

October 4, 2023

Mr. Eric Squire
Vitro Flat Glass LLC
3333 S Peach Ave
Fresno, CA 93725-9220

**Re: Notice of Preliminary Decision – ATC / Certificate of Conformity
District Facility # C-948
Project # C-1231995**

Dear Mr. Squire:

Enclosed for your review is the District's analysis of an application for Authority to Construct for the facility identified above. You requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. This project authorizes the routine replacement of eight of the ten existing furnace burners.

The notice of preliminary decision for this project has been posted on the District's website (www.valleyair.org). After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the District intends to issue the Authority to Construct with a Certificate of Conformity. Please submit your comments within the 30-day public comment period, as specified in the enclosed public notice. Prior to operating with modifications authorized by the Authority to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

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

Thank you for your cooperation in this matter.

Sincerely,



Brian Clements
Director of Permit Services

Enclosures

cc: Courtney Graham, CARB (w/enclosure) via email
cc: Gerardo Rios, EPA (w/enclosure) via EPS

Samir Sheikh
Executive Director/Air Pollution Control Officer

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4800 Enterprise Way
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San Joaquin Valley Air Pollution Control District

Authority to Construct Application Review

Routine Replacement of Furnace Burners

Facility Name: Vitro Flat Glass LLC
Mailing Address: 3333 S Peach Ave
Fresno, CA 93725

Date: October 3, 2023
Engineer: Mungi Hong
Lead Engineer: Brian Clerico

Contact Person: Eric Squire
Telephone: (559) 493-3357
E-Mail: esquire@vitro.com

Application #: C-948-11-23

Project #: C-1231995

Deemed Complete: June 6, 2023

I. Proposal

Vitro Flat Glass LLC has requested an Authority to Construct (ATC) permit for the routine replacement of existing furnace burners.

In project C-1221044 where ATC '-11-21 was issued, the facility proposed to replace 2 of the 10 burners with 2 new burners, 20 MMBtu/hr each, with the intention of replacing the rest of the burners (8) if the new burner model is more fuel-efficient. After testing the two new burners, the facility has decided to replace the remaining burners with 8 new burners, 20 MMBtu/hr each, that are identical to the two burners installed as a result of project C-1221044.

The replacement proposal is summarized in the table below:

Burners Replaced				Replacement Burners			
Make	Model	Heat Rating	#	Make	Model	Heat Rating	#
Air Products & Chemicals, Inc.	Cleanfire HRI	20 MMBtu/hr	8	Air Products & Chemicals, Inc.	Cleanfire HRx	20 MMBtu/hr	8

Since the emissions limits proposed in project C-1221044 are used in this project, ATC '-11-21¹ needs to be implemented concurrently, or prior to this ATC. Therefore, the following condition will be placed on the new ATC.

- Authority to Construct (ATC) C-948-11-21 shall be implemented concurrently, or prior to the modification and startup of the equipment authorized by this Authority to Construct. [District Rule 2201]

¹ Pursuant to condition 1 on this ATC, ATC '-11-22 should be implemented concurrently, or prior to the modification and startup of the equipment authorized by ATC '-11-21. Therefore, ATCs '-11-21 and '-11-22 should be implemented concurrently, or prior to the modification and startup of ATC '-11-23.

Vitro Flat Glass LLC received their Title V Permit on October 31, 2002. This modification can be classified as a Title V significant modification pursuant to Rule 2520, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. Vitro Flat Glass LLC must apply to administratively amend their Title V permit.

II. Applicable Rules

Rule 1081	Source Sampling (12/16/93)
Rule 2201	New and Modified Stationary Source Review Rule (8/15/19)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
Rule 2520	Federally Mandated Operating Permits (8/15/19)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4002	National Emissions Standards for Hazardous Air Pollutants (5/20/04)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4201	Particulate Matter Concentration (12/17/92)
Rule 4202	Particulate Matter – Emission Rate (12/17/92)
Rule 4301	Fuel Burning Equipment (12/17/92)
Rule 4354	Glass Melting Furnaces (12/16/21)
Rule 4801	Sulfur Compounds (12/17/92)
CH&SC 41700	Health Risk Assessment
CH&SC 42301.6	School Notice

Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

III. Project Location

The facility is located at 3333 S Peach Ave in Fresno, CA. The equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. Process Description

Vitro Flat Glass LLC in Fresno manufactures flat glass using a float glass process. The float glass manufacturing process can be broken down into five main stages: 1) Batching of raw materials (silica sand, lime, soda ash, calcium oxide, soda, magnesium, and recycled glass), 2) Melting of raw materials in the furnace, 3) Drawing the molten glass onto the tin bath, 4) Cooling the molten glass in the annealing lehr, and 5) Quality checks, automatic cutting, and storage. This project affects the melting of raw materials in the float glass furnace only (stage 2).

The facility has proposed to replace eight of the ten furnace burners, 20.0 MMBtu/hr each, with eight new burners, 20 MMBtu/hr each.

V. Equipment Listing

Pre-Project Equipment Description:

As seen in Section I, the emissions limits proposed in project C-1221044 are used in this project; therefore, ATC '-11-21 will be used as the baseline permit.

ATC C-948-11-21: 208 MMBTU/HR OXY-FUEL FIRED FLOAT GLASS FURNACE, FIRING ON NATURAL GAS WITH #2 FUEL OIL AS STANDBY, VENTED THROUGH A UNITED MCGILL DRY SCRUBBER/COOLING TOWER AND A UNITED MCGILL MODEL 3-500 ELECTROSTATIC PRECIPITATOR USING SO₂ AS A LUBRICANT FOR THE GLASS AND EQUIPPED WITH A SELECTIVE NON-CATALYTIC REDUCTION (SNCR) SYSTEM

Proposed Modification:

C-948-11-23: 208 MMBTU/HR OXY-FUEL FIRED FLOAT GLASS FURNACE, FIRING ON NATURAL GAS WITH #2 FUEL OIL AS STANDBY, VENTED THROUGH A UNITED MCGILL DRY SCRUBBER/COOLING TOWER AND A UNITED MCGILL MODEL 3-500 ELECTROSTATIC PRECIPITATOR USING SO₂ AS A LUBRICANT FOR THE GLASS AND EQUIPPED WITH A SELECTIVE NON-CATALYTIC REDUCTION (SNCR) SYSTEM (REPLACE EIGHT 20.0 MMBTU/HR FURNACE BURNERS AS ROUTINE REPLACEMENT EMISSIONS UNITS)

Post-Project Equipment Description:

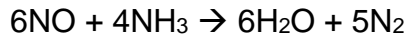
C-948-11-23: 208 MMBTU/HR OXY-FUEL FIRED FLOAT GLASS FURNACE, FIRING ON NATURAL GAS WITH #2 FUEL OIL AS STANDBY, VENTED THROUGH A UNITED MCGILL DRY SCRUBBER/COOLING TOWER AND A UNITED MCGILL MODEL 3-500 ELECTROSTATIC PRECIPITATOR USING SO₂ AS A LUBRICANT FOR THE GLASS AND EQUIPPED WITH A SELECTIVE NON-CATALYTIC REDUCTION (SNCR) SYSTEM

VI. Emission Control Technology Evaluation

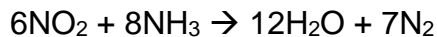
The melting furnace generally contributes over 99% of the total emissions from a glass plant, which consists of both particulates and gaseous pollutants. The furnace operation uses an electrostatic precipitator (ESP) to control particulate emissions. The operation includes the venting of furnace emissions through a sodium hydroxide scrubber (also used as a cooling tower) prior to the electrostatic precipitator. The ESP removes particulate matter (PM) emissions from the flue gas by electrically charging the particles and collecting them onto the grounded surfaces. The particulates are then removed by rapping the collection floats.

The furnace uses an oxy-fuel system to control NO_x emissions. The oxy-fuel furnace reduces NO_x emissions by minimizing the availability of nitrogen. Ambient air is approximately 78% nitrogen. In an uncontrolled furnace, ambient air is introduced into the furnace with the fuel gas for combustion. NO_x emissions are formed by the chemical reaction of the nitrogen in the combustion air during the combustion process. By removing the availability of nitrogen from the combustion air, NO_x emissions are reduced. The oxy-fuel furnace is designed, maintained, and operated to minimize the infiltration of the ambient air into the combustion zone.

Furthermore, post-combustion NO_x will also be controlled by an ammonia injection system, otherwise known as a Selective Non-Catalytic Reduction (SNCR) system. Ammonia is injected into the exhaust stream of gas leaving the combustor zone where it can react with NO_x. Nitric Oxide (NO) is converted into nitrogen and water in the following reaction:



Similarly, nitrogen dioxide (NO₂) is converted into nitrogen and water in the following reaction:



Operation of the SNCR system is highly dependent on the temperature of the flue gas. In the absence of a catalyst, ammonia will selectively react with nitric oxide and water (as described above) at temperatures in the range of 1,400 °F to 2,000 °F, although temperatures above 1,700 °F are preferred. Under typical conditions, the SNCR will result in the reduction of about 30% to 50% of NO_x. Ammonia slip will be limited to 10 ppmvd @ 8% O₂.

The furnace uses PUC quality natural gas as primary fuel and fuel oil #2 with low sulfur content of 0.05% by weight as backup fuel. Using either natural gas or fuel oil #2 (backup) with a low sulfur content minimizes the formation of SO_x emissions from fuel combustion. In addition, the furnace will continue to use a two-staged system consisting of a scrubber and an ESP in series to remove the SO_x emissions. The scrubber captures SO_x emissions and forms particulates. These particles are charged as they pass through the ESP, and are subsequently collected by the ESP for removal from the exhaust gas.

VII. General Calculations

A. Assumptions

- The maximum operating schedule is 24 hours per day, 8,760 hours per year.
- The maximum daily process rate for this operation is 650 U.S. short tons per day (ATC '11-21).
- The ammonia emissions from the exhaust of the SNCR system serving the oxy-fuel furnace shall not exceed 10 ppmvd @ 8% excess O₂ based on a 24 hour rolling average (per applicant).
- The burners replaced and the replacement burners have the same heat rating (20 MMBtu/hr each).

B. Emission Factors

No changes in emission factors have been proposed.

Emission Factors				
Pollutant	EF (24 hr block avg)	EF (30 day rolling avg)	EF (lb/hr)	Source
NO _x	2.8 lb/ton	2.5 lb/ton	N/A	ATC '-11-21
SO _x (glass furnace)	1.7 lb/ton	1.2 lb/ton	16.25 natural gas and 49.9 fuel oil #2	ATC '-11-21
SO _x (surface passivation process)	N/A	N/A	10.0	ATC '-11-21
PM ₁₀	0.20 lb/ton	N/A	18.80	ATC '-11-21
CO	0.9 lb/ton (3 hr rolling avg) or 21.13 lb/hr			ATC '-11-21
VOC	0.1 lb/ton (3 hr rolling avg) or 0.83 lb/hr			ATC '-11-21
NH ₃	10 ppmvd @ 8% O ₂ (equivalent to 0.006 lb-NH ₃ /MMBtu) (1.25 lb/hr (24 hr rolling avg))			Per Applicant and ATC '-11-21

C. Calculations**1. Pre-Project Potential to Emit (PE1)**Daily PE1NO_x

The worst-case daily emissions for NO_x will be calculated using the 24 hour block average emission factor listed above and the maximum glass produced throughput limit.

$$\text{PE1}_{\text{NO}_x} = (2.8 \text{ lb/ton}) \times (650 \text{ ton/day})$$

$$= \mathbf{1,820.0 \text{ lb-NO}_x/\text{day}}$$

SO_x

SO_x emissions from the glass furnace are limited in lb/ton and lb/hr. The worst-case SO_x emission factor is from firing on fuel oil #2 (49.9 lb-SO_x/hr, equivalent to 1.84 lb-SO_x/ton²). However, the pound per ton emission factor (1.7 lb-SO_x/ton) is more stringent of an emission limit as the glass furnace cannot exceed that lb/ton emission factor during all firing techniques, including using fuel oil #2 as a backup fuel. Therefore, the worst-case daily emissions for SO_x will be calculated using the 24 hour block average emission factor listed

² 49.9 lb-SO_x/hr ÷ (650 tons/year ÷ 24 hr/day)

above and the maximum glass produced throughput limit. In addition, the SO_x emissions from the surface passivation process will also be included in the overall total SO_x emissions from this permit unit.

$$\begin{aligned} PE1_{SO_x} &= [(1.7 \text{ lb/ton}) \times (650 \text{ ton/day})] + [(10.0 \text{ lb/hr} \times 24 \text{ hr/day})] \\ &= \mathbf{1,345.0 \text{ lb-SO}_x/\text{day}} \end{aligned}$$

PM₁₀

PM₁₀ emissions are limited in lb/ton and lb/hr. The most stringent PM₁₀ emission factor is the lb/ton emission factor (0.20 lb-PM₁₀/ton x 650 ton/day = 130.0 lb-PM₁₀/day, equivalent to 5.42 lb-PM₁₀/hr). Therefore, the worst-case daily emissions for PM₁₀ will be calculated using the lb/ton emissions rate listed above and the maximum daily throughput.

$$\begin{aligned} PE1_{PM_{10}} &= (0.20 \text{ lb/ton}) \times (650 \text{ ton/day}) \\ &= \mathbf{130.0 \text{ lb-PM}_{10}/\text{day}} \end{aligned}$$

CO

CO emissions are limited in lb/ton and lb/hr. The worst-case CO emission factor can be determined from the lb/ton emission factor (0.9 lb-CO/ton x 650 ton/day = 585.0 lb-CO/day, equivalent to 24.38 lb-CO/hr). However, the pound per hour emission rate listed on the baseline permit (21.13 lb-CO/hr) is more stringent of an emission limit as the glass furnace cannot exceed the hourly emission rate during any hour throughout the day. Therefore, the worst-case daily emissions for CO will be calculated using the hourly emission rate listed above and the maximum operating schedule during any given day.

