



JUN 17 2014

Mr. Michael Gibbons
Saint-Gobain Containers, Inc
P.O. Box 4200
Muncie, IN 47307-4200

**Re: Notice of Preliminary Decision – ATC / Certificate of Conformity
District Facility # C-801
Project # C-1131984**

Dear Mr. Gibbons:

Enclosed for your review is the District's analysis of an application for Authorities to Construct for the facility identified above. You requested that Certificates of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. The applicant proposes to change the SO2 averaging period from 24 hour rolling average to 30 day rolling average for Furnaces #1 and #2 and to revise the Rule 4354 particulate matter alternative monitoring to monitor and record the electrostatic precipitator secondary power.

After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the District intends to issue the Authorities to Construct with Certificates of Conformity. Please submit your comments within the 30-day public comment period, as specified in the enclosed public notice. Prior to operating with modifications authorized by the Authorities to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

If you have any questions, please contact Mr. Jim Swaney, Permit Services Manager, at (559) 230-5900.

Thank you for your cooperation in this matter.

Sincerely,


Arnaud Marjollet
Director of Permit Services

Enclosures

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

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

San Joaquin Valley Air Pollution Control District
Authority to Construct Application Review
Revise SOx Averaging Period for Container Glass Furnaces

Facility Name:	Saint-Gobain Containers, Inc	Date:	June 8, 2014
Mailing Address:	P.O. Box 4200 Muncie, IN 47307-4200	Engineer:	Stanley Tom
Contact Person:	R. Todd Rosebrock	Lead Engineer:	Joven Refuerzo
Telephone:	(559) 675-4726		
E-Mail:	roderick.t.rosebrock@saint-gobain.com		
Application #(s):	C-801-1-16 and '2-11		
Project #:	C-1131984		
Deemed Complete:	January 23, 2014		

I. PROPOSAL

Saint-Gobain Containers, Inc. (SGCI) has requested an Authority to Construct (ATC) permit to change the SOx emission factor limit (in lb/ton) averaging period from 24 hour rolling average to 30 day rolling average for Furnace #1 (listed in permit C-801-1) and Furnace #2 (listed in permit C-801-2).

The facility recently has experienced exceedances of the SOx emission factor limit of 0.8 lb/ton on a 24 hour rolling average basis due to short periods of low glass production. When the facility produces a specific type of glass product, the production rate may drop as market demand for that product may not be as high as other glass products produced by the facility. These operational situations have resulted in exceedances of the SOx emission factor limit on a 24 hour rolling average basis. If the SOx emission factor limit was averaged over a longer period of time (such as 30 day rolling average as allowed by Rule 4354), then the facility will be able to produce a lower production rate glass product and continue to comply with the SOx emission factor limit. The exceedances are strictly a result of low production periods. The sulfur content of the raw material batch melt is not higher for this specific type of glass product as the existing SOx emission factor can be met during high production periods for this specific type of glass product.

The current SOx emission factor limit averaging period of 24 hour rolling average was established in the BACT determination for BACT Guideline 1.5.9 in project C-1053187. The facility proposed this value but with this new production scenario of producing a low production rate glass product, the facility is proposing to revise the established Achieved in Practice BACT averaging period. As the production scenario of producing a low production rate glass product has not been analyzed previously, this project will be considered a change in the method of operation and will be a modification for NSR purposes.

A Daily Emissions Limitation (DEL) is one or more permit conditions which restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. A daily emissions limitation must be contained in the latest Authority to Construct and contained in or enforceable by the latest Permit to Operate for the emissions unit; and enforceable, in a practical manner, on a daily basis. This daily emission limitation also enforces the requirements of BACT. BACT Guideline 1.5.9 lists a SOx emission factor limit of 0.8 lb/ton. The facility has proposed to average the SOx emission factor of 0.8 lb/ton on a monthly basis. This is approvable from a BACT standpoint since the current permits for Furnaces #1 and #2 list a scrubber outlet SOx concentration limit of 53 ppmvd on a daily average basis. Therefore, the requirements of BACT for SOx is satisfied with the SOx concentration limit of 53 ppmvd averaged on a daily basis. The scrubber outlet SOx concentration limit condition will be revised to list Rule 2201 as a rule reference to ensure this limit is used for BACT compliance purposes.

To ensure that the use of the scrubber outlet SOx concentration limit to satisfy the requirements of BACT is approvable, the SOx concentration limit of 53 ppmvd must be equal to or less than the SOx emission factor of 0.8 lb/ton. The facility has stated low glass production periods are experienced below 75% of the maximum production limit. As BACT is typically analyzed at steady state operational conditions, as a worst case scenario a steady state production rate of 450 tons/day (600 tons/day x 0.75) will be used to determine if the scrubber outlet SOx concentration is equal to or less than the SOx emission factor of 0.8 lb/ton.

$$53 \frac{\text{parts}}{\text{million}} \times \frac{\text{million}}{1,000,000 \cdot \text{parts}} \times \frac{14.7 \text{ psi}}{520^\circ \text{R}} \times \frac{\text{lb} \cdot \text{mol} \cdot ^\circ \text{R}}{10.73 \text{ psi} \cdot \text{ft}^3} \times \frac{64 \text{ lb}}{1 \text{ lb} \cdot \text{mol}} \times \frac{8,578 \text{ dscf}}{\text{MMBtu}} = 0.0767 \frac{\text{lb} - \text{SOx}}{\text{MMBtu}}$$

$$0.0767 \frac{\text{lb}}{\text{MMBtu}} \times \frac{85 \text{ MMBtu}}{\text{hr}} \times \frac{\text{day}}{450 \text{ ton}} \times \frac{24 \text{ hr}}{\text{day}} = 0.35 \frac{\text{lb} - \text{SOx}}{\text{ton}}$$

Since 0.35 lb-SOx/ton is less than 0.8 lb-SOx/ton, use of the scrubber outlet SOx concentration limit can be used to satisfy the requirements of BACT.

The facility has proposed to lower the VOC emission factor for Furnace #1 (listed in permit C-801-1) from 0.25 lb/ton to 0.2 lb/ton to qualify the unit as a clean emissions unit as defined in Rule 2201.

The facility has applied for an ATC permit to convert Furnace #1 from a regenerative furnace to oxy-fuel firing to comply with Rule 4354 under ATC permit C-801-1-17. ATC permit C-801-1-17 will be implemented prior to the ATC permit issued in this project to change the SOx emission factor limit averaging period. The following condition will be listed on ATC permit C-801-1-16 in this project:

- Authority to Construct (ATC) permit C-801-1-17 shall be implemented concurrently, or prior to the modification and startup of the equipment authorized by this Authority to Construct permit. [District Rule 2201]

The facility has proposed to revise the Rule 4354 alternate monitoring requirements for particulate matter from EP secondary voltage to ESP secondary power (product of voltage and current). The facility has proposed to monitor and record the ESP average total secondary power by measuring and recording the secondary voltage and secondary current at least once per hour.

Saint-Gobain Containers, Inc. 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). The facility has requested that this project be processed in that manner; therefore, Saint-Gobain Containers, Inc. will be required to submit a Title V administrative amendment application prior to operating under the revised provisions of the ATC permits issued with this project. This project is considered a Title V minor modification since the frequency of monitoring and recordkeeping is not being relaxed. The facility will continue to monitor and record SOx emissions with the same frequency as currently required but will be averaging the data over a different time period.

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 24441 Avenue 12, at Road 24 1/2, Madera, 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

Glass Furnace (permit C-801-1)

The facility operates a natural gas-fired glass furnace #1 [North], with a potential production throughput (pull rate) of 450 tons/day of glass melted based on a permit limit of 75 MMBtu/hr plus 2,000 kVA of electrical boost. The production throughput (pull rate) will remain unchanged at 450 tons/day of glass melted.

Glass Furnace #2 (permit C-801-2)

The facility operates a natural gas-fired glass furnace #2 [South] (permit C-801-2), with a potential production throughput (pull rate) of 600 tons/day of glass melted.

The gas-fired furnace is an oxy-fuel type. Furnace #2 was constructed specifically for the facility and therefore does not have a make or model number. The furnace has ten burners including six burners with a capacity between 5 and 20 MMBtu/hr and four burners with a capacity between 2 and 8 MMBtu/hr. The total heat input to the burners is limited to 85 MMBtu/hr. The furnace is also equipped with 3,500 kVA of electric boost.

V. EQUIPMENT LISTING

Pre-Project Equipment Description

Current Permit #	Pre-Project Equipment Description
C-801-1-17	75 MMBTU/HR (APPROXIMATELY) OXY-FUEL NATURAL GAS-FIRED (WITH PROPANE BACKUP) CONTAINER GLASS MELTING FURNACE #1 (NORTH) WITH COMBUSTION TEC LOW NOX BURNERS OR CUSTOM DILUTE COMBUSTION BURNERS, 2,000 KVA ELECTRIC BOOST, NOX, SOX, CO AND O2 CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS), AND THREE (3) PRODUCTION LINES EACH WITH A 10 INDIVIDUAL SECTION (IS) FORMING MACHINE WITH A MCGILL AIRCLEAN MODEL 3-700 SEMI-DRY SCRUBBER/ESP SYSTEM (COMMON TO FURNACE #2), AND A CONTINUOUS OPACITY MONITORING SYSTEM (COMS)
C-801-2-10	85 MMBTU/HR (APPROXIMATELY) GLASS OXY-FUEL FIRED FURNACE #2 (SOUTH) WITH 3,600 KVA OF ELECTRIC BOOST AND (2) TWO PRODUCTION LINES (ONE WITH A 16 INDIVIDUAL SECTION (IS) FORMING MACHINE ONE WITH A 20 INDIVIDUAL SECTION (IS) FORMING MACHINE) WITH A MCGILL AIRCLEAN MODEL 3-700 SEMI-DRY SCRUBBER/ESP SYSTEM (COMMON TO FURNACE #1), A CONTINUOUS OPACITY MONITORING SYSTEM (COMS), A NOX CONTINUOUS EMISSIONS RATE MONITORING SYSTEM (CERMS), AND A SOX CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS)

Proposed Modification

ATC Permit #	ATC Equipment Description
C-801-1-16	<p>MODIFICATION OF 75 MMBTU/HR (APPROXIMATELY) OXY-FUEL NATURAL GAS-FIRED (WITH PROPANE BACKUP) CONTAINER GLASS MELTING FURNACE #1 (NORTH) WITH COMBUSTION TEC LOW NOX BURNERS OR CUSTOM DILUTE COMBUSTION BURNERS, 2,000 KVA ELECTRIC BOOST, NOX, SOX, CO AND O2 CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS), AND THREE (3) PRODUCTION LINES EACH WITH A 10 INDIVIDUAL SECTION (IS) FORMING MACHINE WITH A MCGILL AIRCLEAN MODEL 3-700 SEMI-DRY SCRUBBER/ESP SYSTEM (COMMON TO FURNACE #2), AND A CONTINUOUS OPACITY MONITORING SYSTEM (COMS): CHANGE SOX EMISSION FACTOR LIMIT AVERAGING PERIOD FROM 24 HOUR ROLLING AVERAGE TO 30 DAY ROLLING AVERAGE AND REVISE RULE 4354 PARTICULATE MATTER ALTERNATE MONITORING FROM MONITORING ELECTROSTATIC PRECIPITATOR SECONDARY VOLTAGE TO ELECTROSTATIC PRECIPITATOR AVERAGE TOTAL POWER (SECONDARY VOLTAGE AND SECONDARY CURRENT)</p>
C-801-2-11	<p>MODIFICATION OF 85 MMBTU/HR (APPROXIMATELY) GLASS OXY-FUEL FIRED FURNACE #2 (SOUTH) WITH 3,600 KVA OF ELECTRIC BOOST AND (2) TWO PRODUCTION LINES (ONE WITH A 16 INDIVIDUAL SECTION (IS) FORMING MACHINE ONE WITH A 20 INDIVIDUAL SECTION (IS) FORMING MACHINE) WITH A MCGILL AIRCLEAN MODEL 3-700 SEMI-DRY SCRUBBER/ESP SYSTEM (COMMON TO FURNACE #1), A CONTINUOUS OPACITY MONITORING SYSTEM (COMS), A NOX CONTINUOUS EMISSIONS RATE MONITORING SYSTEM (CERMS), AND A SOX CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS): CHANGE SOX EMISSION FACTOR LIMIT AVERAGING PERIOD FROM 24 HOUR ROLLING AVERAGE TO 30 DAY ROLLING AVERAGE AND REVISE RULE 4354 PARTICULATE MATTER ALTERNATE MONITORING FROM MONITORING ELECTROSTATIC PRECIPITATOR SECONDARY VOLTAGE TO ELECTROSTATIC PRECIPITATOR AVERAGE TOTAL POWER (SECONDARY VOLTAGE AND SECONDARY CURRENT)</p>

Post-Project Equipment Description

Proposed Permit #	Post-Project Equipment Description
C-801-1-16	75 MMBTU/HR (APPROXIMATELY) OXY-FUEL NATURAL GAS-FIRED (WITH PROPANE BACKUP) CONTAINER GLASS MELTING FURNACE #1 (NORTH) WITH COMBUSTION TEC LOW NOX BURNERS OR CUSTOM DILUTE COMBUSTION BURNERS, 2,000 KVA ELECTRIC BOOST, NOX, SOX, CO AND O2 CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS), AND THREE (3) PRODUCTION LINES EACH WITH A 10 INDIVIDUAL SECTION (IS) FORMING MACHINE WITH A MCGILL AIRCLEAN MODEL 3-700 SEMI-DRY SCRUBBER/ESP SYSTEM (COMMON TO FURNACE #2), AND A CONTINUOUS OPACITY MONITORING SYSTEM (COMS)
C-801-2-11	85 MMBTU/HR (APPROXIMATELY) GLASS OXY-FUEL FIRED FURNACE #2 (SOUTH) WITH 3,600 KVA OF ELECTRIC BOOST AND (2) TWO PRODUCTION LINES (ONE WITH A 16 INDIVIDUAL SECTION (IS) FORMING MACHINE ONE WITH A 20 INDIVIDUAL SECTION (IS) FORMING MACHINE) WITH A MCGILL AIRCLEAN MODEL 3-700 SEMI-DRY SCRUBBER/ESP SYSTEM (COMMON TO FURNACE #1), A CONTINUOUS OPACITY MONITORING SYSTEM (COMS), A NOX CONTINUOUS EMISSIONS RATE MONITORING SYSTEM (CERMS), AND A SOX CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS)

VI. EMISSION CONTROL EQUIPMENT EVALUATION

Operation of the furnace results in emissions of NO_x, SO_x, PM₁₀, CO, and VOC from the combustion of fuels and melting of the glass constituents. NO_x and SO_x are currently controlled by using natural gas (with propane backup) and oxy-fuel firing. NO_x emissions from furnace #1 are further reduced through the use of low NO_x burners. CO and VOC are controlled by the high temperature inside the furnace, which will tend to completely combust the fuel resulting in low CO and VOC emissions. In addition, furnace #1 has a blower air staging system for CO control.

The oxy-fuel furnace reduces NO_x emissions by minimizing the availability of nitrogen. Nitrogen makes up about 79% of the ambient air. In an uncontrolled furnace, ambient air is introduced into the furnace with the fuel gas for combustion. NO_x emissions are formed by chemical reaction of the nitrogen in the combustion air during the combustion process. By removing the availability of nitrogen, NO_x emissions are thus reduced.

Compared with a regenerative furnace, the high fuel efficiency of the oxy-fuel unit melter results primarily from the reduced furnace throughput of inert gases (almost entirely nitrogen). Combustion air is approximately 21% oxygen and 79% inert gases. Depending on the type of oxygen supply system used, combustion grade oxygen will be between 89% and 100% oxygen, with the balance being inert. Inert, non-participating gases enter the system at ambient temperature and are discarded at the temperature of waste gas leaving the furnace. Combusting with oxygen instead of air reduces heat loss to these inert gases, and results in a lower natural gas fuel requirement and lower NO_x emissions.

The facility operates a semi-dry scrubber/ESP system on the exhaust from both furnace #1 and #2 to control SO₂ and PM₁₀ emissions.

To control PM₁₀ emissions from both furnaces, the facility operates an electrostatic precipitator (ESP). This unit has a single chamber with three fields, each with its own transformer/rectifier. The total operating power is approximately 45 kVA, with a secondary voltage required of at least 12 kV, according to vendor specifications. Per the manufacturer guarantee, when the ESP is operated with a secondary voltage of at least 12 kV, PM₁₀ emissions from the glass melting process will not exceed 0.45 pounds per ton of glass pulled. The District has determined power is a better indicator of the performance of the EP. When the secondary voltage drops, less particulate is charged and collected. However, the secondary voltage can remain high but fail to perform its function if the collection plates are not cleaned, or rapped, appropriately. If the collection plates are not cleaned, the current drops. Since the power is a product of the voltage and current, monitoring the power input will provide a reasonable assurance that the EP is functioning properly. The facility has proposed to monitor and record the ESP secondary power instead of secondary voltage to satisfy the particulate matter alternative monitoring requirements of Rule 4354. The proper operating range for the ESP secondary power will be established at the next furnace source test for particulate matter.

To control SO_x emissions from both furnaces, the facility operates a semi-dry scrubber that employs soda ash injection and downstream particulate collection that has a manufacturer guarantee of 85% control efficiency for SO_x emissions (except when the inlet concentration to the semi-dry scrubber is 353 ppmv or less, in which case SO_x emissions are to be controlled to an outlet concentration of 53 ppmv averaged on a daily basis). The manufacturer supplied flow rates for the semi-dry scrubber are: 56,244 standard cubic feet per minute (scfm) (dry) for the process gas, 7,951 scfm (wet) for the water vapor, with a total inlet volume of 64,205 scfm (wet). Per the manufacturer guarantee, when the semi-dry scrubber is operated at these design parameters, SO_x emissions from the glass melting process will not exceed 0.8 pounds per ton of glass pulled with a minimum control efficiency of 85% (except when the inlet concentration to the semi-dry scrubber is 353 ppmv or less, in which case SO_x emissions are to be controlled to an outlet concentration of 53 ppmv averaged on a daily basis).

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)

C-801-1-16

- Maximum daily glass pull rate = 450 tons/day (per ATC permit C-801-1-17)
- Maximum annual glass production rate = 157,680 tons/year (per ATC permit C-801-1-17)

C-801-2-11

- Maximum daily glass pull rate = 600 tons/day (per Current Permit)
- Maximum annual glass production rate = 219,000 tons/year (per Current Permit)

B. Emission Factors

Pre-Project Emission Factors

C-801-1-16

Pre-Project Emission Factors Furnace #1		
Pollutant	EF1	Source
NO _x	1.3 lb/ton	ATC C-801-1-17
SO _x	0.8 lb/ton	ATC C-801-1-17
PM ₁₀	0.45 lb/ton	ATC C-801-1-17
CO	1.0 lb/ton	ATC C-801-1-17
VOC	0.25 lb/ton	ATC C-801-1-17

C-801-2-11

Pre-Project Emission Factors Furnace #2		
Pollutant	EF1	Source
NO _x	1.3 lb/ton	Current PTO
SO _x	0.8 lb/ton	Current PTO
PM ₁₀	0.45 lb/ton	Current PTO
CO	0.2 lb/ton	Current PTO
VOC	0.2 lb/ton	Current PTO

Post-Project Emission Factors

C-801-1-16

Post-Project Emission Factors Furnace #1		
Pollutant	EF2	Source
NO _x	1.3 lb/ton	ATC C-801-1-17
SO _x	0.8 lb/ton	ATC C-801-1-17
PM ₁₀	0.45 lb/ton	ATC C-801-1-17
CO	1.0 lb/ton	ATC C-801-1-17
VOC	0.2 lb/ton	Applicant Proposal

C-801-2-11

Post-Project Emission Factors Furnace #2		
Pollutant	EF2	Source
NO _x	1.3 lb/ton	Current PTO
SO _x	0.8 lb/ton	Current PTO
PM ₁₀	0.45 lb/ton	Current PTO
CO	0.2 lb/ton	Current PTO
VOC	0.2 lb/ton	Current PTO

C. Calculations

1. Pre-Project Potential to Emit (PE1)

C-801-1-16

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

- $PE1 = EF \text{ (lb/ton)} \times \text{Throughput (tons/day or tons/year)}$
- $PE1 = EF \text{ (lb/MMBtu)} \times \text{Heat Input (MMBtu/hr)} \times \text{Operation Schedule (hr/day or hr/year)}$

Daily Pre-Project Emissions Furnace #1			
Pollutant	Emissions Factor (lb/ton)	Throughput (tons/day)	PE1 Total (lb/day)
NO _x	1.3	450	585.0
SO _x	0.8	450	360.0
PM ₁₀	0.45	450	202.5
CO	1.0	450	450.0
VOC	-	-	21.6*

* Per permit condition

Annual Pre-Project Emissions Furnace #1			
Pollutant	Emissions Factor (lb/ton)	Throughput (tons/year)	PE1 Total (lb/year)
NO _x	1.3	157,680	204,984
SO _x	0.8	157,680	126,144
PM ₁₀	0.45	157,680	70,956
CO	1.0	157,680	157,680
VOC	0.25	157,680	39,420

C-801-2-11

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

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

Daily Pre-Project Emissions Furnace #2			
Pollutant	Emissions Factor (lb/ton)	Throughput (tons/day)	PE1 Total (lb/day)
NO _x	1.3	600	780.0
SO _x	0.8	600	480.0
PM ₁₀	0.45	600	270.0
CO	0.2	600	120.0
VOC	0.2	600	120.0

Annual Pre-Project Emissions Furnace #2			
Pollutant	Emissions Factor (lb/ton)	Throughput (tons/year)	PE1 Total (lb/year)
NO _x	-	-	252,473*
SO _x	0.8	212,700	170,160
PM ₁₀	-	-	95,618*
CO	0.2	212,700	42,540
VOC	-	-	36,593*

* Per permit condition

2. Post Project Potential to Emit (PE2)

C-801-1-16

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

- $PE2 = EF \text{ (lb/ton)} \times \text{Throughput (tons/day or tons/year)}$
- $PE2 = EF \text{ (lb/MMBtu)} \times \text{Heat Input (MMBtu/hr)} \times \text{Operation Schedule (hr/day or hr/year)}$

Daily Post-Project Emissions Furnace #1			
Pollutant	Emissions Factor (lb/ton)	Throughput (tons/day)	PE2 Total (lb/day)
NO _x	1.3	450	585.0
SO _x	0.8	450	360.0
PM ₁₀	0.45	450	202.5
CO	1.0	450	450.0
VOC	-	-	21.6*

* Per permit condition

Annual Post-Project Emissions Furnace #1			
Pollutant	Emissions Factor (lb/ton)	Throughput (tons/year)	PE2 Total (lb/year)
NO _x	1.3	157,680	204,984
SO _x	0.8	157,680	126,144
PM ₁₀	0.45	157,680	70,956
CO	1.0	157,680	157,680
VOC	0.2	157,680	31,536

C-801-2-11

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

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

Daily Post-Project Emissions Furnace #2			
Pollutant	Emissions Factor (lb/ton)	Throughput (tons/day)	PE2 Total (lb/day)
NO _x	1.3	600	780.0
SO _x	0.8	600	480.0
PM ₁₀	0.45	600	270.0
CO	0.2	600	120.0
VOC	0.2	600	120.0

Annual Post-Project Emissions Furnace #2			
Pollutant	Emissions Factor (lb/ton)	Throughput (tons/year)	PE2 Total (lb/year)
NO _x	-	-	252,473*
SO _x	0.8	212,700	170,160
PM ₁₀	-	-	95,618*
CO	0.2	212,700	42,540
VOC	-	-	36,593*

* Per permit condition

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.

Pre-Project Stationary Source Potential to Emit [SSPE1]						
Permit Unit	NO _x (lb/year)	SO _x (lb/year)	PM ₁₀ (lb/year)	PM _{2.5} (lb/year)	CO (lb/year)	VOC (lb/year)
C-801-1-17	204,984	265,632	164,719	116,401*	157,680	39,420
C-801-2-10	252,473				42,540	36,593
C-801-3-7	0	0	843	843	0	0
C-801-4-3	0	0	91	91	0	0
C-801-5-6	0	0	193	193	0	0
C-801-6-3	0	0	66	66	0	0
C-801-7-4	233	3	17	17	50	19
C-801-11-6	0	0	27,408	27,408	0	0
C-801-12-5	0	0	6,667	6,667	0	0

C-801-17-1	0	0	1,424	1,424	0	0
C-801-19-3	5,040	144	383	383	4,234	277
C-801-20-3	4,292	168	447	447	882	323
C-801-21-3	7,358	287	766	766	1,512	544
C-801-22-2	2,520	72	192	192	2,117	139
C-801-23-2	2,520	72	192	192	2,117	139
C-801-24-2	3,360	96	255	255	2,822	185
C-801-25-3	2,520	72	192	192	2,117	139
C-801-26-1	8,672	247	659	659	7,285	477
C-801-27-1	3,767	107	286	286	3,164	207
C-801-28-1	2,365	67	180	180	1,987	130
C-801-29-1	3,767	107	286	286	3,164	207
C-801-30-1	3,197	125	333	333	657	241
C-801-31-1	3,197	125	333	333	657	241
C-801-32-1	3,197	125	333	333	657	241
C-801-33-1	3,154	90	240	240	2,649	173
C-801-34-1	3,154	90	240	240	2,649	173
C-801-37-2	0	0	24	24	0	0
C-801-38-2	251	0	7	7	31	8
C-801-39-3	0	0	3	3	0	0
C-801-41-1	726	1	25	25	84	16
C-801-42-2	0	0	292	292	0	0
C-801-43-2	0	0	23	23	0	0
C-801-44-1	0	0	23	23	0	0
C-801-45-0	122	8	22	22	632	16
C-801-46-0						
Pre-project SSPE (SSPE1)	520,869	267,638	207,164	158,846	239,687	79,908

* 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_{C-801-1 and '2} = 164,719 lb-PM₁₀/year

Annual PE_{C-801-1 and '2} = 164,719 lb-PM₁₀/year ÷ 0.75 = 219,625 lb-PM/year

Annual PE_{C-801-1 and '2} = 219,625 lb-PM/year x 0.53 = 116,401 lb-PM_{2.5}/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.

