San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

July 12, 2021

Mr. James Tucker
Gallo Glass Company
PO Box 1230
Modesto, CA 95353

Re: Notice of Preliminary Decision – ATC / Certificate of Conformity
District Facility # N-1662
Project # N-1210180

Dear Mr. Tucker:

Enclosed for your review is the District's analysis of an application for Authority to Construct for the facility identified above. You requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. This project is to rebuild and replace the existing burners in the glass furnace operating under permit N-1662-1.

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. Nick Peirce, Permit Services Manager, at (209) 557-6400.

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: Laura Yannayon, EPA (w/enclosure) via EPS

Samir Sheikh
Executive Director/Air Pollution Control Officer

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

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

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

www.valleyair.org www.healthyairliving.com

San Joaquin Valley Air Pollution Control District

Authority to Construct Application Review

Modification of Glass Melting Furnace #1 to Rebrick/Rebuild the Furnace and Burner Replacement with No Increase in Throughput/Emissions

Facility Name:	Gallo Glass Company	Date:	July 9, 2021
Mailing Address:	PO Box 1230 Modesto, CA 95353	Engineer:	Jesse A. Garcia
		Lead Engineer:	Derek Fukuda
Contact Person:	Rafael Amescua, Gallo Glass Company or Wendy Fairchild, Yorke Engineering		
Telephone:	(209) 341-6207 (Rafael) or (949) 248-8490 (Wendy)		
E-Mail:	Rafael.Amezcua@EJGallo.com or WFairchild@yorkeengr.com		
Application #s:	N-1662-1-21		
Project #:	N-1210180		
Deemed Complete:	April 26, 2021		

I. Proposal

Gallo Glass Company (Gallo) has submitted an Authority to Construct (ATC) application to re-brick glass melting furnace #1. As part of the rebrick project, they are going to replace the existing oxy-fuel fired Maxon burners with Praxair oxy-fuel fired burners.

The current permit states the existing glass melting furnace is equipped with 10 Maxon burners (total of 75 MMBtu/hr). These burners will be replaced with eight 10 MMBtu/hr (each), two 5 MMBtu/hr (each), two 2 MMBtu/hr (each) burner for a total heat input rate of 94 MMBtu/hr. The new burners will allow more precise furnace temperature control which will improve the quality of the batch melt in those zones in the furnace. The increased heat input at several burner locations is also designed to improve the quality of the batch melt in those zones of the furnace.

Historically, the rebricking of a furnace is not a 'Modification' as defined in Rule 2201 (see District project N-1082526). However, since the permitted heat input rate of the furnace is changing from 75 MMBtu/hr to 94 MMBtu/hr, the proposed project will be considered a 'Modification' as defined in Rule 2201.

Although the facility is proposing to rebrick and increase the total burner heat input rating, the facility is not proposing to increase the permitted production limits. Additionally, the facility is not proposing to increase the actual production rates or emissions from this operation or of any upstream or downstream processes since the furnace footprint is not changing.

There is one valid ATC (N-1662-1-19) that will be implemented prior to the ATC issued in this project. Therefore, the following condition will be included on the ATC issued in this project:

- Authority to Construct (ATC) N-1662-1-19 shall be implemented concurrently, or prior to the modification and startup of the equipment authorized by this Authority to Construct. [District Rule 2201]

Gallo Glass Company has received their Title V Permit. This modification can be classified as a Title V minor modification pursuant to Rule 2520, and can be processed with a Certificate of Conformity (COC). 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. Gallo Glass Company must apply to administratively amend their Title V permit.

II. Applicable Rules

Rule 1080	Stack Monitoring (12/17/92)
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 4301	Fuel Burning Equipment (12/17/92)
Rule 4354	Glass Melting Furnaces (5/19/11)
Rule 4801	Sulfur Compounds (12/17/92)
40 CFR Part 64	Compliance Assurance Monitoring
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 605 S Santa Cruz Ave in Modesto, 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

The glass production furnace is charged with a combination of recycled glass cullet and raw materials (sand, soda ash, limestone and other minor ingredients) to produce molten glass that is then molded into bottles. The heat for the glass production furnace is produced from the combustion of natural gas and pure oxygen, also called OXY-fuel. The gaseous products of combustion from all the OXY-fueled glass furnaces combine into one flue gas stream that passes through a dry SOx scrubber, a particulate matter control system and then through a single

exhaust stack equipped with a continuous emission monitoring system (CEMS) for NOx, SOx, CO2 and O2, before exhausting to the atmosphere. The exhaust is drawn through the emission control systems by downstream induction fans.

In the SOx scrubber, a dry sorbent, consisting primarily of calcium hydroxide (lime) powder, is injected into the combined flue gas exhaust duct, where the gaseous SOx reacts with the sorbent to form solid calcium sulfate, which is subsequently removed from the exhaust by the ceramic dust collector system (CDC) and/or electrostatic precipitator (ESP). The dry sorbent is received into, and fed from, the proposed storage silo served by a bin vent filter.

After passing through the SOx scrubber, the exhaust gases are drawn through a particulate matter (PM) control system of either the ESP or the CDC. The ESP and the CDC are parallel PM removal systems. Solids removed from the exhaust by the ESP and CDC are combined and either recycled back into the glass batch material or disposed of as hazardous waste.

After passing through the PM control system, the cleaned exhaust is discharged through an exhaust stack equipped with CEMS.

The facility can operate a maximum of 24 hours per day and 365 days per year.

V. Equipment Listing

Pre-Project Equipment Description:

N-1662-1-19: GLASS FURNACE #1 WITH 10 MAXON GAS/OXYGEN BURNERS (75 MMBTU/HR MAX HEAT CAPACITY), AND ASSOCIATED FORMING EQUIPMENT INCLUDING FOREHEARTHS, COATING, AND CHAIN BURNERS. THIS FURNACE IS DUCTED THROUGH A STACK COMMON TO PERMIT UNITS N-1662-1, N-1662-2, N-1662-3 AND N-1662-4. THE FURNACES ARE SERVED BY THE FOLLOWING SHARED EQUIPMENT: SOX SCRUBBER INCLUDING A LIME STORAGE SILO SERVED BY A BIN VENT FILTER, AN ELECTROSTATIC PRECIPITATOR, AND/OR FOUR TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS

Proposed Modification:

N-1662-1-21: MODIFICATION OF GLASS FURNACE #1 WITH 10 MAXON GAS/OXYGEN BURNERS (75 MMBTU/HR MAX HEAT CAPACITY), AND ASSOCIATED FORMING EQUIPMENT INCLUDING FOREHEARTHS, COATING, AND CHAIN BURNERS. THIS FURNACE IS DUCTED THROUGH A STACK COMMON TO PERMIT UNITS N-1662-1, N-1662-2, N-1662-3 AND N-1662-4. THE FURNACES ARE SERVED BY THE FOLLOWING SHARED EQUIPMENT: SOX SCRUBBER INCLUDING A LIME STORAGE SILO SERVED BY A BIN VENT FILTER, AN ELECTROSTATIC PRECIPITATOR, AND/OR FOUR TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS: *REBRICK THE FURNACE AND REPLACE THE BURNERS WITH EIGHT 10 MMBTU/HR (EACH), TWO 5 MMBTU/HR (EACH),*

TWO 2 MMBTU/HR (EACH) BURNER FOR A TOTAL HEAT INPUT RATE OF 94 MMBTU/HR

Post-Project Equipment Description:

N-1662-1-21: GLASS FURNACE #1 WITH EIGHT 10 MMBTU/HR (EACH), TWO 5 MMBTU/HR (EACH), TWO 2 MMBTU/HR (EACH) BURNER (94 MMBTU/HR MAX HEAT CAPCITY), AND ASSOCIATED FORMING EQUIPMENT INCLUDING FOREHEARTHS, COATING, AND CHAIN BURNERS. THIS FURNACE IS DUCTED THROUGH A STACK COMMON TO PERMIT UNITS N-1662-1, N-1662-2, N-1662-3 AND N-1662-4. THE FURNACES ARE SERVED BY THE FOLLOWING SHARED EQUIPMENT: SOX SCRUBBER INCLUDING A LIME STORAGE SILO SERVED BY A BIN VENT FILTER, AN ELECTROSTATIC PRECIPITATOR, AND/OR FOUR TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS

VI. Emission Control Technology Evaluation

The OXY-fueled glass furnace emits NOx, SOx, PM_{10}, CO and VOC. The furnace is equipped with emission control technologies for NOx, SOx and PM_{10}. NOx is controlled utilizing OXY-fuel, SOx is controlled utilizing a scrubber, and PM_{10} is controlled utilizing an ESP or a CDC system. The emission control technology remains the same as that which has been authorized and evaluated under previous projects.