$$\begin{aligned} PE1_{CO} &= (21.13 \text{ lb/hr}) \times (24 \text{ hr/day}) \\ &= \mathbf{507.1 \text{ lb-CO/day}} \end{aligned}$$

VOC

VOC emissions are limited in lb/ton and lb/hr. The worst-case VOC emission factor can be determined from the lb/ton emission factor (0.1 lb-VOC/ton x 650 ton/day = 65.0 lb-VOC/day, equivalent to 2.71 lb-VOC/hr). However, the pound per hour emission rate (0.83 lb-VOC/hr) is more stringent of an emission limit as the glass furnace cannot exceed that hourly emission rate during any hour throughout the day. Therefore, the worst-case daily emissions for VOC will be calculated using the hourly emission rate and the maximum operating schedule during any given day.

$$\begin{aligned} PE1_{VOC} &= (0.83 \text{ lb/hr}) \times (24 \text{ hr/day}) \\ &= \mathbf{19.9 \text{ lb-VOC/day}} \end{aligned}$$

NH₃

The worst-case daily emissions for NH₃ will be calculated using the NH₃ slip emission factor listed above and the maximum daily heat input and operating limit.

$$\text{PE1}_{\text{NH}_3} = (0.006 \text{ lb/MMBtu}) \times (208 \text{ MMBtu/hr}) \times (24 \text{ hr/day}) \\ = \mathbf{30.0 \text{ lb-NH}_3/\text{day (equivalent to 1.25 lb-NH}_3/\text{hr)}}$$

Annual PE1NO_x

The worst-case annual PE1 for NO_x will be calculated using the 30 day rolling average emission factor listed above, the maximum daily glass produced throughput limit, and the worst-case operating schedule during any given year.

$$\text{PE1}_{\text{NO}_x} = (2.5 \text{ lb/ton}) \times (650 \text{ ton/day}) \times (365 \text{ days/year}) \\ = \mathbf{593,125 \text{ lb-NO}_x/\text{year}}$$

SO_x

The worst-case annual PE1 for SO_x will be calculated using the most stringent limit (1.2 lb-SO_x/ton on a rolling 30 day average) and the maximum glass produced throughput limit. In addition, the SO_x emissions from the surface passivation process will also be included in the overall total SO_x emissions from this permit unit.

$$\text{PE1}_{\text{SO}_x} = [(1.2 \text{ lb/ton}) \times (650 \text{ ton/day}) \times 365 \text{ days/year}] + [(10.0 \text{ lb/hr} \times 8,760 \text{ hr/year})] \\ = \mathbf{372,300 \text{ lb-SO}_x/\text{year}}$$

PM₁₀

The worst-case annual PE1 for PM₁₀ can be determined using the most stringent limit of 0.20 lb/ton, the maximum daily glass produced throughput limit, and the maximum operating schedule during any given year.

$$\text{PE1}_{\text{PM}_{10}} = (0.20 \text{ lb/hr}) \times (650 \text{ hr/year}) \times (365 \text{ days/yr}) \\ = \mathbf{47,450 \text{ lb-PM}_{10}/\text{yr}}$$

CO

The worst-case annual PE1 for CO will be calculated using the most stringent limit (21.13 lb-CO/hr) and the maximum operating schedule during any given year.

$$\text{PE1}_{\text{CO}} = (21.13 \text{ lb/hr}) \times (8,760 \text{ hr/year}) \\ = \mathbf{185,099 \text{ lb-CO/year}}$$

VOC

The worst-case annual PE1 for VOC will be calculated using the most stringent limit (0.83 lb-VOC/hr) and the maximum operating schedule during any given year.

$$\begin{aligned} \text{PE1}_{\text{VOC}} &= (0.83 \text{ lb/hr}) \times (8,760 \text{ hr/year}) \\ &= \mathbf{7,271 \text{ lb-VOC/year}} \end{aligned}$$

NH₃

The worst-case annual PE1 for NH₃ will be calculated using the NH₃ slip emission factor listed above and the maximum annual heat input operating limit.

$$\begin{aligned} \text{PE1}_{\text{NH}_3} &= (0.006 \text{ lb/MMBtu}) \times (208 \text{ MMBtu/hr}) \times (8,760 \text{ hr/year}) \\ &= \mathbf{10,932 \text{ lb-NH}_3/\text{year}} \end{aligned}$$

PE1 Summary		
Pollutant	Daily PE1 (lb/day)	Annual PE1 (lb/year)
NO _x	1,820.0	593,125
SO _x	1,345.0	372,300
PM ₁₀	130.0	47,450
CO	507.1	185,099
VOC	19.9	7,271
NH ₃	30.0	10,932

2. Post-Project Potential to Emit (PE2)

No changes in emission factors or throughputs have been proposed; therefore, PE1 = PE2.

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

Pursuant to District Rule 2201, the 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 (AER) that have occurred at the source, and which have not been used on-site.

Facility emissions are already above the Offset and Major Source Thresholds for NO_x, SO_x, PM₁₀, CO, and VOC emissions; therefore, SSPE1 calculations are not necessary.

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

Pursuant to District Rule 2201, the SSPE2 is the PE from all units with valid ATCs or PTOs at the Stationary Source and the quantity of ERCs which have been banked since September 19, 1991 for AER that have occurred at the source, and which have not been used on-site.

Facility emissions are already above the Offset and Major Source Thresholds for NO_x, SO_x, PM₁₀, CO, and VOC emissions; therefore, SSPE2 calculations are not necessary.

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), pursuant to the Clean Air Act, Title 3, Section 302, US Codes 7602(j) and (z)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 70.2

This source is an existing Major Source for NO_x, SO_x, PM₁₀, CO, and VOC emissions and will remain a Major Source for NO_x, SO_x, PM₁₀, CO, and VOC.

Rule 2410 Major Source Determination:

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(iii). Therefore, the PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

PSD Major Source Determination (tons/year)						
	NO₂	VOC	SO₂	CO	PM	PM₁₀
Estimated Facility PE before Project Increase*	297	10	186	94	38	38
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source?	Yes	No	No	No	No	No

* The SSPE1 values calculated in project C-1221044 were used, except for permit unit '-11. The PE1 values in Section VII.C.1 above were used for permit unit '-11.

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

6. Baseline Emissions (BE)

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

Pursuant to District Rule 2201, BE = PE1 for:

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

otherwise,

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

Clean Emissions Unit, Located at a Major Source

As discussed in Section VII.C.5 above, this facility is a Major Source for NO_x, SO_x, PM₁₀, CO, and VOC emissions. 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.

Based on the Clean Emissions Unit Determination performed in project C-1221044, the furnace is a Clean Emissions Unit for NO_x, SO_x, PM₁₀, CO, and VOC; therefore, BE = PE1 for NO_x, SO_x, PM₁₀, CO, and VOC.

7. SB 288 Major Modification

40 CFR Part 51.165 defines a SB 288 Major Modification 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 NO_x, SO_x, PM₁₀, CO, and VOC, the project's PE2 will be compared to the SB 288 Major Modification Thresholds in order to determine if further SB 288 Major Modification calculation is required.

Furthermore, the project's PE2 is limited to the emission units undergoing modification. District Policy APR 1150, Implementation of Rule 2201 for SB288 Major Modifications and Federal Major Modifications, states:

For existing emissions units, when determining whether a unit is included in the SB 288 Major Modification applicability calculation, only unit(s) undergoing a physical change or an actual change in the method of operation must be included. If an emission unit is not undergoing a physical change or an actual change in the method of operation, it must not be included in the SB 288 Major Modification applicability calculation.

The above guidance limits consideration for an SB 288 modification to the eight 20.0 MMBtu/hr replacement burners. According to the applicant, typically, each burner emits 10% of the emissions from the furnace, and the heat rating of each proposed burner is the same as that of each burner replaced. Therefore, it will be assumed that 80% of the PE2 from the entire furnace is from the eight new 20 MMBtu/hr burners.

The PE2 from the eight burners is summarized in the following table.

PE2 for Eight New Burners	
Pollutant	PE2 (lb/yr)
NO _x	474,500
SO _x	297,840
PM ₁₀	37,960
VOC	5,817

The PE2 of the eight new burners is compared to the SB288 major modification thresholds in the following table.

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 of Eight 20 MMBtu/hr Burners (lb/year)³	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
NO _x	474,500	50,000	Yes
SO _x	297,840	80,000	Yes
PM ₁₀	37,960	30,000	Yes
VOC	5,817	50,000	No

Since the project's PE2 surpasses the SB 288 Major Modification threshold for NO_x, SO_x, and PM₁₀, the project Net Emissions Increase (NEI) will be compared to the SB 288 Major Modification thresholds in order to determine if this project constitutes an SB 288 Major Modification.

The project NEI is the total of emission increases for every permit unit addressed in this project and is calculated as follows:

$$NEI = \sum (PE2 - AE)$$

Where:

PE2 = The sum of all the PE2s for each permit unit in this project.

AE = Actual emissions, as of a particular date, shall equal the average rate, in tons per year, at which the unit actually emitted the pollutant during a consecutive 24-month period which precedes the particular date and which is representative of normal source operation. The reviewing authority shall allow the use of a different time period upon a determination that it is more representative of normal source operation.

³ Assumed that each burner constitutes 10% of the emissions generated from the furnace.

The AE is used to calculate the NEI and make the SB 288 Major Modification determination in the following table.

See *Federal Major Modification* for detailed calculation of AE.

SB 288 Major Modification Calculation and Determination					
Pollutant	PE2 (lb/yr)	AE (lb/yr)	NEI (lb/yr)	Thresholds (lb/yr)	SB 288 Major Modification?
NO _x	474,500	345,318	129,182	50,000	Yes
SO _x	297,840	86,401	211,439	80,000	Yes
PM ₁₀	37,960	21,494	16,466	30,000	No

As demonstrated in the preceding table, this project constitutes an SB 288 Major Modification. However, although this project constitutes an SB 288 Major Modification, since the replacement burners are qualified for Routine Replacement Emissions Units, the burners are exempt from BACT per Section 4.2 of Rule 2201.

8. Federal Major Modification / New Major Source

Federal Major Modification

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

As defined in 40 CFR 51.165, Section (a)(1)(v) and part D of Title I of the CAA, a Federal Major Modification is 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. The significant net emission increase threshold for each criteria pollutant is included in Rule 2201.

District Policy APR 1150, Implementation of Rule 2201 for SB288 Major Modifications and Federal Major Modifications, states:

For existing emissions units, when determining whether a unit is included in the Federal Major Modification applicability calculation, only unit(s) undergoing a physical change or an actual change in the method of operation must be included. If an emission unit is not undergoing a physical change or an actual change in the method of operation, it must not be included in the Federal Major Modification applicability calculation.

Therefore, only the eight replacement burners and the eight burners replaced will be considered to determine if this project constitutes a Federal Major Modification.

The determination of Federal Major Modification is based on a two-step test. For the first step, only the *emission increases* are counted. In step 1, emission decreases cannot cancel out the increases. Step 2 allows consideration of the project’s net emissions increase as described in 40 CFR 51.165 and the Federal Clean Air Act Section 182 (e), as applicable.

As seen above in Section VIII of this evaluation, it was determined that the new burners are existing emissions units. For modified existing emissions units, according to 40 CFR 51.165(a)(2)(ii)(C), the project's emission increase for each pollutant is equal to the sum of the differences between the projected actual emissions (PAE) and the baseline actual emissions (BAE). Please note that in step 1, since the District is classified as extreme non-attainment for ozone, no NO_x and VOC emission decreases associated with the proposed project shall be accounted for.

$$\text{Project Emissions Increase} = \sum(\text{PAE} - \text{BAE})$$

As described in 40 CFR 51.165(a)(1)(xxviii)(B), when using historical data and company's expected business activity to determine PAE, the portion of the emissions after the project that the existing unit could have accommodated (Unused Baseline Capacity, UBC) before the project (during the same 24-month baseline 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.

Otherwise, according to 40 CFR 51.165(a)(1)(xxvii)(B)(4), when determining PAE, in lieu of using the method described in 40 CFR 51.165 (a)(1)(xxviii)(B)(1)-(3), *Projected Actual Emissions*, the owner/operator may elect to use emissions unit's Potential to Emit. If appropriate projected actual emissions are not provided by the applicant, then the emissions unit's Potential to Emit is used to calculate the emissions increase.

Since the project proponent has provided the required historical and projected operation data (see Appendix D) required to calculate PAE, the project emissions increase will be calculated as follows:

$$\text{Project Emissions Increase} = \text{PAE} - \text{BAE} - \text{UBC}$$

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

PAE

Since the operator has estimated the Projected Actual Emissions (PAE) based on all information relevant to the emission unit, the following permit condition will be added to the permit:

- If the emission unit's actual emissions exceed 425,250 lb-NO_x per calendar year, 130,500 lb-SO_x per calendar, 14,310 lb-PM₁₀ per calendar year, 14,310 lb-PM_{2.5} per calendar year, or 120 lb-VOC per calendar year, the permittee must report to the District the annual emissions of each pollutant exceeded as calculated pursuant to paragraph 40 CFR 51.165(a)(6)(iii) and any other information that the owner or operator wishes to include in the report (e.g., an explanation as to why the emissions differ from the preconstruction projection. Such information must be submitted to the District for a period of 5 calendar years beginning the year of operation under ATC C-

948-11-23 and shall be submitted within 60 days of the end of each calendar year.
[District Rule 2201]

The PAE is summarized in the following table.