Post-Project Stationary Source Potential to Emit [SSPE2]						
Permit Unit	NO _x (lb/year)	SO _x (lb/year)	PM ₁₀ (lb/year)	PM _{2.5} (lb/year)	CO (lb/year)	VOC (lb/year)
C-801-1-16	204,984	265,632	164,719	116,401	157,680	31,536
C-801-2-11	252,473				42,540	36,593
C-801-3-7	0	0	843	843	0	0
C-801-4-3	0	0	91	91	0	0
C-801-5-6	0	0	193	193	0	0
C-801-6-3	0	0	66	66	0	0
C-801-7-4	233	3	17	17	50	19
C-801-11-6	0	0	27,408	27,408	0	0
C-801-12-5	0	0	6,667	6,667	0	0
C-801-17-1	0	0	1,424	1,424	0	0
C-801-19-3	5,040	144	383	383	4,234	277
C-801-20-3	4,292	168	447	447	882	323
C-801-21-3	7,358	287	766	766	1,512	544
C-801-22-2	2,520	72	192	192	2,117	139
C-801-23-2	2,520	72	192	192	2,117	139
C-801-24-2	3,360	96	255	255	2,822	185
C-801-25-3	2,520	72	192	192	2,117	139
C-801-26-1	8,672	247	659	659	7,285	477
C-801-27-1	3,767	107	286	286	3,164	207
C-801-28-1	2,365	67	180	180	1,987	130
C-801-29-1	3,767	107	286	286	3,164	207
C-801-30-1	3,197	125	333	333	657	241
C-801-31-1	3,197	125	333	333	657	241
C-801-32-1	3,197	125	333	333	657	241
C-801-33-1	3,154	90	240	240	2,649	173
C-801-34-1	3,154	90	240	240	2,649	173
C-801-37-2	0	0	24	24	0	0
C-801-38-2	251	0	7	7	31	8
C-801-39-3	0	0	3	3	0	0
C-801-41-1	726	1	25	25	84	16
C-801-42-2	0	0	292	292	0	0
C-801-43-2	0	0	23	23	0	0
C-801-44-1	0	0	23	23	0	0
C-801-45-0	122	8	22	22	632	16
C-801-46-0						
Post-project SSPE (SSPE2)	520,869	267,638	207,164	158,846	239,687	72,024

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						
	NO _x (lb/year)	SO _x (lb/year)	PM ₁₀ (lb/year)	PM _{2.5} (lb/year)	CO (lb/year)	VOC (lb/year)
Pre Project SSPE (SSPE1)	520,869	267,638	207,164	158,846	239,687	79,908
Post Project SSPE (SSPE2)	520,869	267,638	207,164	158,846	239,687	72,024
Major Source Threshold	20,000	140,000	140,000	200,000	200,000	20,000
Major Source?	Yes	Yes	Yes	No	Yes	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 ₂	VOC	SO ₂	CO	PM	PM ₁₀	CO _{2e}
Estimated Facility PE before Project Increase	260.4	40.0	133.8	119.8	103.6	103.6	125,762
PSD Major Source Thresholds	250	250	250	250	250	250	100,000
PSD Major Source ? (Y/N)	Y	N	N	N	N	N	Y

GHG Calculations

The following table summarizes the combustion equipment at the facility.

Permit	Equipment	Rating
C-801-1-17	Glass Furnace	75 MMBtu/hr
C-801-2-10	Glass Furnace	85 MMBtu/hr
C-801-19-3	Distributor	10 MMBtu/hr
C-801-20-3	Lehr	7 MMBtu/hr
C-801-21-3	Lehr	12 MMBtu/hr
C-801-22-2	Forehearth	3 MMBtu/hr
C-801-23-2	Forehearth	3 MMBtu/hr
C-801-24-2	Forehearth	4 MMBtu/hr
C-801-25-3	Forehearth	3 MMBtu/hr
C-801-26-1	Distributor	9.9 MMBtu/hr
C-801-27-1	Forehearth	4.3 MMBtu/hr
C-801-28-1	Forehearth	2.7 MMBtu/hr
C-801-29-1	Forehearth	4.3 MMBtu/hr
C-801-30-1	Lehr	5 MMBtu/hr
C-801-31-1	Lehr	5 MMBtu/hr
C-801-32-1	Lehr	5 MMBtu/hr
C-801-33-1	Fire Polishing Operation	3.6 MMBtu/hr
C-801-34-1	Fire Polishing Operation	3.6 MMBtu/hr
Total		245.4 MMBtu/hr

Basis and Assumptions

- Emission factors and global warming potentials (GWP) are taken from EPA 40 CFR Part 98, Subpart A, Tables C-1 and C-2:

Natural Gas

CO₂ 53.02 kg/MMBtu (116.89 lb/MMBtu)
 CH₄ 1.0 x 10⁻³ kg/MMBtu (0.0022 lb/MMBtu)
 N₂O 1.0 x 10⁻⁴ kg/MMBtu (0.00022 lb/MMBtu)

GWP for CH₄ = 21 lb-CO₂(eq) per lb-CH₄
 GWP for N₂O = 310 lb-CO₂(eq) per lb-N₂O

Calculations

CO₂ Emissions = 245.4 MMBtu/hr x 116.89 lb/MMBtu x 8,760 hr/year
 = 251,278,900.56 lb-CO₂(eq)/year
 CH₄ Emissions = 245.4 MMBtu/hr x 0.0022 lb/MMBtu x 8,760 hr/year x
 21 lb-CO₂(eq) per lb-CH₄
 = 99,316.3248 lb-CO₂(eq)/year

$$\begin{aligned} \text{N}_2\text{O Emissions} &= 245.4 \text{ MMBtu/hr} \times 0.00022 \text{ lb/MMBtu} \times 8,760 \text{ hr/year} \times \\ &\quad 310 \text{ lb-CO}_2(\text{eq}) \text{ per lb-N}_2\text{O} \\ &= 146,609.8128 \text{ lb-CO}_2(\text{eq})/\text{year} \end{aligned}$$

$$\begin{aligned} \text{Total} &= (251,278,900.56 + 99,316.3248 + 146,609.8128) \text{ lb-CO}_2(\text{eq})/\text{year} \\ &= 251,524,826.6976 \text{ lb-CO}_2(\text{eq})/\text{year} \end{aligned}$$

$$\text{Total} = 251,524,826.6976 \text{ lb-CO}_2(\text{eq})/\text{year} \div 2,000 \text{ lb/ton} = 125,762 \text{ ton-CO}_2(\text{eq})/\text{year}$$

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.

C-801-1-16

Clean Emissions Unit Determination Furnace #1			
Pollutant	BACT Guideline	Achieved in Practice	Clean Emissions Unit?
NO _x	1.5.9	1.5 lb/ton	Yes, EF = 1.3 lb/ton
SO _x		0.8 lb/ton	Yes, EF = 0.8 lb/ton
PM ₁₀		0.45 lb/ton	Yes, EF = 0.45 lb/ton
CO		0.20 lb/ton	No, EF = 1.0 lb/ton
VOC		0.2 lb/ton	Yes, EF = 0.2 lb/ton

NO_x, SO_x, PM₁₀, and VOC

As shown above, Furnace #1 is a clean emissions unit for NO_x, SO_x, and PM₁₀, and VOC.

Therefore, BE = PE1.

CO

As shown in Section VII.C.5 above, the facility is not a clean emissions unit for CO.

The process rates were provided by the facility.

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

CO Historical Actual Emissions (HAE) Furnace #1			
Year	Process Rate (tons/year)	Emission Factor (lb/ton)	CO Emissions (lb/year)
2008	121,438	1.0	121,438
2009	130,910	1.0	130,910
2010	129,667	1.0	129,667
2011	130,859	1.0	130,859
2012	126,554	1.0	126,554
Annual Average			127,886

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.

Historical Actual Emissions (HAE) Furnace #1		
Permit Unit	Two Year Average	CO (lb/year)
C-801-1-16	2008-2009	126,174
	2009-2010	130,289
	2010-2011	130,263
	2011-2012	128,707

(Two Year Average – Annual Average) Historical Actual Emissions (HAE) Furnace #1		
Permit Unit	Two Year Average	CO (lb/year)
C-801-1-16	2008-2009	1,712
	2009-2010	2,403
	2010-2011	2,377
	2011-2012	821

As shown above, the two year average for years 2011 and 2012 have the smallest absolute value difference from the five year average. Therefore, years 2011 and 2012 will be taken to be the baseline period for this project.

CO Baseline Emissions (BE) Furnace #1			
Year	Process Rate (tons/year)	Emission Factor (lb/ton)	CO Emissions (lb/year)
2011	130,859	1.0	130,859
2012	126,554	1.0	126,554
Annual Average			128,707

C-801-2-11

Clean Emissions Unit Determination Furnace #2			
Pollutant	BACT Guideline	Achieved in Practice	Clean Emissions Unit?
NO _x	1.5.9	1.5 lb/ton	Yes, 1.3 lb/ton
SO _x		0.8 lb/ton	Yes, 0.8 lb/ton
PM ₁₀		0.45 lb/ton	Yes, 0.45 lb/ton
CO		0.20 lb/ton	Yes, 0.20 lb/ton
VOC		0.2 lb/ton	Yes, 0.2 lb/ton

NO_x, SO_x, PM₁₀, CO, and VOC

As shown above, Furnace #2 is a clean emissions unit for NO_x, SO_x, PM₁₀, CO, and VOC.

Therefore, BE = PE1.

Baseline Emissions (BE) Furnace #1 and #2					
Permit Unit	NO _x (lb/year)	SO _x (lb/year)	PM ₁₀ (lb/year)	CO (lb/year)	VOC (lb/year)
C-801-1-16	204,984	265,473	164,719	128,707	39,420
C-801-2-11	252,473			42,540	36,593

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 Post-Project Potential to Emit Summary				
Permit	NO _x (lb/year)	SO _x (lb/year)	PM ₁₀ (lb/year)	VOC (lb/year)
C-801-1-16	204,984	265,473	164,719	31,536
C-801-2-11	252,473			36,593
Total	457,457	265,473	164,719	68,129

SB 288 Major Modification Threshold (Existing Major Source)			
Pollutant	Project PE (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
NO _x	457,457	50,000	Yes
SO _x	296,304	80,000	Yes
PM ₁₀	166,574	30,000	Yes
VOC	68,129	50,000	Yes

Baseline Actual Emissions (BAE)

C-801-1-16

The process rates were taken from the facility emission inventory submittals.

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

NO_x Baseline Actual Emissions (BAE) Furnace #1			
Year	Process Rate (tons/year)	Emission Factor (lb/ton)	NO _x Emissions (lb/year)
2008	121,438	1.3	157,869
2009	130,910	1.3	170,183
2010	129,667	1.3	168,567
2011	130,859	1.3	170,117
2012	126,554	1.3	164,520

SO_x Baseline Actual Emissions (BAE) Furnace #1			
Year	Process Rate (tons/year)	Emission Factor (lb/ton)	SO _x Emissions (lb/year)
2008	121,438	0.8	97,150
2009	130,910	0.8	104,728
2010	129,667	0.8	103,734
2011	130,859	0.8	104,687
2012	126,554	0.8	101,243

PM₁₀ Baseline Actual Emissions (BAE) Furnace #1			
Year	Process Rate (tons/year)	Emission Factor (lb/ton)	PM ₁₀ Emissions (lb/year)
2008	121,438	0.45	54,647
2009	130,910	0.45	58,910
2010	129,667	0.45	58,350
2011	130,859	0.45	58,887
2012	126,554	0.45	56,949

VOC Baseline Actual Emissions (BAE) Furnace #1			
Year	Process Rate (tons/year)	Emission Factor (lb/ton)	VOC Emissions (lb/year)
2008	121,438	0.25	30,360
2009	130,910	0.25	32,728
2010	129,667	0.25	32,417
2011	130,859	0.25	32,715
2012	126,554	0.25	31,639

Baseline Actual Emissions Summary Furnace #1					
Permit Unit	Year	NO _x (lb/year)	SO _x (lb/year)	PM ₁₀ (lb/year)	VOC (lb/year)
C-801-1-16	2008	157,869	97,150	54,647	30,360
	2009	170,183	104,728	58,910	32,728
	2010	168,567	103,734	58,350	32,417
	2011	170,117	104,687	58,887	32,715
	2012	164,520	101,243	56,949	31,639
Annual Average		166,251	102,308	57,549	31,972

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.

The historical process rates will be used to determine the appropriate baseline period for this project.

Historical Process Rate Furnace #1				
Permit Unit	Year	Process Rate (ton/year)	Two Year Average	Process Rate (ton/year)
C-801-1-16	2008	121,438	2008-2009	126,174
	2009	130,910	2009-2010	130,289
	2010	129,667	2010-2011	130,263
	2011	130,859	2011-2012	128,707
	2012	126,554		
	Annual Average		127,886	

 (Two Year Average – Annual Average) Historical Process Rate Furnace #1		
Permit Unit	Two Year Average	Process Rate (ton/year)
C-801-1-16	2008-2009	1,712
	2009-2010	2,403
	2010-2011	2,377
	2011-2012	821

As shown above, the two year average for years 2011 and 2012 have the smallest absolute value difference from the five year average. Therefore, years 2011 and 2012 will be taken to be the baseline period for the SB 288 Major Modification calculations.

Baseline Actual Emissions (BAE) Furnace #1					
Permit Unit	Two Year Average	NO _x (lb/year)	SO _x (lb/year)	PM ₁₀ (lb/year)	VOC (lb/year)
C-801-1-16	2011-2012	167,319	102,965	57,918	32,177

C-801-2-11

The process rates were taken from the facility emission inventory submittals.

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

NO_x Baseline Actual Emissions (BAE) Furnace #2			
Year	Process Rate (tons/year)	Emission Factor (lb/ton)	NO _x Emissions (lb/year)
2008	166,136	1.3	215,977
2009	162,307	1.3	210,999
2010	159,784	1.3	207,719
2011	158,350	1.3	205,855
2012	157,696	1.3	205,005

SO_x Baseline Actual Emissions (BAE) Furnace #2			
Year	Process Rate (tons/year)	Emission Factor (lb/ton)	SO _x Emissions (lb/year)
2008	166,136	0.8	132,909
2009	162,307	0.8	129,846
2010	159,784	0.8	127,827
2011	158,350	0.8	126,680
2012	157,696	0.8	126,157

PM₁₀ Baseline Actual Emissions (BAE) Furnace #2			
Year	Process Rate (tons/year)	Emission Factor (lb/ton)	PM ₁₀ Emissions (lb/year)
2008	166,136	0.45	74,761
2009	162,307	0.45	73,038
2010	159,784	0.45	71,903
2011	158,350	0.45	71,258
2012	157,696	0.45	70,963

VOC Baseline Actual Emissions (BAE) Furnace #2			
Year	Process Rate (tons/year)	Emission Factor (lb/ton)	VOC Emissions (lb/year)
2008	166,136	0.2	33,227
2009	162,307	0.2	32,461
2010	159,784	0.2	31,957
2011	158,350	0.2	31,670
2012	157,696	0.2	31,539

Baseline Actual Emissions Summary Furnace #2					
Permit Unit	Year	NO _x (lb/year)	SO _x (lb/year)	PM ₁₀ (lb/year)	VOC (lb/year)
C-801-2-11	2008	215,977	132,909	74,761	33,227
	2009	210,999	129,846	73,038	32,461
	2010	207,719	127,827	71,903	31,957
	2011	205,855	126,680	71,258	31,670
	2012	205,005	126,157	70,963	31,539
Annual Average		209,111	128,684	72,385	32,171

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.

The historical process rates will be used to determine the appropriate baseline period for this project.

Historical Process Rate Furnace #2				
Permit Unit	Year	Process Rate (ton/year)	Two Year Average	Process Rate (ton/year)
C-801-2-11	2008	166,136	2008-2009	164,222
	2009	162,307	2009-2010	161,046
	2010	159,784	2010-2011	159,067
	2011	158,350	2011-2012	158,023
	2012	157,696		
	Annual Average		160,855	

 (Two Year Average – Annual Average) Historical Process Rate Furnace #2		
Permit Unit	Two Year Average	Process Rate (ton/year)
C-801-2-11	2008-2009	3,367
	2009-2010	191
	2010-2011	1,788
	2011-2012	2,832

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 the SB 288 Major Modification calculations for Furnace #2.

Baseline Actual Emissions (BAE) Furnace #2					
Permit Unit	Two Year Average	NO _x (lb/year)	SO _x (lb/year)	PM ₁₀ (lb/year)	VOC (lb/year)
C-801-2-11	2009-2010	209,359	128,837	72,471	32,209

Net Emissions Increase

Net Emissions Increase (NEI) is calculated as follows:

$$NEI = PE2 - BAE$$

SB 288 Major Modification Baseline Actual Emission Summary				
Permit	NO _x (lb/year)	SO _x (lb/year)	PM ₁₀ (lb/year)	VOC (lb/year)
C-801-1-16	167,319	102,965	57,918	32,177
C-801-2-11	209,359	128,837	72,471	32,209
Total	376,678	231,802	130,389	64,386

Net Emissions Increase (NEI)			
Pollutant	PE2 (lb/year)	BAE (lb/year)	NEI (lb/year)
NO _x	457,457	376,678	80,779
SO _x	296,304	231,802	64,502
PM ₁₀	166,574	130,389	36,185
VOC	68,129	64,386	3,743

SB 288 Major Modification Threshold (Existing Major Source)			
Pollutant	NEI (lb/year)	Threshold (lb/year)	SB 288 Major Modification?
NO _x	80,779	50,000	Yes
SO _x	64,502	80,000	No
PM ₁₀	36,185	30,000	Yes
VOC	3,743	50,000	No

The NEI for this project will be greater than the SB 288 Major Modification thresholds for NO_x and PM₁₀. 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_x and PM₁₀.

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.

Since this facility is not a Major Source for PM_{2.5} (200,000 lb/year), this project does not constitute a Federal Major Modification for PM_{2.5}.

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 (lb/year)	
Pollutant	Threshold (lb/year)
VOC	0
NO _x	0
PM ₁₀	30,000
SO _x	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 project's emission increase for each pollutant is equal to the sum of the differences between the projected actual emissions or PE and the baseline actual emissions (BAE) (for existing emission units) or the sum of the potentials to emit (for new emission units).

$$NEI = PAE - BAE - UBC$$

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.

In calculating the emission increase (PAE – BAE) the portion of the emissions after the project that the unit could have accommodated before the project (during the same period used to determine BAE) and that are unrelated to the particular project (including emissions increases due to product demand growth) are to be excluded. In other words, the difference in emissions between what the unit could have actually accommodated (legally and physically) before the project and the BAE are to be subtracted from any calculated increase, if the ability to utilize the previously unused capacity is not related to the current project. This quantity is termed “unused baseline capacity emissions”.

In estimating the unused baseline capacity emissions, only those emissions that could have actually been accommodated (legally and physically) by the emission unit prior to the modification can be excluded when calculating the emission increase. Any increase in capacity utilization that is a result of the proposed modification cannot be counted when determining the unused baseline capacity emissions.

NO_x, SO_x, PM₁₀, VOC

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 (i.e. the allowable amount of fuel the furnaces can combust will not change), the UBC is the portion of PAE that the emission units could have accommodated during the baseline period.

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

The NEI for this project will be less than the federal Major Modification threshold for NO_x, SO_x, PM₁₀, 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_x, SO_x, PM₁₀, 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:

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

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

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.

PSD Significant Emission Increase Determination: Potential to Emit (tons/year)						
	NO ₂	SO ₂	CO	PM	PM ₁₀	CO _{2e}
Total PE from New and Modified Units	228.7	148.2	100.1	83.3	83.3	81,997
PSD Significant Emission Increase Thresholds	40	40	100	25	15	75,000
PSD Significant Emission Increase?	Y	Y	Y	Y	Y	Y

GHG Calculations

Permit	Equipment	Rating
C-801-1-16	Glass Furnace	75 MMBtu/hr
C-801-2-11	Glass Furnace	85 MMBtu/hr
Total		160 MMBtu/hr

Basis and Assumptions

- Emission factors and global warming potentials (GWP) are taken from EPA 40 CFR Part 98, Subpart A, Tables C-1 and C-2:

Natural Gas

CO₂ 53.02 kg/MMBtu (116.89 lb/MMBtu)

CH₄ 1.0×10^{-3} kg/MMBtu (0.0022 lb/MMBtu)

N₂O 1.0×10^{-4} kg/MMBtu (0.00022 lb/MMBtu)

GWP for CH₄ = 21 lb-CO₂(eq) per lb-CH₄

GWP for N₂O = 310 lb-CO₂(eq) per lb-N₂O

Calculations

$$\begin{aligned} \text{CO}_2 \text{ Emissions} &= 160 \text{ MMBtu/hr} \times 116.89 \text{ lb/MMBtu} \times 8,760 \text{ hours/year} \\ &= 163,833,024 \text{ lb-CO}_2(\text{eq})/\text{year} \end{aligned}$$

$$\begin{aligned} \text{CH}_4 \text{ Emissions} &= 160 \text{ MMBtu/hr} \times 0.0022 \text{ lb/MMBtu} \times 8,760 \text{ hours/year} \\ &\quad \times 21 \text{ lb-CO}_2(\text{eq}) \text{ per lb-CH}_4 \\ &= 64,753.92 \text{ lb-CO}_2(\text{eq})/\text{year} \end{aligned}$$

$$\begin{aligned} \text{N}_2\text{O Emissions} &= 160 \text{ MMBtu/hr} \times 0.00022 \text{ lb/MMBtu} \times 8,760 \text{ hours/year} \\ &\quad \times 310 \text{ lb-CO}_2(\text{eq}) \text{ per lb-N}_2\text{O} \\ &= 95,589.12 \text{ lb-CO}_2(\text{eq})/\text{year} \end{aligned}$$

$$\begin{aligned} \text{Total} &= (163,833,024 + 64,753.92 + 95,589.12) \text{ lb-CO}_2(\text{eq})/\text{year} \\ &= 163,993,367.04 \text{ lb-CO}_2(\text{eq})/\text{year} \end{aligned}$$

$$\text{Total} = 163,993,367.04 \text{ lb-CO}_2(\text{eq})/\text{year} \div 2,000 \text{ lb/ton} = \mathbf{81,997 \text{ short tons-CO}_2(\text{eq})/\text{year}}$$

As demonstrated above, because the project has a total potential to emit from all new and modified emission units greater than PSD significant emission increase thresholds, further analysis is required to determine if the project has an emission increase greater than the PSD significant emission increase thresholds, see step below.

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.

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 (i.e. the allowable amount of fuel the furnaces can combust will not change), 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:

C-801-1-16

Quarterly NEC [QNEC] Furnace #1			
	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO _x	51,246	51,246	0
SO _x	31,536	31,536	0
PM ₁₀	17,739	17,739	0
CO	39,420	39,420	0
VOC	7,884	9,855	-1,971

C-801-2-11

Quarterly NEC [QNEC] Furnace #2			
	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO _x	63,118	63,118	0
SO _x	42,540	42,540	0
PM ₁₀	23,905	23,905	0
CO	10,635	10,635	0
VOC	9,148	9,148	0

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

$$\text{AIPE} = \text{PE2} - (\text{PE1} * (\text{EF2} / \text{EF1}))$$

C-801-1-16

Adjusted Increase in Permitted Emissions Furnace #1						
Pollutant	PE2 (lb/day)	PE1 (lb/day)	EF2 (lb/ton)	EF1 (lb/ton)	AIPE (lb/day)	BACT Triggered?
NO _x	585.0	585.0	1.3	1.3	0.0	No
SO _x	360.0	360.0	0.8	0.8	0.0	No
PM ₁₀	202.5	202.5	0.45	0.45	0.0	No
CO	450.0	450.0	1.0	1.0	0.0	No
VOC	21.6	21.6	0.048	0.048	0.0	No

Although the VOC emission factor is decreasing in this project for Furnace #1 from 0.25 lb/ton to 0.2 lb/ton, an increase in production throughput does not result as the permit is limited by condition to 450 tons/day. Therefore since the daily mass emission rate and the production throughput are not changing in this project, the VOC emission factor for the AIPE calculation will be calculated as follows:

$$EF2_{\text{VOC}} = EF1_{\text{VOC}} = 21.6 \text{ lb/day} \div 450 \text{ tons/day} = 0.048 \text{ lb/ton}$$

C-801-2-11

Adjusted Increase in Permitted Emissions Furnace #2						
Pollutant	PE2 (lb/day)	PE1 (lb/day)	EF2 (lb/ton)	EF1 (lb/ton)	AIPE (lb/day)	BACT Triggered?
NO _x	780.0	780.0	1.3	1.3	0.0	No
SO _x	480.0	480.0	0.8	0.8	0.0	No
PM ₁₀	270.0	270.0	0.45	0.45	0.0	No
CO	120.0	120.0	0.2	0.2	0.0	No
VOC	120.0	120.0	0.2	0.2	0.0	No

As demonstrated above, the AIPE is not greater than 2 lb/day for any pollutant. Therefore BACT is not triggered.

d. SB 288/Federal Major Modification

As discussed in Section VII.C.7 above, this project does constitute a SB 288 Major Modification for NO_x and PM₁₀ emissions. Therefore BACT is triggered for NO_x and PM₁₀ for all emissions units in this project.

2. BACT Guideline

The following BACT Guideline applies to each permit:

BACT Guideline Applicability		
Permit	BACT Guideline	Description
C-801-1-16	1.5.9	Container Glass Production – Furnace
C-801-2-11		

3. Top-Down BACT Analysis

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

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

Top-Down BACT Requirements		
Permit	NO _x	PM ₁₀
C-801-1-16	1.3 lb/ton	0.45 lb/ton
C-801-2-11	1.3 lb/ton	0.45 lb/ton

As discussed in the Proposal Section, BACT for SO_x is satisfied with the scrubber outlet concentration limit of 53 ppmvd-SO_x on a daily average basis. The permits will require the facility to maintain daily records of the scrubber outlet SO_x concentration to ensure compliance with the requirements of BACT.

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 _x	SO _x	PM ₁₀	CO	VOC
Post Project SSPE (SSPE2)	520,869	267,638	207,164	239,687	72,024
Offset Threshold	20,000	54,750	29,200	200,000	20,000
Offsets Triggered?	Yes	Yes	Yes	Yes	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:

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

C-801-1-16 and '2-11

Offset Requirement Furnace #1			
Pollutant	NOx (lb/year)	CO (lb/year)	VOC (lb/year)
PE2	204,984	157,680	31,536
BE	204,984	128,707	39,420
PE2 – BE	0	28,973	-8,752 → 0

Offset Requirement Furnace #2			
Pollutant	NOx (lb/year)	CO (lb/year)	VOC (lb/year)
PE2	252,473	42,540	36,593
BE	252,473	42,540	36,593
PE2 – BE	0	0	0

As Furnace #1 and #2 share a specific limiting condition for SOx and PM₁₀, offset calculations shall be performed which include both Furnace #1 and #2 for SOx and PM₁₀.

Offset Requirement Furnace #1 and 2		
Pollutant	SOx (lb/year)	PM ₁₀ (lb/year)
PE2 _{Furnace #1&2}	265,473	164,719
BE _{Furnace #1}	265,473	164,719
BE _{Furnace #2}		
PE2 – BE	0	0

Offset Requirement Summary (PE2 – BE)					
Permit	NOx (lb/year)	SOx (lb/year)	PM ₁₀ (lb/year)	CO (lb/year)	VOC (lb/year)
C-801-1-16	0	0	0	28,973	0
C-801-2-11	0	0	0	0	0
Sum	0	0	0	28,973	0

CO Offset Calculations

CO offsets are triggered by CO emissions in excess of 200,000 lb/year for the facility.

However, pursuant to Section 4.6.1, "Emission Offsets shall not be required for the following: increases in carbon monoxide in attainment areas if the applicant demonstrates to the satisfaction of the APCO, that the Ambient Air Quality Standards are not violated in the areas to be affected, and such emissions will be consistent with Reasonable Further Progress, and will not cause or contribute to a violation of Ambient Air Quality Standards (AAQS)."

The Technical Services Section of the San Joaquin Valley Unified Air Pollution Control District performed a CO modeling run to determine if the CO emissions would exceed the State and Federal AAQS (Attachment D). Modeling of the worst case 1 hour and 8 hour CO impacts were performed. These values were added to the worst case ambient concentration (background) measured and compared to the ambient air quality standards.

This modeling demonstrates that the proposed increase in CO emissions will not cause a violation of the CO ambient air quality standards. Therefore, the increase in CO emissions is exempt from offsets pursuant to Section 4.6.1.

