 4354]
- The permittee shall maintain daily records of the aggregated NO<sub>x</sub> emissions. [District Rules 2520 and 4354]
- The permittee shall maintain the burner oxygen to fuel ratio records required by this permit. [District Rules 2201 and 4354]
- A record of the PM<sub>10</sub> emissions from this unit, in pounds per calendar quarter, shall be kept. [District Rule 2201]
- A record of the cumulative annual number of hours that the emission control system is either fully or partially bypassed shall be kept. The record shall be updated at least weekly. [District Rules 2201 and 4354]

- The permittee shall maintain daily records of the specific power of the electrostatic precipitator (in milliwatts/acfm). [District Rules 2201, 4354 and 40 CFR Part 64]
- The operator shall monitor and record the pressure differential gauge reading of the ceramic filter dust collector at least once during each day that the unit operates. [District Rules 2201 and 4354 and 40 CFR Part 64]
- Records of dust collector maintenance, inspections and repairs shall be maintained. The records shall include, date of inspection, change outs of filter media, corrective action taken, and identification of the individual performing the inspection. [District Rules 2201 and 2520]
- All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 2201 and 4354 and 40 CFR Part 64]

#### **4. Reporting**

No reporting is required to demonstrate compliance with Rule 2201.

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

The prevention of significant deterioration (PSD) program is a construction permitting program for new major stationary sources and major modifications to existing major stationary sources located in areas classified as attainment or in areas that are unclassifiable for any criteria air pollutant.

As demonstrated above, this project is not subject to the requirements of Rule 2410 due to a significant emission increase and no further discussion is required.

#### **Rule 2520 Federally Mandated Operating Permit**

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

In accordance with Rule 2520, these modifications:

1. Do not violate requirements of any applicable federally enforceable local or federal requirement;
2. Do not relax monitoring, reporting, or recordkeeping requirements in the permit and are not significant changes in existing monitoring permit terms or conditions;
3. Do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis;
4. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:
  - a. A federally enforceable emission cap assumed to avoid classification as a modification under any provisions of Title I of the Federal Clean Air Act; and

- b. An alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Federal Clean Air Act; and
5. Are not Title I modifications as defined in District Rule 2520 or modifications as defined in section 111 or 112 of the Federal Clean Air Act; and
6. Do not seek to consolidate overlapping applicable requirements.

As discussed above, the facility has not applied for a Certificate of Conformity (COC). Therefore, the facility must apply to modify their Title V permit with a minor modification, prior to operating with the proposed modifications. Continued compliance with this rule is expected. The facility may construct/operate under the ATC permit upon submittal of the Title V minor modification application.

#### **Rule 4001 New Source Performance Standards**

##### **40 CFR Part 60 Subpart CC – Standards of Performance for Glass Manufacturing Plants**

Per Section 60.290, a glass manufacturing facility is subject to 40 CFR 60 Subpart CC if the affected facility commences construction (reconstruction) or modification after June 15, 1979. Section 60.2 defines a “modification” as “any physical change in, or change in the method of operation of an existing facility which increases the amount of any pollutant (to which the standard applies) emitted into the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) into the atmosphere not previously emitted.”

This project does not result in a modification as defined in Section 60.2. Therefore, the requirements of this subpart are not applicable to this project.

#### **Rule 4002 National Emission Standards for Hazardous Air Pollutants**

##### **40 CFR Part 61 Subpart N – National Emission Standard for Inorganic Arsenic Emissions from Glass Manufacturing Plants**

This subpart applies to furnaces that use commercial arsenic as a raw material. The facility is prohibited by the Title V permit from using commercial arsenic as a raw material; therefore, this rule will not apply to the furnace. The following condition will be listed on the permit to ensure compliance with the requirements of this subpart:

- The requirements of 40 CFR Part 61, Subpart N were determined to not apply to this unit because the unit does not use commercial arsenic. A permit shield is granted from these requirements. [District Rule 2520]

##### **40 CFR Part 63 Subpart SSSSSS – National Emission Standard for Hazardous Air Pollutants for Glass Manufacturing Area Sources**

###### **Section 63.11448**

You are subject to this subpart if you own or operate a glass manufacturing facility that is an area source of hazardous air pollutant (HAP) emissions and meets all of the criteria specified in paragraphs (a) through (c) of this section.

- (a) A glass manufacturing facility is a plant site that manufactures flat glass, glass containers, or pressed and blown glass by melting a mixture of raw materials, as defined in §63.11459, to produce molten glass and form the molten glass into sheets, containers, or other shapes.
- (b) An area source of HAP emissions is any stationary source or group of stationary sources within a contiguous area under common control that does not have the potential to emit any single HAP at a rate of 9.07 megagrams per year (Mg/yr) (10 tons per year (tpy)) or more and any combination of HAP at a rate of 22.68 Mg/yr (25 tpy) or more.
- (c) Your glass manufacturing facility uses one or more continuous furnaces to produce glass that contains compounds of one or more glass manufacturing metal HAP, as defined in §63.11459, as raw materials in a glass manufacturing batch formulation.

The facility is a glass manufacturing facility, is an area source of HAP emissions. Therefore, this facility is subject to the requirements of this subpart.

#### Section 63.11449

- (a) This subpart applies to each existing or new affected glass melting furnace that is located at a glass manufacturing facility and satisfies the requirements specified in paragraphs (a)(1) through (3) of this section.
  - (1) The furnace is a continuous furnace, as defined in §63.11459.
  - (2) The furnace is charged with compounds of one or more glass manufacturing metal HAP as raw materials.
  - (3) The furnace is used to produce glass, which contains one or more of the glass manufacturing metal HAP as raw materials, at a rate of at least 45 Mg/yr (50 tpy).
- (b) A furnace that is a research and development process unit, as defined in §63.11459, is not an affected furnace under this subpart.
- (c) An affected source is an existing source if you commenced construction or reconstruction of the affected source on or before September 20, 2007.
- (d) An affected source is a new source if you commenced construction or reconstruction of the affected source after September 20, 2007.
- (e) If you own or operate an area source subject to this subpart, you must obtain a permit under 40 CFR part 70 or 40 CFR part 71.

Furnace #4 is a continuous furnace, uses raw materials which contain metal HAP, and has permitted glass production rate of 637.9 tons/day. Therefore, this subpart applies. This facility is an existing source since Furnace #4 commenced construction before September 20, 2007. This facility is an area source and has obtained a permit under 40 CFR part 70.

#### Section 63.11450

- (a) If you have an existing affected source, you must comply with the applicable emission limits specified in §63.11451 of this subpart no later than December 28, 2009. As specified in section 112(i)(3)(B) of the Clean Air Act and in §63.6(i)(4)(A), you may request that the Administrator or delegated authority grant an extension allowing up to 1 additional year to comply with the applicable emission limits if such additional period is necessary for the installation of emission controls.

- (b) If you have a new affected source, you must comply with this subpart according to paragraphs (b)(1) and (2) of this section.
- (1) If you start up your affected source on or before December 26, 2007, you must comply with the applicable emission limit specified in §63.11451 no later than December 26, 2007.
  - (2) If you start up your affected source after December 26, 2007, you must comply with the applicable emission limit specified in §63.11451 upon initial startup of your affected source.
- (c) If you own or operate a furnace that produces glass containing one or more glass manufacturing metal HAP as raw materials at an annual rate of less than 45 Mg/yr (50 tpy), and you increase glass production for that furnace to an annual rate of at least 45 Mg/yr (50 tpy), you must comply with the applicable emission limit specified in §63.11451 within 2 years of the date on which you increased the glass production rate for the furnace to at least 45 Mg/yr (50 tpy).
- (d) If you own or operate a furnace that produces glass at an annual rate of at least 45 Mg/yr (50 tpy) and is not charged with glass manufacturing metal HAP, and you begin production of a glass product that includes one or more glass manufacturing metal HAP as raw materials, and you produce at least 45 Mg/yr (50 tpy) of this glass product, you must comply with the applicable emission limit specified in §63.11451 within 2 years of the date on which you introduced production of the glass product that contains glass manufacturing metal HAP.

The following conditions will ensure compliance with the requirements of this section.

- The permittee shall comply with the applicable emission limits specified in 40 CFR Part 63 Subpart SSSSSS Table 1. Existing glass melting furnace that produces glass at an annual rate of at least 45 Mg/yr (50 tpy) and is charged with compounds of arsenic, cadmium, chromium, manganese, lead, or nickel as raw materials shall meet one of the following emission limits: the 3-hour block average production based PM mass emission rate must not exceed 0.1 gram per kilogram (g/kg) (0.2 pound per ton (lb/ton)) of glass produced; or the 3-hour block average production based metal HAP mass emission rate must not exceed 0.01 g/kg (0.02 lb/ton) of glass produced. The permittee may request the APCO to grant an extension allowing up to one additional year to comply with the applicable emission limits if such additional period is necessary for the installation of emission controls. [40 CFR 63 Subpart SSSSSS]
  - A furnace that produces glass at an annual rate of at least 45 Mg/yr (50 tpy) and is not charged with glass manufacturing metal HAP, and begins production of a glass product that includes one or more glass manufacturing metal HAP as raw materials, and produces at least 45 Mg/yr (50 tpy) of this glass product, shall comply with the applicable emission limit specified in Section 63.11451 within 2 years of the date on which the facility introduced production of the glass product that contains glass manufacturing metal HAP. [40 CFR 63 Subpart SSSSSS]
- (e) You must meet the notification requirements in §63.11456 according to the schedule in §63.11456 and in 40 CFR part 63, subpart A. Some of the notifications must be submitted before you are required to comply with emission limits specified in this subpart.

The required notifications have been submitted. Therefore, compliance with the requirements of this section have been satisfied.

#### Section 63.11451

If you are an owner or operator of an affected furnace, as defined in §63.11449(a), you must meet the applicable emission limit specified in Table 1 to this subpart.

The following condition will ensure compliance with the requirements of this section.

- The permittee shall comply with the applicable emission limits specified in 40 CFR Part 63 Subpart SSSSSS Table 1. Existing glass melting furnace that produces glass at an annual rate of at least 45 Mg/yr (50 tpy) and is charged with compounds of arsenic, cadmium, chromium, manganese, lead, or nickel as raw materials shall meet one of the following emission limits: the 3-hour block average production based PM mass emission rate must not exceed 0.1 gram per kilogram (g/kg) (0.2 pound per ton (lb/ton)) of glass produced; or the 3-hour block average production based metal HAP mass emission rate must not exceed 0.01 g/kg (0.02 lb/ton) of glass produced. The permittee may request the APCO to grant an extension allowing up to one additional year to comply with the applicable emission limits if such additional period is necessary for the installation of emission controls. [40 CFR 63 Subpart SSSSSS]

#### Section 63.11452

- (a) If you own or operate an affected furnace that is subject to an emission limit specified in Table 1 to this subpart, you must conduct a performance test according to paragraphs (a)(1) through (3) and paragraph (b) of this section.
- (1) For each affected furnace, you must conduct a performance test within 180 days after your compliance date and report the results in your Notification of Compliance Status, except as specified in paragraph (a)(2) of this section.
  - (2) You are not required to conduct a performance test on the affected furnace if you satisfy the conditions described in paragraphs (a)(2)(i) through (iii) of this section.
    - (i) You conducted a performance test on the affected furnace within the past 5 years of the compliance date using the same test methods and procedures specified in paragraph (b) of this section.
    - (ii) The performance test demonstrated that the affected furnace met the applicable emission limit specified in Table 1 to this subpart.
    - (iii) Either no process changes have been made since the test, or you can demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance with the applicable emission limit.
  - (3) If you operate multiple identical furnaces, as defined in §63.11459, that are affected furnaces, you are required to test only one of the identical furnaces if you meet the conditions specified in paragraphs (a)(3)(i) through (iii) of this section.
    - (i) You must conduct the performance test while the furnace is producing glass that has the greatest potential to emit the glass manufacturing metal HAP from among the glass formulations that are used in any of the identical furnaces.
    - (ii) You certify in your Notification of Compliance Status that the identical furnaces meet the definition of identical furnaces specified in §63.11459.

- (iii) You provide in your Notification of Compliance Status documentation that demonstrates why the tested glass formulation has the greatest potential to emit the glass manufacturing metal HAP.

Initial performance testing has been completed. Therefore, the requirements of this section have been satisfied.

- (b) You must conduct each performance test according to the requirements in §63.7 and paragraphs (b)(1) through (12) and either paragraph (b)(13) or (b)(14) of this section.
- (1) Install and validate all monitoring equipment required by this subpart before conducting the performance test.
  - (2) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in §63.7(e)(1).
  - (3) Conduct the test while the source is operating at the maximum production rate.
  - (4) Conduct at least three separate test runs with a minimum duration of 1 hour for each test run, as specified in §63.7(e)(3).
  - (5) Record the test date.
  - (6) Identify the emission source tested.
  - (7) Collect and record the emission test data listed in this section for each run of the performance test.
  - (8) Locate all sampling sites at the outlet of the furnace control device or at the furnace stack prior to any releases to the atmosphere.
  - (9) Select the locations of sampling ports and the number of traverse points using Method 1 or 1A of 40 CFR part 60, appendix A–1.
  - (10) Measure the gas velocity and volumetric flow rate using Method 2, 2A, 2C, 2F, or 2G of 40 CFR part 60, appendices A–1 and A–2, during each test run.
  - (11) Conduct gas molecular weight analysis using Methods 3, 3A, or 3B of 40 CFR part 60, appendix A–2, during each test run. You may use ANSI/ASME PTC 19.10–1981, Flue and Exhaust Gas Analyses (incorporated by reference—see §63.14) as an alternative to EPA Method 3B.
  - (12) Measure gas moisture content using Method 4 of 40 CFR part 60, appendix A–3, during each test run.
  - (13) To meet the particulate matter (PM) emission limit specified in Table 1 to this subpart, you must conduct the procedures specified in paragraphs (b)(13)(i) through (v) of this section.
    - (i) Measure the PM mass emission rate at the outlet of the control device or at the stack using Method 5 or 17 of 40 CFR part 60, appendices A–3 or A–6, for each test run.
    - (ii) Calculate the PM mass emission rate in the exhaust stream for each test run.
    - (iii) Measure and record the glass production rate (kilograms (tons) per hour of product) for each test run.
    - (iv) Calculate the production-based PM mass emission rate (g/kg (lb/ton)) for each test run using Equation 1 of this section.
    - (v) Calculate the 3-hour block average production-based PM mass emission rate as the average of the production-based PM mass emission rates for each test run.
  - (14) To meet the metal HAP emission limit specified in Table 1 to this subpart, you must conduct the procedures specified in paragraphs (b)(14)(i) through (v) of this section.



- (i) Measure the metal HAP mass emission rate at the outlet of the control device or at the stack using Method 29 of 40 CFR part 60, appendix A–8, for each test run.
- (ii) Calculate the metal HAP mass emission rate in the exhaust stream for the glass manufacturing metal HAP that are added as raw materials to the glass manufacturing formulation for each test run.
- (iii) Measure and record the glass production rate (kilograms (tons) per hour of product) for each test run.
- (iv) Calculate the production-based metal HAP mass emission rate (g/kg (lb/ton)) for each test run using Equation 2 of this section.
- (v) Calculate the 3-hour block average production-based metal HAP mass emission rate as the average of the production-based metal HAP mass emission rates for each test run.

The following condition will ensure compliance with the requirements of this section.

- The permittee shall conduct each performance test according to the requirements in Section 63.7 and Section 63.11452 paragraphs (b)(1) through (12) and either paragraph (b)(13) or (b)(14). [40 CFR 63 Subpart SSSSSS]

#### Section 63.11453

- (a) If you own or operate an affected source, you must submit a Notification of Compliance Status in accordance with §§63.9(h) and 63.11456(b).