PAE	
Pollutant	PAE (lb/yr)
NO _x	425,250
SO _x	130,500
PM ₁₀	14,310
PM _{2.5}	14,310
VOC	120

However, as seen above, only the eight replacement burners and the eight burners replaced will be considered to determine if this project constitutes a Federal Major Modification. The values in the table above are based on the entire furnace with 10 burners. According to the applicant, typically, each burner emits 10% of the emissions from the furnace, and the heat rating of each proposed burner is the same as that of each burner replaced. Therefore, it will be assumed that 80% of the PAE from the entire furnace is from the eight new 20 MMBtu/hr burners.

The PAE from the eight new burners is summarized in the following table.

PAE for Eight New Burners	
Pollutant	PAE (lb/yr)
NO _x	340,200
SO _x	104,400
PM ₁₀	11,448
PM _{2.5}	11,448
VOC	96

BAE

For emission units (other than electric utility steam generating units), according to 40 CFR 51.165(a)(1)(xxxv)(B), the BAE is calculated as the average, in tons/year, at which the emissions unit actually emitted during any 24-month period selected by the operator within the previous 10-year period.

Using the facility's 2021 and 2022 Emissions Inventory data, the 2021-2022 period BAE for permit unit 11 is as follows:

2021-Year Emissions			
Pollutant	EF ⁴ (lb/ton)	Process Rate (ton/yr)	Emissions (lb/yr)
NOx	1.89	212,430	401,493
SOx	0.58		123,209
PM ₁₀	0.064		13,596
PM _{2.5}	0.064		13,596
VOC	0.009		1,912

2022-Year Emissions			
Pollutant	EF ⁵ (lb/ton)	Process Rate (ton/yr)	Emissions (lb/yr)
NOx	2.14	215,795	461,801
SOx	0.43		92,792
PM ₁₀	0.186		40,138
PM _{2.5}	0.186		40,138
VOC	0.0057		1,230

2021-2022 Period BAE	
Pollutant	BAE (lb/yr)
NOx	431,647
SOx	108,001
PM ₁₀	26,867
PM _{2.5}	26,867
VOC	1,571

However, only the replacement burners and burners replaced will be considered to determine if this project constitutes a Federal Major Modification. Therefore, as seen above, it will be assumed that 80% of the BAE from the entire furnace is from the eight 20 MMBtu/hr burners replaced.

The BAE is summarized in the following table.

2021-2022 Period BAE for Eight Burners Replaced	
Pollutant	BAE (lb/yr)
NOx	345,318
SOx	86,401
PM ₁₀	21,494
PM _{2.5}	21,494
VOC	1,257

⁴ Values are taken from a source test conducted September 28, 2021. Since an emission factor for PM_{2.5} emissions is not available, to be conservative, it is assumed that the PM₁₀ emission factor is equal to that of PM_{2.5}.

⁵ Values are taken from a source test conducted September 21, 2022. Since an emission factor for PM_{2.5} emissions is not available, to be conservative, it is assumed that the PM₁₀ emission factor is equal to that of PM_{2.5}.

UBC

As described in 40 CFR 51.165(a)(1)(xxviii)(B), when using historical data and company's expected business activity and highest projections of business activity to determine PAE, the portion of the emissions after the project that the existing unit could have accommodated before the project (during the same 24-month baseline 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.

An average of the 2021 and 2022 source test values was used for all pollutants.

Additionally, as demonstrated with the information provided by the applicant in the following table, the furnace has actually produced an average of 609 tons of glass per day in November 2022. The following table considers the maximum operational data based on product demand on any given day during the baseline period since the furnace does not typically operate at the maximum capacity on a single day:

Actual Production Data (tons/day)			
Date	Process Rate	Date	Process Rate
11/1/2022	607	11/16/2022	610
11/2/2022	607	11/17/2022	610
11/3/2022	609	11/18/2022	613
11/4/2022	611	11/19/2022	610
11/5/2022	607	11/20/2022	607
11/6/2022	609	11/21/2022	609
11/7/2022	609	11/22/2022	610
11/8/2022	611	11/23/2022	618
11/9/2022	610	11/24/2022	607
11/10/2022	614	11/25/2022	604
11/11/2022	609	11/26/2022	606
11/12/2022	607	11/27/2022	606
11/13/2022	606	11/28/2022	608
11/14/2022	607	11/29/2022	608
11/15/2022	608	11/30/2022	607

The furnace in this project has a maximum glass pull rate design capacity of 650 tons/day. Based on the table above, the furnace typically operates over 93% of their maximum pull capacity; therefore, it is assumed that there is nothing physically preventing the facility from operating the furnace at its maximum capacity.

As discussed above, the maximum quantity of glass that could have been produced, as identified by the applicant, is identical to the maximum design capacity of the furnace, 650 tons/day. Therefore, the facility could have accommodated the following annual production rate: 650 tons/day x 365 days/year = 237,250 tons/year, resulting in the following emissions:

Maximum Production		
Permit Unit	Pollutant	lb/yr**
C-948-11	NO _x	478,059
	SO _x	119,811
	PM ₁₀	29,656
	PM _{2.5} *	29,656
	VOC	1,744

*Assuming PM₁₀ = PM_{2.5};

**237,250 tpy × average EF from 2021 and 2022 (same EFs as for BAE)

The unused baseline capacity (UBC) for this project is the difference between the emissions the units could have accommodated (maximum furnace designed capacity of production) and the baseline actual emissions as summarized in the following table:

Unused Baseline Capacity			
Pollutant	Maximum Production (lb/yr)	BAE (lb/yr)	UBC (lb/yr)
NO _x	478,059	431,647	46,412
SO _x	119,811	108,001	11,810
PM ₁₀	29,656	26,867	2,789
PM _{2.5} *	29,656	26,867	2,789
VOC	1,744	1,571	173

*Assuming PM₁₀ = PM_{2.5}

However, only the replacement burners and burners replaced will be considered to determine if this project constitutes a Federal Major Modification. Therefore, as seen above, it will be assumed that 80% of the UBC from the entire furnace is from the eight 20 MMBtu/hr burners replaced. The UBC for the eight burners replaced is summarized in the following table.

UBC for Eight Burners Replaced	
Pollutant	UBC (lb/yr)
NO _x	37,130
SO _x	9,448
PM ₁₀	2,231
PM _{2.5}	2,231
VOC	138

Project Emissions Increase for Modified Emission Units

$$EI = PAE - BAE - UBC$$

Project Emissions Increase For Modified Emissions Units (EI)						
Permit Unit		NO _x	SO _x	PM ₁₀	PM _{2.5}	VOC
C-948-11	PAE (lb/year)	340,200	104,400	11,448	11,448	96
	BAE (lb/year)	345,318	86,401	21,494	21,494	1,257
	UBC (lb/year)	37,130	9,448	2,231	2,231	138
	EI (lb/year)	-42,248	8,551	-12,277	-12,277	-1,299

In conclusion, the project's total emission increases are summarized in the following table and are compared to the Federal Major Modification Thresholds in the following table.

Federal Major Modification Thresholds for Emission Increases			
Pollutant	Total Project Emissions Increases (lb/year)	Thresholds (lb/year)	Federal Major Modification?
NO _x *	-42,248	0	No
VOC*	-1,299	0	No
PM ₁₀	-12,227	30,000	No
PM _{2.5}	-12,227	20,000	No
SO _x	8,551	80,000	No

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

Since none of the Federal Major Modification Thresholds is being surpassed with this project, there is no significant emissions increase from the replacement units. Therefore, this project does not constitute a Federal Major Modification, and step 2 is not required and no further discussion is required.

New Major Source

As demonstrated above, this facility is not becoming a Major Source as a result of this project, therefore, this facility is not a New Major Source pursuant to 40 CFR 51.165 a(1)(iv)(A)(3).

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

Rule 2410 applies to any pollutant regulated under the Clean Air Act, except those for which the District has been classified nonattainment. The pollutants which must be addressed in the PSD applicability determination for sources located in the SJV and which are emitted in this project are: (See 52.21 (b) (23) definition of significant)

- NO₂ (as a primary pollutant)
- SO₂ (as a primary pollutant)
- CO
- PM
- PM₁₀

I. Project Location Relative to Class 1 Area

As demonstrated in the “PSD Major Source Determination” Section above, the facility was determined to be a existing PSD Major Source. Because the project is not located within 10 km (6.2 miles) 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. Project Emission Increase – Significance Determination

a. Evaluation of Calculated Post-project Potential to Emit for New or Modified Emissions Units vs PSD Significant Emission Increase Thresholds

As a screening tool, the post-project potential to emit from all new and modified units is compared to the PSD significant emission increase thresholds, and if the total potentials to emit from all new and modified units are below the applicable thresholds, no further PSD analysis is needed.

District Policy APR 1150, Implementation of Rule 2201 for SB288 Major Modifications and Federal Major Modifications, states:

For existing emissions units, when determining whether a unit is included in the Federal Major Modification applicability calculation, only unit(s) undergoing a physical change or an actual change in the method of operation must be included. If an emission unit is not undergoing a physical change or an actual change in the method of operation, it must not be included in the Federal Major Modification applicability calculation.

Therefore, only the eight replacement burners and the eight burners replaced will be considered to determine if the project emissions increase exceeds the PSD significant emissions increase thresholds.

PSD Significant Emission Increase Determination: Potential to Emit (tons/year)					
	NO ₂	SO ₂	CO	PM	PM ₁₀
Total PE from New and Modified Units	237	149	74	19	19
PSD Significant Emission Increase Thresholds	40	40	100	25	15
PSD Significant Emission Increase?	Yes	Yes	No	No	No

As demonstrated in the table above, because the post-project potential to emit from all new and modified emission units is greater than at least one PSD significant emission increase threshold, further analysis is required to determine if the project will result in an increase greater than the PSD significant emission increase thresholds, see step b. below for further analysis.

b. Evaluation of Calculated Emission Increases vs PSD Significant Emission Increase Thresholds

In this step, the emission increase for each subject pollutant is compared to the PSD significant emission increase threshold, and if the emission increase for each subject pollutant is below their threshold, no further analysis is required.

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

The project's total emission increases, as calculated in the Federal Major Modification section above, are listed below and compared to the PSD significant emission increase thresholds in the following table.

PSD Significant Emission Increase Determination: Emission Increase (tons/year)		
	NO ₂	SO ₂
Emission Increases (only)	-21	4
PSD Significant Emission Increase Thresholds	40	40
PSD Significant Emission Increase?	No	No

As shown in the table above, the emission increases from the project, 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 and no further discussion is required.

10. Quarterly Net Emissions Change (QNEC)

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

11. PM2.5 Federal Offset Sanctions

As of June 27, 2023, the District is in nonattainment new source review (NNSR) offset sanctions pursuant to CAA 179(a) for PM_{2.5}. Therefore, any New Major Source or Federal Major Modification for PM_{2.5} (including increases of its precursors NO_x, VOC, and SO_x), must supply any required federal offsets at a 2:1 ratio.

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), pursuant to the Clean Air Act, Title 3, Section 302, US Codes 7602(j) and (z)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 70.2

The SSPE values calculated in project C-1221044 were used, except for permit unit '-11. The PE values in Section VII.C.1 above were used for permit unit '-11.

PM2.5 Federal Major Source Determination (lb/year)				
	NO _x *	SO _x *	PM _{2.5}	VOC*
SSPE1	597,086	372,311	75,361	19,064
SSPE2	597,086	372,311	75,361	19,064
PM2.5 Federal Major Source Threshold**	140,000	140,000	140,000	140,000
Pre or Post-Project PM2.5 Federal Major Source?	Yes	Yes	No	No

* PM2.5 Precursors

** Pursuant to 40 CFR 51.165(a)(1)(iv)(A)

As shown in the table above, this facility is an existing PM_{2.5} federal Major Source for NO_x and SO_x.

Pursuant to 40 CFR 51.165 and the Federal Clean Air Act Section 182(e), the determination of Federal Major Modification is based on a two-step test. For the first step, only the emission *increases* are counted. In step 1, emission decreases cannot cancel out the increases. Step 2 allows consideration of the project's net emissions increase (NEI).

As seen above in the Federal Major Modification discussion, since PM_{2.5} Federal Major Modification Threshold of 140,000 lb/yr is being surpassed with this project for NO_x and SO_x, there is no significant emissions increase from the replacement units. Therefore, this project does not constitute a Federal Major Modification, and step 2 is not required and no further discussion is required.

VIII. Compliance Determination

Rule 1081 Source Sampling

The purpose of this rule is to ensure that any source operation which emits or may emit air contaminants provides adequate and safe facilities for use in sampling to determine compliance. The following existing conditions will be carried over to the new ATC.

- Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
- Source testing shall be witnessed or authorized by District personnel. Test results must be submitted to the District within 60 days of performance testing. [District Rule 1081]

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

Pursuant to District Rule 2201, Section 4.2.6, BACT is not required for a Routine Replacement Emissions Unit.

Pursuant to Rule 2201 Section 3.35, Routine Replacement Emissions Units must meet the following criteria:

3.35.1 – no increase in permitted emissions from the replacement units, or no significant emissions increase from the replacement units according to the applicability calculations of 40 CFR 51.165(a)(2)(ii)(C);

According to 40 CFR 51.165(a)(2)(ii)(C), a significant emissions increase is defined as the sum of the difference between the projected actual emissions (PAE) and the baseline actual emissions (BAE), for each existing emissions unit, equals or exceed the significant amount for that pollutant.

Pursuant to 40 CFR 51.165(a)(1)(vii)(B), an existing emissions unit is any emissions unit that does not meet the requirements in 40 CFR 51.165(a)(1)(vii)(A). A replacement unit, as defined in 40 CFR 51.165(a)(1)(xxi), is an existing emissions unit.