As demonstrated in the calculations 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, and/or
- d. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.

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, this project does constitute an SB 288 for NO_x and PM₁₀ 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 _x	520,869	520,869	20,000 lb/year	No
SO _x	267,638	267,638	54,750 lb/year	No
PM ₁₀	207,164	207,164	29,200 lb/year	No
CO	239,687	239,687	200,000 lb/year	No
VOC	79,908	72,024	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 SSIPE of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE = SSPE2 – SSPE1. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table.

Stationary Source Increase in Permitted Emissions [SSIPE] – Public Notice					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO _x	520,869	520,869	0	20,000 lb/year	Yes
SO _x	267,638	267,638	0	20,000 lb/year	No
PM ₁₀	207,164	207,164	0	20,000 lb/year	No
CO	239,687	239,687	0	20,000 lb/year	No
VOC	72,024	79,908	-7,884 → 0	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.

2. Public Notice Action

As discussed above, public noticing is required for this project for SB 288 Major Modification for NO_x and PM₁₀. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB), US Environmental Protection Agency (US EPA), and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC permits 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

C-801-1-16

- The container glass pull rate from furnace #1 shall not exceed either of the following limits: 450 U.S. short tons per day or 157,680 U.S. short tons per year. [District Rules 2201 and 4354]
- Except during idling, start-up, or shutdown, emissions rates from this unit shall not exceed any of the following limits: 0.8 lb-SO_x/ton of container glass pulled, 0.2 lb-CO/ton of container glass pulled, or 0.184 lb-VOC/ton of container glass pulled. SO_x emissions limit is based on a 30 day rolling average. CO and VOC emissions limits are based on a three hour rolling average. [District Rules 2201 and 4354]
- The permittee shall operate and maintain the semi-dry scrubber system to reduce SO_x emissions by at least 85%, excluding days when the scrubber inlet's daily average concentration of SO₂ is 353 ppmvd or less, in which case the scrubber outlet's daily average concentration of SO₂ shall be reduced to at least 53 ppmdv, except during periods of scheduled or preventative maintenance. The averaging period for the reduction efficiency

shall be calculated on a rolling 30-day average basis, excluding days when the scrubber inlet's daily average concentration of SO₂ is 353 ppm_{dv} or less. Compliance with the SO_x reduction efficiency and daily concentration standard shall be demonstrated by the combined ductwork scrubber inlet and downstream of the control equipment outlet SO₂ continuous concentration monitoring. [District Rule 2201]

- Except during idling, start-up, or shutdown, NO_x emissions from this furnace shall not exceed 1.3 lbs/ton of glass produced, on a 30-day rolling average basis. [District Rules 2201 and 4354]
- The permittee shall operate and maintain the electrostatic precipitator (ESP) system to reduce particulate emissions to 0.2 pounds of particulate per ton of glass pulled, using EPA Method 5 as set forth in 40 C.F.R. Part 60, Appendix A, and 0.45 pounds of particulate per ton of glass pulled, using the combined results of EPA Methods 5 and 202 as set forth in 40 C.F.R. Part 60, Appendix A. [District Rule 2201 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.12.c.i, issued June 22, 2005]

C-801-2-11

- The container glass pull rate from furnace #2 shall not exceed 600 U.S. short tons per day. [District Rules 2201 and 4354]
- Except during idling, transition, start-up, or shutdown, emissions rates from this unit shall not exceed any of the following limits: 0.8 lb-SO_x/ton of container glass pulled, 0.2 lb-CO/ton of container glass pulled, or 0.2 lb-VOC/ton of container glass pulled. SO_x emissions limit is based on a 30 day rolling average. CO and VOC emissions limits are based on a three hour rolling average. [District Rules 2201 and 4354]
- The permittee shall operate and maintain the semi-dry scrubber system to reduce SO_x emissions by at least 85%, excluding days when the scrubber inlet's daily average concentration of SO₂ is 353 ppm_{dv} or less, in which case the scrubber outlet's daily average concentration of SO₂ shall be reduced to at least 53 ppm_{dv}, except during periods of scheduled or preventative maintenance. The averaging period for the reduction efficiency shall be calculated on a rolling 30-day average basis, excluding days when the scrubber inlet's daily average concentration of SO₂ is 353 ppm_{dv} or less. Compliance with the SO_x reduction efficiency and daily concentration standard shall be demonstrated by the combined ductwork scrubber inlet and downstream of the control equipment outlet SO₂ continuous concentration monitoring. [District Rule 2201 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.12.b, issued June 22, 2005]
- Except during idling, transition, start-up, or shutdown, NO_x emissions from this furnace shall not exceed 1.3 lbs/ton of glass produced, on a 24 hour block average basis. [District Rules 2201 and 4354, 5.1, and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.12.a.i and ii, issued June 22, 2005]
- The permittee shall operate and maintain the electrostatic precipitator (ESP) system to reduce particulate emissions to 0.2 pounds of particulate per ton of glass pulled, using EPA Method 5 as set forth in 40 C.F.R. Part 60, Appendix A, and 0.45 pounds of particulate per ton of glass pulled, using the combined results of EPA Methods 5 and 202 as set forth in 40 C.F.R. Part 60, Appendix A. [District Rule 2201 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.12.c.i, issued June 22, 2005]

E. Compliance Assurance

1. Source Testing

C-801-1-16 and '2-11

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. Since Tier 3 emission limits are applicable to this unit, source testing for Rule 4354 compliance will be required for NO_x, CO, and VOC.

- Source testing to measure NO_x, CO, and VOC emissions shall be conducted once every calendar year, but no more than every 18 months and not sooner than every 6 months. [District Rules 2201 and 4354]
- Source testing to measure SO_x and PM₁₀ emissions shall be conducted at the outlet of the combined furnace #1 and furnace #2 ductwork once every calendar year, but no more than every 18 months and not sooner than every 6 months. [District Rules 2201 and 4354]

2. Monitoring

C-801-1-16

The furnace is equipped with operational CEMs for NO_x, SO_x, CO, and O₂. Provisions are included in the operating permit which are consistent with the requirements of this rule.

- The furnace shall be equipped with a continuous emission monitor (CEM) for NO_x, CO, and O₂. This CEM shall be located in the duct for furnace #1 upstream of the point where furnace #1 and furnace #2 emissions merge into a common duct. [District Rule 4354; and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.c.i, issued June 22, 2005]
- Continuous emissions monitor(s) shall meet the requirements of 40 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 applicable sections of Rule 1080 (Stack Monitoring). [District Rule 4354, 5.9 and 6.6 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.c.i, issued June 22, 2005]
- The common exhaust stack for furnaces #1 and #2 shall be equipped with a continuous emission monitor (CEM) for SO_x at the inlet of the scrubber and downstream of the control equipment. Continuous emissions monitor(s) shall meet the requirements of 40 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 applicable sections of Rule 1080 (Stack Monitoring). [District Rules 1080 and 4354; and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.c.i, issued June 22, 2005]

- 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]

C-801-2-11

- 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_x, CO, and O₂ analyzer during District inspections. The sampling ports shall be located upstream of the point where furnace #1 and furnace #2 emissions merge into a common duct. 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 Emission Monitoring and Testing. [District Rule 1081]
- The furnace shall be equipped with a continuous emission monitoring system (CEMS) for CO and O₂. This CEM shall be located in the duct for furnace #2 upstream of the point where furnace #1 and furnace #2 emissions merge into a common duct. [District Rule 4354; and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.c.i, issued June 22, 2005]
- The furnace shall be equipped with a continuous emissions rate monitoring system (CERMS) for NO_x. This CERMS shall be located in the duct for furnace #2 upstream of the point where furnace #1 and furnace #2 emissions merge into a common duct. [District Rule 4354; and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.c.ii, issued June 22, 2005]
- The common exhaust stack for furnaces #1 and #2 shall be equipped with a continuous emission monitor (CEM) for SO_x at the inlet of the scrubber and downstream of the control equipment. Continuous emissions monitor(s) shall meet the requirements of 40 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 applicable sections of Rule 1080 (Stack Monitoring) (as amended December 17, 1992). [District Rule 1080 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.c.i, issued June 22, 2005]
- Continuous emissions monitor(s) shall meet the requirements of 40 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 applicable sections of Rule 1080 (Stack Monitoring). [District Rule 4354; and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.c.i, issued June 22, 2005]
- 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.

C-801-1-16

- Operators shall maintain daily records of the following items: total hours of operation, the quantity of glass pulled from each furnace, NOx emission rate in lb/ton glass pulled, CO emission rate, VOC emission rate, scrubber inlet and outlet SOx concentration, PM₁₀ emission rate in lb/ton glass pulled, source tests and source test results; maintenance and repair; malfunction, idling, start-up, and shutdown. For pollutants monitored using an approved parametric monitoring arrangement, operators shall maintain records of the acceptable range for each approved key system operating parameter, as established during source test, and shall record the operating values of the key system operating parameters at the approved recording frequency. [District Rules 2201 and 4354]
- All records shall be maintained on the premises for a period of at least five years and shall be made available for District inspection upon request. [District Rules 2201 and 4354]

C-801-2-11

- Operators shall maintain daily records of the following items: total hours of operation, the quantity of glass pulled from each furnace, NOx emission rate in lb/ton glass pulled, CO emission rate, VOC emission rate, scrubber inlet and outlet SOx concentration, PM₁₀ emission rate in lb/ton glass pulled, source tests and source test results; maintenance and repair; malfunction, idling, start-up, and shutdown. For pollutants monitored using an approved parametric monitoring arrangement, operators shall maintain records of the acceptable range for each approved key system operating parameter, as established during source test, and shall record the operating values of the key system operating parameters at the approved recording frequency. [District Rules 2201 and 4354]
- All records shall be maintained on the premises for a period of at least five years and shall be made available for District inspection upon request. [District Rules 2201 and 4354]

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

An AAQA shall be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. Rule 2201 Section 4.14.1 states "In making this determination, the APCO shall take into account the increases in minor and secondary source emissions as well as the mitigation of emissions through offsets obtained pursuant to this rule".

This project does not result in any increase in minor or secondary source emissions. Therefore, an AAQA is not required for this project.

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 applied for a Certificate of Conformity (COC). Therefore, the facility must apply to modify their Title V permit with an administrative amendment, prior to operating with the proposed modifications. Continued compliance with this rule is expected. The facility may construct/operate under the ATC permits upon submittal of the Title V administrative amendment application.

40 CFR Part 64 – Compliance Assurance Monitoring (CAM)

The requirements of Compliance Assurance Monitoring (CAM) were determined in the previous Title V Renewal project C-1072785. In summary, the following requirements satisfy CAM for Furnaces #1 and #2.

SO_x

Furnace #1 and #2 are equipped with a CEMS for SO_x which satisfies the requirements of CAM. The following condition will be listed on the permit to ensure compliance:

- The common exhaust stack for furnaces #1 and #2 shall be equipped with a continuous emission monitor (CEM) for SO_x at the inlet of the scrubber and downstream of the control equipment. Continuous emissions monitor(s) shall meet the requirements of 40 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 applicable sections of Rule 1080 (Stack Monitoring). [District Rules 1080 and 4354; and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.c.i, issued June 22, 2005]

PM₁₀

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

- The ESP secondary power operational range shall be established at the next furnace source test for particulate matter. [District Rules 2520 and 4354; and 40 CFR 64]
- The ESP secondary power shall be monitored and recorded at least once every hour of operation. [District Rules 2520 and 4354; and 40 CFR 64]
- If the monitored ESP secondary power is below the minimum allowable voltage, the permittee shall return the power to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the ESP secondary power readings continue to be below the allowable range after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100 (as amended December 17, 1992), the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2520 and 4354; and 40 CFR 64]

Therefore, the requirements of CAM have been satisfied and compliance with the requirements of this subpart is expected.

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.”

The only pollutant to which Subpart CC applies is particulate matter emissions. There is no increase in particulate matter emissions from Furnace #1 or #2 in this project. Therefore, the requirements of this subpart do not apply 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. Saint-Gobain Container, Inc. is prohibited by the Title V permit from using commercial arsenic as a raw material; therefore, this rule will not apply to the furnace.

- Commercial arsenic shall not be used as a raw material in this glass furnace. This prohibition is required for continued exemption from the requirements of 40 CFR 61, Subpart N. [District Rule 2520]
- The requirements of 40 CFR 61, Subpart N were determined to not apply to this unit. A permit shield is granted from this requirement. [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, and uses raw materials containing chromium. 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 #1 is a continuous furnace, uses raw materials containing chromium, and has permitted glass production rate of 450 tons/day. Furnace #2 is a continuous furnace, uses raw materials containing chromium, and has permitted glass production rate of 600 tons/day. Therefore, this subpart applies. This facility is an existing source since Furnace #1 and #2 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.
- (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 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]

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.

An initial performance test 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.

An initial performance test has been completed. Therefore, the requirements of this section have been satisfied.

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).

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

- For each existing affected furnace that is subject to the emission limits specified in Table 1 to this subpart, the permittee shall demonstrate initial compliance according to the requirements in Section 63.11453 paragraphs (b)(1) through (4). The permittee shall conduct each inspection specified in paragraphs Section 63.11453 (b)(1) and (2) no later than 60 days after the applicable compliance date specified in 63.11450 except if an initial inspection of the internal components of a fabric filter has been performed within the past 12 months or if an initial inspection of the internal components of an ESP has been performed within the past 24 months. [40 CFR 63 Subpart SSSSSS]
- (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.

The furnaces at this facility are not controlled with a fabric filter. Therefore, the requirements of this section are not applicable.

- (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.

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 equipped with a control device other than an ESP or fabric filter, the permittee shall meet the requirements in Section 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 Section 63.11456(b). The request shall contain the information specified in Section 63.11454 paragraphs (f)(1) through (5). [40 CFR 63 Subpart SSSSSS]
- (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 alternative monitoring requests has passed and were due no later than the submittal date for the Notification of Compliance Status. Therefore, the requirements of this section have 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 the Notification of Compliance Status have been submitted. Therefore, the requirements of this section have been 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.

C-801-1-16

- 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 (12/17/92), by using EPA method 9. 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 Madera County Rule 401]

C-801-2-11

- 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 (12/17/92), by using EPA method 9. 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.

As demonstrated above, there are no increases in emissions associated with this project, therefore a health risk assessment is not necessary and no further risk analysis is required.

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 permits 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:

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

C-801-1-16

The post-project process weight rate of the glass production operation is 18.75 tons per hour (equivalent to 450 tons per day).

$$\begin{aligned} \text{Rule 4202 emission limit} &= 3.59 * P^{0.62} \text{ (where } P \text{ less than or equal to } 30 \text{ tons/hr)} \\ &= 3.59 * (18.75)^{0.62} \\ &= 22.10 \text{ lb/hr} \end{aligned}$$

The operation has a maximum Post Project Potential to Emit (PE2) of 8.44 lb-PM₁₀/hr (202.5 lb-PM₁₀/day ÷ 24 hr/day). Assuming PM₁₀ = 50% PM, the operation has a maximum Post Project Potential to Emit of 16.88 lb-PM/hr.

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

C-801-2-11

The post-project process weight rate of the glass production operation is 25 tons per hour (equivalent to 600 tons per day).

$$\begin{aligned} \text{Rule 4202 emission limit} &= 3.59 * P^{0.62} \text{ (where } P \text{ less than or equal to } 30 \text{ tons/hr)} \\ &= 3.59 * (25)^{0.62} \\ &= 26.41 \text{ lb/hr} \end{aligned}$$

The operation has a maximum Post Project Potential to Emit (PE2) of 11.25 lb-PM₁₀/hr (270.0 lb-PM₁₀/day ÷ 24 hr/day). Assuming PM₁₀ = 50% PM, the operation has a maximum Post Project Potential to Emit of 22.50 lb-PM/hr.

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 SO₂, NO₂, and combustion contaminants (defined as total PM in Rule 1020). This rule also limits combustion contaminants to ≤ 0.1 gr/scf. According to AP 42 (Table 1.4-2, footnote c), all PM emissions from natural gas combustion are less than 1 μm in diameter.

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 furnaces listed in permits C-801-1 and '2 use direct heat transfer; therefore, this rule is not applicable to the glass furnaces.

Rule 4354 Glass Melting Furnaces

The purpose of this rule is to limit emissions of nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic compounds (VOC), oxides of sulfur (SO_x), and particulate matter (PM₁₀) from glass melting furnaces.

NO_x Emission Limits

Section 5.1.1 identifies NO_x emission limits for glass melting furnaces. The following applicable emission limits pursuant to Section 5.1 for glass furnaces are:

NO _x Emission Limits (lb/ton glass produced)			
Furnace Type	Tier 2 NO _x Limit	Tier 3 NO _x Limit	Tier 4 NO _x Limit
Container Glass	4.0 ^A	1.5 ^B	N/A

^A Block 24-hour average

^B Rolling 30-day average

Furnace #1 and #2 NO_x emission limits meet the Tier 3 limits above. Therefore, the following condition will be listed on the permits to ensure compliance:

- Except during idling, start-up, or shutdown, NO_x emissions from this furnace shall not exceed 1.3 lbs/ton of glass produced, on a block 24-hour average basis. [District Rules 2201 and 4354]

Section 5.1.3 states instead of each furnace individually meeting the applicable Table 1 Tier 3 NO_x 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 NO_x.

Furnace battery conditions will be listed on 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:

CO and VOC Emission Limits – rolling three hour average (ppmv limits are referenced at 8% O₂ and dry stack conditions)			
Furnace Type	Firing Technology	CO Limit	VOC Limit
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 #1 and #2 CO and VOC emission limits meet the oxy-fuel furnace limits of 1.0 lb-CO/ton and 0.25 lb/ton. Therefore, the following condition will be listed on the permits to ensure compliance:

C-801-1-16

- Except during idling, start-up, or shutdown, emissions rates from this unit shall not exceed any of the following limits: 0.8 lb-SO_x/ton of container glass pulled, 1.0 lb-CO/ton of container glass pulled, or 0.2 lb-VOC/ton of container glass pulled. SO_x emissions limit is based on a 30 day rolling average. CO and VOC emissions limits are based on a three hour rolling average. [District Rules 2201 and 4354]

C-801-2-11

- Except during idling, transition, start-up, or shutdown, emissions rates from this unit shall not exceed any of the following limits: 0.8 lb-SO_x/ton of container glass pulled, 0.2 lb-CO/ton of container glass pulled, or 0.2 lb-VOC/ton of container glass pulled. SO_x emissions limit is based on a 30 day rolling average. CO and VOC emissions limits are based on a three hour rolling average. [District Rules 2201 and 4354]

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 will be listed on 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:

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

^B Rolling 30-day average

Furnace #1 and #2 current permitted SOx emission limits meet the container glass furnace limit listed above. Therefore, the following condition will be listed on the permits to ensure compliance:

C-801-1-16

- Except during idling, start-up, or shutdown, emissions rates from this unit shall not exceed any of the following limits: 0.8 lb-SOx/ton of container glass pulled, 1.0 lb-CO/ton of container glass pulled, or 0.2 lb-VOC/ton of container glass pulled. SOx emissions limit is based on a 30 day rolling average. CO and VOC emissions limits are based on a three hour rolling average. [District Rules 2201 and 4354]

C-801-2-11

- Except during idling, transition, start-up, or shutdown, emissions rates from this unit shall not exceed any of the following limits: 0.8 lb-SOx/ton of container glass pulled, 0.2 lb-CO/ton of container glass pulled, or 0.2 lb-VOC/ton of container glass pulled. SOx emissions limit is based on a 30 day rolling average. CO and VOC emissions limits are based on a three hour rolling 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 will be listed on the permit per Sections 9.6 through 9.7.8.5 in the rule discussion below.

PM₁₀ Emission Limits

Section 5.4.1 identifies PM₁₀ emission limits for glass melting furnaces. The following applicable emission limits pursuant to Section 5.1 for glass furnaces are:

PM₁₀ Emission Limits (lb/ton glass produced) Block 24-hour average		
Furnace Type	Firing Technology	PM₁₀ Limit
Container Glass	All technologies	0.50

Furnace #1 and #2 current permitted PM₁₀ emission limits meet the limit listed above. Therefore, the following condition will be listed on the permits to ensure compliance:

C-801-1-16

- Except during idling, start-up, or shutdown, Particulate Matter emissions (as PM₁₀) shall not exceed 0.45 pounds per ton glass pulled on a block 24-hour average from the glass melting furnace. [District Rule 4354]
- The permittee shall operate and maintain the electrostatic precipitator (ESP) system to reduce particulate emissions to 0.2 pounds of particulate per ton of glass pulled, using EPA Method 5 as set forth in 40 C.F.R. Part 60, Appendix A, and 0.45 pounds of particulate per ton of glass pulled, using the combined results of EPA Methods 5 and 202 as set forth in 40 C.F.R. Part 60, Appendix A. [District Rule 2201 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.12.c.i, issued June 22, 2005]

C-801-2-11

- Except during idling, start-up, or shutdown, Particulate Matter emissions (as PM₁₀) shall not exceed 0.5 pounds per ton glass pulled on a block 24-hour average from the glass melting furnace. [District Rule 4354]
- The permittee shall operate and maintain the electrostatic precipitator (ESP) system to reduce particulate emissions to 0.2 pounds of particulate per ton of glass pulled, using EPA Method 5 as set forth in 40 C.F.R. Part 60, Appendix A, and 0.45 pounds of particulate per ton of glass pulled, using the combined results of EPA Methods 5 and 202 as set forth in 40 C.F.R. Part 60, Appendix A. [District Rule 2201 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.12.c.i, issued June 22, 2005]

Section 5.4.2 states instead of each furnace individually meeting the applicable PM₁₀ limit in Table 4, an operator may choose to meet the PM₁₀ 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 PM₁₀ emissions.

Furnace battery conditions will be listed on 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_x 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 permits to ensure compliance:

- The length of time allowed for a start-up shall be determined by the APCO and EPA on a case-by-case basis, in accordance with District Rule 4354. [District Rule 4354]
- Start-up shall mean the period of time, after initial construction, a furnace rebuild, or a shutdown, during which the glass melting furnace is heated to operating temperature by the primary furnace combustion systems, and systems and instrumentation are brought to stabilization and calibrated. The operator shall submit a request for a start-up exemption to the APCO, ARB, and EPA in conjunction with or in advance of an application for Authority to Construct (ATC) associated with a furnace rebuild. The emission control system shall be in operation as soon as technologically feasible during start-up to minimize emissions and notifications shall be performed and records kept in accordance with Rule 4354. [District Rule 4354 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section III.z, issued June 22, 2005]

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 permits to ensure compliance:

- Shutdown shall mean the period of time during which the glass melting furnace is purposely allowed to cool from its operating temperature and molten glass is removed from the tank for the purpose of a furnace rebuild or reconstruction, or during a natural gas curtailment, or, subject to EPA's approval, when it is commercially necessary. [District Rule 4354 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section III.y, issued June 22, 2005]
- The duration of shutdown, as measured from the time the furnace operations drop below the idle threshold specified in Rule 4354 to when all emissions from the furnace cease, shall not exceed 20 days. The emission control system shall be in operation whenever technologically feasible during shutdown to minimize emissions. Notifications shall be performed and records kept in accordance with Rule 4354. [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_x, SO_x, PM₁₀, 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 permits to ensure compliance:

- The emission control system shall be in operation whenever technologically feasible during idling to minimize emissions. Emissions of NO_x, CO, VOC, SO_x, and PM₁₀ during idling shall not exceed the amount as calculated pursuant to Rule 4354. Notifications shall be performed and records kept in accordance with Rule 4354. [District Rule 4354]
- NO_x, SO_x, PM₁₀, CO, and VOC emissions during idling shall not exceed the emissions limits as calculated using the following equation: NO_x, SO_x, PM₁₀, CO, or VOC (lb/day) = (Applicable emission limit (in lbs/ton)) x (Furnace permitted production capacity (in tons/day)). [District Rule 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 #1 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_x Emission Monitoring Requirements

Section 5.9.1 requires that the operator of any glass melting furnace shall implement a NO_x 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_x emissions from all the furnaces provided the emission measurements are made at the common stack. Furnace #1 and #2 have a NO_x CEMS installed. Therefore, the requirements of this section of the rule are satisfied.

C-801-1-16

- The furnace shall be equipped with a continuous emission monitor (CEM) for NO_x, CO, and O₂. This CEM shall be located in the duct for furnace #1 upstream of the point where furnace #1 and furnace #2 emissions merge into a common duct. [District Rule 4354 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.c.i, issued June 22, 2005]

C-801-2-11

- The furnace shall be equipped with a continuous emission monitoring system (CEMS) for CO and O₂. This CEM shall be located in the duct for furnace #2 upstream of the point where furnace #1 and furnace #2 emissions merge into a common duct. [District Rule 4354, 5.9.2 & 6.6; and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.c.i, issued June 22, 2005]

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 permit for Furnace #1 and #2 already requires compliance with all of these regulations for CEMS. The facility operates in compliance with all design, maintenance and operating requirements of these regulations. The following condition will be listed on the permits to ensure compliance:

- Continuous emissions monitor(s) shall meet the requirements of 40 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 applicable sections of Rule 1080 (Stack Monitoring). [District Rule 4354 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.c.i, issued June 22, 2005]

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.

Rule 4354 set a CO limit of 300 ppmv for air fired furnaces, and 1.0 lb/ton of glass for oxy-fuel furnaces. Furnace #1 is required to meet a 1.0 lb-CO/ton of glass limit and Furnace #2 is required to meet a 0.2 lb-CO/ton of glass limit. This is done using a CO CEMS and meets the requirements of Rule 4354. The lb/ton limit will be demonstrated by using this CO monitor and a flow monitor to calculate and record CO lbs/ton on an hourly basis. A Relative Accuracy Test Audit (RATA) will be performed on the flow monitor, the CO monitor, and the CO emission rate. Therefore, the CO CEMS will be a certified system per 40 CFR Part 60 Appendix B Performance Specification 6.

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

C-801-1-16

- The furnace shall be equipped with a continuous emission monitor (CEM) for NO_x, CO, and O₂. This CEM shall be located in the duct for furnace #1 upstream of the point where furnace #1 and furnace #2 emissions merge into a common duct. [District Rule 4354 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.c.i, issued June 22, 2005]

C-801-2-11

- The furnace shall be equipped with a continuous emission monitor (CEM) for NO_x, CO, and O₂. This CEM shall be located in the duct for furnace #2 upstream of the point where furnace #1 and furnace #2 emissions merge into a common duct. [District Rule 4354 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.c.i, issued June 22, 2005]

In lieu of installing and operating a CEMS for VOC, the operator uses parametric monitoring to show compliance with the Rule 4354 VOC monitoring requirements.

Section 6.6.2 of this rule requires that an approved VOC parametric monitoring approach must comply with the following requirements:

- 40 CFR 64 (Compliance Assurance Monitoring); and
- 40 CFR 60.13 (Monitoring Requirements),

The facility monitors excess oxygen in the flue gas as a surrogate for VOC emissions. For the furnaces, the main source of VOC emissions would be the incomplete combustion of fuel. VOC emissions would tend to increase when the furnace is operated in a "fuel rich" mode (i.e., inadequate air or oxygen is being provided to combust all of the fuel). When the furnaces are operated in a "fuel lean" mode, VOC emissions would remain below the limits specified by Rule 4354. Continuous monitoring of excess oxygen in the flue gas on each furnace will ensure that this is the case.