The following condition will ensure compliance with the requirements of this section.

The Notification of Compliance Status has been submitted. Therefore, the requirements of this section have been satisfied

- (b) For each existing affected furnace that is subject to the emission limits specified in Table 1 to this subpart, you must demonstrate initial compliance according to the requirements in paragraphs (b)(1) through (4) of this section.
- (1) For each fabric filter that is used to meet the emission limit specified in Table 1 to this subpart, you must visually inspect the system ductwork and fabric filter unit for leaks. You must also inspect the inside of each fabric filter for structural integrity and fabric filter condition. You must record the results of the inspection and any maintenance action as required in §63.11457(a)(6).
  - (2) For each electrostatic precipitator (ESP) that is used to meet the emission limit specified in Table 1 to this subpart, you must verify the proper functioning of the electronic controls for corona power and rapper operation, that the corona wires are energized, and that adequate air pressure is present on the rapper manifold. You must also visually inspect the system ductwork and ESP housing unit and hopper for leaks and inspect the interior of the ESP to determine the condition and integrity of corona wires, collection plates, hopper, and air diffuser plates. You must record the results of the inspection and any maintenance action as required in §63.11457(a)(6).
  - (3) You must conduct each inspection specified in paragraphs (b)(1) and (2) of this section no later than 60 days after your applicable compliance date specified in §63.11450, except as specified in paragraphs (b)(3)(i) and (ii) of this section.

- (i) An initial inspection of the internal components of a fabric filter is not required if an inspection has been performed within the past 12 months.
- (ii) An initial inspection of the internal components of an ESP is not required if an inspection has been performed within the past 24 months.
- (4) You must satisfy the applicable requirements for performance tests specified in §63.11452.

The initial compliance inspections have been performed. Therefore, compliance with the requirements of this section have been satisfied.

- (c) For each new affected furnace that is subject to the emission limit specified in Table 1 to this subpart and is controlled with a fabric filter, you must install, operate, and maintain a bag leak detection system according to paragraphs (c)(1) through (3) of this section.
- (d) For each new affected furnace that is subject to the emission limit specified in Table 1 to this subpart and is controlled with an ESP, you must install, operate, and maintain according to the manufacturer's specifications, one or more continuous parameter monitoring systems (CPMS) for measuring and recording the secondary voltage and secondary electrical current to each field of the ESP according to paragraphs (d)(1) through (13) of this section.
- (e) For each new affected furnace that is subject to the emission limit specified in Table 1 to this subpart and is controlled by a device other than a fabric filter or an ESP, you must prepare and submit a monitoring plan to EPA or the delegated authority for approval. Each plan must contain the information in paragraphs (e)(1) through (5) of this section.

The furnaces at this facility are not new. Therefore, the requirements of these sections are not applicable.

#### Section 63.11454

- (a) For each monitoring system required by this subpart, you must install, calibrate, operate, and maintain the monitoring system according to the manufacturer's specifications and the requirements specified in paragraphs (a)(1) through (7) of this section.
  - (1) You must install each sensor of your monitoring system in a location that provides representative measurement of the appropriate parameter over all operating conditions, taking into account the manufacturer's guidelines.
  - (2) You must perform an initial calibration of your monitoring system based on the manufacturer's recommendations.
  - (3) You must use a monitoring system that is designed to complete a minimum of one cycle of operation for each successive 15-minute period.
  - (4) For each existing affected furnace, you must record the value of the monitored parameter at least every 8 hours. The value can be recorded electronically or manually.
  - (5) You must record the results of each inspection, calibration, monitoring system maintenance, and corrective action taken to return the monitoring system to normal operation.
  - (6) At all times, you must maintain your monitoring system including, but not limited to, maintaining necessary parts for routine repairs of the system.
  - (7) You must perform the required monitoring whenever the affected furnace meets the conditions specified in paragraph (a)(7)(i) or (ii) of this section.

- (i) The furnace is being charged with one or more of the glass manufacturing metal HAP as raw materials.
- (ii) The furnace is in transition between producing glass that contains one or more of the glass metal HAP as raw materials and glass that does not contain any of the glass manufacturing metal HAP as raw materials. The transition period begins when the furnace is charged with raw materials that do not contain any of the glass manufacturing metal HAP as raw materials and ends when the furnace begins producing a saleable glass product that does not contain any of the glass manufacturing metal HAP as raw materials.

The following condition will ensure compliance with the requirements of this section.

- For each monitoring system required by this subpart, the permittee shall install, calibrate, operate, and maintain the monitoring system according to the manufacturer's specifications and the requirements specified in Section 63.11454 paragraphs (a)(1) through (7). [40 CFR 63 Subpart SSSSSS]
- (b) For each existing furnace that is subject to the emission limit specified in Table 1 to this subpart and is controlled with an ESP, you must meet the requirements specified in paragraphs (b)(1) or (2) of this section.
- (1) You must monitor the secondary voltage and secondary electrical current to each field of the ESP according to the requirements of paragraph (a) of this section, or
  - (2) You must submit a request for alternative monitoring, as described in paragraph (g) of this section.

The following condition will ensure compliance with the requirements of this section.

- For each existing furnace that is subject to the emission limit specified in Table 1 to this subpart and is controlled with an ESP, the permittee shall meet the requirements specified in Section 63.11454 paragraphs (b)(1) or (2). The permittee shall monitor the secondary voltage and secondary electrical current to each field of the ESP according to the requirements of Section 63.11454 paragraph (a) or submit a request for alternative monitoring, as described in Section 63.11454 paragraph (g). [40 CFR 63 Subpart SSSSSS]
- (c) For each existing furnace that is subject to the emission limit specified in Table 1 to this subpart and is controlled with a fabric filter, you must meet the requirements specified in paragraphs (c)(1) or (2) of this section.
- (1) You must monitor the inlet temperature to the fabric filter according to the requirements of paragraph (a) of this section, or
  - (2) You must submit a request for alternative monitoring, as described in paragraph (g) of this section.
- For each existing furnace that is subject to the emission limit specified in Table 1 to this subpart and is controlled with an fabric filter, the permittee shall meet the requirements specified in Section 63.11454 paragraphs (c)(1) or (2). The permittee shall monitor the inlet temperature to the fabric filter according to the requirements of Section 63.11454

paragraph (a), or the permittee shall submit a request for alternative monitoring, as described in Section 63.11454 paragraph (g). [40 CFR 63 Subpart SSSSSS]

- (d) For each new furnace that is subject to the emission limit specified in Table 1 to this subpart and is controlled with an ESP, you must monitor the voltage and electrical current to each field of the ESP on a continuous basis using one or more CPMS according to the requirements for CPMS specified in §63.11453(d).
- (e) For each new furnace that is subject to the emission limit specified in Table 1 to this subpart and is controlled with a fabric filter, you must install and operate a bag leak detection system according to the requirements specified in §63.11453(c).

The furnaces at this facility are not new. Therefore, the requirements of these sections are not applicable.

- (f) For each new or existing furnace that is subject to the emission limit specified in Table 1 to this subpart and is equipped with a control device other than an ESP or fabric filter, you must meet the requirements in §63.8(f) and submit a request for approval of alternative monitoring methods to the Administrator no later than the submittal date for the Notification of Compliance Status, as specified in §63.11456(b). The request must contain the information specified in paragraphs (f)(1) through (5) of this section.
  - (1) Description of the alternative add-on air pollution control device (APCD).
  - (2) Type of monitoring device or method that will be used, including the sensor type, location, inspection procedures, quality assurance and quality control (QA/QC) measures, and data recording device.
  - (3) Operating parameters that will be monitored.
  - (4) Frequency that the operating parameter values will be measured and recorded.
  - (5) Procedures for inspecting the condition and operation of the control device and monitoring system.
- (g) If you wish to use a monitoring method other than those specified in paragraph (b)(1) or (c)(1) of this section, you must meet the requirements in §63.8(f) and submit a request for approval of alternative monitoring methods to the Administrator no later than the submittal date for the Notification of Compliance Status, as specified in §63.11456(b). The request must contain the information specified in paragraphs (g)(1) through (5) of this section.
  - (1) Type of monitoring device or method that will be used, including the sensor type, location, inspection procedures, QA/QC measures, and data recording device.
  - (2) Operating parameters that will be monitored.
  - (3) Frequency that the operating parameter values will be measured and recorded.
  - (4) Procedures for inspecting the condition and operation of the monitoring system.
  - (5) Explanation for how the alternative monitoring method will provide assurance that the emission control device is operating properly.

The deadline for submittal of the Notification of Compliance Status has passed. Therefore, compliance with the requirements of this section has been satisfied.

Section 63.11455

- (a) You must be in compliance with the applicable emission limits in this subpart at all times, except during periods of startup, shutdown, and malfunction.

The following condition will ensure compliance with the requirements of this section.

- The permittee shall be in compliance with the applicable emission limits in this subpart at all times, except during periods of startup, shutdown, and malfunction. [40 CFR 63 Subpart SSSSSS]

- (b) You must always operate and maintain your affected source, including air pollution control and monitoring equipment, according to the provisions in §63.6(e)(1)(i).

The following condition will ensure compliance with the requirements of this section.

- The permittee shall always operate and maintain the affected source, including air pollution control and monitoring equipment, according to the provisions in Section 63.6(e)(1)(i). [40 CFR 63 Subpart SSSSSS]

- (c) For each affected furnace that is subject to the emission limit specified in Table 1 to this subpart, you must monitor the performance of the furnace emission control device under the conditions specified in §63.11454(a)(7) and according to the requirements in §§63.6(e)(1) and 63.8(c) and paragraphs (c)(1) through (6) of this section.

- (1) For each existing affected furnace that is controlled with an ESP, you must monitor the parameters specified in §63.11454(b) in accordance with the requirements of §63.11454(a) or as specified in your approved alternative monitoring plan.
- (2) For each new affected furnace that is controlled with an ESP, you must comply with the monitoring requirements specified in §63.11454(d) in accordance with the requirements of §63.11454(a) or as specified in your approved alternative monitoring plan.
- (3) For each existing affected furnace that is controlled with a fabric filter, you must monitor the parameter specified in §63.11454(c) in accordance with the requirements of §63.11454(a) or as specified in your approved alternative monitoring plan.
- (4) For each new affected furnace that is controlled with a fabric filter, you must comply with the monitoring requirements specified in §63.11454(e) in accordance with the requirements of §63.11454(a) or as specified in your approved alternative monitoring plan.
- (5) For each affected furnace that is controlled with a device other than a fabric filter or ESP, you must comply with the requirements of your approved alternative monitoring plan, as required in §63.11454(g).
- (6) For each monitoring system that is required under this subpart, you must keep the records specified in §63.11457.

The following condition will ensure compliance with the requirements of this section.

- For each affected furnace that is subject to the emission limit specified in Table 1 to this subpart, the permittee shall monitor the performance of the furnace emission control

device under the conditions specified in Section 63.11454(a)(7) and according to the requirements in Sections 63.6(e)(1) and 63.8(c) and Section 63.11455 paragraphs (c)(1) through (6). [40 CFR 63 Subpart SSSSSS]

- (d) Following the initial inspections, you must perform periodic inspections and maintenance of each affected furnace control device according to the requirements in paragraphs (d)(1) through (4) of this section.
- (1) For each fabric filter, you must conduct inspections at least every 12 months according to paragraphs (d)(1)(i) through (iii) of this section.
    - (i) You must inspect the ductwork and fabric filter unit for leakage.
    - (ii) You must inspect the interior of the fabric filter for structural integrity and to determine the condition of the fabric filter.
    - (iii) If an initial inspection is not required, as specified in §63.11453(b)(3)(i), the first inspection must not be more than 12 months from the last inspection.
  - (2) For each ESP, you must conduct inspections according to the requirements in paragraphs (d)(2)(i) through (iii) of this section.
    - (i) You must conduct visual inspections of the system ductwork, housing unit, and hopper for leaks at least every 12 months.
    - (ii) You must conduct inspections of the interior of the ESP to determine the condition and integrity of corona wires, collection plates, plate rappers, hopper, and air diffuser plates every 24 months.
    - (iii) If an initial inspection is not required, as specified in §63.11453(b)(3)(ii), the first inspection must not be more than 24 months from the last inspection.
  - (3) You must record the results of each periodic inspection specified in this section in a logbook (written or electronic format), as specified in §63.11457(c).
  - (4) If the results of a required inspection indicate a problem with the operation of the emission control system, you must take immediate corrective action to return the control device to normal operation according to the equipment manufacturer's specifications or instructions.

The following condition will ensure compliance with the requirements of this section.

- Following the initial inspections, the permittee shall perform periodic inspections and maintenance of each affected furnace control device according to the requirements in Section 63.11455 paragraphs (d)(1) through (4). For each ESP, the permittee shall conduct inspections according to the requirements in Section 63.11455 paragraphs (d)(2)(i) through (iii). The permittee shall conduct visual inspections of the system ductwork, housing unit, and hopper for leaks at least every 12 months. The permittee shall conduct inspections of the interior of the ESP to determine the condition and integrity of corona wires, collection plates, plate rappers, hopper, and air diffuser plates every 24 months. If an initial inspection is not required, as specified in Section 63.11453(b)(3)(ii), the first inspection must not be more than 24 months from the last inspection. The permittee shall record the results of each periodic inspection specified in this section in a logbook (written or electronic format), as specified in Section 63.11457(c). If the results of a required inspection indicate a problem with the operation of the emission control system, the permittee shall take immediate corrective action to return the control device to normal operation according to the equipment manufacturer's specifications or instructions. [40 CFR 63 Subpart SSSSSS]

- (e) For each affected furnace that is subject to the emission limit specified in Table 1 to this subpart and can meet the applicable emission limit without the use of a control device, you must demonstrate continuous compliance by satisfying the applicable recordkeeping requirements specified in §63.11457.

The following condition will ensure compliance with the requirements of this section.

- For each affected furnace that is subject to the emission limit specified in Table 1 to this subpart and can meet the applicable emission limit without the use of a control device, the permittee shall demonstrate continuous compliance by satisfying the applicable recordkeeping requirements specified in Section 63.11457. [40 CFR 63 Subpart SSSSSS]

#### Section 63.11456

- (a) If you own or operate an affected furnace, as defined in §63.11449(a), you must submit an Initial Notification in accordance with §63.9(b) and paragraphs (a)(1) and (2) of this section by the dates specified.
- (1) As specified in §63.9(b)(2), if you start up your affected source before December 26, 2007, you must submit an Initial Notification not later than April 24, 2008 or within 120 days after your affected source becomes subject to the standard.
  - (2) The Initial Notification must include the information specified in §63.9(b)(2)(i) through (iv).
- (b) You must submit a Notification of Compliance Status in accordance with §63.9(h) and the requirements in paragraphs (b)(1) and (2) of this section.
- (1) If you own or operate an affected furnace and are required to conduct a performance test, you must submit a Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test, according to §60.8 or §63.10 (d)(2).
  - (2) If you own or operate an affected furnace and satisfy the conditions specified in §63.11452(a)(2) and are not required to conduct a performance test, you must submit a Notification of Compliance Status, including the results of the previous performance test, before the close of business on the compliance date specified in §63.11450.

The Initial Notification and Notification of Compliance Status have been submitted. Therefore, compliance with this section is satisfied.