OXY-Fuel Firing:

OXY-fuel firing is utilized to control NO_x emissions. In OXY-fuel firing, oxygen is generated and replaces air in the combustion process. The absence of nitrogen-containing-combustion-air prevents the formation of thermal NO_x.

SOx Scrubber:

Gallo utilizes a scrubber for SOx control followed by an ESP or CDC system for SOx/particulate matter control.

From the furnace, the SOx contaminated airstream travels through a scrubber where, prior to entering the scrubber, the exhaust stream is injected with hydrated lime from the proposed lime storage silo. Inside of the scrubber, SOx is absorbed by the reagent (lime), and then the exhaust stream exits the scrubber with the SOx being in the form of particulate matter. The contaminated airstream (sulfur contaminated scrubber reagent and the particulate matter generated in the furnace) then enters the ESP or CDC system.

Electrostatic Precipitator:

An ESP is utilized to control the particulate matter emissions generated in the glass melting process and from the SOx scrubber. The contaminated air stream is passed through positively or negatively charged electrodes that place a charge on the particulate matter. The contaminated air stream, including the charged particles, is then passed through oppositely-charged electrodes that attract and collect the particulate matter.

Ceramic Filter Dust Collectors:

The dust collectors are TRI-MER UCF-500 modules with ceramic filters that are designed to operate under the high temperatures generated by glass furnaces. The CDC utilizes reverse pulse air type cartridge cleaning.

VII. General Calculations

A. Assumptions

- To streamline emission calculations, $PM_{2.5}$ emissions are assumed to be equal to PM_{10} emissions.
- The facility can operate 24 hours/day, 365 days/year.
- Maximum pre and post-project glass produced: 520.1 tons/day (per current permit and applicant)

B. Emission Factors

Pollutant	Pre and Post-Project Emission Factors (EF) and/or Emission Rates	Source
NO_X	1.3 lb/ton of glass produced (rolling 30-day average)	Current Permit
SO_X	When producing glass that is ≥ 25% mixed color cullet by weight 0.95 lb/ton of glass produced (rolling 30-day average) When producing glass that is < 25% mixed color cullet by weight 0.79 lb/ton of glass produced (rolling 30-day average)	
PM_{10}	Normal Operation: 0.45 lb/ton of glass produced Emission Bypass Periods: 0.71 lb/ton of glass produced	
	Lime Receiving/Storage: 0.0049 lb/ton	
CO	0.04 lb/ton of glass produced	
VOC	0.02 lb/ton of glass produced	

C. Calculations

1. Pre-Project Potential to Emit (PE1)

Shared Lime Storage Silo Served by Bin Vent Filter

Daily PE1 = 65 tons/day x 0.0049 lb-PM_{10}/ton
= 0.3 lb-PM_{10}/day

Annual PE1 = 440 tons/year x 0.0049 lb-PM_{10}/ton
= 2 lb-PM_{10}/year

Glass Furnace

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

- PE1 = EF (lb/ton) × Throughput (tons/day or tons/year)

For PM_{10}, the maximum permitted amount of emission control system by-pass time is 144 hours/year (6 days/year) per the current permit. Therefore, the maximum daily emissions would occur if the unit operated for an entire day in emission control system by-pass mode.

Daily Pre-Project Potential to Emit			
Pollutant	Emissions Factor (lb/ton)	Throughput (tons/day)	PE (lb/day)
NO_X	1.3	520.1	676.1
SO_X (≥ 25% mixed cullet)	0.95	520.1	494.1
PM_{10} (by-pass mode)	0.71	520.1	369.3
CO	0.04	520.1	20.8
VOC	0.02	520.1	10.4

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

Annual Pre-Project Potential to Emit				
Pollutant	Emissions Factor (lb/ton)	Throughput (tons/day)	Schedule (days/year)	PE1 (lb/year)
NO_X	1.3	520.1	365	246,788
SO_X (≥ 25% mixed cullet)	0.95	520.1	365	180,345
PM_{10} (normal mode)	0.45	520.1	359	84,022
PM_{10} (by-pass mode)	0.71	520.1	6	2,216
PM_{10} (total)	-	-	-	86,238
CO	0.04	520.1	365	7,593
VOC	0.02	520.1	365	3,797

2. Post-Project Potential to Emit (PE2)

As previously discussed, the proposed modifications in this project do not result in a change in emissions; therefore, PE1 = PE2.

Post-Project Potential to Emit		
Pollutant	Daily PE2 (lb/day)	Annual PE2 (lb/year)
NO_X	676.1	246,788
SO_X (≥ 25% mixed cullet)	494.1	180,345
PM_{10}	369.3 + 0.3 = 369.6	86,238 + 2 = 86,240
CO	20.8	7,593
VOC	10.4	3,797

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.

The SSPE1 can be calculated by adding the PE1 from all units with valid ATCs or PTOs and the sum of the ERCs that have been banked at the source and which have not been used on-site ($Total_{ERC}$).

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

SSPE1 (lb/year)					
Permit Unit/ERC	**NO_X**	**SO_X**	**PM_{10}**	**CO**	**VOC**
ATC N-1662-1-19[1]	246,788	180,345	86,240	7,593	3,797
ATC N-1662-2-21[1]	204,035	149,103	71,299	31,390	3,139
ATC N-1662-3-20[1]	204,035	149,103	71,299	1,570	3,139
ATC N-1662-4-22[1]	302,684	221,192	105,770	46,567	4,657
ATC N-1662-7-7[2]	0	0	114	0	0
N-1662-8-10[3]	1,003	1,537	11,531	766	50
N-1662-10-4[3]	642	0	31	195	73
N-1662-11-4[3]	642	0	31	195	73
N-1662-12-4[3]	642	0	31	195	73
N-1662-14-9[4]	0	0	59,420	0	0
N-1662-15-4[3]	65	5	14	270	10
N-1662-17-1[5]	3,197	125	333	3,679	241
N-1662-18-1[5]	3,197	125	333	3,679	241
N-1662-19-4[6]	0	0	0	0	219
N-1662-21-1[7]	3,197	125	333	3,679	241
N-1662-22-1[7]	3,197	125	333	3,679	241
N-1662-23-1[7]	3,197	125	333	3,679	241

N-1662-25-1[8]	122	91	8	559	252
ATCN-1662-26-0[9]	0	0	146	0	0
$SSPE1_{Permit\ Unit}$	**976,643**	**702,001**	**407,599**	**107,695**	**16,687**
ERC N-966-2	229,479	-	-	-	-
ERC N-1548-2	242,347	-	-	-	-
ERC N-56-3	-	-	-	2,044	-
ERC N-106-3	-	-	-	3,427	-
ERC N-1516-4	-	-	78,316	-	-
$Total_{ERC}$	**471,826**	**0**	**78,316**	**5,471**	**0**
$SSPE1_{Total}$	**1,448,469**	**702,001**	**485,915**	**113,166**	**16,687**

[1] PE calculations performed in project N-1201553.
[2] PE calculations performed in project N-1181509.
[3] PE calculations performed in project N-1201553.
[4] PE calculations performed in project N-1183475 and N-1200219 show that the PE from ATC N-1662-14-11 has a higher PE than PTO N-1662-14-9 and ATC N-1662-14-10; therefore, the emissions from ATC N-1662-14-11 will be used for SSPE calculations.
[5] PE calculations performed in project N-1171407.
[6] PE calculations performed in project N-1193858 show that the PE from PTO N-1662-19-4 has a higher PE than ATC N-1662-19-3 as calculated in project N-1172325; therefore, the emissions from PTO N-1662-19-4 will be used for SSPE calculations.
[7] PE calculations performed in project N-1182275.
[8] PE calculations performed in project N-1182628.
[9] PE calculations performed in project N-1193401.