Since the eight proposed burners are replacing eight existing burners, the proposed burners potentially qualify for replacement units as defined in 40 CFR 51.165(a)(1)(xxi).

40 CFR 51.165(a)(1)(xxi) states that a replacement unit means an emissions unit for which all the criteria listed in 40 CFR 51.165(a)(1)(xxi)(A) through (D) are met. No creditable emission reductions shall be generated from shutting down the existing emissions unit that is replaced.

(a)(1)(xxi)(A) The emissions unit is a reconstructed unit within the meaning of 40 CFR 60.15(b)(1), or the emissions unit completely takes the place of an existing emissions unit;

As seen above in Section I, the eight new burners will take the place of existing eight of the ten burners completely; therefore, this criterion is met.

(a)(1)(xxi)(B) The emissions unit is identical to or functionally equivalent to the replaced emissions unit;

The new burners are functionally equivalent to the replaced burners; therefore, this criterion is met.

(a)(1)(xxi)(C) The replacement does not alter the basic design parameters of the process unit; and

As seen above in Section I, each burner replaced is rated at 20 MMBtu/hr and each replacement burner is rated at 20 MMBtu/hr. In addition, as a result of this project, there is no change in furnace heat ratings. Therefore, this criterion is met.

(a)(1)(xxi)(D) The replaced emissions unit is permanently removed from the major stationary source, otherwise permanently disabled, or permanently barred from operation by a permit that is enforceable as a practical matter. If the replaced emissions unit is brought back into operation, it shall constitute a new emissions unit.

The facility will permanently remove the replaced emissions units from the source. Therefore, this criterion is met.

As seen above, the new burners meet all the criteria listed in 40 CFR 51.165(a)(1)(xxi)(A) through (D). Therefore, the new burners will be considered replacement units for Federal New Source Review purposes.

As seen in Section VII, there is no increase in permitted emissions from the replacement unit. In addition, as seen above in the Federal Major Modification discussion, according to the applicability calculations of 40 CFR 51.165(a)(2)(ii)(C), there is no significant emissions increase from the replacement units. Therefore, Section 3.35.1 is satisfied.

3.35.2 – *can have up to a 10% increase in design capacity, if the identical unit is not available;*

The heat rating of the replacement burners is 20 MMBtu/hr each, which is equal to that of each burner replaced. Therefore, this criterion is met.

3.35.3 – *the replacement equipment will perform the same function;*

The replacement burners and the burners replaced melt raw material in the furnace.

3.35.4 – *the replacement will not result in a Reconstructed Source or a Reconstruction;*

Given the known large capital costs of operating a glass manufacturing plant, the cost of the burner replacement from this project is not going to exceed 50% of the cost of the glass manufacturing operation as a whole.

3.35.5 – *Must be subject to a BARCT rule or be equipped with a control device capable of at least 85% emissions control;*

The replacement furnace burners in this project are subject to Rule 4354, which is a BARCT rule.⁶ In addition, the furnace is equipped with an ESP, and pursuant to the EPA fact sheet⁷, ESPs are capable of collection efficiency greater than 90 percent for Particulate Matter. Therefore, this criterion is met.

Conclusion

The replacement burners in this project meet all of the criteria listed above; therefore, they are qualified for Routine Replacement Emissions Units.

B. Offsets

1. Offset Applicability

Pursuant to District Rule 2201, Section 4.5, offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the SSPE2 equals or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

The SSPE2 is compared to the offset thresholds in the following table.

⁶ http://www.valleyair.org/Board_meetings/GB/agenda_minutes/Agenda/2018/December/final/13.pdf

⁷ <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1008OHL.PDF>

Offset Determination (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE2	> 20,000	> 54,750	> 29,200	> 200,000	> 20,000
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets Triggered?	Yes	Yes	Yes	Yes	Yes

2. Quantity of District Offsets Required

As demonstrated above, the facility has an SSPE2 for NO_x, SO_x, PM₁₀, CO, and VOC 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 SSPE2 greater than the offset threshold levels before implementing the project being evaluated.

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

Where,

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

BE = Baseline Emissions, (lb/year)

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

DOR = Distance Offset Ratio, determined pursuant to Section 4.8

BE = PE1 for:

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

otherwise,

BE = HAE

As calculated in Section VII.C.6 above, the BE from the furnace are equal to the PE1 since the unit is a Clean Emissions Unit.

There are no increases in cargo carrier emissions. Therefore, offsets can be determined as follows:

Offsets Required (lb/year) = $(PE2 - PE1) \times DOR$

NO_x, SO_x, PM₁₀, CO, and VOC

As seen above in Section VII.C, PE2 = PE1, therefore, the amount of offsets required is zero.

C. Public Notification

1. Applicability

Pursuant to District Rule 2201, Section 5.4, public noticing is required for:

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

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

As demonstrated in Section VII.C.7 of this evaluation, this project is an SB 288 Major Modification. Therefore, public noticing is required for this project for SB 288 Major Modification purposes.

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. There are no new emissions units associated with this project. Therefore public noticing is not required for this project for PE > 100 lb/day.

c. Offset Threshold

Public notification is required if the pre-project Stationary Source Potential to Emit (SSPE1) is increased to a level exceeding the offset threshold levels. The following table compares the SSPE1 with the SSPE2 in order to determine if any offset thresholds have been surpassed with this project.

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO _x	> 20,000	> 20,000	20,000 lb/year	No
SO _x	> 54,750	> 54,750	54,750 lb/year	No
PM ₁₀	> 29,200	> 29,200	29,200 lb/year	No
CO	> 200,000	> 200,000	200,000 lb/year	No
VOC	> 20,000	> 20,000	20,000 lb/year	No

As demonstrated 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.

SSIPE Public Notice Thresholds					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO _x	> 20,000	> 20,000	0	20,000 lb/year	No
SO _x	> 54,750	> 54,750	0	20,000 lb/year	No
PM ₁₀	> 29,200	> 29,200	0	20,000 lb/year	No
CO	> 200,000	> 200,000	0	20,000 lb/year	No
VOC	> 20,000	> 20,000	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.

e. Title V Significant Permit Modification

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

2. Public Notice Action

As discussed above, public noticing is required for this project because this project is an SB 288 Major Modification. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be electronically published on the District's website prior to the issuance of the ATC for this equipment.

D. Daily Emission Limits (DELs)

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

Proposed Rule 2201 (DEL) Conditions:

The following existing NSR conditions will be carried over to the new ATC.

- All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201]
- The furnace and burners shall be operated so as to minimize the NOx emissions to the maximum extent possible without adversely affecting the product quality and furnace integrity. [District Rule 2201]
- The glass furnace shall be vented to a dry scrubber/electrostatic precipitator system anytime the furnace is operating. [District Rule 2201]
- Material removed from dust collector(s) shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201]
- The addition of liquid caustic soda to cooling tower water may be allowed to reduce corrosion and solid build-up, and ensure good working conditions for electrostatic precipitator. [District Rule 2201]
- Daily glass pull rate for this facility shall not exceed 650 U.S. short tons per day. [District Rules 2201 and 4354]
- Particulate Matter emissions (as PM10) shall not exceed 18.80 pounds per hour from the electrostatic precipitator. [District Rule 2201]
- Oxides of nitrogen (NOx) emissions shall not exceed 2.8 lb NOx/ton, based on a 24-hour block average, as defined by Rule 4354. [District Rules 2201 and 4354]

- Oxides of nitrogen (NO_x) emissions shall not exceed 2.5 lb NO_x/ton, based on a 30-day rolling average, as defined by Rule 4354. [District Rules 2201 and 4354]
- SO_x emissions from the dry scrubber/electrostatic precipitator system shall not exceed 16.25 pounds per hour based on a 24-hour rolling average when firing the furnace on natural gas, nor 49.9 pounds per hour based on a 24-hour rolling average when firing the furnace on standby fuel oil #2. [District Rule 2201]
- SO_x emissions from the surface passivation process shall not exceed 10 pounds per hour. [District Rule 2201]
- Carbon monoxide (CO) emissions shall not exceed either of the following limits: 21.13 pounds per hour or 0.9 pounds per ton (as defined by Rule 4354), based on a rolling three-hour average. [District Rules 2201 and 4354]
- Ammonia (NH₃) emissions shall not exceed 1.25 lb/hr based on a 24 hour rolling average. [District Rule 2201]
- The permittee shall utilize a continuous in-stack ammonia monitor to verify compliance with the ammonia emissions limit. [District Rule 2201]
- Volatile Organic Compounds (VOC) emissions shall not exceed either of the following limits: 0.83 pounds per hour or 0.1 pounds per ton of glass pulled (as defined by Rule 4354), based on a rolling three-hour average. [District Rules 2201 and 4354]

E. Compliance Assurance

1. Source Testing

The unit is subject to District Rule 4354, *Glass Melting Furnaces*. Source testing requirements, in accordance with District Rule 4354 will be discussed in Section VIII of this evaluation. In addition, a start-up source testing is not required since the emissions performance of the replacements burners will be monitored by the CEMS for NO_x, CO, SO_x, and opacity.

2. Monitoring

The unit is subject to District Rule 4354, *Glass Melting Furnaces*. Monitoring requirements, in accordance with District Rule 4354 will be discussed in Section VIII of this evaluation.

In addition, the following conditions will be placed on the new ATC.

- The CEMS and data acquisition system shall monitor for NO_x, CO, SO_x, and opacity. [District Rule 2201]

- The continuous emission monitor system (CEMS) shall be properly installed in the electrostatic precipitator stack and operated in accordance with the manufacturer's specifications. [District Rule 2201]

3. Recordkeeping

The unit is subject to District Rule 4354, *Glass Melting Furnaces*. Recordkeeping requirements, in accordance with District Rule 4354 will be discussed in Section VIII of this evaluation.

In addition, the following conditions will be placed on the ATC.

- The permittee shall maintain records of SO_x usage (lb/hr) in the surface passivation process. [District Rule 2201]
- The permittee shall maintain records of NH₃ emission rates in lb/hr. [District Rule 2201]

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

Rule 2410 Prevention of Significant Deterioration

As shown in Section VII.C.9 above, this project does not result in a new PSD major source or PSD major modification. No further discussion is required.

Rule 2520 Federally Mandated Operating Permits

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

In accordance with Rule 2520, Minor Permit Modifications are permit modifications that:

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;
7. Do not grant or modify a permit shield.

Additionally, Section 11.4 requires a description of the proposed change, the emissions resulting from the change, any new applicable requirements that will apply if the change occurs, suggested draft permits, compliance certification and an EPA 45-day review period of the proposed permit modification (or a shorter period if EPA has notified the District that EPA will not object to issuance of the permit modification, whichever is first).

As discussed above, the facility has applied for a Certificate of Conformity (COC) and the District will forward to EPA, for a 45-day review period, this application review which includes the proposed modified Title V permit [i.e. proposed ATC] and the compliance certification form which demonstrates compliance with the minor permit modification requirements in Section 11.4. 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 upon submittal of the Title V administrative amendment application.

The following conditions will be placed on the new ATC.

- {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]
- {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]

In addition, the following existing conditions will be carried over to the new ATC.

- Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4201, Fresno County Rule 404, District Rule 4202, Fresno County Rule 405, District Rule 4801, and Fresno County Rule 406. A permit shield is granted from these requirements. [District Rule 2520]
- The requirements of District Rule 4301, 40 CFR 60, Subpart CC & 40 CFR 61, Subpart N were determined to be not applicable to this unit. A permit shield is granted from these requirements. [District Rule 2520]

Rule 4001 New Source Performance Standards (NSPS)

This rule incorporates NSPS from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR); and applies to all new sources of air pollution and modifications of existing sources of air pollution listed in 40 CFR Part 60.

40 CFR Part 60 Subpart CC, Standards of Performance for Glass Manufacturing Plants

40 CFR Part 60 Subpart CC, Standards of Performance for Glass Manufacturing Plants applies to each glass furnace that commences construction or modification after June 15, 1979.

Vitro Flat Glass LLC's glass furnace was constructed prior to June 15, 1979. A modification is defined as any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies shall be considered a modification within the meaning of Section 111 of the Act. Additionally, the Code of Federal regulation states that the emission rate shall be expressed in terms of kg/hr. This proposal does not result in an increase in the kg/hr emission rate for any of the pollutants to which a standard applies.

Since this furnace was constructed prior to June 15, 1979 and a modification has not occurred since that time, the requirements of 40 CFR 60 Subpart CC are not applicable. The baseline permit for the glass furnace contains a permit shield (condition 58 in PTO C-948-11-21) from the requirements of Subpart CC and this permit shield will remain on the new ATC.

Rule 4002 National Emission Standards for Hazardous Air Pollutants (NESHAPs)

This rule incorporates NESHAPs from Part 61, Chapter I, Subchapter C, Title 40, CFR and the NESHAPs from Part 63, Chapter I, Subchapter C, Title 40, CFR; and applies to all sources of hazardous air pollution listed in 40 CFR Part 61 or 40 CFR Part 63.

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

This subpart is applicable to glass melting furnaces that use commercial arsenic as a raw material. Vitro Flat Glass LLC's furnace is currently prohibited from using arsenic as a raw material by a permit condition and this permit condition will remain on the glass furnace permit; therefore, Subpart N requirements will not be applicable to this furnace.

The following existing condition will be carried over to the new ATC.

- The facility shall not use commercial arsenic as a raw material in the production process.
[40 CFR Part 61, Subpart N]

40 CFR Part 63 Subpart SSSSSS, National Emission Standards for Hazardous Air Pollutants from Glass Manufacturing Area Sources

Pursuant to Section 63.11448, this subpart is applicable 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.