#### Section 63.11457

- (a) You must keep the records specified in paragraphs (a)(1) through (8) of this section.
- (1) A copy of any Initial Notification and Notification of Compliance Status that you submitted and all documentation supporting those notifications, according to the requirements in §63.10(b)(2)(xiv).
  - (2) The records specified in §63.10(b)(2) and (c)(1) through (13).
  - (3) The records required to show continuous compliance with each emission limit that applies to you, as specified in §63.11455.

- (4) For each affected source, records of production rate on a process throughput basis (either feed rate to the process unit or discharge rate from the process unit). The production data must include the amount (weight or weight percent) of each ingredient in the batch formulation, including all glass manufacturing metal HAP compounds.
- (5) Records of maintenance activities and inspections performed on control devices as specified in §§63.11453(b) and 63.11455(d), according to paragraphs (a)(5)(i) through (v) of this section.
  - (i) The date, place, and time of inspections of control device ductwork, interior, and operation.
  - (ii) Person conducting the inspection.
  - (iii) Technique or method used to conduct the inspection.
  - (iv) Control device operating conditions during the time of the inspection.
  - (v) Results of the inspection and description of any corrective action taken.
- (6) Records of all required monitoring data and supporting information including all calibration and maintenance records.
- (7) For each bag leak detection system, the records specified in paragraphs (a)(7)(i) through (iii) of this section.
  - (i) Records of the bag leak detection system output;
  - (ii) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings; and
  - (iii) The date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, the cause of the alarm, an explanation of the actions taken, the date and time the cause of the alarm was alleviated, and whether the alarm was alleviated within 3 hours of the alarm.
- (8) Records of any approved alternative monitoring method(s) or test procedure(s).

The following condition will ensure compliance with the requirements of this section.

- The permittee shall keep the records specified in Section 63.11457 paragraphs (a)(1) through (8). [40 CFR 63 Subpart SSSSSS]
- (b) Your records must be in a form suitable and readily available for expeditious review, according to §63.10(b)(1).
  - (c) You must record the results of each inspection and maintenance action in a logbook (written or electronic format). You must keep the logbook onsite and make the logbook available to the permitting authority upon request.
  - (d) As specified in §63.10(b)(1), you must keep each record for a minimum of 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

You must keep each record onsite for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1). You may keep the records offsite for the remaining three years.



The following condition will ensure compliance with the requirements of this section.

- Records must be in a form suitable and readily available for expeditious review, according to Section 63.10(b)(1). The permittee shall record the results of each inspection and maintenance action in a logbook (written or electronic format). The permittee shall keep the logbook onsite and make the logbook available to the permitting authority upon request. As specified in §63.10(b)(1), the permittee shall keep each record for a minimum of 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. Records shall be kept onsite for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to Section 63.10(b)(1). Records may be kept offsite for the remaining three years. [40 CFR 63 Subpart SSSSSS]

Therefore, compliance with the requirements of this rule is expected.

#### **Rule 4101 Visible Emissions**

Rule 4101 states that no person shall discharge into the atmosphere emissions of any air contaminant aggregating more than 3 minutes in any hour which is as dark as or darker than Ringelmann 1 (or 20% opacity). As the units are fired solely on natural gas, visible emissions are not expected to exceed Ringelmann 1 or 20% opacity. Also, based on past inspections of the facility continued compliance is expected.

The following condition will be listed on the facility-wide permit to ensure compliance:

- No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101 (02/17/05). If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101, and County Rules 401 (in all eight counties in the San Joaquin Valley)]

#### **Rule 4102 Nuisance**

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

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

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

No increase in emissions will occur due to the proposed modifications in this project. The permitted furnace production limit is not being changed.

Therefore, since this project does not have a change in the permitted furnace production limit or changes in stack parameters no RMR is required. Additionally, an AAQA is not required since no increase in any criteria pollutant emissions result from this project for which an ambient air quality standard has been established.

#### **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.

Particulate matter (PM) emissions are not expected to exceed 0.1 grains/dscf. Therefore, compliance with District Rule 4201 requirements is expected and a permit condition will be listed on the permit as follows:

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

#### **Rule 4202 Particulate Matter – Emission Rate**

This rule limits the allowable PM emission rate based on the equipment process weight rate. Section 3.1 defines the process weight as “the total weight of all materials introduced into any specific process, which process may cause any discharge into the atmosphere.”

Per section 4.1, particulate matter (PM) emissions from any source operation shall not exceed the allowable hourly emission rate (E) as calculated using the following applicable formulas:

$$E = 3.59 P^{0.62} \text{ (when, } P = \text{process weight rate} \leq 30 \text{ tons/hr)}$$
$$E = 17.31 P^{0.16} \text{ (when, } P = \text{process weight rate} > 30 \text{ tons/hr)}$$

The post-project process weight rate of the material handling operation is 26.58 tons per hour (equivalent to 637.9 tons per day).

$$\begin{aligned} \text{Rule 4202 emission limit} &= 3.59 * P^{0.62} \text{ (where } P \text{ less than or equal to } 30 \text{ tons/hr)} \\ &= 3.59 * (26.58)^{0.62} \\ &= 27.44 \text{ lb/hr} \end{aligned}$$

The operation has a maximum Post Project Potential to Emit (PE2) of 18.87 lb-PM<sub>10</sub>/hr (452.9 lb-PM<sub>10</sub>/day ÷ 24 hr/day).

Therefore, the PM emissions are within allowable limits and compliance with the rule is expected.

## Rule 4301 Fuel Burning Equipment

This rule specifies maximum emission rates in lb/hr for SO<sub>2</sub>, NO<sub>2</sub>, 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.

Per Section 3.1 defines fuel burning equipment as any furnace, boiler, apparatus, stack, and all appurtenances thereto, used in the process of burning fuel for the primary purpose of producing heat or power by indirect heat transfer. The glass furnace uses direct heat transfer; therefore, this rule is not applicable to the glass furnace.

## Rule 4307 Boilers, Steam Generators, and Process Heaters – 2.0 MMBtu/hr to 5.0 MMBtu/hr

The purpose of this rule is to limit emissions of NO<sub>x</sub>, CO, SO<sub>x</sub>, and PM<sub>10</sub> from boilers, steam generators, and process heaters.

Rule 4307 applies to any gaseous fuel or liquid fuel fired boiler, steam generator, or process heater with a total rated heat input of 2.0 MMBtu/hr up to and including 5.0 MMBtu/hr. Boiler or steam generator is defined under Section 3.5 as “any external combustion equipment, fired with any fuel used to produce hot water or steam”. Process heater is defined under Section 3.18 as “any combustion equipment fired with liquid and/or gaseous fuel and which transfers heat from combustion gases to water or process streams. This definition excludes: kilns or ovens used for drying, baking, cooking, calcining, or vitrifying; and unfired waste heat recovery heaters used to recover sensible heat from the exhaust of combustion equipment”.

Section 4.1.2 specifically exempts dryers and glass melting furnaces. Therefore, the glass furnace is exempt from the requirements of this rule.

## Rule 4354 Glass Melting Furnaces

The purpose of this rule is to limit emissions of nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), volatile organic compounds (VOC), oxides of sulfur (SO<sub>x</sub>), and particulate matter (PM<sub>10</sub>) from glass melting furnaces.

### NO<sub>x</sub> Emission Limits

Section 5.1.1 identifies NO<sub>x</sub> emission limits for glass melting furnaces. The following applicable emission limits pursuant to Section 5.1 for glass furnaces are:

Table 1 – NO <sub>x</sub> Emission Limits (lb/ton glass produced)			
Furnace Type	Tier 2 NO <sub>x</sub> Limit	Tier 3 NO <sub>x</sub> Limit	Tier 4 NO <sub>x</sub> Limit
Container Glass	4.0 <sup>A</sup>	1.5 <sup>B</sup>	N/A

<sup>A</sup> Block 24-hour average

<sup>B</sup> Rolling 30-day average

Furnace #4 NOx emission limit currently meets the Tier 3 limit of 1.5 lb/ton. The BACT NOx emission limit for container glass furnaces is based upon a block 24-hour average. The following condition will be listed on the permit to ensure compliance:

- NOx emissions shall not exceed 1.3 pounds per ton of glass produced. This performance based limit is to enforce the NOx emission reductions granted by certificate number N-107-2. [District Rule 2201]

Section 5.1.3 states instead of each furnace individually meeting the applicable Table 1 Tier 3 NOx limit, an operator of multiple furnaces or a furnace battery may choose to meet the applicable emission limit by considering the multiple furnaces or furnace battery as a single unit. An operator choosing this option shall conform to the provisions of Sections 9.6 through 9.7.8.5 for Tier 3 NOx.

Furnace battery conditions have been added to the permit per Sections 9.6 through 9.7.8.5 in the rule discussion below.

### CO and VOC Emission Limits

Section 5.2.1 identifies CO and VOC emission limits for glass melting furnaces. The following applicable emission limits pursuant to Section 5.2 for glass furnaces are:

<b>Table 2 – CO and VOC Emission Limits – rolling three hour average (ppmv limits are referenced at 8% O2 and dry stack conditions)</b>			
<b>Furnace Type</b>	<b>Firing Technology</b>	<b>CO Limit</b>	<b>VOC Limit</b>
Container Glass or Fiberglass	100% air fired furnace	300 ppmv	20 ppmv
	Oxygen-assisted or Oxy-fuel furnace	1.0 lb/ton glass produced	0.25 lb/ton glass produced

Furnace #4 CO and VOC emission limits meet the oxy-fuel furnace limits of 1.0 lb-CO/ton and 0.25 lb-VOC/ton. Therefore, the following conditions will be listed on the permit to ensure compliance:

- CO emissions shall not exceed 0.20 pounds per ton of glass produced. [District Rule 2201]
- The VOC emissions shall not exceed 0.02 pounds per ton of glass produced. [District Rule 2201]

Section 5.2.1 states on and after January 1, 2009, instead of each furnace individually meeting the applicable CO or VOC or both emission limit in Table 2, an operator may choose to meet the CO or VOC or both emission limit for multiple furnaces or furnace batteries by considering the multiple furnaces or furnace battery as a single unit. An operator choosing this option shall conform to the provisions of Sections 9.6 through 9.7.8.5 for CO emissions or VOC emissions or both.

Furnace battery conditions have been added to the permit per Sections 9.6 through 9.7.8.5 in the rule discussion below.

### SOx Emission Limits

Section 5.3.2 identifies SOx emission limits for glass melting furnaces. The following applicable emission limits pursuant to Section 5.2 for glass furnaces are:

<b>Table 3 – SOx Emission Limits (lb/ton glass produced)</b>		
<b>Furnace Type</b>	<b>Firing Technology</b>	<b>SOx Limit</b>
Container Glass	Oxy-fuel furnaces and $\geq 25.0\%$ of total cullet is mixed color cullet	1.1 <sup>B</sup>
	All other container glass furnaces	0.90 <sup>B</sup>

<sup>B</sup> Rolling 30-day average

Furnace #4 current permitted SOx emission limit meets the limit listed in Table 3. Therefore, the following conditions will be listed on the permit to ensure compliance:

- The combined SOx emissions from permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4, while producing glass with equal to or greater than 25% by weight mixed color cullet, shall not exceed 0.99 lb/ton of glass produced (over a rolling 30 day average). [District Rules 2201 and 4354]
- The combined SOx emissions from permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4, while producing glass with less than 25% by weight mixed color cullet, shall not exceed 0.81 lb/ton of glass produced (over a rolling 30 day average). [District Rules 2201 and 4354]

Section 5.3.5 states instead of each furnace individually meeting the applicable SOx limit in Table 3, an operator may choose to meet the SOx limit for multiple furnaces or furnace batteries by considering the multiple furnaces or furnace battery as a single unit. An operator choosing this option shall conform to the provisions of Sections 9.6 through 9.7.8.5 for SOx emissions.

Furnace battery conditions have been added to the permit per Sections 9.6 through 9.7.8.5 in the rule discussion below.

### PM<sub>10</sub> Emission Limits

Section 5.4.1 identifies PM<sub>10</sub> emission limits for glass melting furnaces. The following applicable emission limits pursuant to Section 5.1 for glass furnaces are:

<b>Table 4 – PM<sub>10</sub> Emission Limits (lb/ton glass produced) Block 24-hour average</b>		
<b>Furnace Type</b>	<b>Firing Technology</b>	<b>PM<sub>10</sub> Limit</b>
Container Glass	All technologies	0.50

Furnace #4 current permitted PM<sub>10</sub> emission limit meets the limit listed in Table 4. Therefore, the following conditions will be listed on the permit to ensure compliance:

- The PM<sub>10</sub> emissions, except for during full or partial emission control system bypass episodes, shall not exceed 0.45 lb/ton of glass produced. [District Rules 2201 and 4354]
- The PM<sub>10</sub> emissions, during full or partial emission control system bypass episodes, shall not exceed 0.71 lb/ton of glass produced. [District Rule 2201]

Section 5.4.2 states instead of each furnace individually meeting the applicable PM<sub>10</sub> limit in Table 4, an operator may choose to meet the PM<sub>10</sub> limit for multiple furnaces or furnace batteries by considering the multiple furnaces or furnace battery as a single unit. An operator choosing this option shall conform to the provisions of Sections 9.6 through 9.7.8.5 for PM<sub>10</sub> emissions.

Furnace battery conditions have been added to the permit per Sections 9.6 through 9.7.8.5 in the rule discussion below.

### **Start-up Requirements**

Section 5.5.1 requires that the operator shall submit a request for a start-up exemption to the APCO in conjunction with or in advance of an application for Authority to Construct (ATC) associated with a furnace rebuild. The actual length of the start-up exemption shall be determined by the APCO and EPA at the time of the ATC issuance, but in any case it shall not exceed the amount of time specified in Sections 5.5.4.1 and 5.5.4.2. Start-up exemptions shall begin upon activation of the primary combustion system. The operator shall submit to the APCO any information deemed necessary by the APCO or EPA to determine the appropriate length of start-up exemption. This information shall include, but is not limited to, a detailed list of activities to be performed during start-up and a reasonable explanation for the length of time needed to complete each activity, and a description of the material process flow rates and system operating parameters, etc., that the operator plans to evaluate during the process optimization. The length of the start-up exemption, if any, will be determined at the discretion of the APCO and EPA. The APCO and EPA will only approve start-up exemptions to the extent that the submittal clearly identifies the control technologies or strategies to be utilized, the submittal explicitly describes what physical conditions prevail during start-up periods that prevent the controls from being effective, and the submittal provides a reasonably precise estimate as to when physical conditions will have reached a state that allows for the effective control of emissions.

- 104 days for a flat glass furnace, 70 days for a container glass furnace, and 40 days for a fiberglass furnace following activation of the primary furnace combustion system.
- 208 days for a flat glass furnace, 100 days for a container glass furnace, and 105 days for a fiberglass furnace following activation of the primary furnace combustion system for any furnace that uses a NO<sub>x</sub> control technique that is: innovative, not in common use, not readily available from a commercial supplier, or funded as original research by a public agency.

Section 5.5.5 requires that during the start-up period, the stoichiometric ratio of the primary furnace combustion system shall not exceed 5% excess oxygen, as calculated from the actual fuel and oxidant flow measurements for combustion in the glass melting furnace.

Section 5.5.6 requires that the emission control system shall be in operation as soon as technologically feasible during start-up to minimize emissions.

The following conditions will be listed on the permit to ensure compliance:

- During startups, the permittee shall comply with the requirements of section 5.5 of District Rule 4354. [District Rule 4354]
- The NO<sub>x</sub> control system shall be in operation as soon as technologically feasible during the startup period to minimize emissions. [District Rule 4354]

### **Shutdown Requirements**

Section 5.6.1 requires that the duration of shutdown, as measured from the time the furnace operations drop below the idle threshold specified in Section 3.17 to when all emissions from the furnace cease, shall not exceed 20 days.