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.

SSPE2 (lb/year)					
Permit Unit/ERC	**NO_X**	**SO_X**	**PM_{10}**	**CO**	**VOC**
ATC N-1662-1-19	246,788	180,345	86,240	7,593	3,797
ATC N-1662-2-21	204,035	149,103	71,299	31,390	3,139
ATC N-1662-3-20	204,035	149,103	71,299	1,570	3,139
ATC N-1662-4-22	302,684	221,192	105,770	46,567	4,657
ATC N-1662-7-7	0	0	114	0	0
N-1662-8-10	1,003	1,537	11,531	766	50
N-1662-10-4	642	0	31	195	73
N-1662-11-4	642	0	31	195	73
N-1662-12-4	642	0	31	195	73
N-1662-14-9	0	0	59,420	0	0
N-1662-15-4	65	5	14	270	10

N-1662-17-1	3,197	125	333	3,679	241
N-1662-18-1	3,197	125	333	3,679	241
N-1662-19-4	0	0	0	0	219
N-1662-21-1	3,197	125	333	3,679	241
N-1662-22-1	3,197	125	333	3,679	241
N-1662-23-1	3,197	125	333	3,679	241
N-1662-25-1	122	91	8	559	252
ATCN-1662-26-0	0	0	146	0	0
$SSPE2_{Permit\ Unit}$	**976,643**	**702,001**	**407,599**	**107,695**	**16,687**
ERC N-966-2	229,479	-	-	-	-
ERC N-1548-2	242,347	-	-	-	-
ERC N-56-3	-	-	-	2,044	-
ERC N-106-3	-	-	-	3,427	-
ERC N-1516-4	-	-	78,316	-	-
$Total_{ERC}$	**471,826**	**0**	**78,316**	**5,471**	**0**
$SSPE2_{Total}$	**1,448,469**	**702,001**	**485,915**	**113,166**	**16,687**

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 nonroad 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

Rule 2201 Major Source Determination (lb/year)						
	NO_X	**SO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO**	**VOC**
SSPE1	1,448,469	702,001	485,915	485,915	113,166	16,687
SSPE2	1,448,469	702,001	485,915	485,915	113,166	16,687
Major Source Threshold	20,000	140,000	140,000	140,000	200,000	20,000
Major Source?	Yes	Yes	Yes	Yes	No	No

This source is an existing Major Source for NO_X, SO_X, PM_{10}, and $PM_{2.5}$ emissions and will remain a Major Source for NO_X, SO_X, PM_{10}, and $PM_{2.5}$.

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)						
	NO_2	**VOC**	**SO_2**	**CO**	**PM**	**PM_{10}**
Estimated Facility PE before Project Increase*	488	8	351	54	204	204
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source?	Yes	No	Yes	No	No	No

* These values are taken from the SSPE1 table, excluding ERCs.

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, if applicable, 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 shown in Section VII.C.5 above, this facility is a major stationary source for NO_X, SO_X, and $PM_{10}/PM_{2.5}$ 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 BACT Guideline 1.5.9, see Appendix D, which was valid within the past five years, the glass furnace is a Clean Emissions Unit for NO_X, SO_X, and PM_{10} since the furnace meets the requirements for achieved-in-practice BACT during the five years immediately prior to the submission of a complete application for this project; therefore, BE = PE1 for NO_X, SO_X, and PM_{10}. No determination for $PM_{2.5}$ is required since offsets are not triggered or required for this project.

BE (lb/year)			
Permit Unit	**NO_X**	**SO_X**	**PM_{10}**
N-1662-1-21	246,788	180,345	86,238

7. SB 288 Major Modification

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

Since this facility is a major source for NO_X, SO_X, and PM_{10}, the project's PE2 is compared to the SB 288 Major Modification Threshold in the following table in order to determine if the SB 288 Major Modification calculation is required.

SB 288 Major Modification Thresholds			
Pollutant	**Project PE2 (lb/year)**	**Threshold (lb/year)**	**SB 288 Major Modification Calculation Required?**
NO_x	246,788	50,000	Yes
SO_x	180,345	80,000	Yes
PM_{10}	86,240	30,000	Yes

Since the project's PE2 surpasses the SB 288 Major Modification Threshold for NO_X, SO_X, and PM_{10}, the 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.

As discussed above, although this project is proposing to increase the heat input rating of the furnace, since the footprint of the furnace is not increasing, this project is not removing any bottlenecking.

Therefore, the NEI is the emission increases 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.

Based off information provided by the applicant for the past 10 years of operation, the District has determined the calendar years 2016-2017 represent the consecutive 24-month period that is most representative of the normal source operation (see Appendix E).

Actual Emissions (AE) are calculated based off of the actual throughput data and actual emission rates as measured by the CEMS the applicant has provided during the baseline period. The baseline period was determine to be 2016 and 2017; in 2016 there was a production rate of 149,512 tons of glass produced/year and 2017 there was a production rate of 109,142 tons of glass produced/year. The AE are calculated as follows:

NO_X:
Based off of CEMS data submitted by the facility, the average annual NO_X emission rate is calculated as follows, AE = (136,488 + 104,563) ÷ 2 = **120,526 lbs-NO_X /year**.

SO_X:
Based off of CEMS data submitted by the facility, the average annual NO_X emission rate is calculated as follows, AE = (98,349 + 68,457) ÷ 2 = **83,403 lbs-SO_X /year**.

PM_{10}:
The PM_{10} emission rate from the furnace was source tested in the baseline period and yielded the following emission rates: 2016 – 0.058 lb-PM_{10}/ton; 2017 – 0.061 lb-PM_{10}/ton. The average of these emission factors times the throughput of the respective years of the test yields the AE.

Using the production rate and the PM_{10} emission factor from the source tests during the baseline period, AE = (8,672 + 6,705) ÷ 2 = **7,689 lbs-PM_{10}/year**.

Using the PE2 from this project and the calculated AE, the NEI is calculated as follows and summarized in the table below:

$NEI = \sum (PE2 - AE)$

$NEI = PE2 - AE$

SB 288 Major Modification Calculation and Determination					
Pollutant	**PE2 (lb/year)**	**AE (lb/yr)**	**NEI (lb/yr)**	**Thresholds (lb/yr)**	**SB 288 Major Modification?**
NO_x	246,788	120,526	126,262	50,000	Yes
SO_x	180,345	83,403	96,942	80,000	Yes
PM_{10}	86,240	7,689	78,551	30,000	Yes

As demonstrated in the preceding table, this project is an SB 288 Major Modification for NO_X, SO_X and PM_{10}.

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.

As demonstrated above, this facility is a major source for NOx, SOx, PM_{10}, and $PM_{2.5}$. Therefore, the Federal Major Modification calculation will only be performed for these criteria pollutants.

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 can not 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 discussed above, although this project is proposing to increase the heat input rating of the furnace, since the footprint of the furnace is not increasing, this project is not removing any bottlenecking and will not allow the furnace to produce more glass.

Therefore, 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 NOx and VOC emission decreases associated with the proposed project shall be accounted for.

Project Emissions Increase = $\sum$(PAE – BAE)

As described in 40 CFR 51.165(a)(1)(xxviii)(B), when using historical data and a 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 required to calculate PAE (see below), the emissions increase will be calculated as follows:

Emission Increase = PAE – BAE – UBC

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

Projected Actual Emissions

The applicant has projected actual emissions based on historical production and projected future use of the furnace of 520.1 tons of glass produced per day (equivalent to 189,837 tons of glass produced per year). The projected actual production amount accounts for historical operational data, the company's own representations, the company's expected business activity and the company's highest projections of business activity. The projected future use accounts for expanded growth with the E&J Gallo Winery brand, expanded outside sales, and business mergers and acquisitions.