Section 63.11459 defines glass manufacturing metal HAP as an oxide or other compound of any of the following metals included in the list of urban HAP for the Integrated Urban Air Toxics Strategy and for which Glass Manufacturing was listed as an area source category: arsenic, cadmium, chromium, lead, manganese, and nickel.

Vitro Flat Glass LLC has indicated that they have never used arsenic, cadmium, chromium, lead, manganese, or nickel. Therefore, this subpart is not applicable to this facility at this time. Should the facility utilize any of these metals at any time in the future, they will be required to comply with the requirements of this subpart at that time.

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). Based on past inspections of the facility, continued compliance is expected.

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.

District policy APR 1905 also specifies that the increase in emissions associated with a proposed new source or modification of an existing source shall not result in an increase in cancer risk greater than the District's significance level (20 in a million) and shall not result in acute and/or chronic risk indices greater than 1.

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.

The following existing condition will be carried over to the new ATC to ensure continued compliance with this rule.

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

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. Continued compliance is expected and the following existing condition will be carried over to the ATC.

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

Rule 4202 Particulate Matter - Emission Rate

The purpose of this rule is to limit particulate matter emissions by establishing allowable emission rates. Per section 4.1, particulate matter emissions from any source operation shall not exceed the allowable hourly emission rate as calculated using the following applicable formulas:

$$\begin{aligned} E &= 3.59 \times P^{0.62} && \text{if } P \leq 30 \text{ tons/hr} \\ E &= 17.31 \times P^{0.16} && \text{if } P > 30 \text{ tons/hr} \end{aligned}$$

Where,

E = emissions in lb/hr

P = process weight rate in tons/hr

$$\text{Process Weight} = ((650 \text{ tons/day}) \div (24 \text{ hr/day}))$$

$$P = 27.08 \text{ ton/hr}$$

$$\begin{aligned} E &= 3.59 \times (27.08)^{0.62} \\ &= 27.75 \text{ lb/hr} \end{aligned}$$

Based on daily PM₁₀ emissions in Section VII.C.1, an hourly emission rate is 5.42 lb/hr (130.0 lb-PM₁₀/day ÷ 24 hr/day).

$$E_{\text{max}} = 27.75 \text{ lb/hr}$$

$$E_{\text{actual}} = 5.42 \text{ lb/hr}$$

Therefore, the actual PM emission rate of 5.42 lb/hr is less than the allowable maximum emission rate of 27.75 lb/hr and compliance with this rule is expected. The following existing condition in the baseline permit will be carried over to the new ATC.

- Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 (amended 12/17/92) using the equation $E=3.59 \times P^{0.62}$ if P is less than or equal to 30 tons per hour, or $E=17.37 \times P^{0.16}$ if P is greater than 30 tons per hour. [District Rule 4202]

Rule 4301 Fuel Burning Equipment

This rule applies to fuel burning equipment, which is defined 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 melting furnace operated by Vitro Flat Glass LLC is a direct-fired unit and does not produce heat or power by indirect heat transfer. Therefore, the requirements of District Rule 4301 are not applicable to this glass melting furnace.

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), and oxides of sulfur (SO_x) from glass melting furnaces. Vitro Flat Glass operates a 208 MMBtu/hr glass melting furnace under permit C-948-11. Therefore, the requirements of this rule are applicable to the glass melting furnace in this project.

Section 4.4 specifies that the emission limits in Tables 1 through 4 shall not apply during periods of start-up, shutdown, or idling, provided the operator complies with the applicable requirements of Sections 5.5, 5.6, 5.7, and 6.6. Section 6.6 specifies that the operator of any glass melting furnace claiming an exemption under Section 4.4 shall 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.

Therefore, the following existing condition will be carried over to the new ATC to assure compliance:

- NO_x, CO, VOC, SO_x and PM₁₀ emission limitations of District Rule 4354 shall not apply during periods of start-up, shutdown, and idling, as defined by Rule 4354 Section 3.0. 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]

Section 5.1.1 states except as specified in Section 4.4, the operator of any glass melting furnace shall not operate a furnace in such a manner that results in NO_x emissions exceeding the limits in Table 1. The deadlines to comply with the emission limits included in Table 2 are specified in Section 7.0.

Table 1 – NO_x Emission Limits, in pounds NO_x per ton glass produced, in effect until December 31, 2023	
Type of Glass Produced	NO_x Limit
Container Glass	1.5 ^B
Fiberglass	1.3 ^{A, C} 3.0 ^{A, D}
Flat Glass Standard Option	3.7 ^A 3.2 ^B
Flat Glass Enhanced Option	3.4 ^A 2.9 ^B

^A Block 24-hour average

^B Rolling 30-day average

^C Not subject to California Public Resources Code Section 19511

^D Subject to California Public Resources Code Section 19511

Table 2 – NO_x Emission Limits, in pounds NO_x per ton glass produced, in effect on and after January 1, 2024		
Type of Glass Produced	Phase I NO_x Limit	Phase II NO_x Limit
Container Glass	1.1 ^B	0.75 ^B
Fiberglass	1.3 ^{A, C} 3.0 ^{A, D}	1.3 ^{A, C} 3.0 ^{A, D}
Flat Glass Standard Option	2.8 ^A	1.7 ^A
Flat Glass Enhanced Option	2.5 ^B	1.5 ^B

^A Block 24-hour average

^B Rolling 30-day average

^C Not subject to California Public Resources Code Section 19511

^D Subject to California Public Resources Code Section 19511

As discussed in Section I, emission factors in project C-1221044 will be used as the baseline emission factors (2.8 lb-NO_x/ton based on a 24-hour block average and 2.5 lb-NO_x/ton based on a 30-day rolling average). Therefore, the furnace complies with the limits in Tables 1 and 2, and the following conditions will be placed on the new ATC to assure compliance:

- Oxides of nitrogen (NO_x) emissions shall not exceed 2.8 lb NO_x/ton, based on a 24-hour block average, as defined by Rule 4354. [District Rules 2201 and 4354]
- Oxides of nitrogen (NO_x) emissions shall not exceed 2.5 lb NO_x/ton, based on a 30-day rolling average, as defined by Rule 4354. [District Rules 2201 and 4354]

Section 5.2.1 states that except as specified in Section 4.4, the operator of any glass melting furnace shall not operate a furnace in such a manner that results in CO or VOC emissions exceeding the limits in Table 3.

Table 3 – CO and VOC Emission Limits – rolling three hour average (ppmv limits are referenced at 8% O₂ and dry stack conditions)			
Type of Glass Produced	Firing Technology	CO Limit	VOC Limit
Flat Glass	100% air fired furnace	300 ppmv	20 ppmv
	Oxygen Assisted or Oxy-fuel furnace	0.9 lb/ton of glass produced	0.1 lb/ton of glass produced

The following conditions will be carried over to the new ATC to assure compliance.

- Carbon monoxide (CO) emissions shall not exceed either of the following limits: 21.13 pounds per hour or 0.9 pounds per ton (as defined by Rule 4354), based on a rolling three-hour average. [District Rules 2201 and 4354]
- Volatile Organic Compounds (VOC) emissions shall not exceed either of the following limits: 0.83 pounds per hour or 0.1 pounds per ton of glass pulled (as defined by Rule 4354), based on a rolling three-hour average. [District Rules 2201 and 4354]

Section 5.3.1 states that except as specified in Section 4.4, each furnace shall meet the applicable SO_x emission limit from Table 4. The deadlines to comply with the emission limits included in Table 5 are specified in Section 7.0.

Table 4 – SO_x Emission Limits, in pounds SO_x per ton glass produced, in effect through December 31, 2023		
Type of Glass Produced	Firing Technology	SO_x Limit
Flat Glass	All technologies	1.7 ^A 1.2 ^B

^A Block 24-hour average

^B Rolling 30-day average

Table 5 – SO_x Emission Limits, in pounds SO_x per ton glass produced, in effect on and after January 1, 2024		
Type of Glass Produced	Firing Technology	SO_x Limit
Flat Glass	All technologies	1.7 ^A 1.2 ^B

^A Block 24-hour average

^B Rolling 30-day average

The furnace has SO_x emissions limits of 1.7 lb-SO_x/ton based on a 24-hour block average and 1.2 lb-SO_x/ton based on a rolling 30-day average. Therefore, the furnace complies with emissions limits in Tables 4 and 5.

The following condition in the baseline permit will be carried over to the ATC to assure compliance:

- Oxides of sulfur (SO_x) emissions shall not exceed 1.7 lb SO_x/ton, based on a 24-hour block average, as defined by Rule 4354. In no case shall SO_x emissions exceed 1.2 lb SO_x/ton on a rolling 30-day average. [District Rule 4354]

Section 5.4.1 states except as specified in Section 4.4, the operator of any glass-melting furnace shall not operate a furnace in such a manner that results in PM₁₀ emissions exceeding the applicable limits in Table 6, where total PM₁₀ includes both filterable PM₁₀ and condensable PM₁₀. The deadlines to comply with the PM₁₀ emission limits included in Table 7 are specified in Section 7.0.

Table 6 – PM₁₀ Emission Limits, in pounds total PM₁₀ per ton glass produced Block 24-hour average, effective until December 31, 2023		
Type of Glass Produced	Firing Technology	PM10 Limit
Flat Glass	All technologies	0.70

Table 7 – PM₁₀ Emission Limits, in pounds total PM₁₀ per ton glass produced Block 24-hour average, effective on and after January 1, 2024		
Type of Glass Produced	Firing Technology	PM10 Limit
Flat Glass	All technologies	0.20

The following condition in the baseline permit will be carried over to the new ATC to assure compliance:

- Particulate Matter emissions (as PM₁₀) shall not exceed 0.20 pounds per ton glass pulled on a block 24-hour average from the glass melting furnace. [District Rule 4354]

Sections 5.5, 5.6 and 5.7 specify requirements for startup, shutdown and idling. The current permit does not contain any startup, shutdown or idling requirements. In addition, the facility has not requested to add any startup, shutdown or idling requirements in this project. Therefore, the requirements of these sections are not applicable and conditions assuring compliance will not be included in the ATC.

Section 5.9.1 specifies NO_x emission monitoring requirements.

Section 5.9.2 specifies CO and VOC emission monitoring requirements.

Section 5.9.3 specifies SO_x emission monitoring requirements.

Section 5.9.4 specifies PM10 emission monitoring requirements.

The following conditions in the baseline permit will be carried over to the new ATC.

- The permittee shall operate and maintain a monitoring and recording system to accurately measure and record the furnace melter crown temperature at least once per day. [District Rule 4354]
- The furnace melter crown temperature shall be maintained at or above 1,800 °F. If the measured furnace temperature is less than 1,800 °F, the permittee shall conduct a certified VOC source test within 60 days to re-establish the minimum temperature limit. In lieu of conducting a certified VOC source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the furnace temperature to or above the minimum temperature limit), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4354]
- The permittee shall keep records of the date and time of the furnace melter crown temperature readings and the furnace melter crown temperature measured during the most recent source test that demonstrated ongoing compliance with the VOC emission limit. [District Rule 4354]
- The permittee shall operate and maintain a monitoring and recording system to accurately measure and record the secondary current and secondary voltage across each field of the electrostatic precipitator at least once per hour. [District Rule 4354 and 40 CFR Part 64]
- The average hourly total power input into the electrostatic precipitator shall be maintained at or above 0.23 kW. The average hourly total power input shall be the sum of the average power inputs to each field of the electrostatic precipitator. The average power inputs to each field shall be calculated by multiplying the average hourly secondary current for that field by the average hourly secondary voltage for that field, both recorded by the continuous monitoring system. [District Rule 4354 and 40 CFR Part 64]
- If the measured average total power input into the electrostatic precipitator falls below the acceptable level specified within this permit, the permittee shall conduct a certified source test within 60 days to re-establish the acceptable secondary voltage and/or secondary current range/level. In lieu of conducting a certified PM10 source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the average hourly voltage and/or current input to or above the minimum acceptable levels), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4354 and 40 CFR Part 64]

- The permittee shall keep records of the date and time of the electrostatic precipitator total power input readings and the minimum electrostatic precipitator total power input measured during the source test that demonstrated ongoing compliance with the PM10 emission limit. [District Rule 4354 and 40 CFR Part 64]

Section 5.10 states that 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:

- 5.10.1 Routine maintenance in each calendar year does not exceed 144 hours total for all add-on controls; and
- 5.10.2 Routine maintenance is conducted in a manner consistent with good air pollution control practices for minimizing emissions.

The baseline permit includes provisions allowing for maintenance of the existing add-on controls for 144 hours per year. The following condition in the baseline permit will be carried over to the new ATC.

- 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]

Section 6.1 states 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.

The following condition in the baseline permit will be carried over to the new ATC to ensure continued compliance.

- Daily glass pull rate for this facility shall not exceed 650 U.S. short tons per day. [District Rules 2201 and 4354]

Section 6.2.1 states that operators shall maintain daily records of the following items:

- 6.2.1.1 Total hours of operation;
- 6.2.1.2 The quantity of glass pulled from each furnace;
- 6.2.1.3 NO_x emission rate in lb/ton glass pulled;
- 6.2.1.4 CO emission rate in units matching Table 2, if a CEMS is used;
- 6.2.1.5 VOC emission rate in units matching Table 2, if a CEMS is used;
- 6.2.1.6 SO_x emission rate in lb/ton glass pulled, if a CEMS is used;
- 6.2.1.7 PM10 emission rate in lb/ton glass pulled, if a CEMS is used;
- 6.2.1.8 For container glass furnaces that are oxy-fuel fired:
 - 6.2.1.8.1 The weight of mixed color mix cullet used;
 - 6.2.1.8.2 The total amount of cullet used by weight; and
 - 6.2.1.8.3 The ratio, expressed in percent, of mixed color mix weight to total cullet weight.