This approach satisfies the Rule 4354 monitoring requirements listed above. The continuous monitoring of excess oxygen in the flue gas meets the requirements of 40 CFR 60.13. This approach is also consistent with the requirements of the Compliance Assurance Monitoring (CAM) program found in 40 CFR Part 64.

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

- The permittee shall establish minimum excess oxygen (%) in the flue gas during the next annual source test while demonstrating compliance with VOC emission limits of this permit. The established limit shall be listed on the Permit to Operate. [District Rules 2201 and 4354]
- Excess oxygen (%) in the flue gas shall be measured continuously. The measured excess oxygen (%) shall be averaged over 30 consecutive-minute to demonstrate compliance with the established minimum excess oxygen (%). The averaged reading shall be recorded each day at the frequency specified in this condition. [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 uses CEMS for SOx to show compliance with the Rule 4354 SOx monitoring requirement.

Section 6.6.1 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 existing permit for Furnace #1 and #2 already requires compliance with these regulations for CEMS. The facility operates in compliance with all design, maintenance and operating requirements of these regulations. The following condition will be listed on the permits to ensure compliance:

- Continuous emissions monitor(s) shall meet the requirements of 40 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 applicable sections of Rule 1080 (Stack Monitoring). [District Rule 4354 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.c.i, issued June 22, 2005]

Rule 4354 contains SO_x limits for container glass furnaces. A limit of 1.1 lb/ton is required for oxy-fuel furnaces where 25.0% of total cullet is mixed color cullet, and a limit of 0.90 lb/ton is required for all other container glass furnaces. Both limits are required to be met as a rolling 30-day average. Furnace #1 and #2 are subject to a limit of 0.90 lb/ton. This project will subject the furnaces to a SO_x emissions limit of 0.8 lb/ton as a 30-day average.

Furnace #1 and #2 are controlled by a common semi-dry scrubber, and the SO_x CEMS is located in the stack exiting this control device. As a result, the facility will meet the requirements for aggregated emissions from multiple furnaces from Rule 4354 Sections 9.6 and 9.7. The aggregated lb/ton limit will be demonstrated by using the existing SO_x monitor and an existing flow monitor to calculate and record SO_x lb/ton on an hourly basis. Relative Accuracy Test Audit (RATA) testing is performed on the CEMS system on an annual basis per 40 CFR Part 60 Appendix B Performance Specification 6.

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

- The common exhaust stack for furnaces #1 and #2 shall be equipped with a continuous emission monitor (CEM) for SO_x at the inlet of the scrubber and downstream of the control equipment. Continuous emissions monitor(s) shall meet the requirements of 40 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 applicable sections of Rule 1080 (Stack Monitoring). [District Rules 1080 and 4354 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.c.i, issued June 22, 2005]

PM₁₀ 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 PM₁₀ 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 PM₁₀ 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 PM₁₀ emission limits, a single parametric monitoring arrangement or a single CEMS may be used to determine the total PM₁₀ 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 PM₁₀, the operator has proposed to use parametric monitoring to show compliance with the Rule 4354 PM₁₀ monitoring requirements.

The PM₁₀ limit for container glass furnaces that is applicable is 0.50 lb/ton, as a block 24-hour average. Furnace #1 and #2 are controlled by a common electrostatic precipitator (ESP) which exhausts to a common stack. As a result, the facility will meet the requirements for aggregated emissions from multiple furnaces from Sections 9.6 and 9.7 of Rule 4354. The existing furnace permits limit Total PM to 0.45 lb/ton, which is more stringent than the Rule 4354 PM₁₀ limit of 0.50 lb/ton.

Section 6.6.2 of this rule requires that an approved PM₁₀ parametric monitoring approach must comply with the following requirements:

- 40 CFR 64 (Compliance Assurance Monitoring); and
- 40 CFR 60.13 (Monitoring Requirements)

The facility will comply with the applicable portions of 40 CFR 60.13. Several of the provisions of this regulation do not apply since these relate to compliance with Performance Specifications in 40 CFR 60, Appendices B and F. These two appendices currently contain only requirements for continuous emissions monitoring systems. At the time of this submittal, neither of these appendices contains requirements for continuous parametric monitoring systems. The facility will comply with the requirement to have monitoring systems installed and operational prior to performing performance testing, and with the requirements related to data collection and averaging.

The facility is already required to implement parametric monitoring that satisfies the requirements of 40 CFR 64. The current permits for Furnace #1 and #2 contain requirements for monitoring ESP secondary voltage, including the following:

- Monitoring of the ESP shall comply with the requirements of 40 CFR Part 64
- The ESP shall be operated at a secondary voltage of at least 12 kV
- The ESP secondary voltage shall be monitored and recorded two times during every eight hours of operation
- Requirements to return the voltage to within the acceptable range in the event of a deviation, along with requirements for notification and breakdown reporting

The facility has proposed to modify the PM₁₀ alternate monitoring requirements to continuously monitor the average power (voltage multiplied by current) of the electrostatic precipitator to satisfy the monitoring requirements of Section 5.9.4 for PM₁₀. The facility has proposed to establish the proper operating power range and excursion limits during the next furnace source test for particulate matter. The facility shall submit a Title V modification application to incorporate these established limits into the permit.

Section 6.6.2 requires an approved alternate emission monitoring method to be capable of determining the furnace emissions on an hourly basis. Therefore, the ESP secondary power will be monitored and recorded at a minimum during every one hour of operation.

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

- The permittee shall operate and maintain the electrostatic precipitator (ESP) system to reduce particulate emissions to 0.2 pounds of particulate per ton of glass pulled, using EPA Method 5 as set forth in 40 C.F.R. Part 60, Appendix A, and 0.45 pounds of particulate per ton of glass pulled, using the combined results of EPA Methods 5 and 202 as set forth in 40 C.F.R. Part 60, Appendix A. [District Rules 2201 and 4354 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.12.c.i, issued June 22, 2005]
- The hourly total power input range into the electrostatic precipitator shall be determined at the next glass melting furnace source test for particulate matter. The power input shall be calculated by multiplying the hourly secondary current by the hourly secondary voltage, both recorded by the continuous monitoring system. [District Rules 2520 and 4354 and 40 CFR 64]
- The ESP secondary power shall be monitored and recorded at a minimum during every one hour of operation. [District Rules 2520 and 4354 and 40 CFR 64]
- If the monitored ESP secondary power is below the minimum allowable power, the permittee shall return the power to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the ESP secondary power readings continue to be below the allowable range after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100 (as amended December 17, 1992), the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2520 and 4354 and 40 CFR 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 permits to ensure compliance:

- NO_x, CO, VOC, SO_x and PM₁₀ emission limitations of District Rule 4354 shall not apply during periods of routine maintenance of an add-on emission control system as long as the routine maintenance does not exceed 144 hours total per calendar year for all add-on controls and the routine maintenance is conducted in a manner consistent with good air pollution control practices for minimizing emissions. [District Rule 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 #1 and #2 have the permitted glass production capacity in units of tons of glass pulled per day stated as a permit condition.

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

C-801-1-16

- The container glass pull rate from furnace #1 shall not exceed either of the following limits: 450 U.S. short tons per day or 157,680 U.S. short tons per year. [District Rules 2201 and 4354]

C-801-2-11

- The container glass pull rate from furnace #2 shall not exceed 600 U.S. short tons per day. [District Rules 2201 and 4354]

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_x 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_x emission rate in lb/ton glass pulled, if a CEMS is used;
- PM₁₀ 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 condition will be listed on the permits to ensure compliance:

- Operators shall maintain daily records of the following items: total hours of operation, the quantity of glass pulled from each furnace, NO_x emission rate in lb/ton glass pulled, CO emission rate, VOC emission rate, SO_x emission rate in lb/ton glass pulled, PM₁₀ emission rate in lb/ton glass pulled, weight of mixed color cullet used, total amount of cullet used by weight, ratio, expressed in percent, of mixed color mix weight to total cullet weight, source tests and source test results, maintenance and repair, malfunction, idling, start-up, and shutdown. For pollutants monitored using an approved parametric monitoring arrangement, the operator shall maintain records of the acceptable range for each approved key system operating parameter, as established during source test, and shall record the operating values of the key system operating parameters at the approved recording frequency. [District Rules 2201 and 4354]

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 permits to ensure compliance:

- The permittee shall retain records 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. [District Rules 1070, 2201 and 4354]

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 condition will be listed on the permits to ensure compliance:

- Source testing to measure NO_x, CO, and VOC emissions shall be conducted once every calendar year, but no more than every 18 months and not sooner than every 6 months. [District Rules 2201 and 4354]
- Source testing to measure SO_x and PM₁₀ emissions shall be conducted at the outlet of the combined furnace #1 and furnace #2 ductwork once every calendar year, but no more than every 18 months and not sooner than every 6 months. [District Rules 2201 and 4354]

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 permits to ensure compliance:

- Source test results shall be representative of normal operations, but not less than 60 percent of the permitted glass production capacity. [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 following condition will be listed on the permits to ensure compliance:

- 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. [District Rule 4354]

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_x, CO, VOC, and SO_x emission limits.

The following condition will be listed on the permits 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_x, CO, VOC, and SO_x 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 PM₁₀ emission limits.

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

- 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]

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 permits 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 PM₁₀ emissions - EPA Method 5; EPA Method 201; or EPA Method 201A. An operator choosing EPA Method 5 shall count all PM collected as PM₁₀.
- Condensable PM₁₀ emissions - EPA Method 202.

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

- Source testing shall be conducted using the following test methods: NO_x (heat input basis) - USEPA Method 19, NO_x (ppmv) - USEPA Method 7E or CARB Method 100; CO (ppmv) - USEPA Method 10 or CARB Method 100; VOC (ppmv) - USEPA Method 25A, expressed in terms of carbon; Stack gas oxygen, carbon dioxide, excess air and dry molecular weight - USEPA Method 3 or 3A, or CARB Method 100; Stack gas velocity and volumetric flow rate - USEPA Method 2; SO_x - USEPA Method 8 or CARB Method 100; PM₁₀ - EPA methods 201 and 202, or EPA methods 201A and 202, or CARB method 501 in conjunction with CARB method 5. In lieu of performing a source test for PM₁₀, the results of CARB Method 5 or EPA Methods 5 and 8 may be used for compliance with the PM₁₀ emissions limit. If this option is used, then all of the particulate emissions will be considered to be PM₁₀. [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 permits to ensure compliance:

- Continuous emissions monitor(s) shall meet the requirements of 40 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 applicable sections of Rule 1080 (Stack Monitoring). [District Rule 4354 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.c.i, issued June 22, 2005]

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).

As explained in the Emission Monitoring section above, each alternate emission monitoring method is capable of determining the furnace emissions on an hourly basis and complies with 40 CFR 64 (Compliance Assurance Monitoring) and 40 CFR 60.13 (Monitoring Requirements).

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 permits 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 NOx limits by January 1, 2014.

The furnaces at the facility are currently in compliance with the Tier 3 NOx limits.

Section 7.1.2 requires for a container glass/fiberglass furnace that is not meeting the applicable SOx 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 SOx emission limit by January 1, 2011.

The current permit for Furnace #1 and #2 meets the applicable SOx limit in Section 5.3.

Section 7.1.3 requires for a container glass/fiberglass furnace that is not meeting the applicable PM₁₀ emission limit in Section 5.4 Table 4 on January 1, 2009, the operator must submit a completed ATC application, if needed, by June 1, 2009; and be in full compliance with the applicable PM₁₀ limit by January 1, 2011.

The current permit for Furnace #1 and #2 meets the applicable PM₁₀ limit in Section 5.4.

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 NOx, 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 permits 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 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]

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 permits 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_x), Section 5.2 (CO and VOC), Section 5.3 (SO_x), or Section 5.4 (PM₁₀), for each pollutant subject to this option.

The following condition will be listed on the permits 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_x), Section 5.2 (CO and VOC), Section 5.3 (SO_x), or Section 5.4 (PM₁₀), 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 permits 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 permits 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 permits 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 condition will be listed on the permits to ensure compliance:

- Source testing to measure NO_x, CO, and VOC emissions shall be conducted once every calendar year, but no more than every 18 months and not sooner than every 6 months. [District Rules 2201 and 4354]
- Source testing to measure SO_x and PM₁₀ emissions shall be conducted at the outlet of the combined furnace #1 and furnace #2 ductwork once every calendar year, but no more than every 18 months and not sooner than every 6 months. [District Rules 2201 and 4354]

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 permits to ensure compliance:

- The permittee shall retain records 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. [District Rules 1070, 2201 and 4354]

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 permits 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_x, CO, VOC, SO_x, and PM₁₀ emissions during the violation; corrective actions and schedules to complete the work.

The following condition will be listed on the permits 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_x, CO, VOC, SO_x, and PM₁₀ 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 SO₂, on a dry basis averaged over 15 consecutive minutes.

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

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

With:

N = moles SO₂

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

P (Standard Pressure) = 14.7 psi

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

Furnace #1

$$\frac{0.8 \text{ lb} - \text{SO}_x}{\text{ton}} \times \frac{450 \text{ ton}}{\text{day}} \times \frac{\text{day}}{24 \text{ hr}} \times \frac{\text{hr}}{75 \text{ MMBtu}} = 0.2 \frac{\text{lb}}{\text{MMBtu}}$$

Furnace #2

$$\frac{0.8 \text{ lb} - \text{SO}_x}{\text{ton}} \times \frac{600 \text{ ton}}{\text{day}} \times \frac{\text{day}}{24 \text{ hr}} \times \frac{\text{hr}}{85 \text{ MMBtu}} = 0.235 \frac{\text{lb}}{\text{MMBtu}}$$

$$\frac{0.235 \text{ lb} - \text{SO}_x}{\text{MMBtu}} \times \frac{\text{MMBtu}}{8,578 \text{ dscf}} \times \frac{1 \text{ lb} \cdot \text{mol}}{64 \text{ lb}} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}} \times \frac{520^\circ\text{R}}{14.7 \text{ psi}} \times \frac{1,000,000 \cdot \text{parts}}{\text{million}} = 162.7 \frac{\text{parts}}{\text{million}}$$

$$\text{Sulfur Concentration} = 162.7 \frac{\text{parts}}{\text{million}} < 2,000 \text{ ppmv (or 0.2\%)}$$

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 or will prepare an environmental review document for the project. Thus the District is the Lead Agency for this project.

The District's engineering evaluation (this document) demonstrates that the project would not result in an increase in project specific greenhouse gas emissions. The District therefore concludes that the project would have a less than cumulatively significant 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. Pending a successful NSR Public Noticing period, issue Authority to Construct permits C-801-1-16 and '2-11 subject to the permit conditions on the attached draft Authority to Construct permits in Attachment E.

XI. BILLING INFORMATION

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
C-801-1-16	3020-02-H	75 MMBtu/hr	\$1,030.00
C-801-2-11	3020-02-H	85 MMBtu/hr	\$1,030.00

Attachments

- A Current Permits
- B BACT Guideline 1.5.9 and Top Down BACT Analyses
- C Certificate of Conformity
- D CO Modeling Ambient Air Quality Analysis
- E Draft Authority to Construct Permits

ATTACHMENT A
Current Permits



AUTHORITY TO CONSTRUCT

PERMIT NO C-801 1-17

ISSUANCE DATE 10/15/2013

LEGAL OWNER OR OPERATOR SAINT-GOBAIN CONTAINERS INC
MAILING ADDRESS 24441 AVENUE 12
ATTN ENVIRO MANAGER/S ARUNAGIRI
MADERA CA 93637

LOCATION 24441 AVENUE 12 & ROAD 24 1/2
MADERA CA 93637

EQUIPMENT DESCRIPTION

MODIFICATION OF 75 MMBTU/HR (APPROXIMATELY) NATURAL GAS-FIRED (WITH PROPANE BACKUP) CONTAINER GLASS MELTING FURNACE #1 (NORTH) WITH COMBUSTION TEC LOW NOX BURNERS 2 000 KVA ELECTRIC BOOST A BLOWER AIR STAGING (BAS) SYSTEM NOX SOX CO AND O2 CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS) AND THREE (3) PRODUCTION LINES EACH WITH A 10 INDIVIDUAL SECTION (IS) FORMING MACHINE WITH A MCGILL AIRCLEAN MODEL 3 700 SEMI-DRY SCRUBBER/ESP SYSTEM (COMMON TO FURNACE #2) AND A CONTINUOUS OPACITY MONITORING SYSTEM (COMS) CONVERT FURNACE FROM REGENERATIVE TO OXY FUEL ALLOW USE OF EXISTING COMBUSTION TEC LOW NOX BURNERS OR NEW CUSTOM DILUTE COMBUSTION BURNERS REPLACE EXISTING BLANKET CHARGERS WITH NEW GANNA CHARGERS MODIFY BATCH DELIVERY SYSTEM FOR GANNA CHARGERS AND ADD EXHAUST FLOW MONITOR TO EXISTING CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS) FOR RULE 4354 COMPLIANCE AND COMPLIANCE WITH SJVAPCD AND USEPA CONSENT DECREE AND REPLACE THREE EXISTING 10-SECTION IS MACHINES WITH THREE NEW 10 SECTION IS MACHINES

CONDITIONS

- 1 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 All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere [District Rule 4102]
- 3 Particulate matter emissions shall not exceed the maximum allowable emission rate (lb/hr) as determined using the following formula $E = 3.59 \times P^{0.62}$ where E equals the maximum allowable emission rate (lb/hr) and P equals the process weight rate (tons/hr) and is less than or equal to 30 tons/hr [District Rule 4202] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230 5950 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

Martha Keast for

DAVID WARNER Director of Permit Services

C-801 1 17 Oct 15 2013 4:35PM - TOMS J 11 paction NOT Req ed

- 4 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 (12/17/92), by using EPA method 9. 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 Madera County Rule 401] Federally Enforceable Through Title V Permit
- 5 Discharge of sulfur compounds shall not exceed in concentration at the point of discharge 0.2 percent by volume calculated as SO₂ on a dry basis averaged over 15 consecutive minutes. [District Rule 4801]
- 6 The furnace shall be equipped with a continuous emission monitor (CEM) for NO_x, CO, and O₂. This CEM shall be located in the duct for furnace #1 upstream of the point where furnace #1 and furnace #2 emissions merge into a common duct. [District Rule 4354] Federally Enforceable Through Title V Permit
- 7 Continuous emissions monitor(s) shall meet the requirements of 40 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 applicable sections of Rule 1080 (Stack Monitoring). [District Rule 4354] Federally Enforceable Through Title V Permit
- 8 The common exhaust stack for furnaces #1 and #2 shall be equipped with a continuous opacity monitoring system (COMS) downstream of the control equipment. Continuous emissions monitor(s) shall meet the requirements of 40 CFR part 60.13 and 40 CFR part 60 Appendix B (Performance Specification 1) and applicable sections of Rule 1080 (Stack Monitoring). [District Rule 1080] Federally Enforceable Through Title V Permit
- 9 The common exhaust stack for furnaces #1 and #2 shall be equipped with a continuous emission monitor (CEM) for SO_x at the inlet of the scrubber and downstream of the control equipment. Continuous emissions monitor(s) shall meet the requirements of 40 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 applicable sections of Rule 1080 (Stack Monitoring). [District Rules 1080 and 4354] Federally Enforceable Through Title V Permit
- 10 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
- 11 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
- 12 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
- 13 The owner/operator shall perform a relative accuracy test audit (RATA) as specified by 40 CFR Part 60 Appendix F 5.1.1 at least once every four calendar quarters. 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
- 14 Audits of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and compliance source testing are both 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
- 15 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

CONDITIONS CONTINUE ON NEXT PAGE

- 16 Permittee shall submit a written report 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 (averaging period used for data reporting shall correspond to the averaging period for each respective emission standard) corrective actions taken and preventive measures adopted applicable time and date of each period during a 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
- 17 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_x, CO, and O₂ analyzer during District inspections The sampling ports shall be located upstream of the point where furnace #1 and furnace #2 emissions merge into a common duct 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 Emission Monitoring and Testing [District Rule 1081] Federally Enforceable Through Title V Permit
- 18 Compliance demonstration (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 15 days prior to testing The results of each source test shall be submitted to the District within 60 days thereafter [District Rule 1081] Federally Enforceable Through Title V Permit
- 19 All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (as amended December 16 1993) [District Rule 1081] Federally Enforceable Through Title V Permit
- 20 The container glass pull rate from furnace #1 shall not exceed either of the following limits 450 U S short tons per day or 157 680 U S short tons per year [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
- 21 Annual emissions from furnace #1 and #2 combined shall not exceed either of the following limits 265,632 lb-SO_x/year or 164,719 lb-PM₁₀/year [District Rule 2201] Federally Enforceable Through Title V Permit
- 22 Except during idling start-up or shutdown emissions rates from this unit shall not exceed any of the following limits 0.8 lb SO_x/ton of container glass pulled, 1.0 lb CO/ton of container glass pulled, or 0.25 lb-VOC/ton of container glass pulled SO_x emissions limit is based on a 24 hour rolling average CO and VOC emissions limits are based on a three hour rolling average [District Rules 2201 and 4354]
- 23 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_x, 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]
- 24 Emissions from this furnace shall not exceed either of the following limits 450.0 lb-CO/day or 21.6 lb-VOC/day [District Rule 2201]
- 25 Except during idling start-up or shutdown Particulate Matter emissions (as PM₁₀) shall not exceed 0.5 pounds per ton glass pulled on a block 24-hour average from the glass melting furnace [District Rule 4354] Federally Enforceable Through Title V Permit
- 26 Except during idling start-up or shutdown NO_x emissions from this furnace shall not exceed 1.3 lbs/ton of glass produced, on a 30 day rolling average basis [District Rules 2201 and 4354 and USEPA Consent Decree 2-10-cv-00121-TSZ, Section III 6 t IV 7 c iii 1 entered on May 7 2010]
- 27 NO_x, CO, VOC, SO_x and PM₁₀ emissions during idling shall not exceed the emissions limits as calculated using the following equation NO_x, CO, VOC, SO_x, or PM₁₀ (lb/day) = (Applicable emission limit (in lbs/ton)) x (Furnace permitted production capacity (in tons/day)) [District Rule 4354] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

- 28 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] Federally Enforceable Through Title V Permit
- 29 The length of time allowed for a start-up shall be determined by the APCO and EPA on a case-by-case basis in accordance with District Rule 4354 [District Rule 4354] Federally Enforceable Through Title V Permit
- 30 The permittee shall operate and maintain the electrostatic precipitator (ESP) system to reduce particulate emissions to 0.2 pounds of particulate per ton of glass pulled, using EPA Method 5 as set forth in 40 C.F.R. Part 60, Appendix A and 0.45 pounds of particulate per ton of glass pulled, using the combined results of EPA Methods 5 and 202 as set forth in 40 C.F.R. Part 60 Appendix A [District Rule 2201] Federally Enforceable Through Title V Permit
- 31 Monitoring of the ESP shall comply with the requirements of 40 CFR Part 64 [District Rule 4354] Federally Enforceable Through Title V Permit
- 32 The ESP shall be operated at a secondary voltage of at least 12 kV [District Rules 2520 and 4354 and 40 CFR 64] Federally Enforceable Through Title V Permit
- 33 The ESP secondary voltage shall be monitored and recorded at a minimum during every one hour of operation [District Rules 2520 and 4354 and 40 CFR 64]
- 34 If the monitored ESP secondary voltage is below the minimum allowable voltage the permittee shall return the voltage to within the acceptable range as soon as possible but no longer than 1 hour of operation after detection If the ESP secondary voltage readings continue to be below the allowable range after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance In lieu of conducting a source test the permittee may stipulate a violation has occurred subject to enforcement action The permittee must then correct the violation show compliance has been re-established, and resume monitoring procedures If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100 (as amended December 17 1992) the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition [District Rules 2520 and 4354 and 40 CFR 64] Federally Enforceable Through Title V Permit
- 35 The permittee shall establish minimum excess oxygen (%) in the flue gas during the next annual source test while demonstrating compliance with VOC emission limits of this permit The established limit shall be listed on the Permit to Operate [District Rules 2201 and 4354]
- 36 Excess oxygen (%) in the flue gas shall be measured continuously The measured excess oxygen (%) shall be averaged over 30 consecutive-minute to demonstrate compliance with the established minimum excess oxygen (%) The averaged reading shall be recorded each day at the frequency specified in this condition [District Rule 4354]
- 37 The permittee shall operate and maintain the semi-dry scrubber system to reduce SOx emissions by at least 85% excluding days when the scrubber inlet's daily average concentration of SO2 is 353 ppmvd or less, in which case the scrubber outlet's daily average concentration of SO2 shall be reduced to at least 53 ppmvd except during periods of scheduled or preventative maintenance The averaging period for the reduction efficiency shall be calculated on a rolling 30-day average basis excluding days when the scrubber inlet's daily average concentration of SO2 is 353 ppmvd or less Compliance with the SOx reduction efficiency and daily concentration standard shall be demonstrated by the combined ductwork scrubber inlet and downstream of the control equipment outlet SO2 continuous concentration monitoring [District Rule 2201] Federally Enforceable Through Title V Permit
- 38 This unit shall be fired on PUC regulated natural gas or LPG backup fuel only [District Rule 2201] Federally Enforceable Through Title V Permit
- 39 Certification of the continuous opacity monitoring system (COMS) shall be demonstrated by meeting the requirements of 40 CFR Part 60.13 and 40 CFR Part 60 Appendix B, Performance Specification 1 [40 CFR 60.13] Federally Enforceable Through Title V Permit
- 40 Source testing to measure NOx, SOx, PM10, CO and VOC shall be conducted within 90 days of the startup period as defined in Rule 4354 and USEPA Consent Decree 2:10-cv-00121-TSZ, entered on May 7, 2010 [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

- 41 Source testing to measure NOx CO and VOC emissions shall be conducted once every calendar year but no more than every 18 months and not sooner than every 6 months [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
- 42 Source testing to measure SOx and PM10 emissions shall be conducted at the outlet of the combined furnace #1 and furnace #2 ductwork once every calendar year but no more than every 18 months and not sooner than every 6 months [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
- 43 Source testing shall be conducted using the following test methods NOx (heat input basis) - USEPA Method 19, NOx (ppmv) - USEPA Method 7E or CARB Method 100, CO (ppmv) USEPA Method 10 or CARB Method 100, VOC (ppmv) - USEPA Method 25A expressed in terms of carbon Stack gas oxygen, carbon dioxide, excess air and dry molecular weight - USEPA Method 3 or 3A or CARB Method 100 Stack gas velocity and volumetric flow rate - USEPA Method 2 SOx - USEPA Method 6C or 8 or CARB Method 100, PM10 - EPA methods 201 and 202, or EPA methods 201A and 202 or CARB method 501 in conjunction with CARB method 5 In lieu of performing a source test for PM10, the results of CARB Method 5 or EPA Methods 5 and 8 may be used for compliance with the PM10 emissions limit If this option is used then all of the particulate emissions will be considered to be PM10 [District Rules 1081 2520 and 4354]
- 44 Source test results shall be representative of normal operations but not less than 60 percent of the permitted glass production capacity [District Rule 4354]
- 45 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 [District Rule 4354]
- 46 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]
- 47 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]
- 48 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]
- 49 Compliance testing for particulate shall be conducted at the outlet of the combined furnace #1 and furnace #2 ductwork in accordance with USEPA Reference Methods 1 2 5 and 202 as set forth in 40 CFR Part 60, Appendix A Each test shall consist of three runs The sampling time and volume for each run shall be at least 60 minutes and 31.8 dry standard cubic feet Thereafter compliance testing of particulate matter shall be conducted on an annual basis within 60 days of the anniversary date of the latest compliance testing [District Rule 1081] Federally Enforceable Through Title V Permit
- 50 Commercial arsenic shall not be used as a raw material in this glass furnace This prohibition is required for continued exemption from the requirements of 40 CFR 61 Subpart N [District Rule 2520] Federally Enforceable Through Title V Permit
- 51 Idling is defined as the operation of the furnace at less than 25% of the permitted production capacity or fuel use capacity as stated on the Permit to Operate [District Rule 4354] Federally Enforceable Through Title V Permit
- 52 The emission control system shall be in operation whenever technologically feasible during idling to minimize emissions Emissions of NOx CO, VOC SOx, and PM10 during idling shall not exceed the amount as calculated pursuant to Rule 4354 Notifications shall be performed and records kept in accordance with Rule 4354 [District Rule 4354] Federally Enforceable Through Title V Permit
- 53 Shutdown shall mean the period of time during which the glass melting furnace is purposely allowed to cool from its operating temperature and molten glass is removed from the tank for the purpose of a furnace rebuild or reconstruction or during a natural gas curtailment or subject to EPA's approval, when it is commercially necessary [District Rule 4354] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