Projected Actual Emissions = Emission Factor x Projected Actual Glass Production

Projected Actual Emissions (PAE)				
Permit Unit	**Pollutant**	**Emission Factor (lb/ton)**	**Production (tons/year)**	**PAE (lb/year)**
N-1662-1	NO_X	1.3	189,837	246,788
	SO_X	0.95	189,837	180,345
	PM_{10}	0.45	189,837	86,240**
	$PM_{2.5}$*	0.45	189,837	86,240**

*Assuming $PM_{10} = PM_{2.5}$
**This value includes the expected emissions from normal operation as well as the expected emissions from periods where the emission control device is by-passed, as allowed by the permit as well as the emissions from the lime storage silo.

Baseline Actual Emissions

For emission units (other than electric utility steam generating units), according to according to 40 CFR 51.165(a)(1)(xxxv)(B), the BAE are 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.

The Federal Major Modification Baseline Actual Emissions will be calculated utilizing information provided by the applicant. Based on the information for the past 10 years of operation, the applicant has proposed to use the 2015-2016 calendar years as the baseline period for the project.

NO_X:
Based off of CEMS data submitted by the facility, NO_X emission were 128,396 lb/year and 136,488 lb/year for year 2015 and 2016 respectively. Thus, the average NOx emissions were **132,442 lbs-NO_X/year**.

SO_X:
Based off of CEMS data submitted by the facility, SOx emission rates were 125,555 lb/year and 98,349 lb/year for year 2015 and 2016 respectively. Thus, the average SOx emissions were **111,952 lbs-SO_X/year**.

PM_{10}:
Gallo has used source test EFs and process rate to determine the PM_{10} emissions. PM_{10} emission rates were 10,800 lb/year and 8,672 lb/year for year 2015 and 2016 respectively. Thus, the average PM_{10} emissions were **9,736 lbs-PM_{10}/year**.

Baseline Actual Emissions are presented in the table below.

Baseline Actual Emissions (BAE)					
Permit Unit	**Two Year Average**	**NO_X (lb/year)**	**SO_X (lb/year)**	**PM_{10} (lb/year)**	**$PM_{2.5}$* (lb/year)**
N-1662-1	2015-2016	132,442	111,952	9,736	9,736

*Assuming PM_{10} = $PM_{2.5}$

Unused Baseline Capacity

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.

As noted under project N-1201553, furnaces at this site have historically operated near their permitted emission limits for NOx and SOx as demonstrated by CEMS data. For PM_{10} emissions, the source test data has demonstrated that the emission rate varies and

has ranged from as low as 0.053 lb-PM_{10}/ton of glass pulled, up to 0.14 lb-PM_{10}/ton of glass pulled for furnace #1. To maintain a margin of compliance when accounting for all startups, shutdowns, and malfunctions, as authorized by 40 CFR 51.165 (a)(1)(xxviii)(B)(2), the permitted emission limits will be used when calculating the emissions that the unit could have physically and legally accomodated during the baseline period.

Additionally, as demonstrated with the information provided by the applicant in the following table, the furnace has actually produced 463 tons per day of glass. 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	Furnace #1
10/23/15	456
10/24/15	463
10/25/15	463
2/26/16	463
2/28/16	462
8/5/16	458

*Refer to e-mail dated April 14, 2021

The Gallo Glass Company furnace has a maximum glass pull rate design capacity of 520.1 tons/day. The applicant has stated that their furnaces typically operate over 80% of their maximum pull capacity and are only limited by the facility's current demand for product (glass wine bottles). Based on the applicant's statement, there is nothing physically preventing the facility from operating the furnace at its maximum capacity, as stated above.

The applicant stated that the market demand for higher production rates, due to increases from internal demand (E&J Gallo Winery) or from expanded outside sales, and business mergers and acquisitions could be accommodated if the demand materialized. Additionally, since Gallo Glass Company produces containers for the E&J Gallo Winery (with an international market) and to outside customers, if disruptions in container glass supply from another facility (i.e. catastrophic plant closure) or as a whole (e.g. loss of alternate suppliers, import tariffs, global pandemics), Gallo Glass Company could easily increase production and would do so with the furnace as it is currently permitted/configured. Therefore, if the market demand required such production, the applicant indicated that the production of the furnace is able to physically produce a maximum capacity of 520.1 tons of gall per day (equivalent to 189,837 tons of glass per year).

As discussed above, the maximum quantity of glass that could have been produced, as identified by the applicant, is identical to the maximum combined design capacity of the furnace, 520.1 tons/day. Therefore, the facility could have accommodated the following

annual production rate: 520.1 tons/day x 365 days/year = 189,837 tons/year, resulting in the following emissions:

Maximum Production		
Permit Unit	**Pollutant**	**lb/year**
N-1662-1	NO_X	246,788
	SO_X	180,345
	PM_{10}	85,427
	$PM_{2.5}$*	85,427

*Assuming $PM_{10} = PM_{2.5}$

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	246,788	132,442	114,346
SO_x	180,345	111,952	68,393
PM_{10}	85,427	9,736	75,691
$PM_{2.5}$*	85,427	9,736	75,691

*Assuming $PM_{10} = PM_{2.5}$

Project Emissions Increase For Modified Emission Units

EI = PAE – BAE – UBC

Project Emissions Increase For Modified Emissions Units (EI)					
Permit Units		NO_X	SO_X	PM_{10}	$PM_{2.5}$
N-1662-1	PAE (lb/year)	246,788	180,345	86,240	86,240
	BAE (lb/year)	132,442	111,952	9,736	9,736
	UBC (lb/year)	114,346	68,393	75,691	75,691
	EI (lb/year)	0	0	813	813

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*	0	0	No
VOC*	0	0	No
PM_{10}	813	30,000	No
$PM_{2.5}$	813	20,000	No
SO_x	0	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 are being surpassed with this project, this project does not constitute a Federal Major Modification, step 2 is not required and no further discussion is required.

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 futher PSD analysis is needed.

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	123	90	4	43	43
PSD Significant Emission Increase Thresholds	40	40	100	25	15
PSD Significant Emission Increase?	Y	Y	N	Y	Y

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 futher 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:

Emission Increase = PAE – BAE - 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	CO	PM	PM_{10}
Emission Increases (only)	0	0	4*	0	0.4
PSD Significant Emission Increase Thresholds	40	40	100	25	15
PSD Significant Emission Increase?	No	No	No	No	No

* Since this value was not calculated in the Federal Major Modification section, as a worse case, it will be assumed to be equal to the PE2 for the units in this project.

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. There is no change in potential emissions; therefore, QNEC = 0 lb/qtr for all pollutants.

VIII. Compliance Determination

Rule 1080 Stack Monitoring

This Rule grants the APCO the authority to request the installation and use of continuous emissions monitors (CEMs), and specifies performance standards for the equipment and administrative requirements for recordkeeping, reporting, and notification.

The furnace is equipped with an operational CEMs for NOx and SOx on the stack. Continued compliance with the requirements of this Rule is anticipated.

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

- The furnace shall have continuous monitoring systems for NOx and SOx. The monitoring devices shall have continuous recording devices, and all records shall be kept on site. [District Rules 1080 and 4354, §5.9]
- One continuous emission monitoring (CEM) system may be used for monitoring oxy-fuel fired furnaces #1, #2, #3, and #4 provided all of the exhaust gases of each of these furnaces are ducted to a common stack, and monitored down stream of the common stack. The CEMS shall comply with the requirements of 40 Code of Federal Regulations (CFR) Part 51, 40 CFR Parts 60.7 and 60.13, 40 CFR Part 60 Appendix B (Performance

Specifications) and Appendix F (Quality Assurance Procedures) and the applicable sections of Rule 1080 (Stack Monitoring). [District Rule 4354, 5.9 and 6.6.1]

- The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080]
- An annual Relative Accuracy Test Audit (RATA) shall be performed on the continuous monitoring system as outlined in 40 CFR Part 60 Appendix B. [District Rule 1080]
- The owner/operator shall perform a relative accuracy test audit (RATA) as specified by 40 CFR Part 60, Appendix F (CGAs and RATAs) and if applicable 40 CFR Part 75, Appendix B (linearity and RATAs) at least once every four calendar quarters and annually within 30 days of the anniversary date of the initial test. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080]
- An exceedance of a NOx or SOx emission limit as indicated by the CEMS shall be reported by the operator to the APCO within 24 hours. The notification shall include 1) name and location of the facility, 2) identification of furnace(s) causing the exceedances, 3) calculation of actual NOx, CO and VOC emissions, and 4) corrective actions and schedules to complete the work. [District Rule 1080 and Stanislaus County Rule 1080]
- The operator shall notify the APCO no later than one hour after the detection of a breakdown of the CEMS. The operator shall inform the APCO of the intent to shut down the CEMS at least 24 hours prior to the event. [District Rule 1100]
- The permittee shall submit a written report including copies of any Equipment Breakdown reports and/or pertinent variance decisions to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess emissions (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 1080]
- Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternative method. [District Rule 1080]
- Results of continuous emissions monitoring shall be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080]
- Cylinder gas audits (GGAs) of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080]
- {2251} The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080]

- Records shall be maintained and shall include: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEMS that have been installed pursuant to District Rule 1080, and emission measurements. [District Rule 1080]

Rule 1081 Source Sampling

This rule requires adequate and safe facilities for use in sampling to determine compliance with emission limits, and specifies methods and procedures for source testing and sample collection. Compliance with this Rule is expected.