Section 6.2.2 states that 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 6.2.3 states that operators shall maintain records of the following items:

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

The following condition in the baseline permit will be carried over to the new ATC.

- The permittee shall maintain daily records of total hours of operation, quantity of glass pulled, NO_x and SO_x emission rates in lb/ton of glass pulled (both block 24-Hr & rolling 30-day averages), CO emission rate in lb/ton of glass pulled (rolling 3-hour average) and quantity & type of fuel used. The permittee shall also maintain records of source tests, the acceptable range for each approved key system operating parameter as established by source testing, all instances of maintenance and repair, any malfunction, and records of all periods of idling, startup, or shutdown. [District Rule 4354]

Section 6.2.4 states that the operator shall retain records specified in Sections 6.2.1 through 6.2.3 for a period of five years; make the records available on site during normal business hours to the APCO, CARB, or EPA; and submit the records to the APCO, CARB, or EPA upon request.

The following condition in the baseline permit will be carried over to the new ATC.

- All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District, ARB, or EPA inspection upon request. [District Rules 1070 and 4354]

Section 6.3.1 states that each glass melting furnace or a furnace battery shall 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. During annual source testing, compliance shall be demonstrated with the applicable short term emission limit (i.e. the applicable emission limit with the shortest averaging period). Sources exempt under Section 4.2 are not required to source test for the exempted pollutants.

The following condition in the baseline permit will be carried over to the new ATC.

- Annual source testing shall be conducted for VOC (lb/ton of glass pulled and lb/hr); CO (lb/ton of glass pulled and lb/hr); PM₁₀ (lb/ton of glass pulled and lb/hr); SO_x (lb/ton of glass pulled and lb/hr); and NO_x (lb/ton of glass pulled); and NH₃ (lb/hr) emissions at least once every calendar year. To qualify as an annual performance test, the test date shall be at least 6 months after, and not more than 18 months after the initial and the previous annual performance test. [District Rules 1070, 1081 and 4354]

Section 6.3.2 states that source test conditions shall be representative of normal operations, but not less than 60 percent of the permitted glass production capacity.

The following condition in the baseline permit will be carried over to the new ATC.

- Furnace conditions during source testing shall be representative of normal operations, with a glass production rate equal to or greater than 60 percent of the permitted glass production capacity. The source test may be conducted at a glass production rate lower than 60 percent of the permitted glass production capacity, provided that the permittee demonstrates that the proposed alternative glass production rate is representative of normal operations and the proposed alternative glass production rate is approved by the APCO in writing. [District Rule 4354]

Section 6.3.3 states 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. Compliance with this requirement is expected by conditions #49, 50, and 51.

Section 6.3.4 states that during source testing in accordance with Section 6.3.1, 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 in the baseline permit will be carried over to the new ATC.

- For source testing purposes, the arithmetic average of three 30-consecutive-minute test runs shall be used to determine compliance with NO_x, CO, VOC, SO_x, and NH₃ emission limits. [District Rule 4354]

Section 6.3.5 states that during source testing in accordance with Section 6.3.1, the arithmetic average of three (3) 60-consecutive-minute test runs shall be used to determine compliance with PM₁₀ emission limits.

The following condition in the baseline permit will be carried over to the new ATC.

- For source testing purposes, the arithmetic average of three 60-consecutive-minute test runs shall be used to determine compliance with PM₁₀ emission limits. [District Rule 4354]

Section 6.3.6 states 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 in the baseline permit will be carried over to the new ATC.

- During source testing, 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]

Section 6.4 states 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, CARB, and the APCO:

Pollutant/Parameter to be Measured	Test Methods
Oxides of Nitrogen	EPA Method 7E, EPA Method 19, or CARB Method 100
Carbon Monoxide (ppmv)	EPA Method 10 or ARB Method 100
Volatile Organic Compounds (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 or Volumetric Flow Rate	EPA Method 2
Oxides of Sulfur	EPA Method 6C, EPA Method 8, or ARB Method 100
Sulfur Content of Liquid Fuel	ASTM D 6248-99 or ASTM D5433-99
Filterable PM10	EPA Method 5; EPA Method 201; or EPA Method 201A. An operator choosing EPA Method 5 shall count all PM as PM10.
Condensable PM10	EPA Method 202 (with special procedures listed in Section 6.4.9.2)

The following condition in the baseline permit will be carried over to the new ATC.

- Source testing shall be conducted using following test methods: (1) Oxides of Nitrogen: EPA Method 7E, EPA Method 19, or ARB Method 100; (2) Carbon Monoxide: EPA Method 10, or ARB Method 100; (3) VOC (ppmv): EPA Method 25A expressed in terms of carbon, or ARB Method 100, EPA Method 18 or ARB method 422 to determine emissions of exempt compounds; (4) Stack Gas Oxygen, Carbon Dioxide, Excess Air, and Dry Molecular Weight: EPA Method 3 or 3A, or ARB Method 100; (5) Stack Gas Flow rate - EPA Method 2; (6) Stack Gas Moisture Content - EPA Method 4; (7) Fuel Heating Value - ASTM Method D2015-85 or E711; (8) Oxides of Sulfur: EPA Method 6C, EPA Method 8, or ARB Method 100; (9) Filterable PM10: EPA Method 5, EPA Method 201, or EPA Method 201A; (10) Ammonia: BAAQMD ST-1B. An operator choosing EPA Method 5 shall count all PM collected as PM10; (11) Condensable PM10: EPA Method 202 with the following procedures, (11a) Purge the impinger with dry nitrogen for one hour. The one hour purge with dry nitrogen shall be performed as soon as possible after the final leak check of the system, (11b) Neutralize the inorganic portion to a pH of 7.0. Use the procedure, "Determination of NH₄ Retained in Sample by Titration" described in Method 202 to neutralize sulfuric acid, (11c) Evaporate the last 1 ml of the inorganic fraction by air drying following evaporation of the bulk of the impinger water in a 105 degrees C oven as described in the first sentence of the Method 202 section titled "Inorganic Fraction Weight Determination." [District Rule 4354]

Section 6.5.1 states an approved CEMS shall comply with all of the following requirements:

1. Code of Federal Regulations Title 40 (40 CFR) Part 51;
2. 40 CFR Part 60.7 (Notification and Recordkeeping);
3. 40 CFR Part 60.13 (Monitoring Requirements);

4. 40 CFR Part 60 Appendix B (Performance Specifications);
5. 40 CFR Part 60 Appendix F (Quality Assurance Procedures); and
6. Applicable sections of District Rule 1080 (Stack Monitoring).

Section 6.5.2 states that an approved alternate emission monitoring method shall be capable of determining the furnace emissions on an hourly basis and shall comply with the following requirements:

1. 40 CFR 64 (Compliance Assurance Monitoring); and
2. 40 CFR 60.13 (Monitoring Requirements).

The following conditions in the baseline permit will be carried over to the new ATC.

- The CEMS shall meet the performance specification requirements in 40 CFR Parts 60.7 and 60.13, 40 CFR Part 60 Appendix B (Performance Specifications) and Appendix F (Quality Assurance Procedures); and 40 CFR 51, Appendix P, or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rules 1080 and 4354]
- Results of CEMS must 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]
- Permittee shall submit a CEMS written report for each calendar quarter to the District. The report is due on the 30th day following the end of the calendar quarter. Quarterly report shall include: time intervals, data and magnitude of excess emissions, nature and cause of excess (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard; applicable time and date of each period during which the CFM 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 Rules 1080 and 2520]
- Any emissions in excess of the limits imposed by conditions in this permit, as measured by the CEMS constitutes a violation of District Rules and Regulations and shall be reported by the operator to the APCO within 96 hours. [District Rule 1080]
- Operator shall notify the District no later than eight hours after the detection of a breakdown of the CEMS. The operator shall inform the District of the intent to shut down the CEMS at least 24 hours prior to the event. [District Rule 1080]
- The facility shall 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]

- 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 are sent to the District by a District-approved alternative method. [District Rule 1080]

Section 6.6 specifies notifications and records requirements for start-up, shutdown, and idling. The following conditions in the baseline permit will be carried over to the new ATC.

- NO_x, CO, VOC, SO_x and PM₁₀ emission limitations of District Rule 4354 shall not apply during periods of start-up, shutdown, and idling, as defined by Rule 4354 Section 3.0. 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]
- Records of CEMS shall be maintained and shall contain: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, maintenance of CEMs, and emission measurements. [District Rule 1080]

Section 6.7 specifies records requirements for exempt furnaces. The furnace in this project is not exempt from this rule. Therefore, no further discussion is required.

Conclusion:

Compliance with all of the requirements of District Rule 4354 is expected.

Rule 4801 Sulfur Compounds

Per Section 3.1, 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:

$$\text{Volume SO}_2 = nRT/P$$

$$n = \text{moles SO}_2$$

$$T (\text{standard temperature}) = 60^\circ \text{F or } 520^\circ \text{R}$$

$$R (\text{universal gas constant}) = \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ \text{R}}$$

$$0.27 \text{ lb/MMBtu}^8 \times \frac{1 \text{ MMBtu}}{8,578 \text{ scf}_{\text{exhaust}}} \times \frac{1 \text{ lb} \cdot \text{mol}}{64 \text{ lb} \cdot \text{SO}_2} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ \text{R}} \times \frac{520^\circ \text{R}}{14.7 \text{ psi}} \times 1,000,000 \text{ ppm} = 186.7 \text{ ppmv}$$

⁸ 1,345 lb/day ÷ 24 hour/day ÷ 208 MMBtu/hr

Since 186.7 ppmv is \leq 2000 ppmv, the furnace is expected to comply with Rule 4801. The following condition will be carried over to the new ATC to demonstrate compliance with this rule:

- Sulfur compound emissions shall not exceed 2,000 ppmv as SO₂. [District Rule 4801]

California Health & Safety Code 42301.6 (School Notice)

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

California Environmental Quality Act (CEQA)

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

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

Greenhouse Gas (GHG) Significance Determination

District is a Lead Agency & Facility is Subject to Cap-and-Trade

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

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

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

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

Industries covered by Cap-and-Trade are identified in the regulation under section 95811, Covered Entities:

1. Group 1: Large industrial facilities

These types of facilities are subject to Cap and Trade, and the specific companies covered are listed at <http://www.arb.ca.gov/cc/capandtrade/capandtrade.htm>, Section 95811 (a), under the "Publicly Available Market Information" section (list maintained by the California Air Resources Board).

2. Group 2: Electricity generation facilities located in California, or electricity importers

These types of facilities are subject to Cap and Trade (section 95811, b).

3. Group 3: Suppliers of Natural Gas, Suppliers of Reformulated Gasoline Blendstock for Oxygenate Blending and Distillate Fuel Oil, Suppliers of Liquefied Petroleum Gas, and Suppliers of Blended Fuels

These entities are subject to Cap and Trade compliance obligations which must cover all fuels (except jet fuels) identified in section 95811 (c) through (f) of the Cap-and-Trade regulation delivered to end users in California, less the fuel delivered to covered entities (group 1 above).

This facility is subject to the Cap-and-Trade regulation. Therefore, as discussed above, consistent with District Policies APR 2005 and APR 2025, the District concludes that the GHG emissions increases associated with this project would have a less than significant individual and cumulative impact on global climate change.

District CEQA Findings

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing or former use. Furthermore, the District determined that the activity will not have a significant effect on the environment. Therefore, the District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15301 (Existing Facilities), and finds that the project is exempt per the common sense exemption that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

Indemnification Agreement/Letter of Credit Determination

According to District Policy APR 2010 (CEQA Implementation Policy), when the District is the Lead or Responsible Agency for CEQA purposes, an indemnification agreement and/or a letter of credit may be required. The decision to require an indemnity agreement and/or a letter of credit is based on a case-by-case analysis of a particular project's potential for litigation risk, which in turn may be based on a project's potential to generate public concern, its potential for significant impacts, and the project proponent's ability to pay for the costs of litigation without a letter of credit, among other factors.

The criteria pollutant emissions and toxic air contaminant emissions associated with the proposed project are not significant, and there is minimal potential for public concern for this particular type of facility/operation. Therefore, an Indemnification Agreement and/or a Letter of Credit will not be required for this project in the absence of expressed public concern.

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR and EPA Noticing periods, issue ATC C-948-11-23 subject to the permit conditions on the attached draft ATC in Appendix A.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
C-948-11-23	3020-02-H	208 MMBtu/hr burners	\$1,238

Appendixes

- A: Draft ATC
- B: Baseline Permit ATC '11-21
- C: Quarterly Net Emissions Change
- D: Projected Actual Emissions

APPENDIX A

Draft ATC

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: C-948-11-23

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: VITRO FLAT GLASS LLC

MAILING ADDRESS: 3333 S PEACH AVE
FRESNO, CA 93725

LOCATION: 3333 S PEACH AVE
FRESNO, CA 93725

EQUIPMENT DESCRIPTION:

MODIFICATION OF 208 MMBTU/HR OXY-FUEL FIRED FLOAT GLASS FURNACE, FIRING ON NATURAL GAS WITH #2 FUEL OIL AS STANDBY, VENTED THROUGH A UNITED MCGILL DRY SCRUBBER/COOLING TOWER AND A UNITED MCGILL MODEL 3-500 ELECTROSTATIC PRECIPITATOR USING SO₂ AS A LUBRICANT FOR THE GLASS AND EQUIPPED WITH A SELECTIVE NON-CATALYTIC REDUCTION (SNCR) SYSTEM: REPLACE EIGHT 20.0 MMBTU/HR FURNACE BURNERS

CONDITIONS

1. Authority to Construct (ATC) C-948-11-21 shall be implemented concurrently, or prior to the modification and startup of the equipment authorized by this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
2. {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
3. {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

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.