Section 5.6.2 requires that the emission control system shall be in operation whenever technologically feasible during shutdown to minimize emissions.

The following conditions will be listed on the permit to ensure compliance:

- The NO<sub>x</sub> control system shall be in operation whenever technologically feasible during shutdown to minimize emissions. [District Rule 4354]
- The duration of shutdown, as measured from the time the furnace operations drop below the idle threshold specified in section 3.17 of District Rule 4354 to when all emissions from the furnace cease, shall not exceed 20 days. [District Rule 4354]

### **Idling Requirements**

Section 5.7.1 requires that the emission control system shall be in operation whenever technologically feasible during idling to minimize emissions.

Section 5.7.2 requires that the NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, CO and VOC, and emissions during idling shall not exceed the amount as calculated using the following equation:

$$E_{i,max} = E_i * Capacity$$

Where

$E_{i,max}$  = maximum daily emission of pollutant  $i$  during idling, in pounds pollutant per day;

$E_i$  = Applicable emission limit from Table 1, Table 2, Table 3, or Table 4 for pollutant  $i$ , in pounds pollutant per ton glass produced;

Capacity = Furnace's permitted glass production capacity in tons glass produced per day.

The following conditions will be listed on the permit to ensure compliance:

- The NO<sub>x</sub> control system shall be in operation whenever technologically feasible during furnace idling to minimize emissions. [District Rule 4354]
- During furnace idling, NO<sub>x</sub> emissions shall not exceed 956.9 pounds in any one day. [District Rules 2201 and 4354]
- During furnace idling, CO emissions shall not exceed 637.9 pounds in any one day. [District Rules 2201 and 4354]
- During furnace idling, VOC emissions shall not exceed 159.5 pounds in any one day. [District Rules 2201 and 4354]
- During furnace idling, SO<sub>x</sub> emissions shall not exceed 701.7 pounds in any one day when producing glass with equal to or greater than 25% by weight mixed color cullet. [District Rules 2201 and 4354]
- During furnace idling, SO<sub>x</sub> emissions shall not exceed 574.1 pounds in any one day when producing glass with less than 25% by weight mixed color cullet. [District Rules 2201 and 4354]
- During furnace idling, PM<sub>10</sub> emissions shall not exceed 319.0 pounds in any one day. [District Rules 2201 and 4354]

### **Compliance Determination**

Section 5.8 requires any source testing result, CEMS, or alternate emission monitoring method averaged value exceeding the applicable emission limits in Section 5.1, Section 5.2, Section 5.3, or Section 5.4 shall constitute a violation of the rule. Furnace #4 has a CEMS installed. The facility has proposed to use the averaging times required by this section of the rule. Therefore, the requirements of this section of the rule are satisfied.

### **Monitoring Requirements**

#### **NO<sub>x</sub> Emission Monitoring Requirements**

Section 5.9.1 requires that the operator of any glass melting furnace shall implement a NO<sub>x</sub> CEMS that is approved, in writing, by the APCO and EPA, and that meets the requirements of Section 6.6. For a furnace battery, a single CEMS may be used to determine the total NO<sub>x</sub> emissions from all the furnaces provided the emission measurements are made at the common stack. Furnace #1 has a NO<sub>x</sub> CEMS installed. Therefore, the requirements of this section of the rule are satisfied.

- The furnace shall have continuous monitoring systems for NO<sub>x</sub> and SO<sub>x</sub>. The monitoring devices shall have continuous recording devices, and all records shall be kept on site. [District Rules 1080 and 4354]

#### **CO and VOC Emission Monitoring Requirements**

Section 5.9.2 requires that for each furnace subject to Table 2 CO limits, the operator shall implement a CO and VOC CEMS that meets the requirements of Section 6.6.1, and that is approved, in writing, by the APCO. In lieu of installing and operating a CEMS for CO or



CEMS for VOC or both, an operator may propose key system operating parameter(s) and frequency of monitoring and recording. The alternate monitoring shall meet the requirements of Section 6.6.2. The operator shall obtain approval of the APCO and EPA for the specific key system operating parameter(s), monitoring frequency, and recording frequency used by the operator to monitor CO/VOC emissions. The operator shall monitor approved key system operating parameter(s) at the approved monitoring frequency to ensure compliance with the emission limit(s) during periods of emission-producing activities. Acceptable range(s) for key system operating parameter(s) shall be demonstrated through source test.

Section 5.9.2.4 states for the operator of multiple furnaces or a furnace battery utilizing Section 5.2.2 to comply with CO emission limits or VOC emission limits or both, a single parametric monitoring arrangement or a single CEMS may be used to determine the CO emissions or VOC emissions or both from all the furnaces provided that the multiple furnaces/furnace battery is subject to the provisions of Sections 9.6 through 9.7.8.5 and: For units using a CEMS - the emission measurements are made at the common stack; For units using a parametric monitoring arrangement – the key system operating parameters are representative of the combined exhaust stream.

The applicant is proposing to continue to monitor and record the oxygen to fuel ratio of the burners. The District has approved the monitoring of this key system operating parameter. The following condition will be listed on the permit to ensure compliance:

- The oxygen to fuel ratio shall be maintained within the range shown by the most recent source test to result in compliance with the CO and VOC limits of this permit. The acceptable range of the oxygen to fuel ratio shall be established during the initial source test and during each subsequent annual source test. [District Rule 4354]

#### SOx Emission Monitoring Requirements

Section 5.9.3 requires for each furnace subject to Section 5.3, the operator to implement a SOx CEMS that meets the requirements of Section 6.6.1 and that is approved, in writing, by the APCO and EPA. In lieu of installing and operating a CEMS for SOx, an operator may propose key system operating parameter(s) and frequency of monitoring and recording. The alternate monitoring shall meet the requirements of Section 6.6.2. The operator shall obtain approval of the APCO and EPA for the specific key system operating parameter(s), monitoring frequency, and recording frequency used by the operator to monitor SOx emissions. The operator shall monitor approved key system operating parameter(s) at the approved monitoring frequency to ensure compliance with the emission limit(s) during periods of emission-producing activities. Acceptable range(s) for key system operating parameter(s) shall be demonstrated through source test.

Section 5.9.3.3 states for the operator of multiple furnaces or a furnace battery utilizing Section 5.3.4 to comply with SOx emission limits, a single parametric monitoring arrangement or a single CEMS may be used to determine the SOx emissions from all the furnaces provided that the multiple furnaces/furnace battery is subject to the provisions of Sections 9.6 through 9.7.8.5 and one of the following: For units using a CEMS - the emission measurements are made at the common stack; For units using a parametric monitoring arrangement – the key system operating parameters are representative of the combined exhaust stream.

The facility proposes to use CEMS for SO<sub>x</sub> to show compliance with the Rule 4354 SO<sub>x</sub> monitoring requirement.

The existing permit for Furnace #4 requires compliance with these regulations for CEMS. The facility operates in compliance with all design, maintenance and operating requirements of these regulations. The following conditions will be listed on the permit to ensure compliance:

- The furnace shall have continuous monitoring systems for NO<sub>x</sub> and SO<sub>x</sub>. The monitoring devices shall have continuous recording devices, and all records shall be kept on site. [District Rules 1080 and 4354]
- One continuous emissions monitoring (CEM) system may be used for monitoring oxy-fuel fired furnaces #1, #2, #3, and #4 provided all of the exhaust gases of each of these furnaces are ducted to a common stack, and monitored down stream of the common stack. The CEMS shall comply with the requirements of 40 Code of Federal Regulations (CFR) Part 51, 40 CFR Parts 60.7 and 60.13, 40 CFR Part 60 Appendix B (Performance Specifications) and Appendix F (Quality Assurance Procedures) and the applicable sections of Rule 1080 (Stack Monitoring). [District Rule 4354]

#### PM<sub>10</sub> Emission Monitoring Requirements

Section 5.9.4 requires the operator to propose key system operating parameter(s) and frequency of monitoring and recording. The parametric monitoring shall meet the requirements of Section 6.6.2. The operator shall obtain approval of the APCO and EPA for the specific key system operating parameter(s), monitoring frequency, and recording frequency used by the operator to monitor PM<sub>10</sub> emissions. The operator shall monitor approved key system operating parameter(s) at the approved monitoring frequency to ensure compliance with the emission limit(s) during periods of emission-producing activities. Acceptable range(s) for key system operating parameter(s) shall be demonstrated through source test. In lieu of parametric monitoring, the operator may elect to implement a PM<sub>10</sub> CEMS that meets the requirements of Section 6.6.1, and that is approved, in writing, by the APCO and EPA.

Section 5.9.4.3 states for the operator of multiple furnaces or a furnace battery utilizing Section 5.4.2 to comply with PM<sub>10</sub> emission limits, a single parametric monitoring arrangement or a single CEMS may be used to determine the total PM<sub>10</sub> emissions from all the furnaces provided that the multiple furnaces/furnace battery is subject to the provisions of Sections 9.6 through 9.7.8.5 and one of the following: For units using a CEMS - the emission measurements are made at the common stack; For units using a parametric monitoring arrangement – the key system operating parameters are representative of the combined exhaust stream.

In lieu of installing and operating a CEMS for PM<sub>10</sub>, the operator has proposed to use parametric monitoring to show compliance with the Rule 4354 PM<sub>10</sub> monitoring requirements.

The permit currently requires monitoring and recording of the specific power of the electrostatic precipitator. Specific power is a measure of the voltage and current supplied to the electrostatic

precipitator. The District has approved the monitoring and recording of this key system operating parameter. The following conditions will be listed on the permit to ensure compliance:

- Devices to measure the primary and secondary voltage and current of the electrostatic precipitator shall be maintained in accordance with the manufacturer's specifications. [District Rule 4354 and 40 CFR Part 64]
- The specific power of the electrostatic precipitator shall be at least 70 milliwatts/acfm except during the bypass episodes allowed by this permit. [District Rules 2520, §9.3.2 and 4354 and 40 CFR Part 64]

### **Routine Maintenance of Add-On Emission Control Systems**

Section 5.10 requires during routine maintenance of an add-on emission control system, an operator of a glass melting furnace subject to the provisions of Sections 5.1 through 5.4 is exempt from these limits if: Routine maintenance in each calendar year does not exceed 144 hours total for all add-on controls; and Routine maintenance is conducted in a manner consistent with good air pollution control practices for minimizing emissions.

The following condition will be listed on the permit to ensure compliance:

- The number of hours that the furnace exhaust is not fully treated by a control device shall not exceed 144 hours per calendar year. [District Rules 2201 and 4354]

### **Administrative Requirements**

Section 6.1 requires that each glass melting furnace's PTO shall include the furnace's permitted glass production capacity in units of tons of glass pulled per day as a permit condition.

Furnace #4 has the permitted glass production capacity in units of tons of glass pulled per day stated as a permit condition. Therefore, this section of the rule is satisfied.

Section 6.3.1 requires operators to maintain daily records of the following items:

- Total hours of operation;
- The quantity of glass pulled from each furnace;
- NO<sub>x</sub> emission rate in lb/ton glass pulled;
- CO emission rate in units matching Table 2, if a CEMS is used;
- VOC emission rate in units matching Table 2, if a CEMS is used;
- SO<sub>x</sub> emission rate in lb/ton glass pulled, if a CEMS is used;
- PM<sub>10</sub> emission rate in lb/ton glass pulled, if a CEMS is used;
- For container glass furnaces that are oxy-fuel fired:
  - The weight of mixed color mix cullet used;
  - The total amount of cullet used by weight; and
  - The ratio, expressed in percent, of mixed color mix weight to total cullet weight.

Section 6.3.2 requires for pollutants monitored using an approved parametric monitoring arrangement, operators shall record the operating values of the key system operating parameters at the approved recording frequency.

Section 6.3.3 requires that operators maintain records of the following items:

- Source tests and source test results;
- The acceptable range for each approved key system operating parameter, as established during source test;
- Maintenance and repair; and
- Malfunction

The following conditions will be listed on the permit to ensure compliance:

- The specific power of the electrostatic precipitator shall be continuously monitored and recorded. [District Rules 2201 and 4354 and 40 CFR Part 64]
- A daily record of the hours of operation, the amount of glass pulled from the furnace (in tons), the NO<sub>x</sub> emissions (in lb/ton of glass pulled), the SO<sub>x</sub> emissions (in lb/ton of glass pulled), the weight of mixed color mix cullet used, the total amount of cullet used (by weight) and the ratio of the mixed color cullet weight to the total cullet weight (in percent) shall be kept. [District Rules 2201 and 4354]
- The oxygen to fuel ratio shall be continuously monitored and recorded. [District Rule 4354]
- The permittee shall maintain daily records of the aggregated NO<sub>x</sub> emissions. [District Rules 2520 and 4354]
- The permittee shall maintain the burner oxygen to fuel ratio records required by this permit. [District Rules 2201 and 4354]
- A record of the PM<sub>10</sub> emissions from this unit, in pounds per calendar quarter, shall be kept. [District Rule 2201]
- A record of the cumulative annual number of hours that the emission control system is either fully or partially bypassed shall be kept. The record shall be updated at least weekly. [District Rules 2201 and 4354]
- The permittee shall maintain daily records of the specific power of the electrostatic precipitator (in milliwatts/acfm). [District Rules 2201, 4354 and 40 CFR Part 64]

Section 6.3.4 requires that the operator retain records specified in Sections 6.3.1 through 6.3.3 for a period of five years; make the records available on site during normal business hours to the APCO, ARB, or EPA; and submit the records to the APCO, ARB, or EPA upon request.

The following condition will be listed on the permit to ensure compliance:

- All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 2201 and 4354 and 40 CFR Part 64]

## Compliance Source Testing

Section 6.4.1 requires that each glass melting furnace or a furnace battery to be source tested at least once every calendar year, but not more than every 18 months and not sooner than every 6 months to demonstrate compliance with the applicable requirements of Section 5.0. Sources exempt under Section 4.3 are not required to source test for the exempted pollutants.

The following conditions will be listed on the permit to ensure compliance:

- Source testing to demonstrate compliance with permit conditions and all rules and regulations for both natural gas and LPG shall be conducted at least once every calendar year. NO<sub>x</sub> and CO testing shall be performed using CARB Method 100. VOC testing shall be performed using EPA method 25A. PM<sub>10</sub> testing shall be performed using EPA methods 201 and 202, EPA methods 201a and 202, or CARB methods 501 and 5. SO<sub>x</sub> testing shall be performed using EPA Method 8 and CARB Method 1-100. [District Rules 1081; 2520; and 4354]
- Source testing when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. A source test shall be performed within 90 days after this furnace exceeds 100 hours of operation, on LPG, on an annual basis. [District Rule 1081]
- Source testing shall be conducted by a CARB-certified source testing contractor. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to source testing. The results of each source test shall be submitted to the District within 60 days after the source test date. [District Rule 1081]
- PM and PM<sub>10</sub> source testing shall be conducted down stream of the particulate matter control equipment in the common stack. Furnaces #1, #2, #3, and #4 must operate simultaneously during source testing unless prior approval is obtained from the District. [District Rule 1081]

Section 6.4.2 requires that source test conditions to be representative of normal operations, but not less than 60 percent of the permitted glass production capacity.

The following condition will be listed on the permit to ensure compliance:

- Source test conditions shall be representative of operations equal to or greater than 60 percent of the fuel use capacity for each furnace as stated in the Permit to Operate. [District Rule 4354]

Section 6.4.3 requires that for operators using alternative monitoring systems, during the source test, the operator shall monitor and record, at a minimum, all operating data for each parameter, fresh feed rate, and flue gas flow rate and submit this data with the test report.