The furnace is subject to Rule 1081 requirements. The following existing conditions will be included on the Authority to Construct permit:

- The common exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NOx, CO, and O2 analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Source Emission Monitoring and Testing. [District Rule 1081]
- Source testing to demonstrate compliance with permit conditions and all rules and regulations for both natural gas and LPG shall be conducted within 60 days after the end of the start-up exemption, and at least once every calendar year thereafter. NOx and CO testing shall be performed using CARB Method 100. VOC testing shall be performed using EPA method 25A. SOx testing shall be performed using EPA Method 8 or CARB Method 100. PM10 testing shall be performed using EPA methods 201 and 202, EPA methods 201a and 202, or CARB methods 501 and 5. In lieu of performing a source test for PM10, the results of CARB Method 5 or EPA Methods 5 and 202 may be used for compliance with the PM10 emissions limit. If this option is used, then all of the particulate emissions will be considered to be PM10. Alternative test methods as approved by EPA, ARB, and the District may also be used to address the source testing requirements of this permit. [District Rules 1081, 2201, 2520, §9.3.2; and 4354, 6.4 and 6.5]
- Source testing when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. A source test shall be performed within 90 days after this furnace exceeds 100 hours of operation, on LPG, on an annual basis. [District Rule 1081]
- Source testing shall be conducted by a CARB-certified source testing contractor. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to source testing. The results of each source test shall be submitted to the District within 60 days after the source test date. [District Rule 1081]
- PM and PM10 source testing shall be conducted downstream of the electrostatic precipitator and the ceramic filter dust collectors in the common stack. Furnaces #1, #2,

#3, and #4 must operate simultaneously during source testing unless prior approval is obtained from the District. [District Rule 1081]

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

Pursuant to District Rule 2201, Section 4.1, BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis. Unless specifically exempted by Rule 2201, BACT shall be required for the following actions*:

a. Any new emissions unit with a potential to emit exceeding two pounds per day,
b. The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
c. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an Adjusted Increase in Permitted Emissions (AIPE) exceeding two pounds per day, and/or
d. Any new or modified emissions unit, in a stationary source project, which results in an SB 288 Major Modification or a Federal Major Modification, as defined by the rule.

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

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

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

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

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

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

AIPE = PE2 – HAPE

Where,
AIPE = Adjusted Increase in Permitted Emissions, (lb/day)
PE2 = Post-Project Potential to Emit, (lb/day)
HAPE = Historically Adjusted Potential to Emit, (lb/day)

HAPE = PE1 x (EF2/EF1)

Where,

PE1 = The emissions unit's PE prior to modification or relocation, (lb/day)
EF2 = The emissions unit's permitted emission factor for the pollutant after modification or relocation. If EF2 is greater than EF1 then EF2/EF1 shall be set to 1
EF1 = The emissions unit's permitted emission factor for the pollutant before the modification or relocation

AIPE = PE2 – (PE1 ∗ (EF2 / EF1))

Since the emission factors are not changing, EF2 = EF1 and EF2/EF1 =1.

AIPE (lb/day) for N-1662-1					
	NO_X	SO_X	PM_{10}	CO	VOC
PE2 (lb/day)	676.1	494.1	369.3	20.8	10.4
PE1 (lb/day)	676.1	494.1	369.3	20.8	10.4
AIPE (lb/day)	0.0	0.0	0.0	0.0	0.0

As demonstrated above, the AIPE is not greater than 2.0 lb/day for any pollutant. Therefore BACT is not triggered.

d. SB 288/Federal Major Modification

As discussed in Section VII.C.7, this project constitutes an SB 288 Major Modification for NO_X, SO_X, and PM_{10} emissions. BACT is triggered for NO_X, SO_X, and PM_{10} for each new and modified emissions unit in this project. Therefore, BACT is triggered for the furnace.

2. BACT Guideline

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

3. Top-Down BACT Analysis

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

Pursuant to the attached Top-Down BACT Analyses (see Appendices D and E), BACT has been satisfied with the following:

Container Glass Melting Furnace
NO_X: 1.3 lb/ton of glass pulled on a rolling 30-day average, except during periods of startup, shutdown, and idling; and compliance with Rule 4354 for periods of startup, shutdown, and idling

SO_X: Oxy-fuel fired furnaces while processing material where > or = 25.0 percent of the total cullet is mixed color cullet: 0.99 lb-SOx/ton of glass pulled on a rolling 30-day average; and compliance with Rule 4354 for periods of startup, shutdown, and idling
PM_{10}: 0.45 lb/ton of glass pulled

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.

Offset Determination (lb/year)					
	NO_X	**SO_X**	**PM_{10}**	**CO**	**VOC**
SSPE2	1,448,469	702,001	485,915	113,166	16,687
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	Yes	Yes	Yes	No	No

2. Quantity of Offsets Required

As seen above, the facility is an existing Major Source for NO_X, SO_X, and PM_{10} and the SSPE2 is greater than the offset thresholds. Therefore offset calculations will be required for this project.

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

Offsets Required (lb/year) = (Σ[PE2 – BE] + ICCE) x 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 is equal to the PE1 since the furnace is a Clean Emissions Units.

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

NO_X:
Offsets Required (lb/year) = ∑([PE2 – BE] + ICCE) x DOR

∑PE2 (NO_X) = 246,788 lb/year
∑BE (NO_X) = 246,788 lb/year
ICCE = 0 lb/year

Offsets Required (lb/year) = ([246,788 – 246,788] + 0) x DOR
= 0 lb NO_X/year

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

SO_x:
Offsets Required (lb/year) = ∑ ([PE2 – BE] + ICCE) x DOR

∑PE2 (SO_x) = 180,345 lb/year
∑BE (SO_x) = 180,345 lb/year
ICCE = 0 lb/year

Offsets Required (lb/year) = ([180,345 – 180,345] + 0) x DOR
= 0 lb SO_x/year

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

PM_{10}:
Offsets Required (lb/year) = ∑ ([PE2 – BE] + ICCE) x DOR

∑PE2 (PM_{10}) = 86,238 lb/year
∑BE (PM_{10})= 86,238 lb/year
ICCE = 0 lb/year

Offsets Required (lb/year) = ([86,238 – 86,238] + 0) x DOR
= 0 lb PM_{10}/year

As demonstrated in the calculation above, the amount of PM_{10} offsets is zero. Therefore, PM_{10} offsets will not be required for this project.