Samir Sheikh, Executive Director / APCO

Brian Clements, Director of Permit Services

C-948-11-23 : Oct 3 2023 10:43AM - HONGM : Joint Inspection NOT Required

4. If the emission unit's actual emissions exceed 425,250 lb-NO_x per calendar year, 130,500 lb-SO_x per calendar, 14,310 lb-PM₁₀ per calendar year, 14,310 lb-PM_{2.5} per calendar year, or 120 lb-VOC per calendar year, the permittee must report to the District the annual emissions of each pollutant exceeded as calculated pursuant to paragraph 40 CFR 51.165(a)(6)(iii) and any other information that the owner or operator wishes to include in the report (e.g., an explanation as to why the emissions differ from the preconstruction projection. Such information must be submitted to the District for a period of 5 calendar years beginning the year of operation under ATC C-948-11-23 and shall be submitted within 60 days of the end of each calendar year. [District Rule 2201] Federally Enforceable Through Title V Permit
5. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
7. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 (amended 12/17/92) using the equation $E=3.59 \times P^{0.62}$ if P is less than or equal to 30 tons per hour, or $E=17.37 \times P^{0.16}$ if P is greater than 30 tons per hour. [District Rule 4202] Federally Enforceable Through Title V Permit
8. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
9. The furnace and burners shall be operated so as to minimize the NO_x emissions to the maximum extent possible without adversely affecting the product quality and furnace integrity. [District Rule 2201] Federally Enforceable Through Title V Permit
10. The glass furnace shall be vented to a dry scrubber/electrostatic precipitator system anytime the furnace is operating. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Material removed from dust collector(s) shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The addition of liquid caustic soda to cooling tower water may be allowed to reduce corrosion and solid build-up, and ensure good working conditions for electrostatic precipitator. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Daily glass pull rate for this facility shall not exceed 650 U.S. short tons per day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
14. Particulate Matter emissions (as PM₁₀) shall not exceed 18.80 pounds per hour from the electrostatic precipitator. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Particulate Matter emissions (as PM₁₀) shall not exceed 0.20 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
16. Oxides of nitrogen (NO_x) emissions shall not exceed 2.8 lb NO_x/ton, based on a 24-hour block average, as defined by Rule 4354. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
17. Oxides of nitrogen (NO_x) emissions shall not exceed 2.5 lb NO_x/ton, based on a 30-day rolling average, as defined by Rule 4354. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
18. SO_x emissions from the dry scrubber/electrostatic precipitator system shall not exceed 16.25 pounds per hour based on a 24-hour rolling average when firing the furnace on natural gas, nor 49.9 pounds per hour based on a 24-hour rolling average when firing the furnace on standby fuel oil #2. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Oxides of sulfur (SO_x) emissions shall not exceed 1.7 lb SO_x/ton, based on a 24-hour block average, as defined by Rule 4354. In no case shall SO_x emissions exceed 1.2 lb SO_x/ton on a rolling 30-day average. [District Rule 4354] Federally Enforceable Through Title V Permit
20. Sulfur compound emissions shall not exceed 2,000 ppmv as SO₂. [District Rule 4801]
21. SO_x emissions from the surface passivation process shall not exceed 10 pounds per hour. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

22. Volatile Organic Compounds (VOC) emissions shall not exceed either of the following limits: 0.83 pounds per hour or 0.1 pounds per ton of glass pulled (as defined by Rule 4354), based on a rolling three-hour average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
23. Carbon monoxide (CO) emissions shall not exceed either of the following limits: 21.13 pounds per hour or 0.9 pounds per ton (as defined by Rule 4354), based on a rolling three-hour average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
24. Ammonia (NH₃) emissions shall not exceed 1.25 lb/hr based on a 24 hour rolling average. [District Rule 2201] Federally Enforceable Through Title V Permit
25. The permittee shall utilize a continuous in-stack ammonia monitor to verify compliance with the ammonia emissions limit. [District Rule 2201] Federally Enforceable Through Title V Permit
26. NO_x, CO, VOC, SO_x and PM₁₀ emission limitations of District Rule 4354 shall not apply during periods of start-up, shutdown, and idling, as defined by Rule 4354 Section 3.0. 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
27. 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
28. Annual source testing shall be conducted for VOC (lb/ton of glass pulled and lb/hr); CO (lb/ton of glass pulled and lb/hr); PM₁₀ (lb/ton of glass pulled and lb/hr); SO_x (lb/ton of glass pulled and lb/hr); and NO_x (lb/ton of glass pulled); and NH₃ (lb/hr) emissions at least once every calendar year. To qualify as an annual performance test, the test date shall be at least 6 months after, and not more than 18 months after the initial and the previous annual performance test. [District Rules 1070, 1081 and 4354] Federally Enforceable Through Title V Permit
29. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
30. Source testing shall be conducted using following test methods: (1) Oxides of Nitrogen: EPA Method 7E, EPA Method 19, or ARB Method 100; (2) Carbon Monoxide: EPA Method 10, or ARB Method 100; (3) VOC (ppmv): EPA Method 25A expressed in terms of carbon, or ARB Method 100, EPA Method 18 or ARB method 422 to determine emissions of exempt compounds; (4) Stack Gas Oxygen, Carbon Dioxide, Excess Air, and Dry Molecular Weight: EPA Method 3 or 3A, or ARB Method 100; (5) Stack Gas Flow rate - EPA Method 2; (6) Stack Gas Moisture Content - EPA Method 4; (7) Fuel Heating Value - ASTM Method D2015-85 or E711; (8) Oxides of Sulfur: EPA Method 6C, EPA Method 8, or ARB Method 100; (9) Filterable PM₁₀: EPA Method 5, EPA Method 201, or EPA Method 201A; (10) Ammonia: BAAQMD ST-1B. An operator choosing EPA Method 5 shall count all PM collected as PM₁₀; (11) Condensable PM₁₀: EPA Method 202 with the following procedures, (11a) Purge the impinger with dry nitrogen for one hour. The one hour purge with dry nitrogen shall be performed as soon as possible after the final leak check of the system, (11b) Neutralize the inorganic portion to a pH of 7.0. Use the procedure, "Determination of NH₄ Retained in Sample by Titration" described in Method 202 to neutralize sulfuric acid, (11c) Evaporate the last 1 ml of the inorganic fraction by air drying following evaporation of the bulk of the impinger water in a 105 degrees C oven as described in the first sentence of the Method 202 section titled "Inorganic Fraction Weight Determination." [District Rule 4354] Federally Enforceable Through Title V Permit
31. Furnace conditions during source testing shall be representative of normal operations, with a glass production rate equal to or greater than 60 percent of the permitted glass production capacity. The source test may be conducted at a glass production rate lower than 60 percent of the permitted glass production capacity, provided that the permittee demonstrates that the proposed alternative glass production rate is representative of normal operations and the proposed alternative glass production rate is approved by the APCO in writing. [District Rule 4354] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

32. For source testing purposes, the arithmetic average of three 30-consecutive-minute test runs shall be used to determine compliance with NO_x, CO, VOC, SO_x, and NH₃ emission limits. [District Rule 4354] Federally Enforceable Through Title V Permit
33. For source testing purposes, the arithmetic average of three 60-consecutive-minute test runs shall be used to determine compliance with PM₁₀ emission limits. [District Rule 4354] Federally Enforceable Through Title V Permit
34. During source testing, 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] Federally Enforceable Through Title V Permit
35. Source testing shall be witnessed or authorized by District personnel. Test results must be submitted to the District within 60 days of performance testing. [District Rule 1081] Federally Enforceable Through Title V Permit
36. The continuous emission monitor system (CEMS) shall be properly installed in the electrostatic precipitator stack and operated in accordance with the manufacturer's specifications. [District Rule 2201] Federally Enforceable Through Title V Permit
37. The CEMS and data acquisition system shall monitor for NO_x, CO, SO_x, and opacity. [District Rule 2201] Federally Enforceable Through Title V Permit
38. The CEMS shall meet the performance specification requirements in 40 CFR Parts 60.7 and 60.13, 40 CFR Part 60 Appendix B (Performance Specifications) and Appendix F (Quality Assurance Procedures); and 40 CFR 51, Appendix P, or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rules 1080 and 4354] Federally Enforceable Through Title V Permit
39. Results of CEMS must 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
40. Records of CEMS shall be maintained and shall contain: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, maintenance of CEMs, and emission measurements. [District Rule 1080] Federally Enforceable Through Title V Permit
41. Permittee shall submit a CEMS written report for each calendar quarter to the District. The report is due on the 30th day following the end of the calendar quarter. Quarterly report shall include: time intervals, data and magnitude of excess emissions, nature and cause of excess (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard; applicable time and date of each period during which the CFM 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 Rules 1080 and 2520] Federally Enforceable Through Title V Permit
42. Any emissions in excess of the limits imposed by conditions in this permit, as measured by the CEMS constitutes a violation of District Rules and Regulations and shall be reported by the operator to the APCO within 96 hours. [District Rule 1080] Federally Enforceable Through Title V Permit
43. Operator shall notify the District no later than eight hours after the detection of a breakdown of the CEMS. The operator shall inform the District of the intent to shut down the CEMS at least 24 hours prior to the event. [District Rule 1080] Federally Enforceable Through Title V Permit
44. The facility shall 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
45. 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 are sent to the District by a District-approved alternative method. [District Rule 1080] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

46. The permittee shall operate and maintain a monitoring and recording system to accurately measure and record the furnace melter crown temperature at least once per day. [District Rule 4354] Federally Enforceable Through Title V Permit
47. The furnace melter crown temperature shall be maintained at or above 1,800 °F. If the measured furnace temperature is less than 1,800 °F, the permittee shall conduct a certified VOC source test within 60 days to re-establish the minimum temperature limit. In lieu of conducting a certified VOC source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the furnace temperature to or above the minimum temperature limit), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4354] Federally Enforceable Through Title V Permit
48. The permittee shall operate and maintain a monitoring and recording system to accurately measure and record the secondary current and secondary voltage across each field of the electrostatic precipitator at least once per hour. [District Rule 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
49. The average hourly total power input into the electrostatic precipitator shall be maintained at or above 0.23 kW. The average hourly total power input shall be the sum of the average power inputs to each field of the electrostatic precipitator. The average power inputs to each field shall be calculated by multiplying the average hourly secondary current for that field by the average hourly secondary voltage for that field, both recorded by the continuous monitoring system. [District Rule 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
50. If the measured average total power input into the electrostatic precipitator falls below the acceptable level specified within this permit, the permittee shall conduct a certified source test within 60 days to re-establish the acceptable secondary voltage and/or secondary current range/level. In lieu of conducting a certified PM10 source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the average hourly voltage and/or current input to or above the minimum acceptable levels), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
51. The permittee shall maintain daily records of total hours of operation, quantity of glass pulled, NO_x and SO_x emission rates in lb/ton of glass pulled (both block 24-Hr & rolling 30-day averages), CO emission rate in lb/ton of glass pulled (rolling 3-hour average) and quantity & type of fuel used. The permittee shall also maintain records of source tests, the acceptable range for each approved key system operating parameter as established by source testing, all instances of maintenance and repair, any malfunction, and records of all periods of idling, startup, or shutdown. [District Rule 4354] Federally Enforceable Through Title V Permit
52. The permittee shall keep records of the date and time of the furnace melter crown temperature readings and the furnace melter crown temperature measured during the most recent source test that demonstrated ongoing compliance with the VOC emission limit. [District Rule 4354] Federally Enforceable Through Title V Permit
53. The permittee shall keep records of the date and time of the electrostatic precipitator total power input readings and the minimum electrostatic precipitator total power input measured during the source test that demonstrated ongoing compliance with the PM10 emission limit. [District Rule 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
54. The permittee shall maintain records of SO_x usage (lb/hr) in the surface passivation process. [District Rule 2201] Federally Enforceable Through Title V Permit
55. The permittee shall maintain records of NH₃ emission rates in lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
56. The facility shall not use commercial arsenic as a raw material in the production process. [40 CFR Part 61, Subpart N] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

57. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4201, Fresno County Rule 404, District Rule 4202, Fresno County Rule 405, District Rule 4801, and Fresno County Rule 406. A permit shield is granted from these requirements. [District Rule 2520] Federally Enforceable Through Title V Permit
58. The requirements of District Rule 4301, 40 CFR 60, Subpart CC & 40 CFR 61, Subpart N were determined to be not applicable to this unit. A permit shield is granted from these requirements. [District Rule 2520] Federally Enforceable Through Title V Permit
59. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District, ARB, or EPA inspection upon request. [District Rules 1070 and 4354] Federally Enforceable Through Title V Permit

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APPENDIX B
Baseline Permit ATC '-11-21



AUTHORITY TO CONSTRUCT

PERMIT NO: C-948-11-21

ISSUANCE DATE: 01/04/2023

LEGAL OWNER OR OPERATOR: VITRO FLAT GLASS LLC

MAILING ADDRESS: 3333 S PEACH AVE
FRESNO, CA 93725

LOCATION: 3333 S PEACH AVE
FRESNO, CA 93725

EQUIPMENT DESCRIPTION:

MODIFICATION OF: 208 MMBTU/HR OXY-FUEL FIRED FLOAT GLASS FURNACE, FIRING ON NATURAL GAS WITH #2 FUEL OIL AS STANDBY, VENTED THROUGH A UNITED MCGILL DRY SCRUBBER/COOLING TOWER AND A UNITED MCGILL MODEL 3-500 ELECTROSTATIC PRECIPITATOR USING SO₂ AS A LUBRICANT FOR THE GLASS AND EQUIPPED WITH A SELECTIVE NON-CATALYTIC REDUCTION (SNCR) SYSTEM (REPLACE TWO 20.0 MMBTU/HR FURNACE BURNERS AS ROUTINE REPLACEMENT EMISSIONS UNITS)

CONDITIONS

1. Authority to Construct (ATC) C-948-11-22 shall be implemented concurrently, or prior to the modification and startup of the equipment authorized by this Authority to Construct. [District Rule 2201]
2. 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
3. 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

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.