- 54 The duration of shutdown as measured from the time the furnace operations drop below the idle threshold specified in Rule 4354 to when all emissions from the furnace cease shall not exceed 20 days. The emission control system shall be in operation whenever technologically feasible during shutdown to minimize emissions. Notifications shall be performed and records kept in accordance with Rule 4354 [District Rule 4354] Federally Enforceable Through Title V Permit
- 55 Start-up shall mean the period of time after initial construction, a furnace rebuild, or a shutdown, during which the glass melting furnace is heated to operating temperature by the primary furnace combustion systems and systems and instrumentation are brought to stabilization and calibrated. The operator shall submit a request for a start-up exemption to the APCO, ARB, and EPA in conjunction with or in advance of an application for Authority to Construct (ATC) associated with a furnace rebuild. The emission control system shall be in operation as soon as technologically feasible during start up to minimize emissions and notifications shall be performed and records kept in accordance with Rule 4354 [District Rule 4354] Federally Enforceable Through Title V Permit
- 56 NO_x, CO, VOC, SO_x and PM₁₀ emission limitations of District Rule 4354 shall not apply during periods of routine maintenance of an add-on emission control system as long as the routine maintenance does not exceed 144 hours total per calendar year for all add-on controls and the routine maintenance is conducted in a manner consistent with good air pollution control practices for minimizing emissions [District Rule 4354] Federally Enforceable Through Title V Permit
- 57 Operators shall maintain daily records of the following items: total hours of operation, the quantity of glass pulled from each furnace, NO_x emission rate in lb/ton glass pulled, CO emission rate, VOC emission rate, SO_x emission rate in lb/ton glass pulled, PM₁₀ emission rate in lb/ton glass pulled, weight of mixed color cullet used, total amount of cullet used by weight, ratio, expressed in percent of mixed color mix weight to total cullet weight, source tests and source test results, maintenance and repair, malfunction, idling, start-up, and shutdown. For pollutants monitored using an approved parametric monitoring arrangement, operators shall maintain records of the acceptable range for each approved key system operating parameter as established during source test and shall record the operating values of the key system operating parameters at the approved recording frequency [District Rules 2201 and 4354]
- 58 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]
- 59 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_x), Section 5.2 (CO and VOC), Section 5.3 (SO_x) or Section 5.4 (PM₁₀) for each pollutant subject to this option [District Rule 4354]
- 60 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]
- 61 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]
- 62 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]
- 63 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]
- 64 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_x, CO, VOC, SO_x and PM₁₀ emissions during the violation, corrective actions and schedules to complete the work [District Rule 4354]
- 65 The permittee shall retain records 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 [District Rules 1070, 2201 and 4354]

CONDITIONS CONTINUE ON NEXT PAGE

- 66 Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4201 (as amended December 17, 1992) District Rule 4202 (as amended December 17 1992) District Rule 4354 (as amended May 19 2011) and District Rule 4801 (as amended December 17 1992) A permit shield is granted from these requirements [District Rule 2520] Federally Enforceable Through Title V Permit
- 67 The requirements of District Rule 4301 (as amended December 17, 1992) were determined to not apply to this unit A permit shield is granted from this requirement [District Rule 2520] Federally Enforceable Through Title V Permit
- 68 The requirements of 40 CFR 61 Subpart N were determined to not apply to this unit A permit shield is granted from this requirement [District Rule 2520] Federally Enforceable Through Title V Permit
- 69 Compliance with a Sulfuric Acid mist emission limit of 1 0 pound per ton of glass produced shall be demonstrated by a stack test performed using Conditional Test Method 13A or B on this furnace on or before December 31, 2011 Stack testing shall be required to be performed after this initial test only once during the life of the Title V permit renewal [USEPA Consent Decree 2 10-cv-00121-TSZ Section IV 8 n, filed 4/22/2010] Federally Enforceable Through Title V Permit
- 70 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]
- 71 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]
- 72 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]
- 73 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]
- 74 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]
- 75 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]
- 76 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]

CONDITIONS CONTINUE ON NEXT PAGE

- 77 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]
- 78 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]
- 79 The permittee shall keep the records specified in Section 63 11457 paragraphs (a)(1) through (8) [40 CFR 63 Subpart SSSSSS]
- 80 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 [40 CFR 63 Subpart SSSSSS]
- 81 "24-hour Block Average" shall be calculated by averaging the twenty-four (24) one-hour relevant data outputs (concentration or pounds) for a given day and using the daily glass production rates (tons) on that Operating Day where applicable [USEPA Consent Decree 2 10-cv-00121-TSZ Section III 6 a, entered on May 7, 2010]
- 82 'Abnormally Low Production Rate (ALPR)' shall mean a glass production rate at or below the production rate (P) set forth below unless production capacity is increased through a permit modification For Furnace #1, ALPR = 158 tons per day [USEPA Consent Decree 2 10 cv-00121 TSZ Section III 6 c and IV 10 entered on May 7 2010]
- 83 'Abnormally Low Production Rate Day' shall mean any Operating Day where production falls into the range of Abnormally Low Production Rate for the Furnace, for at least one continuous hour [USEPA Consent Decree 2 10 cv 00121 TSZ Section III 6 d entered on May 7, 2010]
- 84 "CEMS Certification Event" shall mean an event that triggers the requirement to complete a first or subsequent CEMS Certification Events that will trigger subsequent CEMS Certification include a Furnace Startup or a First Control Device Startup SGC shall commence such recertification no later than thirty (30) days after the Furnace Startup period concludes (but not later than seventy (70) days after Furnace Startup commences) or First Control Device Startup period concludes If a Furnace Startup and a First Control Device Startup happen at the same time, then the recertification shall not be conducted until the first Operating Day after the conclusion of the later startup event [USEPA Consent Decree 2 10-cv-00121 TSZ Section III 6 h entered on May 7 2010]
- 85 Color Transition shall mean the period of not more than seven days from the time when a glass color of an oxidation state different from that previously melted in the Furnace is introduced to the Furnace to the time when saleable glass bottles are being produced in the new color [USEPA Consent Decree 2 10-cv 00121-TSZ Section III 6 j, entered on May 7 2010]
- 86 'Day' shall mean a calendar day unless expressly stated to be a working day or unless a State rule requires that CEMS data be reported on Standard time (with no change for Daylight Savings Time) In computing any period of time for determining reporting deadlines for Consent Decree requirements where the last day would fall on a Saturday, Sunday or federal or State holiday in the State where the Facility is located, the period shall run until the close of business the next working day [USEPA Consent Decree 2 10-cv 00121-TSZ, Section III 6 r, entered on May 7, 2010]

CONDITIONS CONTINUE ON NEXT PAGE

- 87 "Emission Rate 30-day Rolling Average" shall be expressed as pounds of pollutant per ton of glass produced calculated at the Furnace in question in accordance with the following formula $30\text{-day average (lb-E/ton)} = (\text{COD E(lbs)} + \text{P29D E(lbs)}) / (\text{COD Prod(tons)} + \text{P29D Prod(tons)})$ where $30\text{-day average (lb-E/ton)} = \text{The Emission Rate 30-day Rolling Average}$ E = Emissions of the pollutant in question (NO_x or SO₂) COD = Current Operating Day where the relevant Emission Rate 30-day Rolling Average is the applicable limit COD E = The daily Emission as measured by a CEMS (continuous emission monitoring system) on the COD, in pounds, COD Prod = Daily glass production on the COD, in tons of glass P29D = Previous 29 Operating Days where the relevant Emission Rate 30-day Rolling Average is the applicable limit, P29D E = Sum of the daily NO_x or SO₂ Emissions as measured by a CEMS during the P29D, in pounds P29D Prod = Sum of the daily glass production during the P29D in tons of glass (i) A new Emission Rate 30-day Rolling Average shall be calculated for each new Operating Day where the Emission Rate 30-day Rolling Average is the applicable standard Any Operating Day where the newly calculated Emission Rate 30-day Rolling Average exceeds the limit is a separate one Day violation and (ii) As specified in the Global Consent Decree some Operating Days will be excluded from the Emission Rate 30-day Rolling Average [USEPA Consent Decree 2 10 cv-00121-TSZ Section III 6 t entered on May 7 2010]
- 88 'Furnace' means, for the purposes of NSPS only a refractory vessel in which raw materials are charged, melted at high temperature, refined, and conditioned to produce molten glass which includes foundations superstructure and retaining walls raw material charger system heat exchanger, melter cooling system exhaust system refractory brick work, fuel supply and electrical boosting equipment integral control systems and instrumentation and appendages for conditioning and distributing molten glass to forming apparatuses For all other purposes 'Furnace' means a unit comprised of a refractory-lined vessel in which raw materials are charged and melted at high temperature to produce molten glass [USEPA Consent Decree 2 10-cv 00121-TSZ Section III 6 x, entered on May 7 2010]
- 89 Furnace Startup means the period of time while a Furnace's refractory is being heated up from ambient temperature and includes the Initial Heating Phase Refractory Soak and Seal Phase and Furnace Stabilization Phase [USEPA Consent Decree 2 10 cv-00121-TSZ Section III 6 y entered on May 7 2010]
- 90 'Initial Heating Phase' means the slow heating of the Furnace refractory using portable natural-gas burners placed in the openings in the Furnace This phase typically lasts no longer than four (4) days and ends when the main Furnace burners commence operation [USEPA Consent Decree 2 10-cv-00121-TSZ Section III 6 y i entered on May 7, 2010]
- 91 "Refractory Soak and Seal Phase" means the phase of the Furnace Startup following the Initial Heating Phase when the Furnace is filled with molten glass the temperature of the Furnace reaches operating conditions, and the refractory components reach thermal equilibrium This phase typically lasts no longer than twenty-one (21) days and ends when the joints between the refractory components are sealed and the Furnace is closed to the atmosphere [USEPA Consent Decree 2 10-cv 00121-TSZ Section III 6 y ii entered on May 7, 2010]
- 92 "Furnace Stabilization Period' means the phase of Furnace Startup following the Refractory Soak and Seal Phase when the Furnace Operation is being stabilized This phase will end no later than seventy (70) days after the beginning of the Initial heating Phase However notwithstanding the previous sentence EPA or SJVAPCD may seek stipulated penalties if SGCI has unduly delayed completion of the Furnace Stabilization Phase SGCI must track the status of the Furnace Startup as required in Exhibit A of the Global Consent Decree Exhibit A includes conditions that may be used to indicate whether the Furnace Stabilization Phase should have been completed earlier than 70 days after the beginning of the Initial Heating Phase [USEPA Consent Decree 2 10-cv-00121-TSZ Section III 6 y iii entered on May 7 2010]
- 93 ' Hot Spot Temperature" shall mean the highest temperature of the Furnace breastwall refractory Breastwall refractory is the refractory sidewall between the tuck stone (about 18 inches above the glass line) and the crown skew (where the Furnace crown meets the Furnace sidewall) [USEPA Consent Decree 2 10-cv-00121-TSZ Section III 6 z, entered on May 7 2010]
- 94 Maintenance shall mean activities necessary to keep the system or equipment working in its normal operation condition [USEPA Consent Decree 2 10-cv-00121-TSZ, Citation III 6 cc, entered on May 7, 2010]
- 95 ' Malfunction" shall mean consistent with 40 CFR 60.2 any sudden, infrequent and not reasonably preventable failure of air pollution control equipment process equipment, or a process to operate in a normal or usual manner but shall not include failures that are caused in part by poor Maintenance or careless operation [USEPA Consent Decree 2 10-cv 00121 TSZ, Section III 6 ee, entered on May 7 2010]

CONDITIONS CONTINUE ON NEXT PAGE

- 96 ' Operating Day' shall mean any Day where any fuel is fired into the Furnace The Day starts at 12 00 a m and ends at 11 59 p m [USEPA Consent Decree 2 10-cv 00121-TSZ, Section III 6 kk entered on May 7, 2010]
- 97 Limit emissions of Sulfuric Acid (H₂SO₄) Mist to no greater than 1 0 pounds per ton of glass produced [USEPA Consent Decree 2 10-cv-00121-TSZ Section IV 8 n entered on May 7 2010]
- 98 Compliance with the Sulfuric Acid Mist emission limit shall be demonstrated by a stack test conducted on Furnace #1 using EPA Conditional Test Method 13A or B once per Title V permit renewal term [USEPA Consent Decree 2 10-cv-00121-TSZ Section IV 8 n entered on May 7 2010]
- 99 SGCI shall install maintain, and operate the Oxyfuel Furnace such that the gas that provides the oxidant for combustion of the fuel is at least 90 percent oxygen [USEPA Consent Decree 2 10-cv-00121-TSZ Section IV 7 b i, IV 7 c ii entered on May 7, 2010]
- 100 The Furnace may not exceed the Emission Rate 30-day Rolling Average limit of 1 3 pounds NO_x per ton of glass produced as measured using NO_x CEMS (commencing on the first Operating Day after the completion of the Furnace Startup period and CEMS Certificate) except that SGCI may elect to exclude the emissions generated during the following periods from the Emission Rate 30-day Rolling Average Abnormally Low Production Rate Days Furnace Startup malfunction of the Furnace and Maintenance of the Furnace [USEPA Consent Decree 2 10 cv-00121-TSZ Section III 6 t IV 7 c iii 1 entered on May 7 2010]
- 101 For any Abnormally Low Production Rate Day where production falls into the range of ALPR for at least one continuous hour, SGCI may exclude emissions generated during that Day from the Emission Rate 30-day Rolling Average During these Days a CEMS shall be used to demonstrate compliance with the 24-hour Block Average limit of 587 lb/day of NO_x [USEPA Consent Decree 2 10-cv 00121-TSZ Section IV 7 c iii 2 entered on May 7 2010]
- 102 For any Operating Day when the Furnace is in startup, the following limits apply (a) Initial Heating Phase Operational Limit SGCI shall burn no more than 5 0 million standard cubic feet (5 0 MMscf) of natural gas in Furnace #1 (b) Refractory Soak and Seal Phase Operational Limits (i) Burn no more than 60 MMscf of natural gas (ii) Limit excess oxygen below 5% at the furnace exhaust flue as determined by a handheld monitor once per shift, (iii) Limit hot spot temperature to 2 900 degrees F and (iv) Use thermal blankets or similar techniques to minimize air infiltration until expansion joints are sufficiently closed, (c) Furnace Stabilization Phase Operational Limits (i) Burn no more than 90 MMscf of natural gas (ii) Limit excess oxygen below 5% at the furnace exhaust flue as determined by a handheld monitor once per shift and (iii) Limit hot spot temperature to 2 900 degrees F [USEPA Consent Decree 2 10-cv-00121-TSZ Section IV 7 c iii 3 entered on May 7 2010]
- 103 For any Operating Day when a Malfunction of the Furnace occurs for any period of time SGCI may elect to exclude the emissions generated during that Operating Day (Operating Days if the event covers more than one Operating Day) from the Emission Rate 30 day Rolling Average During the Malfunction Days excluded from the Emission Rate 30-day Rolling Average a CEMS shall be used to demonstrate compliance on a 24-hour Block Average with a 2 348 lb/day limit [USEPA Consent Decree 2 10-cv 00121-TSZ Section IV 7 c iii 4 entered on May 7 2010]
- 104 For any Operating Day where Maintenance activities on the Furnace are performed SGCI may elect to exclude the emissions generated during the Maintenance Day from the Emission Rate 30 day Rolling Average For any maintenance Day which is excluded from the 30 day rolling average, a CEMS shall be used to demonstrate compliance on a 24-hour Block average with a pound per day limit calculated using the equation below $NO_x \text{ OxyMaint} = [(MH \times 4 \times NO_x \text{ Oxy Abn}) / 24] + [(NH \times NO_x \text{ Oxy Abn}) / 24]$ where $NO_x \text{ OxyMaint}$ = NO_x emission limit for an Oxyfuel Furnace during a Maintenance Day, in pounds per day MH = Hours of Maintenance NH = Normal Hours = 24 - MH $NO_x \text{ Oxy Abn}$ = NO_x emission limit for an Oxyfuel Furnace during an Abnormally Low Production Rate Day in pounds per day = 587 lb/day for Furnace #1 [USEPA Consent Decree 2 10-cv 00121-TSZ Section IV 7 c iii 5, entered on May 7 2010]
- 105 CEMS Certification cannot occur during periods of Abnormally Low Production Rate Days, Furnace Startup Malfunction Maintenance, or Color Transition SGCI shall commence a new CEMS Certification on the Furnace on the first Operating Day after each CEMS Certification Event concludes on the Furnace [USEPA Consent Decree 2 10-cv 00121-TSZ Section IV 15 a, entered on May 7, 2010]

CONDITIONS CONTINUE ON NEXT PAGE

- 106 If a CEMS Certification Event occurs then the requirement to demonstrate compliance continuously with the limit for the Furnace will be suspended until Certification is completed (provided the seven-day test required for Certification is commenced the first Operating Day following the conclusion of the CEMS Certification Event) [USEPA Consent Decree 2 10-cv-00121-TSZ Section IV 7 f, entered on May 7, 2010]
- 107 For any Operating Day that SGCI is excluding emissions from the relevant Emission Rate 30-day Rolling Average it shall record the date, the exception (Abnormally Low Production Rate Day Furnace Startup, Furnace Malfunction Furnace Maintenance) under which it is excluded, a calculation of the applicable limit (pounds per day) according to the appropriate equations and the recorded emissions according to the CEMS (pounds per day) For any Operating Day excluded for Maintenance SGCI shall record the total number of hours during which maintenance occurred [USEPA Consent Decree 2 10-cv-00121-TSZ, Section IV 7 h, entered on May 7 2010]
- 108 Maintenance Days that SGCI elects to exclude from the Emission Rate 30 day Rolling Average shall not include more than 96 hours of Maintenance annually for Furnace #1 Maintenance shall mean activities necessary to keep the system or equipment working in its normal operating condition, including checker burning and raking [USEPA Consent Decree 2 10-cv-00121 TSZ Section IV 13 a entered on May 7, 2010]
- 109 Recordkeeping and Reporting requirements applicable to Furnace Startup (a) For the Initial Heating Phase (i) Total natural gas usage in Furnace #1 (in MMscf), (b) For the Refractory Soak and Seal Phase (i) Total natural gas usage in Furnace #1 (in MMscf) (ii) Excess oxygen percentage at Furnace exhaust flue (as determined by handheld monitor once per shift) (iii) Hot Spot Temperature (measured once per shift) and (iv) A certified statement asserting whether thermal blankets or similar techniques were used during this period (c) For the Furnace Stabilization Phase (i) Total natural gas usage in Furnace #1 (in MMscf) (ii) Excess oxygen percentage at the Furnace Exhaust flue (as determined by handheld monitor once per shift) and (iii) Average Hot Spot Temperature (measured once per shift) [USEPA Consent Decree 2 10 cv-00121 TSZ Section IV 7 i entered on May 7, 2010]
- 110 At all times, including periods of Abnormally Low Production Rate Days Furnace Startup Malfunction Maintenance and Color Transition SGCI shall, to the extent practicable maintain and operate all Furnaces in a manner consistent with good air pollution control practices for minimizing emissions [USEPA Consent Decree 2 10-cv-00121-TSZ, Section IV 12 entered on May 7 2010]

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: C-801-2-10

EXPIRATION DATE: 01/31/2015

EQUIPMENT DESCRIPTION:

85 MMBTU/HR (APPROXIMATELY) GLASS OXY-FUEL FIRED FURNACE #2 (SOUTH) WITH 3,600 KVA OF ELECTRIC BOOST AND (2) TWO PRODUCTION LINES (ONE WITH A 16 INDIVIDUAL SECTION (IS) FORMING MACHINE ONE WITH A 20 INDIVIDUAL SECTION (IS) FORMING MACHINE) WITH A MCGILL AIRCLEAN MODEL 3-700 SEMI-DRY SCRUBBER/ESP SYSTEM (COMMON TO FURNACE #1), A CONTINUOUS OPACITY MONITORING SYSTEM (COMS), A NOX CONTINUOUS EMISSIONS RATE MONITORING SYSTEM (CERMS), AND A SOX CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS)

PERMIT UNIT REQUIREMENTS

1. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 4102]
2. Particulate matter emissions shall not exceed the maximum allowable emission rate (lb/hr), as determined using the following formula: $E = 3.59 \times P^{0.62}$, where E equals the maximum allowable emission rate (lb/hr) and P equals the process weight rate (tons/hr) and is less than or equal to 30 tons/hr. [District Rule 4202, 4.0] Federally Enforceable Through Title V Permit
3. 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 (12/17/92), by using EPA method 9. 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)] Federally Enforceable Through Title V Permit
4. Discharge of sulfur compounds shall not exceed in concentration at the point of discharge 0.2 percent by volume calculated as SO₂, on a dry basis averaged over 15 consecutive minutes. [District Rule 4801, 3.1]
5. The new exhaust system for furnaces #1 and #2 shall be designed, installed, and maintained according to good engineering practices, including minimizing dilution air in the stack exhaust stream prior to measurement of opacity. [USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.a, issued June 22, 2005] Federally Enforceable Through Title V Permit
6. The permittee shall maintain and operate this oxy-fuel furnace such that the combustion oxidant is at least 90% oxygen. [USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.12.a.iii, issued June 22, 2005] Federally Enforceable Through Title V Permit
7. The permittee shall maintain and operate staged combustion low NO_x oxy-fuel burners on this furnace. [USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.12.a.iv, issued June 22, 2005] Federally Enforceable Through Title V Permit
8. The permittee shall install a fused cast crown on this oxy-fuel furnace. The permittee shall maintain the fused cast crown for the life of the oxy-fuel furnace unless it can show, at the time of any necessary repairs to the fused cast crown, that the fused cast crown has proven technically or economically infeasible to maintain. [USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.12.a.v, issued June 22, 2005] 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.

9. Furnace shutdown shall not exceed 20 days, measured from the time furnace operations drop below the idle threshold specified in Section 3.17 of District Rule 4354 to when all emissions from the furnace cease. [District Rule 4354, 5.6.1 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.12.f.i, issued June 22, 2005] Federally Enforceable Through Title V Permit
10. During the shutdown period, the emission control systems shall be in operation as soon as technologically feasible to minimize emissions. [District Rule 4354, 5.6.2 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.12.f.ii, issued June 22, 2005] Federally Enforceable Through Title V Permit
11. The emission control systems shall be in operation at all times during normal operations, and whenever technologically feasible including during startup, idling, transition, and shutdown conditions. [District Rule 4354, 5.5.6, 5.6.2, 5.7.1 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.12.g.iv, issued June 22, 2005] Federally Enforceable Through Title V Permit
12. Scheduled or preventative maintenance of the emission control systems shall only occur during idling or after shutdown. [USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.12.g.v, issued June 22, 2005] Federally Enforceable Through Title V Permit
13. When a malfunction of this oxy-fuel furnace or any of the air pollution equipment occurs, the permittee shall attempt to repair the malfunction as soon as practicable, but in no event longer than 12 hours. Off-shift labor and overtime must be utilized, to the extent practicable, to ensure that such repairs are made expeditiously. If after 12 hours, the malfunction is not correct, the oxy-fuel furnace must be taken to idling within 12 additional hours. Malfunction shall mean a sudden and unavoidable failure or breakdown of air pollution control equipment that: (a) is caused by circumstances beyond the control of the owner and/or operator; (b) is not the result of intent, neglect, or disregard of air pollution control laws, rules or regulations; (c) is not the result of improper maintenance; and (d) is not an excessively recurrent breakdown of the same equipment. [USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.12.h, issued June 22, 2005] Federally Enforceable Through Title V Permit
14. The furnace shall be equipped with a continuous emission monitoring system (CEMS) for CO and O₂. This CEM shall be located in the duct for furnace #2 upstream of the point where furnace #1 and furnace #2 emissions merge into a common duct. [District Rule 4354, 5.9.2 & 6.6; and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.c.i, issued June 22, 2005] Federally Enforceable Through Title V Permit
15. The furnace shall be equipped with a continuous emissions rate monitoring system (CERMS) for NO_x. This CERMS shall be located in the duct for furnace #2 upstream of the point where furnace #1 and furnace #2 emissions merge into a common duct. [District Rule 4354, 5.9.1 & 6.6; and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.c.ii, issued June 22, 2005] Federally Enforceable Through Title V Permit
16. The common exhaust stack for furnaces #1 and #2 shall be equipped with a continuous opacity monitoring system (COMS) downstream of the control equipment. Continuous emissions monitor(s) shall meet the requirements of 40 CFR part 60.13 and 40 CFR part 60 Appendix B (Performance Specification 1), and applicable sections of Rule 1080 (Stack Monitoring). [District Rule 1080 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.c.iii, issued June 22, 2005] Federally Enforceable Through Title V Permit
17. The common exhaust stack for furnaces #1 and #2 shall be equipped with a continuous emission monitor (CEM) for SO_x at the inlet of the scrubber and downstream of the control equipment. Continuous emissions monitor(s) shall meet the requirements of 40 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 applicable sections of Rule 1080 (Stack Monitoring) (as amended December 17, 1992). [District Rule 1080 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.c.i, issued June 22, 2005]
18. Continuous emissions monitor(s) shall meet the requirements of 40 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 applicable sections of Rule 1080 (Stack Monitoring). [District Rule 4354, 5.9 & 6.6; and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.c.i, issued June 22, 2005] Federally Enforceable Through Title V Permit
19. 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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

20. 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
21. 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
22. The owner/operator shall perform a relative accuracy test audit (RATA) as specified by 40 CFR Part 60, Appendix F, 5.1.1 at least once every four calendar quarters. 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
23. Audits of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and compliance source testing are both 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
24. 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
25. Permittee shall submit a written report 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 (averaging period used for data reporting shall correspond to the averaging period for each respective emission standard); corrective actions taken and preventive measures adopted; applicable time and date of each period during a 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
26. 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_x, CO, and O₂ analyzer during District inspections. The sampling ports shall be located upstream of the point where furnace #1 and furnace #2 emissions merge into a common duct. 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 Emission Monitoring and Testing. [District Rule 1081] Federally Enforceable Through Title V Permit
27. Compliance demonstration (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 15 days prior to testing. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
28. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (as amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
29. Annual emissions from furnace #1 and #2 combined shall not exceed either of the following limits: 265,632 lb-SO_x/year or 164,719 lb-PM₁₀/year. [District Rule 2201] Federally Enforceable Through Title V Permit
30. Annual emissions from this furnace shall not exceed either of the following limits: 252,473 lb-NO_x/year, 95,618 lb-PM₁₀/year, and 36,593 lb-VOC/year on a twelve (12) month rolling average. [District Rule 2201] Federally Enforceable Through Title V Permit
31. Compliance with the Annual Emission Limits for NO_x, PM₁₀, and VOC will be demonstrated utilizing the following calculation procedure: Annual Emissions (lb/year) = (a x b), where a = annual container glass pull rate (tons/year, based on a 12-month rolling average) and b = [for NO_x: CEMS reading] [for PM₁₀ and VOC: average source test emission factor (lb/ton of container glass pulled, based on source tests performed in the previous 12 months)]. [District Rule 2201] 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.