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 SSIPE of greater than 20,000 lb/year for any pollutant, and/or
e. Any project which results in a Title V significant permit modification

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

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

As demonstrated in Sections VII.C.7 and VII.C.8, this project is an SB 288 Major Modification. Therefore, public noticing for SB 288 Major Modification purposes is required.

b. PE > 100 lb/day

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. 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	1,448,469	1,448,469	20,000 lb/year	No
SO_X	702,001	702,001	54,750 lb/year	No
PM_{10}	485,915	485,915	29,200 lb/year	No
CO	113,166	113,166	200,000 lb/year	No
VOC	16,687	16,687	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	1,454,086	1,454,086	0	20,000 lb/year	No
SO_x	702,001	702,001	0	20,000 lb/year	No
PM_{10}	485,915	485,915	0	20,000 lb/year	No
CO	113,156	113,156	0	20,000 lb/year	No
VOC	16,687	16,687	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 for being 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 ATCs 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 furnace shall be fired on natural gas and LPG only. [District Rule 2201]
- The quantity of glass produced shall not exceed 520.1 tons during any one day. [District Rules 2201 and 4354]
- Except during periods of startup, shutdown, and idling, CO emissions shall not exceed 0.04 pounds per ton of glass produced. This performance based limit is to enforce the CO emission reductions granted by certificate number N-106-3. [District Rule 2201]
- Except during periods of startup, shutdown, and idling, VOC emissions shall not exceed 0.02 pounds per ton of glass produced. [District Rule 2201]
- The PM10 emissions shall not exceed 22,936 pounds during the first calendar quarter, 23,190 pounds during the second calendar quarter, 23,445 pounds during the third calendar quarter and 23,445 pounds during the fourth calendar quarter. These limits are to enforce the PM10 emission reductions granted by certificate number N-161-4. [District Rule 2201]
- Except during periods of startup, shutdown, and idling, NOx emissions shall not exceed 1.3 pounds per ton of glass produced (over a rolling 30-day average). This performance based limit is to enforce the NOx emission reductions granted by certificate number N-56-2. Any CEM measurement greater than 1.3 lb-NOx/ton of glass produced for each 30-day rolling average constitutes a violation of this emission limit. [District Rule 2201]
- Except during periods of startup, shutdown, and idling, the combined SOx emissions from permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4, while producing glass with equal to or greater than 25% by weight mixed color cullet, shall not exceed 0.95 lb/ton of glass produced (over a rolling 30 day average). [District Rules 2201 and 4354]
- Except during periods of startup, shutdown, and idling, the combined SOx emissions from permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4, while producing glass with less than 25% by weight mixed color cullet, shall not exceed 0.79 lb/ton of glass produced (over a rolling 30 day average). [District Rules 2201 and 4354]
- Except during periods of startup, shutdown, idling, and during full or partial emission control system bypass episodes, PM10 emissions shall not exceed 0.45 lb/ton of glass produced. [District Rules 2201 and 4354]
- The PM10 emissions, during full or partial emission control system bypass episodes for routine maintenance, shall not exceed 0.71 lb/ton of glass produced. [District Rule 2201]

- The maximum throughput of lime received and stored in the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed either of the following: 65 ton-lime/day or 110 tons-lime/quarter. [District Rule 2201][1]
- PM10 emissions rate from the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed 0.0049 lb-PM10/ton-lime stored. [District Rule 2201]
- Each dust collector and bin vent filter shall be maintained and operated in the range that optimizes control efficiency as recommended by the manufacturer. [District Rule 2201]
- Each dust collector and bin vent filter's cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201]
- Material removed from each dust collector shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201]
- Replacement filters numbering at least 10% of the total number of filters in the largest dust collector, and for each type of filter, shall be maintained on the premises. [District Rule 2201]
- A spare set of bags or filters shall be maintained on the premises at all times for the bin vent filter serving the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4. [District Rule 2201]
- The ceramic filter dust collectors shall each be equipped with a pressure differential gauge to indicate the pressure drop across the filters. The gauges shall be maintained in good working condition at all times and shall be located in easily accessible locations. [District Rules 2201 and 4354 and 40 CFR Part 64]
- During operation of the ceramic filter dust collectors, the pressure differential gauge readings shall be 1 to 20 inches of water column. [District Rules 2201 and 4354 and 40 CFR Part 64]
- The permittee shall maintain the burner oxygen to fuel ratio records required by this permit. [District Rules 2201 and 4354]
- The emission limits of this permit shall not apply during routine maintenance of the respective control systems. The routine maintenance in each calendar year shall not exceed 144 hours total for all controls and routine maintenance shall be conducted in a manner consistent with good air pollution control practices for minimizing air emissions. Routine maintenance includes, but is not limited to: 1) Calibration and scheduled parts replacement of CEMS equipment per manufacturer's recommendations, 2) Cleaning of particulate control devices and stack ductwork to ensure optimal performance, and 3) Necessary repairs to ensure optimal performance of all parts of the system. [District Rules 2201 and 4354]

[1] The annual throughput limit of 440 tons/year is being made enforceable on a quarterly basis (440 tons/year ÷ 4 qtr/year = 110 tons/qtr) to be consistent with the other existing limits on the permit.

E. Compliance Assurance

1. Source Testing

Annual testing is required for District Rule 4354 compliance. The following existing conditions will be included on the Authority to Construct permit:

- Source testing to demonstrate compliance with permit conditions and all rules and regulations for both natural gas and LPG shall be conducted within 60 days after the end of the start-up exemption, and at least once every calendar year thereafter. NOx and CO testing shall be performed using CARB Method 100. VOC testing shall be performed using EPA method 25A. SOx testing shall be performed using EPA Method 8 or CARB Method 100. PM10 testing shall be performed using EPA methods 201 and 202, EPA methods 201a and 202, or CARB methods 501 and 5. In lieu of performing a source test for PM10, the results of CARB Method 5 or EPA Methods 5 and 202 may be used for compliance with the PM10 emissions limit. If this option is used, then all of the particulate emissions will be considered to be PM10. Alternative test methods as approved by EPA, ARB, and the District may also be used to address the source testing requirements of this permit. [District Rules 1081, 2201, 2520, §9.3.2; and 4354, 6.4 and 6.5]
- Source testing when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. A source test shall be performed within 90 days after this furnace exceeds 100 hours of operation, on LPG, on an annual basis. [District Rule 1081]
- Source testing shall be conducted by a CARB-certified source testing contractor. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to source testing. The results of each source test shall be submitted to the District within 60 days after the source test date. [District Rule 1081]
- Source test conditions shall be representative of operations equal to or greater than 60 percent of the fuel use capacity for each furnace as stated in the Permit to Operate. [District Rule 4354, 6.4.2]
- PM and PM10 source testing shall be conducted downstream of the electrostatic precipitator and the ceramic filter dust collectors in the common stack. Furnaces #1, #2, #3, and #4 must operate simultaneously during source testing unless prior approval is obtained from the District. [District Rule 1081]

2. Monitoring

The furnaces at this facility exhaust through a common stack that is equipped with an operational CEMs for NOx and SOx. Additional monitoring requirements are discussed in the District Rule 4354 section of this document. The following existing conditions will continue to be included on the operating permit:

- The furnace shall have continuous monitoring systems for NOx and SOx. The monitoring devices shall have continuous recording devices, and all records shall be kept on site. [District Rules 1080 and 4354, 5.9]
- One continuous emissions monitoring (CEM) system may be used for monitoring oxy-fuel fired furnaces #1, #2, #3, and #4 provided all of the exhaust gases of each of these furnaces are ducted to a common stack, and monitored down stream of the common stack. The CEMS shall comply with the requirements of 40 Code of Federal Regulations (CFR) Part 51, 40 CFR Parts 60.7 and 60.13, 40 CFR Part 60 Appendix B (Performance Specifications) and Appendix F (Quality Assurance Procedures) and the applicable sections of Rule 1080 (Stack Monitoring). [District Rule 4354, 5.9 and 6.6.1]
- The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080]

3. Recordkeeping

Recordkeeping is required to demonstrate compliance with the offset, public notification, and daily emission limit requirements of Rule 2201. The following recordkeeping requirements will be included on the Authority to Construct permit:

- Permittee shall keep a record of the daily hours of operation, the amount of glass pulled from the furnace (in tons), the NOx emissions (in lb/ton of glass pulled), the SOx emissions (in lb/ton of glass pulled), the weight of mixed color mix cullet used, the total amount of cullet used (by weight) and the ratio of the mixed color cullet weight to the total cullet weight (in percent). [District Rules 2201 and 4354]
- Permittee shall maintain records of the following: 1) Source tests and source test results, 2) the acceptable range for each approved key system operating parameter, as established during source tests, 3) The operating values of the key system operating parameters at the approved recording frequency, 4) any maintenance and repair, and 5) any malfunctions. [District Rule 4354]
- The permittee shall maintain the burner oxygen to fuel ratio records required by this permit. [District Rules 2201 and 4354]
- A record of the cumulative annual number of hours that the emission control system is either fully or partially bypassed shall be kept. The record shall be updated at least weekly. [District Rules 2201 and 4354]
- The permittee shall keep a record of the cumulative annual hours of operation of the glass furnace on LPG fuel. [District Rule 2201]
- When the electrostatic precipitator is in operation, the permittee shall maintain daily records of the specific power of the electrostatic precipitator (in milliwatts/acfm). [District Rules 2201, 4354, and 40 CFR Part 64]
- The operator shall monitor and record the pressure differential gauge reading of the ceramic filter dust collector at least once during each day that the unit operates. [District Rules 2201 and 4354 and 40 CFR Part 64]
- Records of dust collector and bin vent filter maintenance, inspections and repairs shall be maintained. The records shall include, date of inspection, change outs of

filter media, corrective action taken, and identification of the individual performing the inspection. [District Rules 2201 and 2520, 9.4.2]

- Records of daily and quarterly amount of lime transferred into the lime storage silo shall be maintained. [District Rules 1070 and 2201]
- All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 2201 and 4354 and 40 CFR Part 64]

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

Rule 2410 Prevention of Significant Deterioration

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(s)] 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.

Rule 4001 New Source Performance Standards (NSPS)

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

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

Furnace #1 has not been modified, as defined in the subpart, since 1979 and is not subject to the requirements of Subpart CC; therefore, no further discussion is required.

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

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

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

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

Compliance with the requirements of Subpart N is expected.

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

Section 63.11448

Facilities are subject to this subpart if they 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) Glass manufacturing facilities that use one or more continuous furnaces to produce glass that contains compounds of one or more glass manufacturing metal HAP, as defined in §63.11459, as raw materials in a glass manufacturing batch formulation.

The facility is a glass manufacturing facility and will continue to be an area source of HAP emissions. Therefore, this facility is subject to the requirements of this subpart. The following existing condition will be included on the Authority to Construct permit:

- Any glass melting furnace located at an Area Source of hazardous air pollutants shall comply with 40 CFR Part 63 Subpart SSSSSS (National Emission Standards for Hazardous Air Pollutants for Glass Manufacturing Area Sources). [40 CFR Part 63 Subpart SSSSSS]

Compliance with the requirements of Subpart SSSSSS is expected.

Rule 4101 Visible Emissions

District Rule 4101, Section 5.0, indicates that no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour, which is dark or darker than Ringelmann 1 or equivalent to 20% opacity.

The following existing condition listed on the facility-wide permit (-0-4) will be maintained as a mechanism to ensure compliance:

- {4383} No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101 (02/17/05). If the equipment or operation is subject to a more stringent visible emission

standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101, and County Rules 401 (in all eight counties in the San Joaquin Valley)]

Rule 4102 Nuisance

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

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

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

California Health & Safety Code 41700 (Health Risk Assessment)

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

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.

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.

For the furnaces:
The worst case particulate matter emission concentration from the furnaces will occur during operation with the emission control system (ESP and ceramic filter dust collectors) by-passed. Compliance with the requirements of this rule was shown during recent source test performed on 7/1/20 which measured a concentration of 0.04 gr/dscf. Continued compliance is expected.

Therefore, compliance with the Rule is expected.

Rule 4202 Particulate Matter – Emission Rate

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

E (lb/hr) = 3.59 $P^{0.62}$ for process rates < 30 tons/hr
E (lb/hr) = 17.31 $P^{0.16}$ for process rates > 30 tons/hr

Where P = process weight in tons/hr

Hourly Process Rate = 520.1 tons/day ÷ 24 hr/day = 21.67 tons/hr

Rule 4202 emission limit = 3.59 * $P^{0.62}$ (where P less than or equal to 30 tons/hr)
= 3.59 * $(21.67)^{0.62}$
= 24.17 lb-PM/hr

Pursuant to AP-42 Table 11.15-3, the PM_{10} fraction for a glass furnace manufacturing operation served by an electrostatic precipitator is 0.75 lb-PM_{10}/lb-PM. Since the PM_{10}/lb-PM ratio is expected to be similar, using this data and the PM_{10} emission rate from the furnace:

PE PM = 369.3 lb-PM_{10}/day x lb-PM/0.75 lb-PM_{10} x day/24 hours
PE PM = 20.51 lb/hr

Since the PE PM is less than the allowable value of 24.17 lb-PM/hr, the PM emissions are within allowable limits and compliance with the rule is expected for this furnace.

Rule 4301 Fuel Burning Equipment

This rule specifies maximum emission rates in lb/hr for SO_2, NO_2, and combustion contaminants (defined as total PM in Rule 1020). This rule also limits combustion contaminants to $\leq$ 0.1 gr/scf. According to AP 42 (Table 1.4-2, footnote c), all PM emissions from natural gas combustion are less than 1 μm in diameter.

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

Rule 4354 Glass Melting Furnaces

The purpose of this rule is to limit emissions of nitrogen oxides (NOx), carbon monoxide (CO), volatile organic compounds (VOC), oxides of sulfur (SOx), and particulate matter (PM_{10}) from glass melting furnaces. This rule and the following analysis applies to the furnace in this project.

NOx Emission Limits

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

Table 1 – NOx Emission Limits (lb/ton glass produced)			
Furnace Type	**Tier 2 NO_X Limit**	**Tier 3 NO_X Limit**	**Tier 4 NO_X Limit**
Container Glass	4.0[A]	1.5[B]	N/A

[A] Block 24-hour average
[B] Rolling 30-day average

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

Pursuant to section 9.7.1, if the operator chooses to treat the furnaces as a furnace battery, the furnace shall be subject to a 10% air quality benefit in accordance with 40 CFR Part 51 Subpart U. The maximum emission rate shall be at least 10% lower than the applicable Tier 3 emission rate from Section 5.1.

Gallo Glass operates a furnace battery. Therefore, the furnace battery must meet an emission limit of:

NOx Limit = 1.5 lb/ton – 1.5 lb/ton x 0.1 = 1.4 lb/ton (using District rounding procedures)

The furnace battery is limited to a NOx limit of 1.3 lb/ton. Therefore, compliance is expected.

CO and VOC Emission Limits

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

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

Section 5.2.2 states on and after January 1, 2009, instead of each furnace individually meeting the applicable CO or VOC or both emission limit in Table 2, an operator may choose to meet the CO or VOC or both emission limit for multiple furnaces or furnace batteries by considering the

multiple furnaces or furnace battery as a single unit. An operator choosing this option shall conform to the provisions of Sections 9.6 through 9.7.8.5 for CO emissions or VOC emissions or both.

Pursuant to section 9.7.1, if the operator chooses to treat the furnaces as a furnace battery, the furnace shall be subject to a 10% air quality benefit in accordance with 40 CFR Part 51 Subpart U.

Gallo Glass operates a furnace battery. Therefore, the furnace battery must meet emission limits of:

CO Limit = 1.0 lb/ton – 1.0 lb/ton x 0.1 = 0.9 lb/ton (using District rounding procedures)
VOC Limit = 0.25 lb/ton – 0.25 lb/ton x 0.1 = 0.23 lb/ton (using District rounding procedures)

The proposed emission limits are lower than the above CO and VOC limit. Therefore, compliance is expected.

SOx Emission Limits

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

Table 3 – SOx Emission Limits (lb/ton glass produced)

Furnace Type	Firing Technology	SOx Limit
Container Glass	Oxy-fuel furnaces and ≥ 25.0% of total cullet is mixed color cullet	1.1[B]
	All other container glass furnaces	0.90[B]

[B] Rolling 30-day average

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

Pursuant to section 9.7.1, if the operator chooses to treat the furnaces as a furnace battery, the furnace shall be subject to a 10% air quality benefit in accordance with 40 CFR Part 51 Subpart U.