The facility does not use alternative monitoring systems. Therefore, the requirements of this section are not applicable.

Section 6.4.4 requires that during source testing in accordance with Section 6.4.1, the arithmetic average of three (3) 30-consecutive-minute test runs shall be used to determine compliance with NO<sub>x</sub>, CO, VOC, and SO<sub>x</sub> emission limits.

The following condition will be listed on the permit to ensure compliance:

- During source testing, the arithmetic average of three (3) 30-consecutive-minute test runs shall be used to determine compliance with NO<sub>x</sub>, CO, VOC, and SO<sub>x</sub> emission limits. [District Rule 4354]

Section 6.4.5 requires that during source testing in accordance with Section 6.4.1, the arithmetic average of three (3) 60-consecutive-minute test runs shall be used to determine compliance with PM<sub>10</sub> emission limits.

The following condition will be listed on the permit to ensure compliance:

- During source testing, the arithmetic average of three (3) 60-consecutive-minute test runs shall be used to determine compliance with PM<sub>10</sub> emission limits. [District Rule 4354]

Section 6.4.6 requires that for a given pollutant, if two of the three runs individually demonstrate emissions above the applicable limit, the test cannot be used to demonstrate compliance for the furnace, even if the averaged emissions of all three test runs is less than the applicable limit.

The following condition will be listed on the permit to ensure compliance:

- For a given pollutant, if two of the three runs individually demonstrate emissions above the applicable limit, the test cannot be used to demonstrate compliance for the furnace, even if the averaged emissions of all three test runs is less than the applicable limit. [District Rule 4354]

## **Test Methods**

Section 6.5 requires that compliance with the requirements of Section 5.0 shall be determined in accordance with the following source test procedures or their equivalents as approved by the EPA, ARB, and the APCO:

- Oxides of nitrogen – EPA Method 7E, EPA Method 19, or ARB Method 100.
- Carbon monoxide (ppmv) – EPA Method 10, or ARB Method 100.
- Volatile Organic Compound (ppmv) – EPA Method 25A expressed in terms of carbon or ARB Method 100. EPA Method 18 or ARB Method 422 shall be used to determine emissions of exempt compounds.
- Stack gas oxygen, carbon dioxide, excess air, and dry molecular weight EPA Method 3 or 3A, or ARB Method 100.
- Stack gas velocity and volumetric flow rate – EPA Method 2.
- Oxides of sulfur – EPA Method 6C, EPA Method 8, or ARB Method 100.

- Filterable PM<sub>10</sub> emissions - EPA Method 5; EPA Method 201; or EPA Method 201A. An operator choosing EPA Method 5 shall count all PM collected as PM<sub>10</sub>.
- Condensable PM 10 emissions - EPA Method 202.

The following condition will be listed on the permit to ensure compliance:

- Source testing to demonstrate compliance with permit conditions and all rules and regulations for both natural gas and LPG shall be conducted at least once every calendar year. NO<sub>x</sub> and CO testing shall be performed using CARB Method 100. VOC testing shall be performed using EPA method 25A. PM<sub>10</sub> testing shall be performed using EPA methods 201 and 202, EPA methods 201a and 202, or CARB methods 501 and 5. SO<sub>x</sub> testing shall be performed using EPA Method 8 and CARB Method 1-100. [District Rules 1081; 2520; and 4354]

### **Emissions Monitoring Systems**

Section 6.6.1 of this rule requires that an approved CEMS shall comply with all of the following requirements:

- 40 CFR Part 51;
- 40 CFR Part 60.7 (Notification and Record Keeping);
- 40 CFR Part 60.13 (Monitoring Requirements);
- 40 CFR Part 60 Appendix B (Performance Specifications);
- 40 CFR Part 60 Appendix F (Quality Assurance Procedures); and
- Applicable sections of Rule 1080 (Stack Monitoring).

The following condition will be listed on the permit to ensure compliance:

- One continuous emissions monitoring (CEM) system may be used for monitoring oxy-fuel fired furnaces #1, #2, #3, and #4 provided all of the exhaust gases of each of these furnaces are ducted to a common stack, and monitored down stream of the common stack. The CEMS shall comply with the requirements of 40 Code of Federal Regulations (CFR) Part 51, 40 CFR Parts 60.7 and 60.13, 40 CFR Part 60 Appendix B (Performance Specifications) and Appendix F (Quality Assurance Procedures) and the applicable sections of Rule 1080 (Stack Monitoring). [District Rule 4354]

Section 6.6.2 requires an approved alternate emission monitoring method to be capable of determining the furnace emissions on an hourly basis and comply with 40 CFR 64 (Compliance Assurance Monitoring) and 40 CFR 60.13 (Monitoring Requirements).

The facility does not use alternate emission monitoring systems. Therefore, the requirements of this section are not applicable.

### **Notifications and Records for Start-up, Shutdown, and Idling**

Section 6.7 requires the operator of any glass melting furnace claiming an exemption under Section 4.4 notify the APCO by telephone at least 24 hours before initiating idling, shutdown, or start-up. The notification shall include: date and time of the start of the exempt operation,

reason for performing the operation, and an estimated completion date. The operator shall notify the APCO by telephone within 24 hours after completion of the start-up, shutdown, or idling. The operator claiming exemption under Section 4.4 shall maintain all operating records/support documentation necessary to support claim of exemption. Records/support documentation required by Section 6.7.3 shall meet the following requirements: the records/support documentation shall be retained on-site for five years; the records/support documentation shall be made available to the APCO, ARB, or EPA during normal business hours; and the records/support documentation shall be submitted to the APCO, ARB, or EPA upon request.

The following condition will be listed on the permit to ensure compliance:

- Permittee shall notify the District at least 24 hours before initiating idling, shutdown and startup and this notification shall include: date and time of the start of the exempt operation, reason for performing the operation, and an estimated completion date. The permittee shall notify the District by telephone within 24 hours after completion of the operation and shall maintain operating records and/or support documentation necessary to claim exemption. [District Rule 4354]

### **Compliance Schedule**

Section 7.1.1 requires for container glass/fiberglass furnaces, the operator must submit a completed Authority to Construct (ATC) application, if needed, by June 1, 2012; and be in full compliance with the Section 5.1 Table 1 Tier 3 NO<sub>x</sub> limits by January 1, 2014.

The current permit for Furnace #4 meets the applicable NO<sub>x</sub> limit in Table 1.

Section 7.1.2 requires for a container glass/fiberglass furnace that is not meeting the applicable SO<sub>x</sub> limit in Section 5.3 Table 3 on January 1, 2009, the operator must a completed ATC application, if needed, by June 1, 2009 and be in full compliance with the applicable SO<sub>x</sub> emission limit by January 1, 2011.

The current permit for Furnace #4 meets the applicable SO<sub>x</sub> limit in Table 3.

Section 7.1.3 requires for a container glass/fiberglass furnace that is not meeting the applicable PM<sub>10</sub> emission limit in Section 5.4 Table 4 on January 1, 2009, the operator must submit a completed ATC permit application, if needed, by June 1, 2009; and be in full compliance with the applicable PM<sub>10</sub> limit by January 1, 2011.

The current permit for Furnace #4 meets the applicable PM<sub>10</sub> limit in Table 4.

### **Calculations**

Section 8.1 requires the pollutant mass emission rate in lb/hr shall be converted to lb pollutant/ton of glass pulled according to the following equation:

$$lb\ emitted / ton\ glass\ pulled = \frac{lb/hr\ emitted}{Pull\ rate\ in\ tons/hr}$$



Section 8.3 requires the operator of a oxy-fuel fired furnace, oxygen-assisted combustion furnace, or a furnace utilizing any fuel oxidants other than 100% ambient air, to submit to the APCO, ARB, and EPA for approval any methodologies and data that will be used to calculate emission rates for NO<sub>x</sub>, CO, and VOC if the methods are different than specified in Sections 8.1 or 8.2. Unless the operator received prior written approval from APCO, ARB, and EPA of all the calculation methods to be used that are different than specified in Sections 8.1 or 8.2, compliance with the emissions limits cannot be fully demonstrated, and it shall be deemed to be a violation of the rule.

The following condition will be listed on the permit to ensure compliance:

- The pollutant mass emission rate in lb/hr shall be converted to lb pollutant/ton of glass pulled as specified in Rule 4354. The operator of a oxy-fuel fired furnace, oxygen-assisted combustion furnace, or a furnace utilizing any fuel oxidants other than 100% ambient air, shall submit to the APCO, ARB, and EPA for approval any methodologies and data that will be used to calculate emission rates for NO<sub>x</sub>, CO, and VOC if the methods are different from those specified in Rule 4354. Unless the operator received prior written approval from APCO, ARB, and EPA of all the calculation methods to be used that are different from those specified in Rule 4354, compliance with the emissions limits cannot be fully demonstrated, and it shall be deemed to be a violation of the rule. [District Rule 4354]

### **Furnace Battery or Multiple Furnaces Control**

Section 9.6 states the aggregated emissions for a given pollutant of a furnace battery are the emissions for the pollutant as measured at the common stack divided by the sum of the daily glass pulled from each furnace. The aggregated emissions of multiple furnaces for a given pollutant are the sum of each furnace's daily emissions for the pollutant divided by the sum of the daily glass pulled from each furnace.

The following condition will be listed on the permit to ensure compliance:

- Aggregated emissions for a given pollutant of a furnace battery are the emissions for the pollutant as measured at the common stack divided by the sum of the daily glass pulled from each furnace. [District Rule 4354]

Section 9.7.1 requires an operator of either furnace battery or multiple furnaces that elects to meet the emission limits for the furnaces through the requirements of this section to be subject to a 10% air quality benefit in accordance with 40 CFR Part 51 Subpart U. The maximum emission rate shall be at least 10% lower than the applicable limit specified in Section 5.1 (Tier 3 NO<sub>x</sub>), Section 5.2 (CO and VOC), Section 5.3 (SO<sub>x</sub>), or Section 5.4 (PM<sub>10</sub>), for each pollutant subject to this option.

The following condition will be listed on the permit to ensure compliance:

- An operator of either furnace battery or multiple furnaces that elects to meet the emission limits for the furnaces through the requirements of Section 9.7 shall be

subject to a 10% air quality benefit in accordance with 40 CFR Part 51 Subpart U. The maximum emission rate shall be at least 10% lower than the applicable limit specified in Section 5.1 (Tier 3 NO<sub>x</sub>), Section 5.2 (CO and VOC), Section 5.3 (SO<sub>x</sub>), or Section 5.4 (PM<sub>10</sub>), for each pollutant subject to this option. [District Rule 4354]

Section 9.7.2 requires the operator of a furnace battery or multiple furnaces choosing the alternate emission limit to operate the furnace battery or multiple furnaces according to Sections 9.7.3 through 9.7.8.5. Only those pollutants with emissions that are averaged across multiple furnaces/furnace battery are subject to all subparts of Section 9.7. Pollutant emissions that are not averaged across multiple furnaces/furnace battery are subject to the applicable emission limits of Sections 5.1 through 5.4.

The following condition will be listed on the permit to ensure compliance:

- The operator of a furnace battery or multiple furnaces choosing the alternate emission limit shall operate the furnace battery or multiple furnaces according to Sections 9.7.3 through 9.7.8.5. Only those pollutants with emissions that are averaged across multiple furnaces/furnace battery are subject to all subparts of Section 9.7. Pollutant emissions that are not averaged across multiple furnaces/furnace battery are subject to the applicable emission limits of Sections 5.1 through 5.4. [District Rule 4354]

Section 9.7.3 requires the daily aggregate emissions, as determined in accordance with Section 9.6, to be no greater than those obtained by controlling each furnace to comply individually with applicable emission limits, less the 10% air quality benefit.

The following condition will be listed on the permit to ensure compliance:

- The daily aggregate emissions shall be no greater than those obtained by controlling each furnace to comply individually with applicable emission limits, less the 10% air quality benefit. [District Rule 4354]

Section 9.7.4 requires the operator to demonstrate compliance with Section 9.7.3 through source test results and monitoring by either CEMS or approved alternate emission monitoring methods.

The following condition will be listed on the permit to ensure compliance:

- The operator shall demonstrate compliance with the daily aggregate emissions through source test results and monitoring by either CEMS or approved alternate emission monitoring methods. [District Rule 4354]

Section 9.7.5 requires the operator to conduct source testing of the furnaces according to the requirements of Section 6.4.

The following conditions will be listed on the permit to ensure compliance:

- Source testing to demonstrate compliance with permit conditions and all rules and regulations for both natural gas and LPG shall be conducted at least once every

calendar year. NO<sub>x</sub> and CO testing shall be performed using CARB Method 100. VOC testing shall be performed using EPA method 25A. PM<sub>10</sub> testing shall be performed using EPA methods 201 and 202, EPA methods 201a and 202, or CARB methods 501 and 5. SO<sub>x</sub> testing shall be performed using EPA Method 8 and CARB Method 1-100. [District Rules 1081; 2520; and 4354]

- Source testing when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. A source test shall be performed within 90 days after this furnace exceeds 100 hours of operation, on LPG, on an annual basis. [District Rule 1081]

Section 9.7.6 requires records to be kept in accordance with the applicable provisions of Section 6.0.

The following condition will be listed on the permit to ensure compliance:

- All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 2201 and 4354 and 40 CFR Part 64]

Section 9.7.7 requires any violation of the aggregated emission limits to constitute a violation of the rule for each furnace for the entire averaging period.

The following condition will be listed on the permit to ensure compliance:

- Any violation of the aggregated emission limits shall constitute a violation of the rule for each furnace for the entire averaging period. [District Rule 4354]

Section 9.7.8 requires the operator shall notify the APCO of any violation of Section 9.7.3 within 24 hours. The notification shall include: name and location of the facility; identification of furnace(s) causing the violation; the cause and the expected duration of violation; calculation of actual NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, and PM<sub>10</sub> emissions during the violation; corrective actions and schedules to complete the work.

The following condition will be listed on the permit to ensure compliance:

- The operator shall notify the APCO of any violation of Rule 4354 Section 9.7.3 within 24 hours. The notification shall include: name and location of the facility; identification of furnace(s) causing the violation; the cause and the expected duration of violation; calculation of actual NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, and PM<sub>10</sub> emissions during the violation; corrective actions and schedules to complete the work. [District Rule 4354]

Therefore, continued compliance with the requirements of this rule is expected.

#### **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 SO<sub>2</sub>, on a dry basis averaged over 15 consecutive minutes.

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

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

With:

N = moles SO<sub>2</sub>

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

P (Standard Pressure) = 14.7 psi

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

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

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

Therefore, compliance with District Rule 4801 requirements is expected.

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

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

#### **California Environmental Quality Act (CEQA)**

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

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

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

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

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

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

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

The GHG emissions increases associated with this project result from the combustion of fossil fuel(s), other than jet fuel, delivered from suppliers subject to the Cap-and-Trade regulation. Therefore, as discussed above, consistent with District Policies APR 2005 and APR 2025, the District concludes that the GHG emissions increases associated with this project would have a less than significant individual and cumulative impact on global climate change.

## District CEQA Findings

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing 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 § 15301 (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)).

## X. RECOMMENDATION

Compliance with all applicable rules and regulations is expected. Issue Authority to Construct N-1662-4-18 subject to the permit conditions on the attached draft Authority to Construct in Attachment C.