32. The container glass pull rate from furnace #2 shall not exceed 600 U.S. short tons per day. [District Rules 2201 and 4354, 6.1] Federally Enforceable Through Title V Permit
33. Except during idling, start-up, or shutdown, Particulate Matter emissions (as PM10) shall not exceed 0.5 pounds per ton glass pulled on a block 24-hour average from the glass melting furnace. [District Rule 4354, 5.4] Federally Enforceable Through Title V Permit
34. Except during idling, transition, start-up, or shutdown, emissions rates from this unit shall not exceed any of the following limits: 0.8 lb-SOx/ton of container glass pulled, 0.2 lb-CO/ton of container glass pulled, or 0.2 lb-VOC/ton of container glass pulled. SOx emissions limit is based on a 24 hour rolling average. CO and VOC emissions limits are based on a three hour rolling average. [District Rules 2201 and 4354, 5.2 & 5.3] Federally Enforceable Through Title V Permit
35. Emissions from this furnace shall not exceed 120.0 lb-CO/day (equivalent to 0.2 lb-CO/ton of container glass pulled). [District Rule 2201] Federally Enforceable Through Title V Permit
36. Except during idling, transition, start-up, or shutdown, NOx emissions from this furnace shall not exceed 1.3 lbs/ton of glass produced, on a 24 hour block average basis. [District Rules 2201 and 4354, 5.1, and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.12.a.i and ii, issued June 22, 2005] Federally Enforceable Through Title V Permit
37. The NOx emission rate measured by the CERMS in pounds per hour shall be converted to pounds of NOx per ton of glass pulled according to the following equation: $\text{NOx emissions rate (lbs-NOx/ton of glass pulled)} = [\text{NOx CERMS (lbs-NOx/hr)}] / [\text{glass pull rate (tons of glass pulled/hr)}]$. [USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.d, issued June 22, 2005] Federally Enforceable Through Title V Permit
38. The pollutant mass emission rate in lb/hr shall be converted to lb pollutant/ton of glass pulled as specified in Section 8.1 of Rule 4354. The CO and VOC emission concentrations shall be corrected to 8.0 percent oxygen as specified in Section 8.2 of 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 Sections 8.1 or 8.2 of 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 Sections 8.1 or 8.2 of 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, 8.0] Federally Enforceable Through Title V Permit
39. During idling and transition, NOx emissions from this oxy-fuel furnace (calculated as a block 24-hour period) shall not exceed 780.0 pounds per day. NOx emissions shall be determined by the NOx and flow monitoring required by this permit. When idling or a transition occurs for less than 24 hours in a day, this NOx emission limit shall apply and NOx emissions from 12:00 a.m. through 11:59 p.m. on that day shall be included in the calculation of the total daily NOx emissions. [District Rule 4354, 5.4.2 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Sections V.12.g.i and V.12.g.ii, issued June 22, 2005] Federally Enforceable Through Title V Permit
40. This oxy-fuel furnace shall have no more than six transitions during any calendar year. Once a transition begins, production must exceed 50% of the permitted production capacity or be less than 25% of the permitted production capacity for at least 24 hours before another transition can be initiated. [USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.12.g.iii, issued June 22, 2005] Federally Enforceable Through Title V Permit
41. NOx, CO, VOC, SOx, and PM10 emissions during idling shall not exceed the emissions limits as calculated using the following equation: $\text{NOx, CO, VOC, SOx, and PM10 (lb/day)} = (\text{Applicable emission limit (in lbs/ton)}) \times (\text{Furnace permitted production capacity (in tons/day)})$. [District Rule 4354, 5.7.2] Federally Enforceable Through Title V Permit
42. 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, 6.7] 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.

43. The length of time allowed for a start-up shall be determined by the APCO and EPA on a case-by-case basis, in accordance with District Rule 4354 (amended 09/16/2010). [District Rule 4354, 5.5.4] Federally Enforceable Through Title V Permit
44. The permittee shall operate and maintain the electrostatic precipitator (ESP) system to reduce particulate emissions to 0.2 pounds of particulate per ton of glass pulled, using EPA Method 5 as set forth in 40 C.F.R. Part 60, Appendix A, and 0.45 pounds of particulate per ton of glass pulled, using the combined results of EPA Methods 5 and 202 as set forth in 40 C.F.R. Part 60, Appendix A. [District Rule 2201 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.12.c.i, issued June 22, 2005] Federally Enforceable Through Title V Permit
45. Monitoring of the ESP shall comply with the requirements of 40 CFR Part 64. [District Rule 4354, 5.9.4; and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.c.iv, issued June 22, 2005] Federally Enforceable Through Title V Permit
46. The ESP shall be operated at a secondary voltage of at least 12 kV. [District Rules 2520, 9.3.2 and 4354, 5.9.4; and 40 CFR 64] Federally Enforceable Through Title V Permit
47. The ESP secondary voltage shall be monitored and recorded two times during every eight hours of operation. [District Rules 2520, 9.3.2 & 9.4 and 4354, 5.9.4; and 40 CFR 64] Federally Enforceable Through Title V Permit
48. If the monitored ESP secondary voltage is below the minimum allowable voltage, the permittee shall return the voltage to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the ESP secondary voltage readings continue to be below the allowable range after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100 (as amended December 17, 1992), the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2520, 9.5 and 4354, 5.9.4; and 40 CFR 64] Federally Enforceable Through Title V Permit
49. The permittee shall operate and maintain the semi-dry scrubber system to reduce SO_x emissions by at least 85%, excluding days when the scrubber inlet's daily average concentration of SO₂ is 353 ppm_{dv} or less, in which case the scrubber outlet's daily average concentration of SO₂ shall be reduced to at least 53 ppm_{dv}, except during periods of scheduled or preventative maintenance. The averaging period for the reduction efficiency shall be calculated on a rolling 30-day average basis, excluding days when the scrubber inlet's daily average concentration of SO₂ is 353 ppm_{dv} or less. Compliance with the SO_x reduction efficiency and daily concentration standard shall be demonstrated by the combined ductwork scrubber inlet and downstream of the control equipment outlet SO₂ continuous concentration monitoring. [USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.12.b, issued June 22, 2005] Federally Enforceable Through Title V Permit
50. This unit shall be fired on PUC regulated natural gas or LPG backup fuel only. [District Rule 2201] Federally Enforceable Through Title V Permit
51. Commercial arsenic shall not be used as a raw material in this glass furnace. This prohibition is required for continued exemption from the requirements of 40 CFR 61, Subpart N. [District Rule 2520, 9.1] Federally Enforceable Through Title V Permit
52. Idling is defined as the operation of the furnace at less than 25% of the permitted production capacity or fuel use capacity as stated on the Permit to Operate. [District Rule 4354, 3.17] Federally Enforceable Through Title V Permit
53. The emission control system shall be in operation whenever technologically feasible during idling to minimize emissions. Emissions of NO_x, CO, VOC, SO_x, and PM₁₀ during idling shall not exceed the amount as calculated pursuant to section 5.7.2 of rule 4354. Notifications shall be performed and records kept in accordance with section 6.7 of rule 4354. [District Rule 4354, 5.7.1, 5.7.2 & 5.7.3] Federally Enforceable Through Title V Permit
54. Transition shall mean a period of no more than 24 hours in duration when the operation of the oxy-fuel furnace is at less than 50% but more than 25% of the permitted production capacity. [USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section III.aa, issued June 22, 2005] 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.

55. Start-up shall mean the period of time, after initial construction, a furnace rebuild, or a shutdown, during which the glass melting furnace is heated to operating temperature by the primary furnace combustion systems, and systems and instrumentation are brought to stabilization and calibrated. The operator shall submit a request for a start-up exemption to the APCO, ARB, and EPA in conjunction with or in advance of an application for Authority to Construct (ATC) associated with a furnace rebuild. The emission control system shall be in operation as soon as technologically feasible during start-up to minimize emissions and notifications shall be performed and records kept in accordance with section 6.7 of rule 4354. [District Rule 4354, 3.37 & 5.5; and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section III.z, issued June 22, 2005] Federally Enforceable Through Title V Permit
56. Shutdown shall mean the period of time during which the glass melting furnace is purposely allowed to cool from its operating temperature and molten glass is removed from the tank for the purpose of a furnace rebuild or reconstruction, or during a natural gas curtailment, or, subject to EPA's approval, when it is commercially necessary. [District Rule 4354, 3.36; and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section III.y, issued June 22, 2005] Federally Enforceable Through Title V Permit
57. The duration of shutdown, as measured from the time the furnace operations drop below the idle threshold specified in section 3.17 of rule 4354 to when all emissions from the furnace cease, shall not exceed 20 days. The emission control system shall be in operation whenever technologically feasible during shutdown to minimize emissions. Notifications shall be performed and records kept in accordance with section 6.7 of rule 4354. [District Rule 4354, 5.6.1, 5.6.2 & 5.6.3] Federally Enforceable Through Title V Permit
58. Compliance testing for particulate shall be conducted at the outlet of the combined furnace #1 and furnace #2 ductwork in accordance with USEPA Reference Methods 1, 2, 5, and 202 as set forth in 40 CFR Part 60, Appendix A. Each test shall consist of three runs. The sampling time and volume for each run shall be at least 60 minutes and 31.8 dry standard cubic feet. Thereafter, compliance testing of particulate matter shall be conducted on an annual basis within 60 days of the anniversary date of the latest compliance testing. [USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.b.ii, issued June 22, 2005] Federally Enforceable Through Title V Permit
59. Source testing to measure NO_x, CO, and VOC emissions shall be conducted once every calendar year, but no more than every 18 months and not sooner than every 6 months. [District Rules 2201 and 4354, 6.4] Federally Enforceable Through Title V Permit
60. Source testing to measure SO_x and PM₁₀ emissions shall be conducted at the outlet of the combined furnace #1 and furnace #2 ductwork once every calendar year, but no more than every 18 months and not sooner than every 6 months. [District Rules 2201 and 4354, 6.4] Federally Enforceable Through Title V Permit
61. Source testing shall be conducted using the following test methods: NO_x (heat input basis) - USEPA Method 19, NO_x (ppmv) - USEPA Method 7E or CARB Method 100; CO (ppmv) - USEPA Method 10 or CARB Method 100; VOC (ppmv) - USEPA Method 25A, expressed in terms of carbon, or ARB Method 100; VOC (exempt compounds) - EPA Method 18 or ARB Method 422; Stack gas oxygen, carbon dioxide, excess air and dry molecular weight - USEPA Method 3 or 3A, or CARB Method 100; Stack gas velocity and volumetric flow rate - USEPA Method 2; SO_x - USEPA Method 6C, EPA Method 8, or CARB Method 100; Filterable PM₁₀ - EPA Method 5 (all PM collected shall be counted as PM₁₀), EPA Method 201, or EPA Method 201A; Condensable PM₁₀ - EPA Method 202 with procedures specified in Rule 4354, sections 6.5.9.2.1 through 6.5.9.2.3. [District Rules 1081, 2520, 9.3.2, and 4354, 6.5] Federally Enforceable Through Title V Permit
62. Source test results shall be representative of operations equal to or greater than 60% of the permitted production capacity or fuel use capacity. [District Rule 4354, 6.4.2] Federally Enforceable Through Title V Permit
63. Certification of the continuous opacity monitoring system (COMS) shall be demonstrated by meeting the requirements of 40 CFR Part 60.13 and 40 CFR Part 60, Appendix B, Performance Specification 1. [USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.b.iii, issued June 22, 2005] 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.

64. Operators shall maintain daily records of the following items: total hours of operation, the quantity of glass pulled from each furnace, NOx emission rate in lb/ton glass pulled, CO emission rate, VOC emission rate, SOx emission rate in lb/ton glass pulled, PM10 emission rate in lb/ton glass pulled, source tests and source test results; maintenance and repair; malfunction, idling, start-up, and shutdown. For pollutants monitored using an approved parametric monitoring arrangement, operators shall maintain records of the acceptable range for each approved key system operating parameter, as established during source test, and shall record the operating values of the key system operating parameters at the approved recording frequency. [District Rules 2201 and 4354, 6.3.1, 6.3.2 & 6.3.3] Federally Enforceable Through Title V Permit
65. All records shall be maintained on the premises for a period of at least five years and shall be made available for District inspection upon request. [District Rules 2201 and 4354, 6.3.4] Federally Enforceable Through Title V Permit
66. The permittee shall maintain the following information recorded in a permanent form, which may include electronic files, suitable for inspection: A file of all continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by 40 CFR Part 60, Appendices A, B, and F; Operating logs that contain the following data on a daily basis: hours of operation, glass pull rate (in tons of glass pulled), type and quantity of fuel used, NOx emissions (in pounds of NOx per ton of glass pulled, calculated on a block 24-hour average), percent cullet used, electric boost used (in kilowatt-hours), oxygen quantity, and oxygen content of the combustion oxidant for the oxy-fuel furnace. The logs shall indicate periods of idling, transition, start-up, and shutdown, as well as any periods of maintenance, repair, or malfunction that affect the levels of emissions. This information, including all electronic files, shall be recorded and maintained until this oxy-fuel furnace is rebuilt, reconstructed, or ceases operation. [USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Sections V.14.a and V.14.b, issued June 22, 2005] Federally Enforceable Through Title V Permit
67. During idling and transition periods the permittee shall maintain a log that includes the following data on a daily basis: hours in idling or transition, glass pull rate (in tons of glass pulled), and pounds of NOx emitted (calculated as a block 24-hour period). [USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.14.c, issued June 22, 2005] Federally Enforceable Through Title V Permit
68. Until termination of the Consent Decree, a copy of the operating logs, including all electronic files, for the oxy-fuel furnace required to be maintained by the Consent Decree shall be submitted to the District and EPA on an annual basis on or before March 1 each year pursuant to Section XIV (Notices) of the Consent Decree. [USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section VII.25.b, issued June 22, 2005] Federally Enforceable Through Title V Permit
69. Within 30 days after the end of each calendar-year quarter (i.e., by April 30, July 30, October 30, and January 30), the permittee shall submit to USEPA and the District a "Quarterly Excess Emissions, CERMS, CEMS, and COMS Report" that conforms to the format set forth in 30 CFR Part 60.7(c) and includes the following: The magnitude of excess emissions, computed in accordance with 40 CFR Part 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions; Specific identification of each period of excess emissions that occur during idling, start-ups, shutdowns, and malfunctions, together with the nature and cause of any malfunction (if known) and the corrective action taken or preventative measure adopted; The date and time identifying each period during which the continuous monitoring system was inoperative (except zero and span checks) and the nature of the system repairs or adjustments; and When no excess emissions have occurred or the continuous monitoring system has not been inoperative, repaired, or adjusted, such information shall be stated in the report. [USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Sections V.14.d.i-iv, issued June 22, 2005] Federally Enforceable Through Title V Permit
70. Permittee shall submit an Authority to Construct application for compliance with Section 5.1 Tier 3 NOx limits by June 1, 2012, and be in full compliance with Section 5.1 Tier 3 NOx limits by January 1, 2014. [District Rule 4354, 7.1.1] 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.

71. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4201 (as amended December 17, 1992), District Rule 4202 (as amended December 17, 1992), District Rule 4354 (as amended September 16, 2010), and District Rule 4801 (as amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
72. The requirements of District Rule 4301 (as amended December 17, 1992) were determined to not apply to this unit. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
73. The requirements of 40 CFR 61, Subpart N were determined to not apply to this unit. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
74. Compliance with a Sulfuric Acid mist emission limit of 1.0 pound per ton of glass produced shall be demonstrated by a stack test performed using Conditional Test Method 13A of B on this furnace on or before December 31, 2011. Stock testing shall be required to be performed after this initial test only once during the life of the Title V permit renewal. [USEPA Consent Decree 2:10-cv-00121-TSZ, Section IV.8.n, filed 4/22/2010] Federally Enforceable Through Title V Permit
75. Except during periods of startup, shutdown, or malfunction: either the 3-hour block average production-based PM mass emission rate must not exceed 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 0.02 lb/ton of glass produced. [40 CFR 63.11451 & 63.11455] Federally Enforceable Through Title V Permit
76. Performance tests for compliance with 40 CFR 63.11451 emission rates shall be conducted as specified in 40 CFR 63.11452. [40 CFR 63.11452] Federally Enforceable Through Title V Permit
77. Monitoring, inspection, and recordkeeping requirements for compliance with 40 CFR 63.11451 emission rates shall be conducted as specified in 40 CFR 63.11454, 63.11455, and 63.11457. [40 CFR 63.11454; 63.11455; & 63.11457] 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 6/8/2006

Container Glass Production - Furnace

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
CO	natural gas-fired oxy-fuel furnace with CO emissions of < or = 0.20 lb/ton of glass pulled (on a pounds per day basis)		electric furnace
NOx	natural gas-fired oxy-fuel furnace using LPG backup fuel and NOx emissions of < or = 1.5 lb/ton of glass pulled	natural gas-fired oxy-fuel furnace using LPG backup fuel and NOx emissions of < or = 1.3 lb/ton of glass pulled	electric furnace
PM10	natural gas-fired oxy-fuel furnace with an electrostatic precipitator (ESP) in series with a semi-dry scrubber, using LPG backup fuel, and PM10 emissions of < or = 0.45 lb/ton of glass pulled		electric furnace
SOx	natural gas-fired oxy-fuel furnace using LPG backup fuel and NOx emissions of < or = 0.8 lb/ton of glass pulled		electric furnace
VOC	natural gas-fired furnace with VOC emissions of < or = 0.2 lb/ton of glass pulled	<p>natural gas-fired furnace with a catalytic oxidizer and VOC emissions of < or = 0.01 lb/ton of glass pulled (95% control efficiency)</p> <p>natural gas-fired oxy-fuel furnace with LPG backup fuel, and VOC emissions of < or = 0.01 lb/ton of glass pulled (95% control efficiency)</p> <p>natural gas-fired furnace with VOC emission of 3.4 ppmv at 15% O2 dry and VOC emissions of < or = 0.184 lb/ton of glass pulled (block 24-hour average) (8% control efficiency)</p>	electric furnace

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

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

Top Down BACT Analysis for Permit Units C-801-1-16 and '2-11

NOx Top-Down BACT Analysis for Permit Units C-801-1-16 and '2-11

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	natural gas-fired oxy-fuel furnace using LPG backup fuel and NOx emissions of < or = 1.5 lb/ton of glass pulled	natural gas-fired oxy-fuel furnace using LPG backup fuel and NOx emissions of < or = 1.3 lb/ton of glass pulled	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 furnaces in this project are existing pieces 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	Natural gas-fired oxy-fuel furnace using LPG backup fuel and NOx emissions of < or = 1.3 lb/ton of glass pulled	N
2	Natural gas-fired oxy-fuel furnace using LPG backup fuel and NOx emissions of < or = 1.5 lb/ton of glass pulled	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 furnaces is satisfied with the following:

NO_x: Natural gas-fired oxy-fuel furnace using LPG backup fuel and NO_x emissions of < or = 1.3 lb/ton of glass pulled (Technologically Feasible)

The applicant operates a natural gas-fired oxy-fuel furnace with LPG as a backup fuel and NO_x emissions of 1.3 lb/ton of glass pulled. Therefore, the BACT requirements for NO_x are satisfied.

PM₁₀ Top-Down BACT Analysis for Permit Units C-801-1-16 and '2-11

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 ₁₀	natural gas-fired oxy-fuel furnace with an electrostatic precipitator (ESP) in series with a semi-dry scrubber, using LPG backup fuel, and PM ₁₀ emissions of < or = 0.45 lb/ton of glass pulled		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 furnaces in this project are existing pieces of equipment, the Alternate Basic Equipment option of electric furnace is not applicable for this project.

There are no other technologically infeasible options for PM₁₀.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

Rank	Control Technology	Achieved in Practice
1	Natural gas-fired oxy-fuel furnace with an electrostatic precipitator (ESP) in series with a semi-dry scrubber, using LPG backup fuel, and PM ₁₀ emissions of < or = 0.45 lb/ton of glass pulled	Y

There are no remaining control technologies for PM₁₀.

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 PM₁₀ 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 furnaces is satisfied with the following:

PM₁₀: Natural gas-fired oxy-fuel furnace with an electrostatic precipitator (ESP) in series with a semi-dry scrubber, using LPG backup fuel, and PM₁₀ emissions of < or = 0.45 lb/ton of glass pulled (Achieved in Practice)

The applicant operates a natural gas-fired oxy-fuel furnace with LPG as a backup fuel and PM₁₀ emissions of 0.45 lb/ton of glass pulled. Therefore, the BACT requirements for PM₁₀ are satisfied.

ATTACHMENT C
Certificate of Conformity

San Joaquin Valley Unified Air Pollution Control District

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

- SIGNIFICANT PERMIT MODIFICATION ADMINISTRATIVE
 MINOR PERMIT MODIFICATION AMENDMENT

COMPANY NAME: Saint-Gobain Containers, Inc.	FACILITY ID: C - 801
1. Type of Organization: <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Sole Ownership <input type="checkbox"/> Government <input type="checkbox"/> Partnership <input type="checkbox"/> Utility	
2. Owner's Name: Saint-Gobain Containers, Inc.	
3. Agent to the Owner: n/a	

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

- Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s).
- Based on information and belief formed after reasonable inquiry, the equipment identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.
- Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.
- Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

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

Michael J. Gibbons
Signature of Responsible Official

5/31/13
Date

Michael J. Gibbons

Name of Responsible Official (please print)

Plant Manager

Title of Responsible Official (please print)

ATTACHMENT D

CO Modeling Ambient Air Quality Analysis

San Joaquin Valley Unified Air Pollution Control District

MEMORANDUM

DATE: February 7, 2014

TO: Stanly Tom, AQE—Permit Services

FROM: Esteban Gutierrez, AQS—Technical Services

SUBJECT: CO Modeling for Saint-Gobain Containers. (C-0801-1-16 & 2-11)

As per your request, Technical Services performed CO modeling for a Natural Gas Furnace. Per the engineer only an increase in CO will occur therefore modeling for the other criteria pollutants is not necessary. The increased emission rates used for CO modeling are as follows:

	Daily (lb)	Yearly (lb)
Furnace 1-16	450.0	128,707
Furnace 2-11	120	42,540

The results from the Modeling are as follows:

Criteria Pollutant Modeling Results*

Values are in ug/m³

C-0801-1-16 & 2-11	1 Hour	3 Hours	8 Hours.	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO _x	--	X	X	X	--
SO _x	--	--	X	--	--
PM ₁₀	X	X	X	--	--

*Results were taken from the attached PSD spreadsheet.

Conclusion

The CO modeling runs indicate that the emissions from the proposed project will not have an adverse impact on the State and National AAQS. Therefore, no further modeling will be required to demonstrate that **the AAQS or EPA's level of significance will not be exceeded.**

AAQA for Co increase (C801-1-16 & 2-11)
All Values are in Micrograms per Cubic Meter

	NOx 1 Hour	NOx Annual	CO 1 Hour	CO 8 Hour	SOx 1 Hour	SOx 3 Hour	SOx 24 Hour	SOx Annual	PM 24 Hour	PM Annual
STCK1	0.0E+00	0.0E+00	1.6E+02	7.2E+01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00
STCK2	0.0E+00	0.0E+00	4.4E+01	1.9E+01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00
Background	0.0E+00	0.0E+00	3.6E+03	2.7E+03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.00E+00	0.00E+00
Facility Totals	0.0	0.0	3,812.7	2,770.5	0.0	0.0	0.0	0.0	0.0	0.0
AAQS	188.7	56.0	23,000.0	10,000.0	195.0	1,300.0	105.0	80.0	50.0	30.0
	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass

EPA's Significance Level (ug/m³)

NOx 1 Hour	NOx Annual	CO 1 Hour	CO 8 Hour	SOx 1 Hour	SOx 3 Hour	SOx 24 Hour	SOx Annual	PM 24 Hour	PM Annual
0.0	1.0	2000.0	500.0	0.0	25.0	5.0	1.0	5.0	1.0

AAQA Emission (g/sec)

<i>Device</i>	NOx 1 Hour	NOx Annual	CO 1 Hour	CO 8 Hour	SOx 1 Hour	SOx 3 Hour	SOx 24 Hour	SOx Annual	PM 24 Hour	PM Annual
STCK1	0.00E+00	0.00E+00	2.36E+00	2.36E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
STCK2	0.00E+00	0.00E+00	6.30E-01	6.30E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

ATTACHMENT E

Draft Authority to Construct Permits

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: C-801-1-16

LEGAL OWNER OR OPERATOR: SAINT-GOBAIN CONTAINERS, INC
MAILING ADDRESS: 24441 AVENUE 12
ATTN: ENVIRO MANAGER/S. ARUNAGIRI
MADERA, CA 93637

LOCATION: 24441 AVENUE 12 & ROAD 24 1/2
MADERA, CA 93637

EQUIPMENT DESCRIPTION:

MODIFICATION OF 75 MMBTU/HR (APPROXIMATELY) OXY-FUEL NATURAL GAS-FIRED (WITH PROPANE BACKUP) CONTAINER GLASS MELTING FURNACE #1 (NORTH) WITH COMBUSTION TEC LOW NOX BURNERS OR CUSTOM DILUTE COMBUSTION BURNERS, 2,000 KVA ELECTRIC BOOST, NOX, SOX, CO AND O2 CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS), AND THREE (3) PRODUCTION LINES EACH WITH A 10 INDIVIDUAL SECTION (IS) FORMING MACHINE WITH A MCGILL AIRCLEAN MODEL 3-700 SEMI-DRY SCRUBBER/ESP SYSTEM (COMMON TO FURNACE #2), AND A CONTINUOUS OPACITY MONITORING SYSTEM (COMS): CHANGE SOX EMISSION FACTOR LIMIT AVERAGING PERIOD FROM 24 HOUR ROLLING AVERAGE TO 30 DAY ROLLING AVERAGE AND REVISE PARTICULATE MATTER ALTERNATE MONITORING FROM MONITORING ELECTROSTATIC PRECIPITATOR SECONDARY VOLTAGE TO ELECTROSTATIC PRECIPITATOR AVERAGE TOTAL POWER (SECONDARY VOLTAGE AND SECONDARY CURRENT)

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) permit C-801-1-17 shall be implemented concurrently, or prior to the modification and startup of the equipment authorized by this Authority to Construct permit. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 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 Marjolle, Director of Permit Services