Samir Sheikh, Executive Director / APCO

Brian Clements, Director of Permit Services

C-948-11-21 : Jan 4 2023 11:31AM - HONGM : Joint Inspection NOT Required

4. If the emission unit's actual emissions exceed 425,250 lb-NO_x per calendar year, 130,500 lb-SO_x per calendar, 14,310 lb-PM₁₀ per calendar year, 14,310 lb-PM_{2.5} per calendar year, or 120 lb-VOC per calendar year, the permittee must report to the District the annual emissions of each pollutant exceeded as calculated pursuant to paragraph 40 CFR 51.165(a)(6)(iii) and any other information that the owner or operator wishes to include in the report (e.g., an explanation as to why the emissions differ from the preconstruction projection. Such information must be submitted to the District for a period of 5 calendar years beginning the year of operation under ATC C-948-11-21 and shall be submitted within 60 days of the end of each calendar year. [District Rule 2201] Federally Enforceable Through Title V Permit
5. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
7. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 (amended 12/17/92) using the equation $E=3.59 \times P^{0.62}$ if P is less than or equal to 30 tons per hour, or $E=17.37 \times P^{0.16}$ if P is greater than 30 tons per hour. [District Rule 4202] Federally Enforceable Through Title V Permit
8. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
9. The furnace and burners shall be operated so as to minimize the NO_x emissions to the maximum extent possible without adversely affecting the product quality and furnace integrity. [District Rule 2201] Federally Enforceable Through Title V Permit
10. The glass furnace shall be vented to a dry scrubber/electrostatic precipitator system anytime the furnace is operating. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Material removed from dust collector(s) shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The addition of liquid caustic soda to cooling tower water may be allowed to reduce corrosion and solid build-up, and ensure good working conditions for electrostatic precipitator. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Daily glass pull rate for this facility shall not exceed 650 U.S. short tons per day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
14. Particulate Matter emissions (as PM₁₀) shall not exceed 18.80 pounds per hour from the electrostatic precipitator. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Particulate Matter emissions (as PM₁₀) shall not exceed 0.20 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
16. Oxides of nitrogen (NO_x) emissions shall not exceed 2.8 lb NO_x/ton, based on a 24-hour block average, as defined by Rule 4354. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
17. Oxides of nitrogen (NO_x) emissions shall not exceed 2.5 lb NO_x/ton, based on a 30-day rolling average, as defined by Rule 4354. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
18. SO_x emissions from the dry scrubber/electrostatic precipitator system shall not exceed 16.25 pounds per hour based on a 24-hour rolling average when firing the furnace on natural gas, nor 49.9 pounds per hour based on a 24-hour rolling average when firing the furnace on standby fuel oil #2. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Oxides of sulfur (SO_x) emissions shall not exceed 1.7 lb SO_x/ton, based on a 24-hour block average, as defined by Rule 4354. In no case shall SO_x emissions exceed 1.2 lb SO_x/ton on a rolling 30-day average. [District Rule 4354] Federally Enforceable Through Title V Permit
20. Sulfur compound emissions shall not exceed 2000 ppmv as SO₂. [District Rule 4801]
21. SO_x emissions from the surface passivation process shall not exceed 10 pounds per hour. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

22. Volatile Organic Compounds (VOC) emissions shall not exceed either of the following limits: 0.83 pounds per hour or 0.1 pounds per ton of glass pulled (as defined by Rule 4354), based on a rolling three-hour average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
23. Carbon monoxide (CO) emissions shall not exceed either of the following limits: 21.13 pounds per hour or 0.9 pounds per ton (as defined by Rule 4354), based on a rolling three-hour average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
24. Ammonia (NH₃) emissions shall not exceed 1.25 lb/hr based on a 24 hour rolling average. [District Rule 2201] Federally Enforceable Through Title V Permit
25. The permittee shall utilize a continuous in-stack ammonia monitor to verify compliance with the ammonia emissions limit. [District Rule 2201] Federally Enforceable Through Title V Permit
26. NO_x, CO, VOC, SO_x and PM₁₀ emission limitations of District Rule 4354 shall not apply during periods of start-up, shutdown, and idling, as defined by Rule 4354 Section 3.0. 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
27. 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
28. Annual source testing shall be conducted for VOC (lb/ton of glass pulled and lb/hr); CO (lb/ton of glass pulled and lb/hr); PM₁₀ (lb/ton of glass pulled and lb/hr); SO_x (lb/ton of glass pulled and lb/hr); and NO_x (lb/ton of glass pulled); and NH₃ (lb/hr) emissions at least once every calendar year. To qualify as an annual performance test, the test date shall be at least 6 months after, and not more than 18 months after the initial and the previous annual performance test. [District Rules 1070, 1081 and 4354] Federally Enforceable Through Title V Permit
29. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
30. Source testing shall be conducted using following test methods: (1) Oxides of Nitrogen: EPA Method 7E, EPA Method 19, or ARB Method 100; (2) Carbon Monoxide: EPA Method 10, or ARB Method 100; (3) VOC (ppmv): EPA Method 25A expressed in terms of carbon, or ARB Method 100, EPA Method 18 or ARB method 422 to determine emissions of exempt compounds; (4) Stack Gas Oxygen, Carbon Dioxide, Excess Air, and Dry Molecular Weight: EPA Method 3 or 3A, or ARB Method 100; (5) Stack Gas Flow rate - EPA Method 2; (6) Stack Gas Moisture Content - EPA Method 4; (7) Fuel Heating Value - ASTM Method D2015-85 or E711; (8) Oxides of Sulfur: EPA Method 6C, EPA Method 8, or ARB Method 100; (9) Filterable PM₁₀: EPA Method 5, EPA Method 201, or EPA Method 201A; (10) Ammonia: BAAQMD ST-1B. An operator choosing EPA Method 5 shall count all PM collected as PM₁₀; (11) Condensable PM₁₀: EPA Method 202 with the following procedures, (11a) Purge the impinger with dry nitrogen for one hour. The one hour purge with dry nitrogen shall be performed as soon as possible after the final leak check of the system, (11b) Neutralize the inorganic portion to a pH of 7.0. Use the procedure, "Determination of NH₄ Retained in Sample by Titration" described in Method 202 to neutralize sulfuric acid, (11c) Evaporate the last 1 ml of the inorganic fraction by air drying following evaporation of the bulk of the impinger water in a 105 degrees C oven as described in the first sentence of the Method 202 section titled "Inorganic Fraction Weight Determination". [District Rule 4354] Federally Enforceable Through Title V Permit
31. Furnace conditions during source testing shall be representative of normal operations, with a glass production rate equal to or greater than 60 percent of the permitted glass production capacity. The source test may be conducted at a glass production rate lower than 60 percent of the permitted glass production capacity, provided that the permittee demonstrates that the proposed alternative glass production rate is representative of normal operations and the proposed alternative glass production rate is approved by the APCO in writing. [District Rule 4354] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

32. For source testing purposes, the arithmetic average of three 30-consecutive-minute test runs shall be used to determine compliance with NO_x, CO, VOC, SO_x, and NH₃ emission limits. [District Rule 4354] Federally Enforceable Through Title V Permit
33. For source testing purposes, the arithmetic average of three 60-consecutive-minute test runs shall be used to determine compliance with PM₁₀ emission limits. [District Rule 4354] Federally Enforceable Through Title V Permit
34. During source testing, 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] Federally Enforceable Through Title V Permit
35. Source testing shall be witnessed or authorized by District personnel. Test results must be submitted to the District within 60 days of performance testing. [District Rule 1081] Federally Enforceable Through Title V Permit
36. The continuous emission monitor system (CEMS) shall be properly installed in the electrostatic precipitator stack and operated in accordance with the manufacturer's specifications. [District Rule 2201] Federally Enforceable Through Title V Permit
37. The CEMS and data acquisition system shall monitor for NO_x, CO, SO_x, and opacity. [District Rule 2201] Federally Enforceable Through Title V Permit
38. The CEMS shall meet the performance specification requirements in 40 CFR Parts 60.7 and 60.13, 40 CFR Part 60 Appendix B (Performance Specifications) and Appendix F (Quality Assurance Procedures); and 40 CFR 51, Appendix P, or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rules 1080 and 4354] Federally Enforceable Through Title V Permit
39. Results of CEMS must 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
40. Records of CEMS shall be maintained and shall contain: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, maintenance of CEMs, and emission measurements. [District Rule 1080] Federally Enforceable Through Title V Permit
41. Permittee shall submit a CEMS written report for each calendar quarter to the District. The report is due on the 30th day following the end of the calendar quarter. Quarterly report shall include: time intervals, data and magnitude of excess emissions, nature and cause of excess (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard; applicable time and date of each period during which the CFM 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 Rules 1080 and 2520] Federally Enforceable Through Title V Permit
42. Any emissions in excess of the limits imposed by conditions in this permit, as measured by the CEMS constitutes a violation of District Rules and Regulations and shall be reported by the operator to the APCO within 96 hours. [District Rule 1080] Federally Enforceable Through Title V Permit
43. Operator shall notify the District no later than eight hours after the detection of a breakdown of the CEMS. The operator shall inform the District of the intent to shut down the CEMS at least 24 hours prior to the event. [District Rule 1080] Federally Enforceable Through Title V Permit
44. The facility shall 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
45. 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 are sent to the District by a District-approved alternative method. [District Rule 1080] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

46. The permittee shall operate and maintain a monitoring and recording system to accurately measure and record the furnace melter crown temperature at least once per day. [District Rule 4354] Federally Enforceable Through Title V Permit
47. The furnace melter crown temperature shall be maintained at or above 1,800 °F. If the measured furnace temperature is less than 1,800 °F, the permittee shall conduct a certified VOC source test within 60 days to re-establish the minimum temperature limit. In lieu of conducting a certified VOC source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the furnace temperature to or above the minimum temperature limit), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4354] Federally Enforceable Through Title V Permit
48. The permittee shall operate and maintain a monitoring and recording system to accurately measure and record the secondary current and secondary voltage across each field of the electrostatic precipitator at least once per hour. [District Rule 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
49. The average hourly total power input into the electrostatic precipitator shall be maintained at or above 0.23 kW. The average hourly total power input shall be the sum of the average power inputs to each field of the electrostatic precipitator. The average power inputs to each field shall be calculated by multiplying the average hourly secondary current for that field by the average hourly secondary voltage for that field, both recorded by the continuous monitoring system. [District Rule 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
50. If the measured average total power input into the electrostatic precipitator falls below the acceptable level specified within this permit, the permittee shall conduct a certified source test within 60 days to re-establish the acceptable secondary voltage and/or secondary current range/level. In lieu of conducting a certified PM10 source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the average hourly voltage and/or current input to or above the minimum acceptable levels), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
51. The permittee shall maintain daily records of total hours of operation, quantity of glass pulled, NO_x and SO_x emission rates in lb/ton of glass pulled (both block 24-Hr & rolling 30-day averages), CO emission rate in lb/ton of glass pulled (rolling 3-hour average) and quantity & type of fuel used. The permittee shall also maintain records of source tests, the acceptable range for each approved key system operating parameter as established by source testing, all instances of maintenance and repair, any malfunction, and records of all periods of idling, startup, or shutdown. [District Rule 4354] Federally Enforceable Through Title V Permit
52. The permittee shall keep records of the date and time of the furnace melter crown temperature readings and the furnace melter crown temperature measured during the most recent source test that demonstrated ongoing compliance with the VOC emission limit. [District Rule 4354] Federally Enforceable Through Title V Permit
53. The permittee shall keep records of the date and time of the electrostatic precipitator total power input readings and the minimum electrostatic precipitator total power input measured during the source test that demonstrated ongoing compliance with the PM10 emission limit. [District Rule 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
54. The permittee shall maintain records of SO_x usage (lb/hr) in the surface passivation process. [District Rule 2201] Federally Enforceable Through Title V Permit
55. The permittee shall maintain daily records of NH₃ emission rates in lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
56. The facility shall not use commercial arsenic as a raw material in the production process. [40 CFR Part 61, Subpart N] Federally Enforceable Through Title V Permit

57. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4201, Fresno County Rule 404, District Rule 4202, Fresno County Rule 405, District Rule 4801, and Fresno County Rule 406. A permit shield is granted from these requirements. [District Rule 2520] Federally Enforceable Through Title V Permit
58. The requirements of District Rule 4301, 40 CFR 60, Subpart CC & 40 CFR 61, Subpart N were determined to be not applicable to this unit. A permit shield is granted from these requirements. [District Rule 2520] Federally Enforceable Through Title V Permit
59. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District, ARB, or EPA inspection upon request. [District Rules 1070 and 4354] Federally Enforceable Through Title V Permit

APPENDIX C
Quarterly Net Emissions Change (QNEC)

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.

As seen in Section VII.C in the evaluation above, $PE2 = PE1$. Therefore, $QNEC = 0$.

APPENDIX D
Projected Actual Emissions

Emission	Pounds Per Ton	Projected Production in Tons	Total Annual Emissions in Pounds
PM	0.0636	225000	14,310.0
SOx	0.58	225000	130,500.0
NOx	1.89	225000	425,250.0
CO	0.00168	225000	378.0
VOC's	0.000532	225000	119.7

Note: All data is pulled from the 2021 stack test and is in lb/ton glass pulled on a 24 hour average