## XI. BILLING INFORMATION

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
N-1662-4-18	3020-02-H	90 MMBtu/hr burner	\$1,030

## Attachments

- A Current Permit to Operate
- B BACT Guideline 1.5.9 and Top Down BACT Analysis
- C Draft Authority to Construct Permit

# **ATTACHMENT A**

**Current Permit to Operate**

# San Joaquin Valley Air Pollution Control District

**PERMIT UNIT:** N-1662-4-17

**EXPIRATION DATE:** 06/30/2016

**EQUIPMENT DESCRIPTION:**

GLASS FURNACE #4 WITH 12 MAXON GAS/OXYGEN BURNERS AND ASSOCIATED FORMING EQUIPMENT (90 MMBTU/HR MAX HEAT CAPACITY). THIS FURNACE IS DUCTED THROUGH A STACK COMMON TO PERMIT UNITS N-1662-1, N-1662-2, N-1662-3 AND N-1662-4. THE FURNACES ARE SERVED BY A SHARED SOX SCRUBBER AND AN ELECTROSTATIC PRECIPITATOR AND/OR A TRI-MER UTF460 CERAMIC FILTER TYPE DUST COLLECTOR.

## PERMIT UNIT REQUIREMENTS

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1. Particulate matter emissions shall not exceed 0.1 grain/dscf in concentration. [District Rule 4201 and Stanislaus County Rule 404] Federally Enforceable Through Title V Permit
2. The furnace shall be fired on natural gas and LPG only. [District NSR Rule] Federally Enforceable Through Title V Permit
3. The furnace shall have continuous monitoring systems for NOx and SOx. The monitoring devices shall have continuous recording devices, and all records shall be kept on site. [District Rules 1080 and 4354, §5.9] Federally Enforceable Through Title V Permit
4. One continuous emissions monitoring (CEM) system may be used for monitoring oxy-fuel fired furnaces #1, #2, #3, and #4 provided all of the exhaust gases of each of these furnaces are ducted to a common stack, and monitored down stream of the common stack. The CEMS shall comply with the requirements of 40 Code of Federal Regulations (CFR) Part 51, 40 CFR Parts 60.7 and 60.13, 40 CFR Part 60 Appendix B (Performance Specifications) and Appendix F (Quality Assurance Procedures) and the applicable sections of Rule 1080 (Stack Monitoring). [District Rule 4354, 5.9 and 6.6.1] Federally Enforceable Through Title V Permit
5. The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080] Federally Enforceable Through Title V Permit
6. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NOx, CO, and O2 analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Source Emission Monitoring and Testing. [District Rule 1081] Federally Enforceable Through Title V Permit
7. During startups, the permittee shall comply with the requirements of section 5.5 of District Rule 4354. [District Rule 4354, §5.5] Federally Enforceable Through Title V Permit
8. The NOx control system shall be in operation as soon as technologically feasible during the startup period to minimize emissions. [District Rule 4354, §5.5.6] Federally Enforceable Through Title V Permit
9. The NOx control system shall be in operation whenever technologically feasible during shutdown to minimize emissions. [District Rule 4354, §5.6.2] Federally Enforceable Through Title V Permit
10. The NOx control system shall be in operation whenever technologically feasible during furnace idling to minimize emissions. [District Rule 4354, §5.7.1] 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.



11. The duration of shutdown, as measured from the time the furnace operations drop below the idle threshold specified in section 3.17 of District Rule 4354 to when all emissions from the furnace cease, shall not exceed 20 days. [District Rule 4354, §5.6.1] Federally Enforceable Through Title V Permit
12. The oxygen to fuel ratio shall be maintained within the range shown by the most recent source test to result in compliance with the CO and VOC limits of this permit. The acceptable range of the oxygen to fuel ratio shall be established during the initial source test and during each subsequent annual source test. [District Rule 4354] Federally Enforceable Through Title V Permit
13. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation  $E=3.59P^{0.62}$  ( $P < 30$  tph) or  $E=17.31P^{0.16}$  ( $P > 30$  tph). [District Rule 4202] Federally Enforceable Through Title V Permit
14. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [Stanislaus County Rule 407 and District Rule 4801] Federally Enforceable Through Title V Permit
15. Source testing to demonstrate compliance with permit conditions and all rules and regulations for both natural gas and LPG shall be conducted at least once every calendar year. NO<sub>x</sub> and CO testing shall be performed using CARB Method 100. VOC testing shall be performed using EPA method 25A. PM<sub>10</sub> testing shall be performed using EPA methods 201 and 202, EPA methods 201a and 202, or CARB methods 501 and 5. SO<sub>x</sub> testing shall be performed using EPA Method 8 and CARB Method 1-100. [District Rules 1081; 2520, §9.3.2; and 4354, 6.4 and 6.5] Federally Enforceable Through Title V Permit
16. Source testing when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. A source test shall be performed within 90 days after this furnace exceeds 100 hours of operation, on LPG, on an annual basis. [District Rule 1081] Federally Enforceable Through Title V Permit
17. Source testing shall be conducted by a CARB-certified source testing contractor. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to source testing. The results of each source test shall be submitted to the District within 60 days after the source test date. [District Rule 1081] Federally Enforceable Through Title V Permit
18. Source test conditions shall be representative of operations equal to or greater than 60 percent of the fuel use capacity for each furnace as stated in the Permit to Operate. [District Rule 4354, §6.4.2] Federally Enforceable Through Title V Permit
19. PM and PM<sub>10</sub> source testing shall be conducted down stream of the particulate matter control equipment in the common stack. Furnaces #1, #2, #3, and #4 must operate simultaneously during source testing unless prior approval is obtained from the District. [District Rule 1081] Federally Enforceable Through Title V Permit
20. An annual Relative Accuracy Test Audit (RATA) shall be performed on the continuous monitoring system as outlined in 40 CFR Part 60 Appendix B. [District Rule 1080] Federally Enforceable Through Title V Permit
21. The owner/operator shall perform a relative accuracy test audit (RATA) as specified by 40 CFR Part 60, Appendix F (CGAs and RATAs) and if applicable 40 CFR Part 75, Appendix B (linearity and RATAs) at least once every four calendar quarters and annually within 30 days of the anniversary date of the initial test. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080] Federally Enforceable Through Title V Permit
22. An exceedance of a NO<sub>x</sub> or SO<sub>x</sub> emission limit as indicated by the CEMS shall be reported by the operator to the APCO within 24 hours. The notification shall include 1) name and location of the facility, 2) identification of furnace(s) causing the exceedances, 3) calculation of actual NO<sub>x</sub>, CO and VOC emissions, and 4) corrective actions and schedules to complete the work. [District Rule 1080 and Stanislaus County Rule 108] 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.

23. The operator shall notify the APCO no later than one hour after the detection of a breakdown of the CEMS. The operator shall inform the APCO of the intent to shut down the CEMS at least 24 hours prior to the event. [District Rule 1100] Federally Enforceable Through Title V Permit
24. The permittee shall submit a written report including copies of any Equipment Breakdown reports and/or pertinent variance decisions to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess emissions (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 1080] Federally Enforceable Through Title V Permit
25. Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternative method. [District Rule 1080] Federally Enforceable Through Title V Permit
26. Results of continuous emissions monitoring shall be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080] Federally Enforceable Through Title V Permit
27. Cylinder gas audits (GGAs) of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit
28. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4201, Stanislaus County Rule 404, District Rule 4202 and Stanislaus County Rule 405. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
29. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4801 and Stanislaus County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
30. The requirements of District Rule 4301 and Stanislaus County Rule 408 were determined to not apply to this unit because the unit does not utilize indirect heat transfer. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
31. The requirements of 40 CFR Part 60, Subpart CC were determined to not apply to this unit because the unit was constructed prior to the effective date in the regulation and has not been modified (according to the definition of "modified" in the regulation). A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
32. The requirements of 40 CFR Part 61, Subpart N were determined to not apply to this unit because the unit does not use commercial arsenic. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
33. Any glass melting furnace located at an Area Source of hazardous air pollutants shall comply with 40 CFR Part 63 Subpart SSSSSS (National Emission Standards for Hazardous Air Pollutants for Glass Manufacturing Area Sources). [40 CFR Part 63 Subpart SSSSSS] Federally Enforceable Through Title V Permit
34. The amount of glass produced shall not exceed 637.9 tons during any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
35. NO<sub>x</sub> emissions shall not exceed 1.3 pounds per ton of glass produced. This performance based limit is to enforce the NO<sub>x</sub> emission reductions granted by certificate number N-107-2. [District NSR Rule] Federally Enforceable Through Title V Permit
36. CO emissions shall not exceed 0.20 pounds per ton of glass produced. [District NSR Rule] 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.

Facility Name: GALLO GLASS COMPANY

Location: 605 S SANTA CRUZ AVE, MODESTO, CA 95354

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37. The VOC emissions shall not exceed 0.23 pounds per ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit
38. The combined SO<sub>x</sub> emissions from permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4, while producing glass with equal to or greater than 25% by weight mixed color cullet, shall not exceed 0.99 lb/ton of glass produced (over a rolling 30 day average). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
39. The combined SO<sub>x</sub> emissions from permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4, while producing glass with less than 25% by weight mixed color cullet, shall not exceed 0.81 lb/ton of glass produced (over a rolling 30 day average). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
40. The PM<sub>10</sub> emissions, except for during full or partial emission control system bypass episodes, shall not exceed 0.45 lb/ton of glass produced. [District NSR Rules 2201 and 4354] Federally Enforceable Through Title V Permit
41. The PM<sub>10</sub> emissions, during full or partial emission control system bypass episodes, shall not exceed 0.71 lb/ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit
42. The number of hours that the furnace exhaust is not fully treated by a control device shall not exceed 144 hours per calendar year. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
43. The PM<sub>10</sub> emissions shall not exceed 28,132 pounds during the first calendar quarter, 28,445 pounds during the second calendar quarter, 28,757 pounds during the third calendar quarter and 28,758 pounds during the fourth calendar quarter. These limits are to enforce the PM<sub>10</sub> emission reductions granted by certificate number N-161-4. [District NSR Rule] Federally Enforceable Through Title V Permit
44. During furnace idling, NO<sub>x</sub> emissions shall not exceed 956.9 pounds in any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
45. During furnace idling, CO emissions shall not exceed 637.9 pounds in any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
46. During furnace idling, VOC emissions shall not exceed 159.5 pounds in any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
47. During furnace idling, SO<sub>x</sub> emissions shall not exceed 701.7 pounds in any one day when producing glass with equal to or greater than 25% by weight mixed color cullet. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
48. During furnace idling, SO<sub>x</sub> emissions shall not exceed 574.1 pounds in any one day when producing glass with less than 25% by weight mixed color cullet. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
49. During furnace idling, PM<sub>10</sub> emissions shall not exceed 319.0 pounds in any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
50. The facility shall not use commercial arsenic as a raw material in the production process. [40 CFR Part 61 Subpart N] Federally Enforceable Through Title V Permit
51. The ceramic filter dust collector shall be maintained and operated according to manufacturer's specifications. [District Rule 2201] Federally Enforceable Through Title V Permit
52. The ceramic filter dust collector cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit
53. Material removed from the ceramic filter dust collector shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
54. Replacement filters numbering at least 10% of the total number of filters in the ceramic filter dust collector shall be maintained on the premises. [District Rule 2201] Federally Enforceable Through Title V Permit
55. Devices to measure the primary and secondary voltage and current of the electrostatic precipitator shall be maintained in accordance with the manufacturer's specifications. [District Rule 4354 and 40 CFR Part 64] 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.

56. The specific power of the electrostatic precipitator shall be at least 70 milliwatts/acfm except during the bypass episodes allowed by this permit. [District Rules 2520, §9.3.2 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
57. The ceramic filter dust collector shall be equipped with a pressure differential gauge to indicate the pressure drop across the filters. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
58. During operation of the ceramic filter dust collector, the pressure differential gauge reading shall be 5 to 10 inches of water column. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
59. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR Part 64.7. [40 CFR Part 64] Federally Enforceable Through Title V Permit
60. If the District or EPA determine that a Quality Improvement Plan is required under 40 CFR Part 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR Part 64.8. [40 CFR Part 64] Federally Enforceable Through Title V Permit
61. The permittee shall comply with the record keeping and reporting requirements of 40 CFR Part 64.9. [40 CFR Part 64] Federally Enforceable Through Title V Permit
62. The specific power of the electrostatic precipitator shall be continuously monitored and recorded. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
63. Dust collector filters shall be inspected annually while in operation for evidence of particulate matter breakthrough and replaced as needed. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
64. Dust collector filters shall be inspected annually while not in operation for tears, scuffs, abrasions or hole that might interfere with the PM collection efficiency and shall be replaced as needed. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
65. A daily record of the hours of operation, the amount of glass pulled from the furnace (in tons), the NOx emissions (in lb/ton of glass pulled), the SOx emissions (in lb/ton of glass pulled), the weight of mixed color mix cullet used, the total amount of cullet used (by weight) and the ratio of the mixed color cullet weight to the total cullet weight (in percent) shall be kept. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
66. The oxygen to fuel ratio shall be continuously monitored and recorded. [District Rule 4354] Federally Enforceable Through Title V Permit
67. The permittee shall maintain daily records of the aggregated NOx emissions. [District Rules 2520, 9.3.2 and 4354, 9.6.1 and 9.7] Federally Enforceable Through Title V Permit
68. The permittee shall maintain the burner oxygen to fuel ratio records required by this permit. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
69. A record of the PM10 emissions from this unit, in pounds per calendar quarter, shall be kept. [District Rule 2201] Federally Enforceable Through Title V Permit
70. A record of the cumulative annual number of hours that the emission control system is either fully or partially bypassed shall be kept. The record shall be updated at least weekly. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
71. The permittee shall maintain daily records of the specific power of the electrostatic precipitator (in milliwatts/acfm). [District Rules 2201, 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
72. The operator shall monitor and record the pressure differential gauge reading of the ceramic filter dust collector at least once during each day that the unit operates. [District Rules 2201 and 4354 and 40 CFR Part 64] 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.

73. Records of dust collector maintenance, inspections and repairs shall be maintained. The records shall include, date of inspection, change outs of filter media, corrective action taken ,and identification of the individual performing the inspection. [District Rules 2201 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
74. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

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

## **ATTACHMENT B**

### **BACT Guideline 1.5.9 and Top Down BACT Analysis**

San Joaquin Valley  
Unified Air Pollution Control District

**Best Available Control Technology (BACT) Guideline 1.5.9\***

Last Update: 12/9/2014

**Container Glass Melting Furnace**

<b>Pollutant</b>	<b>Achieved in Practice or contained in the SIP</b>	<b>Technologically Feasible</b>	<b>Alternate Basic Equipment</b>
VOC	0.02 lb-VOC/ton of glass pulled, except during periods of startup, shutdown and idling; And compliance with District Rule 4354 requirements for startup, shutdown, and idling.		Electric Furnace
SOx	<p>1. Oxy-fuel fired furnaces while processing material where &gt; or = 25.0 percent of the total cullet is mixed color cullet: 0.99 lb-SOx/ton of glass pulled on a rolling 30-day average; And compliance with District Rule 4354 requirements for startup, shutdown, and idling.</p> <p>2. All other Container Glass Furnaces: 0.8 lb-SOx/ton of glass pulled on a rolling 30-day average; And compliance with District Rule 4354 requirements for startup, shutdown, and idling.</p>		Electric Furnace
PM10	0.45 lb-PM10/ton of glass pulled, except during periods of startup, shutdown, and idling; And compliance with District Rule 4354 requirements for startup, shutdown, and idling.		Electric Furnace
NOx	1.3 lb-NOx/ton of glass pulled on a rolling 30-day average, except during periods of startup, shutdown, and idling; And compliance with District Rule 4354 requirements for startup, shutdown, and idling.		Electric Furnace
CO	0.20 lb-CO/ton of glass pulled, except during periods of startup, shutdown, and idling; And compliance with District Rule 4354 requirements for startup, shutdown, and idling.		Electric Furnace

## Top Down BACT Analysis for Permit Unit N-1662-4-18

### NOx Top-Down BACT Analysis for Permit Unit N-1662-4-18

#### Step 1 – Identify all control technologies

BACT Guideline 1.5.9 identifies the following control technologies:

Pollutant	Achieved in Practice or contained in SIP	Technologically Feasible	Alternate Basic Equipment
NOx	1.3 lb-NOx/ton of glass pulled on a rolling 30-day average, except during periods of startup, shutdown, and idling; And compliance with District Rule 4354 requirements for startup, shutdown, and idling.		electric furnace

#### Step 2 - Eliminate Technologically Infeasible Options

Pursuant to District BACT Policy, the Alternate Basic Equipment provision applies only to applications for new equipment. As the container glass furnace in this project is an existing piece of equipment, the Alternate Basic Equipment option of electric furnace is not applicable for this project.