C-801-1-16 : Jun 2 2014 11:23AM - TOMS : Joint Inspection NOT Required

4. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 4102]
5. Particulate matter emissions shall not exceed the maximum allowable emission rate (lb/hr), as determined using the following formula: $E = 3.59 \times P^{0.62}$, where E equals the maximum allowable emission rate (lb/hr) and P equals the process weight rate (tons/hr) and is less than or equal to 30 tons/hr. [District Rule 4202] Federally Enforceable Through Title V Permit
6. 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 (12/17/92), by using EPA method 9. 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 Madera County Rule 401] Federally Enforceable Through Title V Permit
7. Discharge of sulfur compounds shall not exceed in concentration at the point of discharge 0.2 percent by volume calculated as SO₂, on a dry basis averaged over 15 consecutive minutes. [District Rule 4801]
8. The furnace shall be equipped with a continuous emission monitor (CEM) for NO_x, CO, and O₂. This CEM shall be located in the duct for furnace #1 upstream of the point where furnace #1 and furnace #2 emissions merge into a common duct. [District Rule 4354] Federally Enforceable Through Title V Permit
9. Continuous emissions monitor(s) shall meet the requirements of 40 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 applicable sections of Rule 1080 (Stack Monitoring). [District Rule 4354] Federally Enforceable Through Title V Permit
10. The common exhaust stack for furnaces #1 and #2 shall be equipped with a continuous opacity monitoring system (COMS) downstream of the control equipment. Continuous emissions monitor(s) shall meet the requirements of 40 CFR part 60.13 and 40 CFR part 60 Appendix B (Performance Specification 1), and applicable sections of Rule 1080 (Stack Monitoring). [District Rule 1080] Federally Enforceable Through Title V Permit
11. The common exhaust stack for furnaces #1 and #2 shall be equipped with a continuous emission monitor (CEM) for SOX at the inlet of the scrubber and downstream of the control equipment. Continuous emissions monitor(s) shall meet the requirements of 40 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 applicable sections of Rule 1080 (Stack Monitoring). [District Rules 1080 and 4354] Federally Enforceable Through Title V Permit
12. 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
13. 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
14. 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
15. The owner/operator shall perform a relative accuracy test audit (RATA) as specified by 40 CFR Part 60, Appendix F, 5.1.1 at least once every four calendar quarters. 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
16. Audits of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and compliance source testing are both 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

DRAFT
CONDITIONS CONTINUE ON NEXT PAGE

17. 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
18. Permittee shall submit a written report 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 (averaging period used for data reporting shall correspond to the averaging period for each respective emission standard); corrective actions taken and preventive measures adopted; applicable time and date of each period during a 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
19. 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_x, CO, and O₂ analyzer during District inspections. The sampling ports shall be located upstream of the point where furnace #1 and furnace #2 emissions merge into a common duct. 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 Emission Monitoring and Testing. [District Rule 1081] Federally Enforceable Through Title V Permit
20. Compliance demonstration (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 15 days prior to testing. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
21. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (as amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
22. The container glass pull rate from furnace #1 shall not exceed either of the following limits: 450 U.S. short tons per day or 157,680 U.S. short tons per year. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
23. Annual emissions from furnace #1 and #2 combined shall not exceed either of the following limits: 265,632 lb-SO_x/year or 164,719 lb-PM₁₀/year. [District Rule 2201] Federally Enforceable Through Title V Permit
24. Except during idling, start-up, or shutdown, emissions rates from this unit shall not exceed any of the following limits: 0.8 lb-SO_x/ton of container glass pulled, 1.0 lb-CO/ton of container glass pulled, or 0.25 lb-VOC/ton of container glass pulled. SO_x emissions limit is based on a 30 day rolling average. CO and VOC emissions limits are based on a three hour rolling average. [District Rules 2201 and 4354]
25. 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_x, 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]
26. Emissions from this furnace shall not exceed either of the following limits: 450.0 lb-CO/day or 21.6 lb-VOC/day. [District Rule 2201]
27. Except during idling, start-up, or shutdown, Particulate Matter emissions (as PM₁₀) shall not exceed 0.5 pounds per ton glass pulled on a block 24-hour average from the glass melting furnace. [District Rule 4354] Federally Enforceable Through Title V Permit
28. Except during idling, start-up, or shutdown, NO_x emissions from this furnace shall not exceed 1.3 lbs/ton of glass produced, on a 30 day rolling average basis. [District Rules 2201 and 4354 and USEPA Consent Decree 2:10-cv-00121-TSZ, Section III.6.t, IV.7.c.iii.1, entered on May 7, 2010]
29. NO_x, CO, VOC, SO_x, and PM₁₀ emissions during idling shall not exceed the emissions limits as calculated using the following equation: NO_x, CO, VOC, SO_x, or PM₁₀ (lb/day) = (Applicable emission limit (in lbs/ton)) x (Furnace permitted production capacity (in tons/day)). [District Rule 4354] Federally Enforceable Through Title V Permit

DRAFT
CONDITIONS CONTINUE ON NEXT PAGE

30. 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] Federally Enforceable Through Title V Permit
31. The length of time allowed for a start-up shall be determined by the APCO and EPA on a case-by-case basis, in accordance with District Rule 4354. [District Rule 4354] Federally Enforceable Through Title V Permit
32. The permittee shall operate and maintain the electrostatic precipitator (ESP) system to reduce particulate emissions to 0.2 pounds of particulate per ton of glass pulled, using EPA Method 5 as set forth in 40 C.F.R. Part 60, Appendix A, and 0.45 pounds of particulate per ton of glass pulled, using the combined results of EPA Methods 5 and 202 as set forth in 40 C.F.R. Part 60, Appendix A. [District Rule 2201] Federally Enforceable Through Title V Permit
33. Monitoring of the ESP shall comply with the requirements of 40 CFR Part 64. [District Rule 4354] Federally Enforceable Through Title V Permit
34. The hourly total power input range into the electrostatic precipitator shall be determined at the next glass melting furnace source test for particulate matter. The power input shall be calculated by multiplying the hourly secondary current by the hourly secondary voltage, both recorded by the continuous monitoring system. [District Rules 2520 and 4354 and 40 CFR 64] Federally Enforceable Through Title V Permit
35. The ESP secondary power shall be monitored and recorded at a minimum during every one hour of operation. [District Rules 2520 and 4354 and 40 CFR 64]
36. If the monitored ESP secondary power is below the minimum allowable power, the permittee shall return the power to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the ESP secondary power readings continue to be below the allowable range after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100 (as amended December 17, 1992), the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2520 and 4354 and 40 CFR 64] Federally Enforceable Through Title V Permit
37. The permittee shall establish minimum excess oxygen (%) in the flue gas during the next annual source test while demonstrating compliance with VOC emission limits of this permit. The established limit shall be listed on the Permit to Operate. [District Rules 2201 and 4354]
38. Excess oxygen (%) in the flue gas shall be measured continuously. The measured excess oxygen (%) shall be averaged over 30 consecutive-minute to demonstrate compliance with the established minimum excess oxygen (%). The averaged reading shall be recorded each day at the frequency specified in this condition. [District Rule 4354]
39. The permittee shall operate and maintain the semi-dry scrubber system to reduce SO_x emissions by at least 85%, excluding days when the scrubber inlet's daily average concentration of SO₂ is 353 ppmvd or less, in which case the scrubber outlet's daily average concentration of SO₂ shall be reduced to at least 53 ppmdv, except during periods of scheduled or preventative maintenance. The averaging period for the reduction efficiency shall be calculated on a rolling 30-day average basis, excluding days when the scrubber inlet's daily average concentration of SO₂ is 353 ppmvd or less. Compliance with the SO_x reduction efficiency and daily concentration standard shall be demonstrated by the combined ductwork scrubber inlet and downstream of the control equipment outlet SO₂ continuous concentration monitoring. [District Rule 2201] Federally Enforceable Through Title V Permit
40. This unit shall be fired on PUC regulated natural gas or LPG backup fuel only. [District Rule 2201] Federally Enforceable Through Title V Permit
41. Certification of the continuous opacity monitoring system (COMS) shall be demonstrated by meeting the requirements of 40 CFR Part 60.13 and 40 CFR Part 60, Appendix B, Performance Specification 1. [40 CFR 60.13] Federally Enforceable Through Title V Permit

DRAFT
CONDITIONS CONTINUE ON NEXT PAGE

42. Source testing to measure NO_x, SO_x, PM₁₀, CO, and VOC shall be conducted within 90 days of the startup period as defined in Rule 4354 and USEPA Consent Decree 2:10-cv-00121-TSZ, entered on May 7, 2010. [District Rule 2201]
43. Source testing to measure NO_x, CO, and VOC emissions shall be conducted once every calendar year, but no more than every 18 months and not sooner than every 6 months. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
44. Source testing to measure SO_x and PM₁₀ emissions shall be conducted at the outlet of the combined furnace #1 and furnace #2 ductwork once every calendar year, but no more than every 18 months and not sooner than every 6 months. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
45. Source testing shall be conducted using the following test methods: NO_x (heat input basis) - USEPA Method 19, NO_x (ppmv) - USEPA Method 7E or CARB Method 100; CO (ppmv) - USEPA Method 10 or CARB Method 100; VOC (ppmv) - USEPA Method 25A, expressed in terms of carbon; Stack gas oxygen, carbon dioxide, excess air and dry molecular weight - USEPA Method 3 or 3A, or CARB Method 100; Stack gas velocity and volumetric flow rate - USEPA Method 2; SO_x - USEPA Method 6C or 8 or CARB Method 100; PM₁₀ - EPA methods 201 and 202, or EPA methods 201A and 202, or CARB method 501 in conjunction with CARB method 5. In lieu of performing a source test for PM₁₀, the results of CARB Method 5 or EPA Methods 5 and 8 may be used for compliance with the PM₁₀ emissions limit. If this option is used, then all of the particulate emissions will be considered to be PM₁₀. [District Rules 1081, 2520 and 4354]
46. Source test results shall be representative of normal operations, but not less than 60 percent of the permitted glass production capacity. [District Rule 4354]
47. 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. [District Rule 4354]
48. During source testing, the arithmetic average of three (3) 30-consecutive-minute test runs shall be used to determine compliance with NO_x, CO, VOC, and SO_x emission limits. [District Rule 4354]
49. 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]
50. 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]
51. Compliance testing for particulate shall be conducted at the outlet of the combined furnace #1 and furnace #2 ductwork in accordance with USEPA Reference Methods 1, 2, 5, and 202 as set forth in 40 CFR Part 60, Appendix A. Each test shall consist of three runs. The sampling time and volume for each run shall be at least 60 minutes and 31.8 dry standard cubic feet. Thereafter, compliance testing of particulate matter shall be conducted on an annual basis within 60 days of the anniversary date of the latest compliance testing. [District Rule 1081] Federally Enforceable Through Title V Permit
52. Commercial arsenic shall not be used as a raw material in this glass furnace. This prohibition is required for continued exemption from the requirements of 40 CFR 61, Subpart N. [District Rule 2520] Federally Enforceable Through Title V Permit
53. Idling is defined as the operation of the furnace at less than 25% of the permitted production capacity or fuel use capacity as stated on the Permit to Operate. [District Rule 4354] Federally Enforceable Through Title V Permit
54. The emission control system shall be in operation whenever technologically feasible during idling to minimize emissions. Emissions of NO_x, CO, VOC, SO_x, and PM₁₀ during idling shall not exceed the amount as calculated pursuant to Rule 4354. Notifications shall be performed and records kept in accordance with Rule 4354. [District Rule 4354] Federally Enforceable Through Title V Permit
55. Shutdown shall mean the period of time during which the glass melting furnace is purposely allowed to cool from its operating temperature and molten glass is removed from the tank for the purpose of a furnace rebuild or reconstruction, or during a natural gas curtailment, or, subject to EPA's approval, when it is commercially necessary. [District Rule 4354] Federally Enforceable Through Title V Permit

DRAFT
CONDITIONS CONTINUE ON NEXT PAGE

56. The duration of shutdown, as measured from the time the furnace operations drop below the idle threshold specified in Rule 4354 to when all emissions from the furnace cease, shall not exceed 20 days. The emission control system shall be in operation whenever technologically feasible during shutdown to minimize emissions. Notifications shall be performed and records kept in accordance with Rule 4354. [District Rule 4354] Federally Enforceable Through Title V Permit
57. Start-up shall mean the period of time, after initial construction, a furnace rebuild, or a shutdown, during which the glass melting furnace is heated to operating temperature by the primary furnace combustion systems, and systems and instrumentation are brought to stabilization and calibrated. The operator shall submit a request for a start-up exemption to the APCO, ARB, and EPA in conjunction with or in advance of an application for Authority to Construct (ATC) associated with a furnace rebuild. The emission control system shall be in operation as soon as technologically feasible during start-up to minimize emissions and notifications shall be performed and records kept in accordance with Rule 4354. [District Rule 4354] Federally Enforceable Through Title V Permit
58. NO_x, CO, VOC, SO_x and PM₁₀ emission limitations of District Rule 4354 shall not apply during periods of routine maintenance of an add-on emission control system as long as the routine maintenance does not exceed 144 hours total per calendar year for all add-on controls and the routine maintenance is conducted in a manner consistent with good air pollution control practices for minimizing emissions. [District Rule 4354] Federally Enforceable Through Title V Permit
59. Operators shall maintain daily records of the following items: total hours of operation, the quantity of glass pulled from each furnace, NO_x emission rate in lb/ton glass pulled, CO emission rate, VOC emission rate, scrubber inlet and outlet SO_x concentration, PM₁₀ emission rate in lb/ton glass pulled, weight of mixed color cullet used, total amount of cullet used by weight, ratio, expressed in percent, of mixed color mix weight to total cullet weight, source tests and source test results, maintenance and repair, malfunction, idling, start-up, and shutdown. For pollutants monitored using an approved parametric monitoring arrangement, operators shall maintain records of the acceptable range for each approved key system operating parameter, as established during source test, and shall record the operating values of the key system operating parameters at the approved recording frequency. [District Rules 2201 and 4354]
60. 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]
61. 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_x), Section 5.2 (CO and VOC), Section 5.3 (SO_x), or Section 5.4 (PM₁₀), for each pollutant subject to this option. [District Rule 4354]
62. 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]
63. 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]
64. 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]
65. 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]
66. 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_x, CO, VOC, SO_x, and PM₁₀ emissions during the violation; corrective actions and schedules to complete the work. [District Rule 4354]
67. The permittee shall retain records 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. [District Rules 1070, 2201 and 4354]

DRAFT
CONDITIONS CONTINUE ON NEXT PAGE

68. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4201 (as amended December 17, 1992), District Rule 4202 (as amended December 17, 1992), District Rule 4354 (as amended May 19, 2011), and District Rule 4801 (as amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520] Federally Enforceable Through Title V Permit
69. The requirements of District Rule 4301 (as amended December 17, 1992) were determined to not apply to this unit. A permit shield is granted from this requirement. [District Rule 2520] Federally Enforceable Through Title V Permit
70. The requirements of 40 CFR 61, Subpart N were determined to not apply to this unit. A permit shield is granted from this requirement. [District Rule 2520] Federally Enforceable Through Title V Permit
71. Compliance with a Sulfuric Acid mist emission limit of 1.0 pound per ton of glass produced shall be demonstrated by a stack test performed using Conditional Test Method 13A or B on this furnace on or before December 31, 2011. Stack testing shall be required to be performed after this initial test only once during the life of the Title V permit renewal. [USEPA Consent Decree 2:10-cv-00121-TSZ, Section IV.8.n, filed 4/22/2010] Federally Enforceable Through Title V Permit
72. 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]
73. 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]
74. 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]
75. 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]
76. 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]
77. 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]
78. 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]

DRAFT

CONDITIONS CONTINUE ON NEXT PAGE

79. 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]
80. 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]
81. The permittee shall keep the records specified in Section 63.11457 paragraphs (a)(1) through (8). [40 CFR 63 Subpart SSSSSS]
82. 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. [40 CFR 63 Subpart SSSSSS]
83. "24-hour Block Average" shall be calculated by averaging the twenty-four (24) one-hour relevant data outputs (concentration or pounds) for a given day and using the daily glass production rates (tons) on that Operating Day where applicable. [USEPA Consent Decree 2:10-cv-00121-TSZ, Section III.6.a, entered on May 7, 2010]
84. "Abnormally Low Production Rate (ALPR)" shall mean a glass production rate at or below the production rate (P) set forth below, unless production capacity is increased through a permit modification. For Furnace #1, ALPR = 158 tons per day. [USEPA Consent Decree 2:10-cv-00121-TSZ, Section III.6.c and IV.10, entered on May 7, 2010]
85. "Abnormally Low Production Rate Day" shall mean any Operating Day where production falls into the range of Abnormally Low Production Rate for the Furnace, for at least one continuous hour. [USEPA Consent Decree 2:10-cv-00121-TSZ, Section III.6.d, entered on May 7, 2010]
86. "CEMS Certification Event" shall mean an event that triggers the requirement to complete a first or subsequent CEMS Certification. Events that will trigger subsequent CEMS Certification include a Furnace Startup or a First Control Device Startup. SGCI shall commence such recertification no later than thirty (30) days after the Furnace Startup period concludes (but not later than seventy (70) days after Furnace Startup commences) or First Control Device Startup period concludes. If a Furnace Startup and a First Control Device Startup happen at the same time, then the recertification shall not be conducted until the first Operating Day after the conclusion of the later startup event. [USEPA Consent Decree 2:10-cv-00121-TSZ, Section III.6.h, entered on May 7, 2010]
87. "Color Transition" shall mean the period of not more than seven days from the time when a glass color of an oxidation state different from that previously melted in the Furnace is introduced to the Furnace to the time when saleable glass bottles are being produced in the new color. [USEPA Consent Decree 2:10-cv-00121-TSZ, Section III.6.j, entered on May 7, 2010]
88. "Day" shall mean a calendar day unless expressly stated to be a working day or unless a State rule requires that CEMS data be reported on Standard time (with no change for Daylight Savings Time). In computing any period of time for determining reporting deadlines for Consent Decree requirements, where the last day would fall on a Saturday, Sunday, or federal or State holiday, in the State where the Facility is located, the period shall run until the close of business the next working day. [USEPA Consent Decree 2:10-cv-00121-TSZ, Section III.6.r, entered on May 7, 2010]

89. "Emission Rate 30-day Rolling Average" shall be expressed as pounds of pollutant per ton of glass produced calculated at the Furnace in question in accordance with the following formula: $30\text{-day average (lb-E/ton)} = (\text{COD E (lbs)} + \text{P29D E (lbs)}) / (\text{COD Prod (tons)} + \text{P29D Prod (tons)})$ where 30-day average (lb-E/ton) = The Emission Rate 30-day Rolling Average; E = Emissions of the pollutant in question (NO_x or SO₂); COD = Current Operating Day where the relevant Emission Rate 30-day Rolling Average is the applicable limit; COD E = The daily Emission as measured by a CEMS (continuous emission monitoring system) on the COD, in pounds; COD Prod = Daily glass production on the COD, in tons of glass; P29D = Previous 29 Operating Days where the relevant Emission Rate 30-day Rolling Average is the applicable limit; P29D E = Sum of the daily NO_x or SO₂ Emissions as measured by a CEMS during the P29D, in pounds; P29D Prod = Sum of the daily glass production during the P29D, in tons of glass. (i) A new Emission Rate 30-day Rolling Average shall be calculated for each new Operating Day where the Emission Rate 30-day Rolling Average is the applicable standard. Any Operating Day where the newly calculated Emission Rate 30-day Rolling Average exceeds the limit is a separate one Day violation; and (ii) As specified in the Global Consent Decree, some Operating Days will be excluded from the Emission Rate 30-day Rolling Average. [USEPA Consent Decree 2:10-cv-00121-TSZ, Section III.6.t, entered on May 7, 2010]
90. "Furnace" means, for the purposes of NSPS only, a refractory vessel in which raw materials are charged, melted at high temperature, refined, and conditioned to produce molten glass which includes foundations, superstructure and retaining walls, raw material charger system, heat exchanger, melter cooling system, exhaust system, refractory brick work, fuel supply and electrical boosting equipment, integral control systems and instrumentation, and appendages for conditioning and distributing molten glass to forming apparatuses. For all other purposes, "Furnace" means a unit comprised of a refractory-lined vessel in which raw materials are charged and melted at high temperature to produce molten glass. [USEPA Consent Decree 2:10-cv-00121-TSZ, Section III.6.x, entered on May 7, 2010]
91. "Furnace Startup" means the period of time while a Furnace's refractory is being heated up from ambient temperature and includes the Initial Heating Phase, Refractory Soak and Seal Phase, and Furnace Stabilization Phase. [USEPA Consent Decree 2:10-cv-00121-TSZ, Section III.6.y, entered on May 7, 2010]
92. "Initial Heating Phase" means the slow heating of the Furnace refractory using portable natural-gas burners placed in the openings in the Furnace. This phase typically lasts no longer than four (4) days and ends when the main Furnace burners commence operation. [USEPA Consent Decree 2:10-cv-00121-TSZ, Section III.6.y.i, entered on May 7, 2010]
93. "Refractory Soak and Seal Phase" means the phase of the Furnace Startup following the Initial Heating Phase when the Furnace is filled with molten glass, the temperature of the Furnace reaches operating conditions, and the refractory components reach thermal equilibrium. This phase typically lasts no longer than twenty-one (21) days and ends when the joints between the refractory components are sealed and the Furnace is closed to the atmosphere. [USEPA Consent Decree 2:10-cv-00121-TSZ, Section III.6.y.ii, entered on May 7, 2010]
94. "Furnace Stabilization Period" means the phase of Furnace Startup following the Refractory Soak and Seal Phase when the Furnace Operation is being stabilized. This phase will end no later than seventy (70) days after the beginning of the Initial heating Phase. However, notwithstanding the previous sentence, EPA or SJVAPCD may seek stipulated penalties if SGCI has unduly delayed completion of the Furnace Stabilization Phase. SGCI must track the status of the Furnace Startup as required in Exhibit A of the Global Consent Decree. Exhibit A includes conditions that may be used to indicate whether the Furnace Stabilization Phase should have been completed earlier than 70 days after the beginning of the Initial Heating Phase. [USEPA Consent Decree 2:10-cv-00121-TSZ, Section III.6.y.iii, entered on May 7, 2010]
95. "Hot Spot Temperature" shall mean the highest temperature of the Furnace breastwall refractory. Breastwall refractory is the refractory sidewall between the tuck stone (about 18 inches above the glass line) and the crown skew (where the Furnace crown meets the Furnace sidewall). [USEPA Consent Decree 2:10-cv-00121-TSZ, Section III.6.z, entered on May 7, 2010]
96. "Maintenance" shall mean activities necessary to keep the system or equipment working in its normal operation condition. [USEPA Consent Decree 2:10-cv-00121-TSZ, Citation III.6.cc, entered on May 7, 2010]
97. "Malfunction" shall mean, consistent with 40 CFR 60.2, any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner, but shall not include failures that are caused in part by poor Maintenance or careless operation. [USEPA Consent Decree 2:10-cv-00121-TSZ, Section III.6.ee, entered on May 7, 2010]

DRAFT
CONDITIONS CONTINUE ON NEXT PAGE

98. "Operating Day" shall mean any Day where any fuel is fired into the Furnace. The Day starts at 12:00 a.m. and ends at 11:59 p.m. [USEPA Consent Decree 2:10-cv-00121-TSZ, Section III.6.kk, entered on May 7, 2010]
99. Limit emissions of Sulfuric Acid (H₂SO₄) Mist to no greater than 1.0 pounds per ton of glass produced. [USEPA Consent Decree 2:10-cv-00121-TSZ, Section IV.8.n, entered on May 7, 2010]
100. Compliance with the Sulfuric Acid Mist emission limit shall be demonstrated by a stack test conducted on Furnace #1 using EPA Conditional Test Method 13A or B once per Title V permit renewal term. [USEPA Consent Decree 2:10-cv-00121-TSZ, Section IV.8.n, entered on May 7, 2010]
101. SGCI shall install, maintain, and operate the Oxyfuel Furnace such that the gas that provides the oxidant for combustion of the fuel is at least 90 percent oxygen. [USEPA Consent Decree 2:10-cv-00121-TSZ, Section IV.7.b.i, IV.7.c.ii, entered on May 7, 2010]
102. The Furnace may not exceed the Emission Rate 30-day Rolling Average limit of 1.3 pounds NO_x per ton of glass produced, as measured using NO_x CEMS (commencing on the first Operating Day after the completion of the Furnace Startup period and CEMS Certificate), except that SGCI may elect to exclude the emissions generated during the following periods from the Emission Rate 30-day Rolling Average: Abnormally Low Production Rate Days, Furnace Startup, malfunction of the Furnace, and Maintenance of the Furnace. [USEPA Consent Decree 2:10-cv-00121-TSZ, Section III.6.t, IV.7.c.iii.1, entered on May 7, 2010]
103. For any Abnormally Low Production Rate Day where production falls into the range of ALPR for at least one continuous hour, SGCI may exclude emissions generated during that Day from the Emission Rate 30-day Rolling Average. During these Days, a CEMS shall be used to demonstrate compliance with the 24-hour Block Average limit of 587 lb/day of NO_x. [USEPA Consent Decree 2:10-cv-00121-TSZ, Section IV.7.c.iii.2, entered on May 7, 2010]
104. For any Operating Day when the Furnace is in startup, the following limits apply: (a) Initial Heating Phase Operational Limit: SGCI shall burn no more than 5.0 million standard cubic feet (5.0 MMscf) of natural gas in Furnace #1; (b) Refractory Soak and Seal Phase Operational Limits: (i) Burn no more than 60 MMscf of natural gas; (ii) Limit excess oxygen below 5% at the furnace exhaust flue as determined by a handheld monitor once per shift; (iii) Limit hot spot temperature to 2,900 degrees F; and (iv) Use thermal blankets or similar techniques to minimize air infiltration until expansion joints are sufficiently closed; (c) Furnace Stabilization Phase Operational Limits: (i) Burn no more than 90 MMscf of natural gas; (ii) Limit excess oxygen below 5% at the furnace exhaust flue as determined by a handheld monitor once per shift; and (iii) Limit hot spot temperature to 2,900 degrees F. [USEPA Consent Decree 2:10-cv-00121-TSZ, Section IV.7.c.iii.3, entered on May 7, 2010]
105. For any Operating Day when a Malfunction of the Furnace occurs for any period of time, SGCI may elect to exclude the emissions generated during that Operating Day (Operating Days if the event covers more than one Operating Day) from the Emission Rate 30-day Rolling Average. During the Malfunction Days excluded from the Emission Rate 30-day Rolling Average, a CEMS shall be used to demonstrate compliance on a 24-hour Block Average with a 2,348 lb/day limit. [USEPA Consent Decree 2:10-cv-00121-TSZ, Section IV.7.c.iii.4, entered on May 7, 2010]
106. For any Operating Day where Maintenance activities on the Furnace are performed, SGCI may elect to exclude the emissions generated during the Maintenance Day from the Emission Rate 30-day Rolling Average. For any maintenance Day which is excluded from the 30-day rolling average, a CEMS shall be used to demonstrate compliance on a 24-hour Block average with a pound per day limit calculated using the equation below: $\text{NO}_x \text{ OxyMaint} = [(\text{MH} \times 4 \times \text{NO}_x \text{ Oxy Abn}) / 24] + [(\text{NH} \times \text{NO}_x \text{ Oxy Abn}) / 24]$ where $\text{NO}_x \text{ OxyMaint}$ = NO_x emission limit for an Oxyfuel Furnace during a Maintenance Day, in pounds per day; MH = Hours of Maintenance; NH = Normal Hours = 24 - MH; $\text{NO}_x \text{ Oxy Abn}$ = NO_x emission limit for an Oxyfuel Furnace during an Abnormally Low Production Rate Day, in pounds per day = 587 lb/day for Furnace #1. [USEPA Consent Decree 2:10-cv-00121-TSZ, Section IV.7.c.iii.5, entered on May 7, 2010]
107. CEMS Certification cannot occur during periods of Abnormally Low Production Rate Days, Furnace Startup, Malfunction, Maintenance, or Color Transition. SGCI shall commence a new CEMS Certification on the Furnace on the first Operating Day after each CEMS Certification Event concludes on the Furnace. [USEPA Consent Decree 2:10-cv-00121-TSZ, Section IV.15.a, entered on May 7, 2010]

DRAFT

CONDITIONS CONTINUE ON NEXT PAGE

108. If a CEMS Certification Event occurs, then the requirement to demonstrate compliance continuously with the limit for the Furnace will be suspended until Certification is completed (provided the seven-day test required for Certification is commenced the first Operating Day following the conclusion of the CEMS Certification Event). [USEPA Consent Decree 2:10-cv-00121-TSZ, Section IV.7.f, entered on May 7, 2010]
109. For any Operating Day that SGCI is excluding emissions from the relevant Emission Rate 30-day Rolling Average, it shall record the date, the exception (Abnormally Low Production Rate Day, Furnace Startup, Furnace Malfunction, Furnace Maintenance) under which it is excluded, a calculation of the applicable limit (pounds per day) according to the appropriate equations, and the recorded emissions according to the CEMS (pounds per day). For any Operating Day excluded for Maintenance, SGCI shall record the total number of hours during which maintenance occurred. [USEPA Consent Decree 2:10-cv-00121-TSZ, Section IV.7.h, entered on May 7, 2010]
110. Maintenance Days that SGCI elects to exclude from the Emission Rate 30-day Rolling Average shall not include more than 96 hours of Maintenance annually for Furnace #1. Maintenance shall mean activities necessary to keep the system or equipment working in its normal operating condition, including checker burning and raking. [USEPA Consent Decree 2:10-cv-00121-TSZ, Section IV.13.a, entered on May 7, 2010]
111. Recordkeeping and Reporting requirements applicable to Furnace Startup: (a) For the Initial Heating Phase: (i) Total natural gas usage in Furnace #1 (in MMscf); (b) For the Refractory Soak and Seal Phase: (i) Total natural gas usage in Furnace #1 (in MMscf); (ii) Excess oxygen percentage at Furnace exhaust flue (as determined by handheld monitor once per shift); (iii) Hot Spot Temperature (measured once per shift); and (iv) A certified statement asserting whether thermal blankets or similar techniques were used during this period; (c) For the Furnace Stabilization Phase: (i) Total natural gas usage in Furnace #1 (in MMscf); (ii) Excess oxygen percentage at the Furnace Exhaust flue (as determined by handheld monitor once per shift); and (iii) Average Hot Spot Temperature (measured once per shift). [USEPA Consent Decree 2:10-cv-00121-TSZ, Section IV.7.i, entered on May 7, 2010]
112. At all times, including periods of Abnormally Low Production Rate Days, Furnace Startup, Malfunction, Maintenance, and Color Transition, SGCI shall, to the extent practicable, maintain and operate all Furnaces in a manner consistent with good air pollution control practices for minimizing emissions. [USEPA Consent Decree 2:10-cv-00121-TSZ, Section IV.12, entered on May 7, 2010]

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: C-801-2-11

LEGAL OWNER OR OPERATOR: SAINT-GOBAIN CONTAINERS, INC
MAILING ADDRESS: 24441 AVENUE 12
ATTN: ENVIRO MANAGER/S. ARUNAGIRI
MADERA, CA 93637

LOCATION: 24441 AVENUE 12 & ROAD 24 1/2
MADERA, CA 93637

EQUIPMENT DESCRIPTION:

MODIFICATION OF 85 MMBTU/HR (APPROXIMATELY) GLASS OXY-FUEL FIRED FURNACE #2 (SOUTH) WITH 3,600 KVA OF ELECTRIC BOOST AND (2) TWO PRODUCTION LINES (ONE WITH A 16 INDIVIDUAL SECTION (IS) FORMING MACHINE ONE WITH A 20 INDIVIDUAL SECTION (IS) FORMING MACHINE) WITH A MCGILL AIRCLEAN MODEL 3-700 SEMI-DRY SCRUBBER/ESP SYSTEM (COMMON TO FURNACE #1), A CONTINUOUS OPACITY MONITORING SYSTEM (COMS), A NOX CONTINUOUS EMISSIONS RATE MONITORING SYSTEM (CERMS), AND A SOX CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS): CHANGE SOX EMISSION FACTOR LIMIT AVERAGING PERIOD FROM 24 HOUR ROLLING AVERAGE TO 30 DAY ROLLING AVERAGE AND REVISE PARTICULATE MATTER ALTERNATE MONITORING FROM MONITORING ELECTROSTATIC PRECIPITATOR SECONDARY VOLTAGE TO ELECTROSTATIC PRECIPITATOR AVERAGE TOTAL POWER (SECONDARY VOLTAGE AND SECONDARY CURRENT)

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 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 Marjolle, Director of Permit Services

C-801-2-11 : Jun 2 2014 11:23AM - TOMS : Joint Inspection NOT Required

4. Particulate matter emissions shall not exceed the maximum allowable emission rate (lb/hr), as determined using the following formula: $E = 3.59 \times P^{0.62}$, where E equals the maximum allowable emission rate (lb/hr) and P equals the process weight rate (tons/hr) and is less than or equal to 30 tons/hr. [District Rule 4202] Federally Enforceable Through Title V Permit
5. 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 (12/17/92), by using EPA method 9. 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)] Federally Enforceable Through Title V Permit
6. Discharge of sulfur compounds shall not exceed in concentration at the point of discharge 0.2 percent by volume calculated as SO₂, on a dry basis averaged over 15 consecutive minutes. [District Rule 4801]
7. The new exhaust system for furnaces #1 and #2 shall be designed, installed, and maintained according to good engineering practices, including minimizing dilution air in the stack exhaust stream prior to measurement of opacity. [USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.a, issued June 22, 2005] Federally Enforceable Through Title V Permit
8. The permittee shall maintain and operate this oxy-fuel furnace such that the combustion oxidant is at least 90% oxygen. [USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.12.a.iii, issued June 22, 2005] Federally Enforceable Through Title V Permit
9. The permittee shall maintain and operate staged combustion low NO_x oxy-fuel burners on this furnace. [USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.12.a.iv, issued June 22, 2005] Federally Enforceable Through Title V Permit
10. The permittee shall install a fused cast crown on this oxy-fuel furnace. The permittee shall maintain the fused cast crown for the life of the oxy-fuel furnace unless it can show, at the time of any necessary repairs to the fused cast crown, that the fused cast crown has proven technically or economically infeasible to maintain. [USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.12.a.v, issued June 22, 2005] Federally Enforceable Through Title V Permit
11. Furnace shutdown shall not exceed 20 days, measured from the time furnace operations drop below the idle threshold specified in Section 3.17 of District Rule 4354 to when all emissions from the furnace cease. [District Rule 4354 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.12.f.i, issued June 22, 2005] Federally Enforceable Through Title V Permit
12. During the shutdown period, the emission control systems shall be in operation as soon as technologically feasible to minimize emissions. [District Rule 4354 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.12.f.ii, issued June 22, 2005] Federally Enforceable Through Title V Permit
13. The emission control systems shall be in operation at all times during normal operations, and whenever technologically feasible including during startup, idling, transition, and shutdown conditions. [District Rule 4354 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.12.g.iv, issued June 22, 2005] Federally Enforceable Through Title V Permit
14. Scheduled or preventative maintenance of the emission control systems shall only occur during idling or after shutdown. [USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.12.g.v, issued June 22, 2005] Federally Enforceable Through Title V Permit
15. When a malfunction of this oxy-fuel furnace or any of the air pollution equipment occurs, the permittee shall attempt to repair the malfunction as soon as practicable, but in no event longer than 12 hours. Off-shift labor and overtime must be utilized, to the extent practicable, to ensure that such repairs are made expeditiously. If after 12 hours, the malfunction is not correct, the oxy-fuel furnace must be taken to idling within 12 additional hours. Malfunction shall mean a sudden and unavoidable failure or breakdown of air pollution control equipment that: (a) is caused by circumstances beyond the control of the owner and/or operator; (b) is not the result of intent, neglect, or disregard of air pollution control laws, rules or regulations; (c) is not the result of improper maintenance; and (d) is not an excessively recurrent breakdown of the same equipment. [USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.12.h, issued June 22, 2005] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

16. The furnace shall be equipped with a continuous emission monitoring system (CEMS) for CO and O₂. This CEM shall be located in the duct for furnace #2 upstream of the point where furnace #1 and furnace #2 emissions merge into a common duct. [District Rule 4354 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.c.i, issued June 22, 2005] Federally Enforceable Through Title V Permit
17. The furnace shall be equipped with a continuous emissions rate monitoring system (CERMS) for NO_x. This CERMS shall be located in the duct for furnace #2 upstream of the point where furnace #1 and furnace #2 emissions merge into a common duct. [District Rule 4354 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.c.ii, issued June 22, 2005] Federally Enforceable Through Title V Permit
18. The common exhaust stack for furnaces #1 and #2 shall be equipped with a continuous opacity monitoring system (COMS) downstream of the control equipment. Continuous emissions monitor(s) shall meet the requirements of 40 CFR part 60.13 and 40 CFR part 60 Appendix B (Performance Specification 1), and applicable sections of Rule 1080 (Stack Monitoring). [District Rule 1080 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.c.iii, issued June 22, 2005] Federally Enforceable Through Title V Permit
19. The common exhaust stack for furnaces #1 and #2 shall be equipped with a continuous emission monitor (CEM) for SO_x at the inlet of the scrubber and downstream of the control equipment. Continuous emissions monitor(s) shall meet the requirements of 40 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 applicable sections of Rule 1080 (Stack Monitoring) (as amended December 17, 1992). [District Rule 1080 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.c.i, issued June 22, 2005]
20. Continuous emissions monitor(s) shall meet the requirements of 40 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 applicable sections of Rule 1080 (Stack Monitoring). [District Rule 4354 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.c.i, issued June 22, 2005] Federally Enforceable Through Title V Permit
21. 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
22. 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
23. 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
24. The owner/operator shall perform a relative accuracy test audit (RATA) as specified by 40 CFR Part 60, Appendix F, 5.1.1 at least once every four calendar quarters. 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
25. Audits of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and compliance source testing are both 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
26. 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

DRAFT
CONDITIONS CONTINUE ON NEXT PAGE

27. Permittee shall submit a written report 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 (averaging period used for data reporting shall correspond to the averaging period for each respective emission standard); corrective actions taken and preventive measures adopted; applicable time and date of each period during a 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
28. 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_x, CO, and O₂ analyzer during District inspections. The sampling ports shall be located upstream of the point where furnace #1 and furnace #2 emissions merge into a common duct. 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 Emission Monitoring and Testing. [District Rule 1081] Federally Enforceable Through Title V Permit
29. Compliance demonstration (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 15 days prior to testing. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
30. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (as amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
31. Annual emissions from furnace #1 and #2 combined shall not exceed either of the following limits: 265,632 lb-SO_x/year or 164,719 lb-PM₁₀/year. [District Rule 2201] Federally Enforceable Through Title V Permit
32. Annual emissions from this furnace shall not exceed either of the following limits: 252,473 lb-NO_x/year, 95,618 lb-PM₁₀/year, and 36,593 lb-VOC/year on a twelve (12) month rolling average. [District Rule 2201] Federally Enforceable Through Title V Permit
33. Compliance with the Annual Emission Limits for NO_x, PM₁₀, and VOC will be demonstrated utilizing the following calculation procedure: Annual Emissions (lb/year) = (a x b), where a = annual container glass pull rate (tons/year, based on a 12-month rolling average) and b = [for NO_x: CEMS reading] [for PM₁₀ and VOC: average source test emission factor (lb/ton of container glass pulled, based on source tests performed in the previous 12 months)]. [District Rule 2201] Federally Enforceable Through Title V Permit
34. The container glass pull rate from furnace #2 shall not exceed 600 U.S. short tons per day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
35. Except during idling, start-up, or shutdown, Particulate Matter emissions (as PM₁₀) shall not exceed 0.5 pounds per ton glass pulled on a block 24-hour average from the glass melting furnace. [District Rule 4354] Federally Enforceable Through Title V Permit
36. Except during idling, transition, start-up, or shutdown, emissions rates from this unit shall not exceed any of the following limits: 0.8 lb-SO_x/ton of container glass pulled, 0.2 lb-CO/ton of container glass pulled, or 0.2 lb-VOC/ton of container glass pulled. SO_x emissions limit is based on a 30 day rolling average. CO and VOC emissions limits are based on a three hour rolling average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
37. Emissions from this furnace shall not exceed 120.0 lb-CO/day (equivalent to 0.2 lb-CO/ton of container glass pulled). [District Rule 2201] Federally Enforceable Through Title V Permit
38. Except during idling, transition, start-up, or shutdown, NO_x emissions from this furnace shall not exceed 1.3 lbs/ton of glass produced, on a 24 hour block average basis. [District Rules 2201 and 4354 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.12.a.i and ii, issued June 22, 2005] Federally Enforceable Through Title V Permit
39. The NO_x emission rate measured by the CERMS in pounds per hour shall be converted to pounds of NO_x per ton of glass pulled according to the following equation: NO_x emissions rate (lbs-NO_x/ton of glass pulled) = [NO_x CERMS (lbs-NO_x/hr)] / [glass pull rate (tons of glass pulled/hr)]. [USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.d, issued June 22, 2005] Federally Enforceable Through Title V Permit

DRAFT
CONDITIONS CONTINUE ON NEXT PAGE

40. The pollutant mass emission rate in lb/hr shall be converted to lb pollutant/ton of glass pulled as specified in Section 8.1 of Rule 4354. The CO and VOC emission concentrations shall be corrected to 8.0 percent oxygen as specified in Section 8.2 of 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 Sections 8.1 or 8.2 of 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 Sections 8.1 or 8.2 of 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] Federally Enforceable Through Title V Permit
41. During idling and transition, NOx emissions from this oxy-fuel furnace (calculated as a block 24-hour period) shall not exceed 780.0 pounds per day. NOx emissions shall be determined by the NOx and flow monitoring required by this permit. When idling or a transition occurs for less than 24 hours in a day, this NOx emission limit shall apply and NOx emissions from 12:00 a.m. through 11:59 p.m. on that day shall be included in the calculation of the total daily NOx emissions. [District Rule 4354 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Sections V.12.g.i and V.12.g.ii, issued June 22, 2005] Federally Enforceable Through Title V Permit
42. This oxy-fuel furnace shall have no more than six transitions during any calendar year. Once a transition begins, production must exceed 50% of the permitted production capacity or be less than 25% of the permitted production capacity for at least 24 hours before another transition can be initiated. [USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.12.g.iii, issued June 22, 2005] Federally Enforceable Through Title V Permit
43. NOx, CO, VOC, SOx, and PM10 emissions during idling shall not exceed the emissions limits as calculated using the following equation: $\text{NOx, CO, VOC, SOx, and PM10 (lb/day)} = (\text{Applicable emission limit (in lbs/ton)}) \times (\text{Furnace permitted production capacity (in tons/day)})$. [District Rule 4354] Federally Enforceable Through Title V Permit
44. 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] Federally Enforceable Through Title V Permit
45. The length of time allowed for a start-up shall be determined by the APCO and EPA on a case-by-case basis, in accordance with District Rule 4354. [District Rule 4354] Federally Enforceable Through Title V Permit
46. The permittee shall operate and maintain the electrostatic precipitator (ESP) system to reduce particulate emissions to 0.2 pounds of particulate per ton of glass pulled, using EPA Method 5 as set forth in 40 C.F.R. Part 60, Appendix A, and 0.45 pounds of particulate per ton of glass pulled, using the combined results of EPA Methods 5 and 202 as set forth in 40 C.F.R. Part 60, Appendix A. [District Rule 2201 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.12.c.i, issued June 22, 2005] Federally Enforceable Through Title V Permit
47. Monitoring of the ESP shall comply with the requirements of 40 CFR Part 64. [District Rule 4354 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.c.iv, issued June 22, 2005] Federally Enforceable Through Title V Permit
48. The hourly total power input range into the electrostatic precipitator shall be determined at the next glass melting furnace source test for particulate matter. The power input shall be calculated by multiplying the hourly secondary current by the hourly secondary voltage, both recorded by the continuous monitoring system. [District Rules 2520 and 4354 and 40 CFR 64] Federally Enforceable Through Title V Permit
49. The ESP secondary power shall be monitored and recorded at a minimum during every one hour of operation. [District Rules 2520 and 4354 and 40 CFR 64] Federally Enforceable Through Title V Permit

DRAFT

CONDITIONS CONTINUE ON NEXT PAGE

50. If the monitored ESP secondary power is below the minimum allowable power, the permittee shall return the power to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the ESP secondary power readings continue to be below the allowable range after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100 (as amended December 17, 1992), the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2520 and 4354 and 40 CFR 64] Federally Enforceable Through Title V Permit
51. The permittee shall operate and maintain the semi-dry scrubber system to reduce SOx emissions by at least 85%, excluding days when the scrubber inlet's daily average concentration of SO2 is 353 ppmdv or less, in which case the scrubber outlet's daily average concentration of SO2 shall be reduced to at least 53 ppmdv, except during periods of scheduled or preventative maintenance. The averaging period for the reduction efficiency shall be calculated on a rolling 30-day average basis, excluding days when the scrubber inlet's daily average concentration of SO2 is 353 ppmdv or less. Compliance with the SOx reduction efficiency and daily concentration standard shall be demonstrated by the combined ductwork scrubber inlet and downstream of the control equipment outlet SO2 continuous concentration monitoring. [District Rule 2201 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.12.b, issued June 22, 2005] Federally Enforceable Through Title V Permit
52. This unit shall be fired on PUC regulated natural gas or LPG backup fuel only. [District Rule 2201] Federally Enforceable Through Title V Permit
53. Commercial arsenic shall not be used as a raw material in this glass furnace. This prohibition is required for continued exemption from the requirements of 40 CFR 61, Subpart N. [District Rule 2520] Federally Enforceable Through Title V Permit
54. Idling is defined as the operation of the furnace at less than 25% of the permitted production capacity or fuel use capacity as stated on the Permit to Operate. [District Rule 4354] Federally Enforceable Through Title V Permit
55. The emission control system shall be in operation whenever technologically feasible during idling to minimize emissions. Emissions of NOx, CO, VOC, SOx, and PM10 during idling shall not exceed the amount as calculated pursuant to section 5.7.2 of rule 4354. Notifications shall be performed and records kept in accordance with section 6.7 of rule 4354. [District Rule 4354] Federally Enforceable Through Title V Permit
56. Transition shall mean a period of no more than 24 hours in duration when the operation of the oxy-fuel furnace is at less than 50% but more than 25% of the permitted production capacity. [USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section III.aa, issued June 22, 2005] Federally Enforceable Through Title V Permit
57. Start-up shall mean the period of time, after initial construction, a furnace rebuild, or a shutdown, during which the glass melting furnace is heated to operating temperature by the primary furnace combustion systems, and systems and instrumentation are brought to stabilization and calibrated. The operator shall submit a request for a start-up exemption to the APCO, ARB, and EPA in conjunction with or in advance of an application for Authority to Construct (ATC) associated with a furnace rebuild. The emission control system shall be in operation as soon as technologically feasible during start-up to minimize emissions and notifications shall be performed and records kept in accordance with section 6.7 of rule 4354. [District Rule 4354 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section III.z, issued June 22, 2005] Federally Enforceable Through Title V Permit
58. Shutdown shall mean the period of time during which the glass melting furnace is purposely allowed to cool from its operating temperature and molten glass is removed from the tank for the purpose of a furnace rebuild or reconstruction, or during a natural gas curtailment, or, subject to EPA's approval, when it is commercially necessary. [District Rule 4354 and USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section III.y, issued June 22, 2005] Federally Enforceable Through Title V Permit
59. The duration of shutdown, as measured from the time the furnace operations drop below the idle threshold specified in section 3.17 of rule 4354 to when all emissions from the furnace cease, shall not exceed 20 days. The emission control system shall be in operation whenever technologically feasible during shutdown to minimize emissions. Notifications shall be performed and records kept in accordance with section 6.7 of rule 4354. [District Rule 4354] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

60. Compliance testing for particulate shall be conducted at the outlet of the combined furnace #1 and furnace #2 ductwork in accordance with USEPA Reference Methods 1, 2, 5, and 202 as set forth in 40 CFR Part 60, Appendix A. Each test shall consist of three runs. The sampling time and volume for each run shall be at least 60 minutes and 31.8 dry standard cubic feet. Thereafter, compliance testing of particulate matter shall be conducted on an annual basis within 60 days of the anniversary date of the latest compliance testing. [USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.b.ii, issued June 22, 2005] Federally Enforceable Through Title V Permit
61. Source testing to measure NO_x, CO, and VOC emissions shall be conducted once every calendar year, but no more than every 18 months and not sooner than every 6 months. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
62. Source testing to measure SO_x and PM₁₀ emissions shall be conducted at the outlet of the combined furnace #1 and furnace #2 ductwork once every calendar year, but no more than every 18 months and not sooner than every 6 months. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
63. Source testing shall be conducted using the following test methods: NO_x (heat input basis) - USEPA Method 19, NO_x (ppmv) - USEPA Method 7E or CARB Method 100; CO (ppmv) - USEPA Method 10 or CARB Method 100; VOC (ppmv) - USEPA Method 25A, expressed in terms of carbon, or ARB Method 100; VOC (exempt compounds) - EPA Method 18 or ARB Method 422; Stack gas oxygen, carbon dioxide, excess air and dry molecular weight - USEPA Method 3 or 3A, or CARB Method 100; Stack gas velocity and volumetric flow rate - USEPA Method 2; SO_x - USEPA Method 6C, EPA Method 8, or CARB Method 100; Filterable PM₁₀ - EPA Method 5 (all PM collected shall be counted as PM₁₀), EPA Method 201, or EPA Method 201A; Condensable PM₁₀ - EPA Method 202 with procedures specified in Rule 4354, sections 6.5.9.2.1 through 6.5.9.2.3. [District Rules 1081, 2520, and 4354] Federally Enforceable Through Title V Permit
64. Source test results shall be representative of operations equal to or greater than 60% of the permitted production capacity or fuel use capacity. [District Rule 4354] Federally Enforceable Through Title V Permit
65. Certification of the continuous opacity monitoring system (COMS) shall be demonstrated by meeting the requirements of 40 CFR Part 60.13 and 40 CFR Part 60, Appendix B, Performance Specification 1. [USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.13.b.iii, issued June 22, 2005] Federally Enforceable Through Title V Permit
66. Operators shall maintain daily records of the following items: total hours of operation, the quantity of glass pulled from each furnace, NO_x emission rate in lb/ton glass pulled, CO emission rate, VOC emission rate, scrubber inlet and outlet SO_x concentration, PM₁₀ emission rate in lb/ton glass pulled, source tests and source test results; maintenance and repair; malfunction, idling, start-up, and shutdown. For pollutants monitored using an approved parametric monitoring arrangement, operators shall maintain records of the acceptable range for each approved key system operating parameter, as established during source test, and shall record the operating values of the key system operating parameters at the approved recording frequency. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
67. All records shall be maintained on the premises for a period of at least five years and shall be made available for District inspection upon request. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
68. The permittee shall maintain the following information recorded in a permanent form, which may include electronic files, suitable for inspection: A file of all continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by 40 CFR Part 60, Appendices A, B, and F; Operating logs that contain the following data on a daily basis: hours of operation, glass pull rate (in tons of glass pulled), type and quantity of fuel used, NO_x emissions (in pounds of NO_x per ton of glass pulled, calculated on a block 24-hour average), percent cullet used, electric boost used (in kilowatt-hours), oxygen quantity, and oxygen content of the combustion oxidant for the oxy-fuel furnace. The logs shall indicate periods of idling, transition, start-up, and shutdown, as well as any periods of maintenance, repair, or malfunction that affect the levels of emissions. This information, including all electronic files, shall be recorded and maintained until this oxy-fuel furnace is rebuilt, reconstructed, or ceases operation. [USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Sections V.14.a and V.14.b, issued June 22, 2005] Federally Enforceable Through Title V Permit

DRAFT
CONDITIONS CONTINUE ON NEXT PAGE

69. During idling and transition periods the permittee shall maintain a log that includes the following data on a daily basis: hours in idling or transition, glass pull rate (in tons of glass pulled), and pounds of NO_x emitted (calculated as a block 24-hour period). [USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Section V.14.c, issued June 22, 2005] Federally Enforceable Through Title V Permit
70. Within 30 days after the end of each calendar-year quarter (i.e., by April 30, July 30, October 30, and January 30), the permittee shall submit to USEPA and the District a "Quarterly Excess Emissions, CERMS, CEMS, and COMS Report" that conforms to the format set forth in 30 CFR Part 60.7(c) and includes the following: The magnitude of excess emissions, computed in accordance with 40 CFR Part 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions; Specific identification of each period of excess emissions that occur during idling, start-ups, shutdowns, and malfunctions, together with the nature and cause of any malfunction (if known) and the corrective action taken or preventative measure adopted; The date and time identifying each period during which the continuous monitoring system was inoperative (except zero and span checks) and the nature of the system repairs or adjustments; and When no excess emissions have occurred or the continuous monitoring system has not been inoperative, repaired, or adjusted, such information shall be stated in the report. [USEPA Consent Decree No. 1:05-CV-00516-REC-SMS, Sections V.14.d.i-iv, issued June 22, 2005] Federally Enforceable Through Title V Permit
71. Permittee shall submit an Authority to Construct application for compliance with Section 5.1 Tier 3 NO_x limits by June 1, 2012, and be in full compliance with Section 5.1 Tier 3 NO_x limits by January 1, 2014. [District Rule 4354] Federally Enforceable Through Title V Permit
72. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4201 (as amended December 17, 1992), District Rule 4202 (as amended December 17, 1992), District Rule 4354 (as amended September 16, 2010), and District Rule 4801 (as amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520] Federally Enforceable Through Title V Permit
73. The requirements of District Rule 4301 (as amended December 17, 1992) were determined to not apply to this unit. A permit shield is granted from this requirement. [District Rule 2520] Federally Enforceable Through Title V Permit
74. The requirements of 40 CFR 61, Subpart N were determined to not apply to this unit. A permit shield is granted from this requirement. [District Rule 2520] Federally Enforceable Through Title V Permit
75. Compliance with a Sulfuric Acid mist emission limit of 1.0 pound per ton of glass produced shall be demonstrated by a stack test performed using Conditional Test Method 13A of B on this furnace on or before December 31, 2011. Stock testing shall be required to be performed after this initial test only once during the life of the Title V permit renewal. [USEPA Consent Decree 2:10-cv-00121-TSZ, Section IV.8.n, filed 4/22/2010] Federally Enforceable Through Title V Permit
76. 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]
77. 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]
78. 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]

79. 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]
80. 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]
81. 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]
82. 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]
83. 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]
84. 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]
85. The permittee shall keep the records specified in Section 63.11457 paragraphs (a)(1) through (8). [40 CFR 63 Subpart SSSSSS]
86. 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. [40 CFR 63 Subpart SSSSSS]

DRAFT