There are no other technologically infeasible options for NOx.

#### Step 3 - Rank Remaining Control Technologies by Control Effectiveness

Rank	Control Technology	Achieved in Practice
1	1.3 lb-NOx/ton of glass pulled on a rolling 30-day average, except during periods of startup, shutdown, and idling; And compliance with District Rule 4354 requirements for startup, shutdown, and idling	Y

There are no remaining control technologies for NOx.

#### Step 4 - Cost Effectiveness Analysis

Pursuant to Section IX.D of District Policy APR 1305 – BACT Policy, a cost effectiveness analysis is required for the options that have not been determined to be achieved in practice.

As the applicant has proposed the most effective control technology applicable for NOx, a cost effectiveness analysis is not required.



## **Step 5 - Select BACT**

Pursuant to the above Top-Down BACT Analysis, BACT for the container glass furnace is satisfied with the following:

NO<sub>x</sub>: 1.3 lb-NO<sub>x</sub>/ton of glass pulled on a rolling 30-day average, except during periods of startup, shutdown, and idling; And compliance with District Rule 4354 requirements for startup, shutdown, and idling (Achieved in Practice)

The facility operates a natural gas-fired oxy-fuel furnace with natural gas and LPG fuel and NO<sub>x</sub> emissions of 1.3 lb/ton of glass pulled on a rolling 30-day average, except during periods of startup, shutdown, and idling. Furnace #4 is in compliance with the requirements for startup, shutdown, and idling of District Rule 4354. Therefore, the BACT requirements for NO<sub>x</sub> are satisfied.

## SOx Top-Down BACT Analysis for Permit Unit N-1662-4-18

### Step 1 – Identify all control technologies

BACT Guideline 1.5.9 identifies the following control technologies:

Pollutant	Achieved in Practice or contained in SIP	Technologically Feasible	Alternate Basic Equipment
SOx	<ol style="list-style-type: none"> <li>Oxy-fuel fired furnaces while processing material where <math>\geq 25.0</math> percent of the total cullet is mixed color cullet: 0.99 lb-SOx/ton of glass pulled on a rolling 30-day average; And compliance with District Rule 4354 requirements for startup, shutdown, and idling.</li> <li>All other Container Glass Furnaces: 0.8 lb-SOx/ton of glass pulled on a rolling 30-day average; And compliance with District Rule 4354 requirements for startup, shutdown, and idling.</li> </ol>		electric furnace

### Step 2 - Eliminate Technologically Infeasible Options

Pursuant to District BACT Policy, the Alternate Basic Equipment provision applies only to applications for new equipment. As the container glass furnace in this project is an existing piece of equipment, the Alternate Basic Equipment option of electric furnace is not applicable for this project.

There are no other technologically infeasible options for SOx.

### Step 3 - Rank Remaining Control Technologies by Control Effectiveness

Rank	Control Technology	Achieved in Practice
1	<ol style="list-style-type: none"> <li>Oxy-fuel fired furnaces while processing material where <math>\geq 25.0</math> percent of the total cullet is mixed color cullet: 0.99 lb-SOx/ton of glass pulled on a rolling 30-day average; And compliance with District Rule 4354 requirements for startup, shutdown, and idling.</li> <li>All other Container Glass Furnaces: 0.8 lb-SOx/ton of glass pulled on a rolling 30-day average; And compliance with District Rule 4354 requirements for startup, shutdown, and idling.</li> </ol>	Y

There are no remaining control technologies for SOx.

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

Pursuant to Section IX.D of District Policy APR 1305 – BACT Policy, a cost effectiveness analysis is required for the options that have not been determined to be achieved in practice.

As the applicant has proposed the most effective control technology applicable for SO<sub>x</sub>, a cost effectiveness analysis is not required.

#### **Step 5 - Select BACT**

Pursuant to the above Top-Down BACT Analysis, BACT for the container glass furnace is satisfied with the following:

SO<sub>x</sub>:

1. Oxy-fuel fired furnaces while processing material where > or = 25.0 percent of the total cullet is mixed color cullet: 0.99 lb-SO<sub>x</sub>/ton of glass pulled on a rolling 30-day average; And compliance with District Rule 4354 requirements for startup, shutdown, and idling. (Achieved in Practice)
2. All other Container Glass Furnaces: 0.8 lb-SO<sub>x</sub>/ton of glass pulled on a rolling 30-day average; And compliance with District Rule 4354 requirements for startup, shutdown, and idling. (Achieved in Practice)

The facility operates a natural gas-fired oxy-fuel furnace with natural gas and LPG fuel and SO<sub>x</sub> emissions of 0.99 lb-SO<sub>x</sub>/ton of glass pulled on a rolling 30-day average while processing material where > or = 25.0 percent of the total cullet is mixed color cullet and 0.8 lb-SO<sub>x</sub>/ton of glass pulled on a rolling 30-day average while processing all other types of material. Furnace #4 is in compliance with the requirements for startup, shutdown, and idling of District Rule 4354. Therefore, the BACT requirements for SO<sub>x</sub> are satisfied.

## PM<sub>10</sub> Top-Down BACT Analysis for Permit Unit N-1662-4-18

### Step 1 – Identify all control technologies

BACT Guideline 1.5.9 identifies the following control technologies:

Pollutant	Achieved in Practice or contained in SIP	Technologically Feasible	Alternate Basic Equipment
PM <sub>10</sub>	0.45 lb-PM <sub>10</sub> /ton of glass pulled, except during periods of startup, shutdown, and idling; And compliance with District Rule 4354 requirements for startup, shutdown, and idling.		electric furnace

### Step 2 - Eliminate Technologically Infeasible Options

Pursuant to District BACT Policy, the Alternate Basic Equipment provision applies only to applications for new equipment. As the container glass furnace in this project is an existing piece of equipment, the Alternate Basic Equipment option of electric furnace is not applicable for this project.

There are no other technologically infeasible options for PM<sub>10</sub>.

### Step 3 - Rank Remaining Control Technologies by Control Effectiveness

Rank	Control Technology	Achieved in Practice
1	0.45 lb-PM <sub>10</sub> /ton of glass pulled, except during periods of startup, shutdown, and idling; And compliance with District Rule 4354 requirements for startup, shutdown, and idling.	Y

There are no remaining control technologies for PM<sub>10</sub>.

### Step 4 - Cost Effectiveness Analysis

Pursuant to Section IX.D of District Policy APR 1305 – BACT Policy, a cost effectiveness analysis is required for the options that have not been determined to be achieved in practice.

As the applicant has proposed the most effective control technology applicable for PM<sub>10</sub> and the Achieved in Practice option, a cost effectiveness analysis is not required.

### **Step 5 - Select BACT**

Pursuant to the above Top-Down BACT Analysis, BACT for the container glass furnace is satisfied with the following:

PM<sub>10</sub>: 0.45 lb-PM<sub>10</sub>/ton of glass pulled, except during periods of startup, shutdown, and idling; And compliance with District Rule 4354 requirements for startup, shutdown, and idling. (Achieved in Practice)

The facility operates a natural gas-fired oxy-fuel furnace with natural gas and LPG fuel and PM<sub>10</sub> emissions of 0.45 lb/ton of glass pulled, except during periods of startup, shutdown, and idling. Furnace #4 is in compliance with the requirements for startup, shutdown, and idling of District Rule 4354. Therefore, the BACT requirements for PM<sub>10</sub> are satisfied.

## **ATTACHMENT C**

**Draft Authority to Construct Permit**

San Joaquin Valley  
Air Pollution Control District

## AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

**PERMIT NO:** N-1662-4-18

**LEGAL OWNER OR OPERATOR:** GALLO GLASS COMPANY

**MAILING ADDRESS:** PO BOX 1230  
MODESTO, CA 95353

**LOCATION:** 605 S SANTA CRUZ AVE  
MODESTO, CA 95354

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF GLASS FURNACE #4 WITH 12 MAXON GAS/OXYGEN BURNERS AND ASSOCIATED FORMING EQUIPMENT (90 MMBTU/HR MAX HEAT CAPACITY). THIS FURNACE IS DUCTED THROUGH A STACK COMMON TO PERMIT UNITS N-1662-1, N-1662-2, N-1662-3 AND N-1662-4. THE FURNACES ARE SERVED BY A SHARED SOX SCRUBBER AND AN ELECTROSTATIC PRECIPITATOR AND/OR A TRI-MER UTF460 CERAMIC FILTER TYPE DUST COLLECTOR: REPLACE THE EXISTING WIDEFLAME GEN I NATURAL GAS-FIRED BURNERS WITH TEN (10) NEW PRAXAIR WIDEFLAME GEN III NATURAL GAS-FIRED BURNERS AND LOWER VOC EMISSION LIMIT FROM 0.23 LB/TON TO 0.02 LB/TON

## CONDITIONS

1. {1829} The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. Particulate matter emissions shall not exceed 0.1 grain/dscf in concentration. [District Rule 4201 and Stanislaus County Rule 404] Federally Enforceable Through Title V Permit
3. The furnace shall be fired on natural gas and LPG only. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The furnace shall have continuous monitoring systems for NOx and SOx. The monitoring devices shall have continuous recording devices, and all records shall be kept on site. [District Rules 1080 and 4354] 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

Arnaud Marjollet, Director of Permit Services

N-1662-4-18 : Jul 7 2015 2:06PM - REFUEZJ : Joint Inspection NOT Required

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

5. One continuous emissions monitoring (CEM) system may be used for monitoring oxy-fuel fired furnaces #1, #2, #3, and #4 provided all of the exhaust gases of each of these furnaces are ducted to a common stack, and monitored down stream of the common stack. The CEMS shall comply with the requirements of 40 Code of Federal Regulations (CFR) Part 51, 40 CFR Parts 60.7 and 60.13, 40 CFR Part 60 Appendix B (Performance Specifications) and Appendix F (Quality Assurance Procedures) and the applicable sections of Rule 1080 (Stack Monitoring). [District Rule 4354] Federally Enforceable Through Title V Permit
6. The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080] Federally Enforceable Through Title V Permit
7. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NO<sub>x</sub>, CO, and O<sub>2</sub> analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Source Emission Monitoring and Testing. [District Rule 1081] Federally Enforceable Through Title V Permit
8. During startups, the permittee shall comply with the requirements of section 5.5 of District Rule 4354. [District Rule 4354] Federally Enforceable Through Title V Permit
9. The NO<sub>x</sub> control system shall be in operation as soon as technologically feasible during the startup period to minimize emissions. [District Rule 4354] Federally Enforceable Through Title V Permit
10. The NO<sub>x</sub> control system shall be in operation whenever technologically feasible during shutdown to minimize emissions. [District Rule 4354] Federally Enforceable Through Title V Permit
11. The NO<sub>x</sub> control system shall be in operation whenever technologically feasible during furnace idling to minimize emissions. [District Rule 4354] Federally Enforceable Through Title V Permit
12. The duration of shutdown, as measured from the time the furnace operations drop below the idle threshold specified in section 3.17 of District Rule 4354 to when all emissions from the furnace cease, shall not exceed 20 days. [District Rule 4354] Federally Enforceable Through Title V Permit
13. The oxygen to fuel ratio shall be maintained within the range shown by the most recent source test to result in compliance with the CO and VOC limits of this permit. The acceptable range of the oxygen to fuel ratio shall be established during the initial source test and during each subsequent annual source test. [District Rule 4354] Federally Enforceable Through Title V Permit
14. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation  $E=3.59P^{0.62}$  ( $P < 30$  tph) or  $E=17.31P^{0.16}$  ( $P > 30$  tph). [District Rule 4202] Federally Enforceable Through Title V Permit
15. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [Stanislaus County Rule 407 and District Rule 4801] Federally Enforceable Through Title V Permit
16. Source testing to demonstrate compliance with permit conditions and all rules and regulations for both natural gas and LPG shall be conducted at least once every calendar year. NO<sub>x</sub> and CO testing shall be performed using CARB Method 100. VOC testing shall be performed using EPA method 25A. PM<sub>10</sub> testing shall be performed using EPA methods 201 and 202, EPA methods 201a and 202, or CARB methods 501 and 5. SO<sub>x</sub> testing shall be performed using EPA Method 8 and CARB Method 1-100. [District Rules 1081; 2520; and 4354] Federally Enforceable Through Title V Permit
17. Source testing when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. A source test shall be performed within 90 days after this furnace exceeds 100 hours of operation, on LPG, on an annual basis. [District Rule 1081] Federally Enforceable Through Title V Permit

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18. Source testing shall be conducted by a CARB-certified source testing contractor. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to source testing. The results of each source test shall be submitted to the District within 60 days after the source test date. [District Rule 1081] Federally Enforceable Through Title V Permit
19. Source test conditions shall be representative of operations equal to or greater than 60 percent of the fuel use capacity for each furnace as stated in the Permit to Operate. [District Rule 4354] Federally Enforceable Through Title V Permit
20. PM and PM10 source testing shall be conducted down stream of the particulate matter control equipment in the common stack. Furnaces #1, #2, #3, and #4 must operate simultaneously during source testing unless prior approval is obtained from the District. [District Rule 1081] Federally Enforceable Through Title V Permit
21. During source testing, the arithmetic average of three (3) 30-consecutive-minute test runs shall be used to determine compliance with NOx, CO, VOC, and SOx emission limits. [District Rule 4354]
22. During source testing, the arithmetic average of three (3) 60-consecutive-minute test runs shall be used to determine compliance with PM10 emission limits. [District Rule 4354]
23. For a given pollutant, if two of the three runs individually demonstrate emissions above the applicable limit, the test cannot be used to demonstrate compliance for the furnace, even if the averaged emissions of all three test runs is less than the applicable limit. [District Rule 4354]
24. An annual Relative Accuracy Test Audit (RATA) shall be performed on the continuous monitoring system as outlined in 40 CFR Part 60 Appendix B. [District Rule 1080] Federally Enforceable Through Title V Permit
25. The owner/operator shall perform a relative accuracy test audit (RATA) as specified by 40 CFR Part 60, Appendix F (CGAs and RATAs) and if applicable 40 CFR Part 75, Appendix B (linearity and RATAs) at least once every four calendar quarters and annually within 30 days of the anniversary date of the initial test. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080] Federally Enforceable Through Title V Permit
26. An exceedance of a NOx or SOx emission limit as indicated by the CEMS shall be reported by the operator to the APCO within 24 hours. The notification shall include 1) name and location of the facility, 2) identification of furnace(s) causing the exceedances, 3) calculation of actual NOx, CO and VOC emissions, and 4) corrective actions and schedules to complete the work. [District Rule 1080 and Stanislaus County Rule 108] Federally Enforceable Through Title V Permit
27. The operator shall notify the APCO no later than one hour after the detection of a breakdown of the CEMS. The operator shall inform the APCO of the intent to shut down the CEMS at least 24 hours prior to the event. [District Rule 1100] Federally Enforceable Through Title V Permit
28. The permittee shall submit a written report including copies of any Equipment Breakdown reports and/or pertinent variance decisions to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess emissions (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 1080] Federally Enforceable Through Title V Permit
29. Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternative method. [District Rule 1080] Federally Enforceable Through Title V Permit
30. Results of continuous emissions monitoring shall be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080] Federally Enforceable Through Title V Permit

31. Cylinder gas audits (CGAs) of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit
32. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4201, Stanislaus County Rule 404, District Rule 4202 and Stanislaus County Rule 405. A permit shield is granted from these requirements. [District Rule 2520] Federally Enforceable Through Title V Permit
33. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4801 and Stanislaus County Rule 407. A permit shield is granted from these requirements. [District Rule 2520] Federally Enforceable Through Title V Permit
34. The requirements of District Rule 4301 and Stanislaus County Rule 408 were determined to not apply to this unit because the unit does not utilize indirect heat transfer. A permit shield is granted from these requirements. [District Rule 2520] Federally Enforceable Through Title V Permit
35. The requirements of 40 CFR Part 60, Subpart CC were determined to not apply to this unit because the unit was constructed prior to the effective date in the regulation and has not been modified (according to the definition of "modified" in the regulation). A permit shield is granted from these requirements. [District Rule 2520] Federally Enforceable Through Title V Permit
36. The requirements of 40 CFR Part 61, Subpart N were determined to not apply to this unit because the unit does not use commercial arsenic. A permit shield is granted from these requirements. [District Rule 2520] Federally Enforceable Through Title V Permit
37. Any glass melting furnace located at an Area Source of hazardous air pollutants shall comply with 40 CFR Part 63 Subpart SSSSSS (National Emission Standards for Hazardous Air Pollutants for Glass Manufacturing Area Sources). [40 CFR Part 63 Subpart SSSSSS] Federally Enforceable Through Title V Permit
38. The permittee shall comply with the applicable emission limits specified in 40 CFR Part 63 Subpart SSSSSS Table 1. Existing glass melting furnace that produces glass at an annual rate of at least 45 Mg/yr (50 tpy) and is charged with compounds of arsenic, cadmium, chromium, manganese, lead, or nickel as raw materials shall meet one of the following emission limits: the 3-hour block average production based PM mass emission rate must not exceed 0.1 gram per kilogram (g/kg) (0.2 pound per ton (lb/ton)) of glass produced; or the 3-hour block average production based metal HAP mass emission rate must not exceed 0.01 g/kg (0.02 lb/ton) of glass produced. The permittee may request the APCO to grant an extension allowing up to one additional year to comply with the applicable emission limits if such additional period is necessary for the installation of emission controls. [40 CFR 63 Subpart SSSSSS]
39. A furnace that produces glass at an annual rate of at least 45 Mg/yr (50 tpy) and is not charged with glass manufacturing metal HAP, and begins production of a glass product that includes one or more glass manufacturing metal HAP as raw materials, and produces at least 45 Mg/yr (50 tpy) of this glass product, shall comply with the applicable emission limit specified in Section 63.11451 within 2 years of the date on which the facility introduced production of the glass product that contains glass manufacturing metal HAP. [40 CFR 63 Subpart SSSSSS]
40. The permittee shall conduct each performance test according to the requirements in Section 63.7 and Section 63.11452 paragraphs (b)(1) through (12) and either paragraph (b)(13) or (b)(14). [40 CFR 63 Subpart SSSSSS]
41. For each monitoring system required by this subpart, the permittee shall install, calibrate, operate, and maintain the monitoring system according to the manufacturer's specifications and the requirements specified in Section 63.11454 paragraphs (a)(1) through (7). [40 CFR 63 Subpart SSSSSS]
42. For each existing furnace that is subject to the emission limit specified in Table 1 to this subpart and is controlled with an ESP, the permittee shall meet the requirements specified in Section 63.11454 paragraphs (b)(1) or (2). The permittee shall monitor the secondary voltage and secondary electrical current to each field of the ESP according to the requirements of Section 63.11454 paragraph (a) or submit a request for alternative monitoring, as described in Section 63.11454 paragraph (g). [40 CFR 63 Subpart SSSSSS]

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43. For each existing furnace that is subject to the emission limit specified in Table 1 to this subpart and is controlled with an fabric filter, the permittee shall meet the requirements specified in Section 63.11454 paragraphs (c)(1) or (2). The permittee shall monitor the inlet temperature to the fabric filter according to the requirements of Section 63.11454 paragraph (a), or the permittee shall submit a request for alternative monitoring, as described in Section 63.11454 paragraph (g). [40 CFR 63 Subpart SSSSSS]
44. The permittee shall be in compliance with the applicable emission limits in this subpart at all times, except during periods of startup, shutdown, and malfunction. [40 CFR 63 Subpart SSSSSS]
45. The permittee shall always operate and maintain the affected source, including air pollution control and monitoring equipment, according to the provisions in Section 63.6(e)(1)(i). [40 CFR 63 Subpart SSSSSS]
46. For each affected furnace that is subject to the emission limit specified in Table 1 to this subpart, the permittee shall monitor the performance of the furnace emission control device under the conditions specified in Section 63.11454(a)(7) and according to the requirements in Sections 63.6(e)(1) and 63.8(c) and Section 63.11455 paragraphs (c)(1) through (6). [40 CFR 63 Subpart SSSSSS]
47. Following the initial inspections, the permittee shall perform periodic inspections and maintenance of each affected furnace control device according to the requirements in Section 63.11455 paragraphs (d)(1) through (4). For each ESP, the permittee shall conduct inspections according to the requirements in Section 63.11455 paragraphs (d)(2)(i) through (iii). The permittee shall conduct visual inspections of the system ductwork, housing unit, and hopper for leaks at least every 12 months. The permittee shall conduct inspections of the interior of the ESP to determine the condition and integrity of corona wires, collection plates, plate rappers, hopper, and air diffuser plates every 24 months. If an initial inspection is not required, as specified in Section 63.11453(b)(3)(ii), the first inspection must not be more than 24 months from the last inspection. The permittee shall record the results of each periodic inspection specified in this section in a logbook (written or electronic format), as specified in Section 63.11457(c). If the results of a required inspection indicate a problem with the operation of the emission control system, the permittee shall take immediate corrective action to return the control device to normal operation according to the equipment manufacturer's specifications or instructions. [40 CFR 63 Subpart SSSSSS]
48. For each affected furnace that is subject to the emission limit specified in Table 1 to this subpart and can meet the applicable emission limit without the use of a control device, the permittee shall demonstrate continuous compliance by satisfying the applicable recordkeeping requirements specified in Section 63.11457. [40 CFR 63 Subpart SSSSSS]
49. The permittee shall keep the records specified in Section 63.11457 paragraphs (a)(1) through (8). [40 CFR 63 Subpart SSSSSS]
50. Records must be in a form suitable and readily available for expeditious review, according to Section 63.10(b)(1). The permittee shall record the results of each inspection and maintenance action in a logbook (written or electronic format). The permittee shall keep the logbook onsite and make the logbook available to the permitting authority upon request. As specified in §63.10(b)(1), the permittee shall keep each record for a minimum of 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. Records shall be kept onsite for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to Section 63.10(b)(1). Records may be kept offsite for the remaining three years. [40 CFR 63 Subpart SSSSSS]
51. The amount of glass produced shall not exceed 637.9 tons during any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
52. NO<sub>x</sub> emissions shall not exceed 1.3 pounds per ton of glass produced. This performance based limit is to enforce the NO<sub>x</sub> emission reductions granted by certificate number N-107-2. [District Rule 2201] Federally Enforceable Through Title V Permit
53. CO emissions shall not exceed 0.20 pounds per ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit
54. The VOC emissions shall not exceed 0.02 pounds per ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit
55. The combined SO<sub>x</sub> emissions from permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4, while producing glass with equal to or greater than 25% by weight mixed color cullet, shall not exceed 0.99 lb/ton of glass produced (over a rolling 30 day average). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

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56. The combined SOx emissions from permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4, while producing glass with less than 25% by weight mixed color cullet, shall not exceed 0.81 lb/ton of glass produced (over a rolling 30 day average). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
57. The PM10 emissions, except for during full or partial emission control system bypass episodes, shall not exceed 0.45 lb/ton of glass produced. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
58. The PM10 emissions, during full or partial emission control system bypass episodes, shall not exceed 0.71 lb/ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit
59. The number of hours that the furnace exhaust is not fully treated by a control device shall not exceed 144 hours per calendar year. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
60. The PM10 emissions shall not exceed 28,132 pounds during the first calendar quarter, 28,445 pounds during the second calendar quarter, 28,757 pounds during the third calendar quarter and 28,758 pounds during the fourth calendar quarter. These limits are to enforce the PM10 emission reductions granted by certificate number N-161-4. [District Rule 2201] Federally Enforceable Through Title V Permit
61. During furnace idling, NOx emissions shall not exceed 956.9 pounds in any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
62. During furnace idling, CO emissions shall not exceed 637.9 pounds in any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
63. During furnace idling, VOC emissions shall not exceed 12.8 pounds in any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
64. During furnace idling, SOx emissions shall not exceed 701.7 pounds in any one day when producing glass with equal to or greater than 25% by weight mixed color cullet. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
65. During furnace idling, SOx emissions shall not exceed 574.1 pounds in any one day when producing glass with less than 25% by weight mixed color cullet. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
66. During furnace idling, PM10 emissions shall not exceed 319.0 pounds in any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
67. Permittee shall notify the District at least 24 hours before initiating idling, shutdown and startup and this notification shall include: date and time of the start of the exempt operation, reason for performing the operation, and an estimated completion date. The permittee shall notify the District by telephone within 24 hours after completion of the operation and shall maintain operating records and/or support documentation necessary to claim exemption. [District Rule 4354]
68. The pollutant mass emission rate in lb/hr shall be converted to lb pollutant/ton of glass pulled as specified in Rule 4354. The operator of a oxy-fuel fired furnace, oxygen-assisted combustion furnace, or a furnace utilizing any fuel oxidants other than 100% ambient air, shall submit to the APCO, ARB, and EPA for approval any methodologies and data that will be used to calculate emission rates for NOx, CO, and VOC if the methods are different from those specified in Rule 4354. Unless the operator received prior written approval from APCO, ARB, and EPA of all the calculation methods to be used that are different from those specified in Rule 4354, compliance with the emissions limits cannot be fully demonstrated, and it shall be deemed to be a violation of the rule. [District Rule 4354]
69. Aggregated emissions for a given pollutant of a furnace battery are the emissions for the pollutant as measured at the common stack divided by the sum of the daily glass pulled from each furnace. [District Rule 4354]
70. The operator of a furnace battery or multiple furnaces choosing the alternate emission limit shall operate the furnace battery or multiple furnaces according to Sections 9.7.3 through 9.7.8.5. Only those pollutants with emissions that are averaged across multiple furnaces/furnace battery are subject to all subparts of Section 9.7. Pollutant emissions that are not averaged across multiple furnaces/furnace battery are subject to the applicable emission limits of Sections 5.1 through 5.4. [District Rule 4354]
71. The daily aggregate emissions shall be no greater than those obtained by controlling each furnace to comply individually with applicable emission limits, less the 10% air quality benefit. [District Rule 4354]

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72. The operator shall demonstrate compliance with the daily aggregate emissions through source test results and monitoring by either CEMS or approved alternate emission monitoring methods. [District Rule 4354]
73. Any violation of the aggregated emission limits shall constitute a violation of the rule for each furnace for the entire averaging period. [District Rule 4354]
74. The operator shall notify the APCO of any violation of Rule 4354 Section 9.7.3 within 24 hours. The notification shall include: name and location of the facility; identification of furnace(s) causing the violation; the cause and the expected duration of violation; calculation of actual NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, and PM<sub>10</sub> emissions during the violation; corrective actions and schedules to complete the work. [District Rule 4354]
75. The facility shall not use commercial arsenic as a raw material in the production process. [40 CFR Part 61 Subpart N] Federally Enforceable Through Title V Permit
76. The ceramic filter dust collector shall be maintained and operated according to manufacturer's specifications. [District Rule 2201] Federally Enforceable Through Title V Permit
77. The ceramic filter dust collector cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit
78. Material removed from the ceramic filter dust collector shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
79. Replacement filters numbering at least 10% of the total number of filters in the ceramic filter dust collector shall be maintained on the premises. [District Rule 2201] Federally Enforceable Through Title V Permit
80. Devices to measure the primary and secondary voltage and current of the electrostatic precipitator shall be maintained in accordance with the manufacturer's specifications. [District Rule 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
81. The specific power of the electrostatic precipitator shall be at least 70 milliwatts/acfm except during the bypass episodes allowed by this permit. [District Rules 2520 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
82. The ceramic filter dust collector shall be equipped with a pressure differential gauge to indicate the pressure drop across the filters. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
83. During operation of the ceramic filter dust collector, the pressure differential gauge reading shall be 5 to 10 inches of water column. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
84. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR Part 64.7. [40 CFR Part 64] Federally Enforceable Through Title V Permit
85. If the District or EPA determine that a Quality Improvement Plan is required under 40 CFR Part 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR Part 64.8. [40 CFR Part 64] Federally Enforceable Through Title V Permit
86. The permittee shall comply with the record keeping and reporting requirements of 40 CFR Part 64.9. [40 CFR Part 64] Federally Enforceable Through Title V Permit
87. The specific power of the electrostatic precipitator shall be continuously monitored and recorded. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
88. Dust collector filters shall be inspected annually while in operation for evidence of particulate matter breakthrough and replaced as needed. [District Rule 2520] Federally Enforceable Through Title V Permit
89. Dust collector filters shall be inspected annually while not in operation for tears, scuffs, abrasions or hole that might interfere with the PM collection efficiency and shall be replaced as needed. [District Rule 2520] Federally Enforceable Through Title V Permit

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90. A daily record of the hours of operation, the amount of glass pulled from the furnace (in tons), the NO<sub>x</sub> emissions (in lb/ton of glass pulled), the SO<sub>x</sub> emissions (in lb/ton of glass pulled), the weight of mixed color mix cullet used, the total amount of cullet used (by weight) and the ratio of the mixed color cullet weight to the total cullet weight (in percent) shall be kept. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
91. The oxygen to fuel ratio shall be continuously monitored and recorded. [District Rule 4354] Federally Enforceable Through Title V Permit
92. The permittee shall maintain daily records of the aggregated NO<sub>x</sub> emissions. [District Rules 2520 and 4354] Federally Enforceable Through Title V Permit
93. The permittee shall maintain the burner oxygen to fuel ratio records required by this permit. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
94. A record of the PM<sub>10</sub> emissions from this unit, in pounds per calendar quarter, shall be kept. [District Rule 2201] Federally Enforceable Through Title V Permit
95. A record of the cumulative annual number of hours that the emission control system is either fully or partially bypassed shall be kept. The record shall be updated at least weekly. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
96. The permittee shall maintain daily records of the specific power of the electrostatic precipitator (in milliwatts/acfm). [District Rules 2201, 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
97. The operator shall monitor and record the pressure differential gauge reading of the ceramic filter dust collector at least once during each day that the unit operates. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
98. Records of dust collector maintenance, inspections and repairs shall be maintained. The records shall include, date of inspection, change outs of filter media, corrective action taken, and identification of the individual performing the inspection. [District Rules 2201 and 2520] Federally Enforceable Through Title V Permit
99. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

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