Gallo Glass operates a furnace battery. Therefore, the furnace battery must meet an emission limit of:

SOx Limit = 1.1 lb/ton – 1.1 lb/ton x 0.1 = 0.99 lb/ton (using District rounding procedures), for units with > 25.0% color cullet

SOx Limit = 0.90 lb/ton – 0.90 lb/ton x 0.1 = 0.81 lb/ton (using District rounding procedures), for units with < 25.0% color cullet

The applicant's proposal meets the above emission limit requirements; therefore, compliance is expected.

PM_{10} Emission Limits

Section 5.4.1 identifies PM_{10} emission limits for glass melting furnaces. The following applicable emission limits pursuant to Section 5.1 for glass furnaces are:

Table 4 – PM_{10} Emission Limits (lb/ton glass produced) Block 24-hour average		
Furnace Type	**Firing Technology**	**PM_{10} Limit**
Container Glass	All technologies	0.50

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

Pursuant to section 9.7.1, if the operator chooses to treat the furnaces as a furnace battery, the furnace shall be subject to a 10% air quality benefit in accordance with 40 CFR Part 51 Subpart U.

PM10 Limit = 0.50 lb/ton – 0.50 lb/ton x 0.1 = 0.45 lb/ton (using District rounding procedures)

The applicant is proposing the above emission limit for the furnace battery; therefore, compliance is expected.

Start-up Requirements

Section 5.5.1 requires that the operator shall submit a request for a start-up exemption to the APCO in conjunction with or in advance of an application for Authority to Construct (ATC) associated with a furnace rebuild. A copy of the requested startup exemption is included in Appendix E.

Shutdown Requirements

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

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

The following existing conditions will be listed on the Authority to Construct for the furnace:

- The permittee shall notify the District at least 24 hours prior to initiating idling, shutdown, or startup of the glass furnace and this notification shall include: The 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 within 24 hours after completion of the operation and shall maintain operating records and/or support documentation necessary to claim exemption. [District Rule 4354]
- The emission control systems shall be in operation whenever conditions are consistent with equipment manufacturer's specifications during startup, idling and shutdown periods. [District Rule 4354]
- The duration of a furnace shutdown shall not exceed 20 days, measured from the time furnace operations drop below the idle threshold specified in Section 3.17 of District Rule 4354 to when all emissions from the furnace cease. [District Rule 4354]

Idling Requirements

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

Section 5.7.2 requires that the NO_X, SO_X, PM_{10}, CO and VOC, and emissions during idling shall not exceed the amount as calculated using the following equation:

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

Where,

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

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

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

The following existing conditions will be listed on the Authority to Construct for the furnace.

- The permittee shall notify the District at least 24 hours prior to initiating idling, shutdown, or startup of the glass furnace and this notification shall include: The 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 within 24 hours after completion of the operation and shall maintain operating records and/or support documentation necessary to claim exemption. [District Rule 4354]
- The emission control systems shall be in operation whenever conditions are consistent with equipment manufacturer's specifications during startup, idling and shutdown periods. [District Rule 4354]

The following existing condition will be listed on the permit.

- NOx, CO, VOC, SOx, and PM10 emissions during idling shall not exceed the amount as calculated using the following equation: NOx, CO, VOC, SOx, or PM10 (lb/day) = Applicable emission limit (lb/ton) x Furnace permitted production capacity (tons/day). [District Rule 4354]

Monitoring Requirements

NOx Emission Monitoring Requirements

Section 5.9.1 requires that the operator of any glass melting furnace shall implement a NOx CEMS that is approved, in writing, by the APCO and EPA, and that meets the requirements of Section 6.6. For a furnace battery, a single CEMS may be used to determine the total NOx emissions from all the furnaces provided the emission measurements are made at the common stack. The furnace battery at this facility has a NO_X CEMS. Therefore, the requirements of this section of the rule are satisfied. The following existing conditions will be included on the Authority to Construct for the furnace:

- The furnace shall have continuous monitoring systems for NOx and SOx. The monitoring devices shall have continuous recording devices, and all records shall be kept on site. [District Rules 1080 and 4354, §5.9]
- One continuous emissions monitoring (CEM) system may be used for monitoring oxy-fuel fired furnaces #1, #2, #3, and #4 provided all of the exhaust gases of each of these furnaces are ducted to a common stack, and monitored down stream of the common stack. The CEMS shall comply with the requirements of 40 Code of Federal Regulations (CFR) Part 51, 40 CFR Parts 60.7 and 60.13, 40 CFR Part 60 Appendix B (Performance Specifications) and Appendix F (Quality Assurance Procedures) and the applicable sections of Rule 1080 (Stack Monitoring). [District Rule 4354]

CO and VOC Emission Monitoring Requirements

Section 5.9.2 requires that for each furnace subject to Table 2 CO limits, the operator shall implement a CO and VOC CEMS that meets the requirements of Section 6.6.1, and that is approved, in writing, by the APCO. In lieu of installing and operating a CEMS for CO or CEMS for VOC or both, an operator may propose key system operating parameter(s) and frequency of monitoring and recording. The alternate monitoring shall meet the requirements of Section 6.6.2. The operator shall obtain approval of the APCO and EPA for the specific key system operating parameter(s), monitoring frequency, and recording frequency used by the operator to monitor CO/VOC emissions. The operator shall monitor approved key system operating parameter(s) at the approved monitoring frequency to ensure compliance with the emission limit(s) during periods of emission-producing activities. Acceptable range(s) for key system operating parameter(s) shall be demonstrated through source test.

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

arrangement – the key system operating parameters are representative of the combined exhaust stream.

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

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

SOx Emission Monitoring Requirements

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

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

The facility uses a CEMS on the common stack to show compliance with the SOx limits for the furnace battery. The following existing conditions will be included on the Authority to Construct for the furnace:

- The furnace shall have continuous monitoring systems for NOx and SOx. The monitoring devices shall have continuous recording devices, and all records shall be kept on site. [District Rules 1080 and 4354]
- One continuous emissions monitoring (CEM) system may be used for monitoring oxy-fuel fired furnaces #1, #2, #3, and #4 provided all of the exhaust gases of each of these furnaces are ducted to a common stack, and monitored down stream of the common stack. The CEMS shall comply with the requirements of 40 Code of Federal Regulations (CFR) Part 51, 40 CFR Parts 60.7 and 60.13, 40 CFR Part 60 Appendix B (Performance

Specifications) and Appendix F (Quality Assurance Procedures) and the applicable sections of Rule 1080 (Stack Monitoring). [District Rule 4354]

PM_{10} Emission Monitoring Requirements

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

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

In lieu of installing and operating a CEMS for PM_{10}, the operator has proposed to use parametric monitoring to show compliance with the Rule 4354 PM_{10} monitoring requirements.

The existing permits currently require monitoring and recording of the specific power of the electrostatic precipitator. Specific power is a measure of the voltage and current supplied to the electrostatic precipitator. The District has approved the monitoring and recording of this key system operating parameter. The following existing conditions will be included on the Authority to Construct for the furnace:

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

Routine Maintenance of Add-On Emission Control Systems

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

The following existing condition will be included on the Authority to Construct for the furnace:

- The emission limits of this permit shall not apply during routine maintenance of the respective add-on control systems. The routine maintenance in each calendar year shall not exceed 144 hours total for all add-on controls and routine maintenance shall be conducted in a manner consistent with good air pollution control practices for minimizing air emissions. Routine maintenance includes, but is not limited to: 1) Calibration and scheduled parts replacement of CEMS equipment per manufacturer's recommendations, 2) Cleaning of particulate control devices and stack ductwork to ensure optimal performance, and 3) Necessary repairs to ensure optimal performance of all parts of the system. [District Rules 2201 and 4354]

Administrative Requirements

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

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

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

- Total hours of operation;
- The quantity of glass pulled from each furnace;
- NOx emission rate in lb/ton glass pulled;
- CO emission rate in units matching Table 2, if a CEMS is used;
- VOC emission rate in units matching Table 2, if a CEMS is used;
- SOx emission rate in lb/ton glass pulled, if a CEMS is used;
- PM_{10} emission rate in lb/ton glass pulled, if a CEMS is used;
- For container glass furnaces that are oxy-fuel fired:
  - The weight of mixed color mix cullet used;
  - The total amount of cullet used by weight; and
  - The ratio, expressed in percent, of mixed color mix weight to total cullet weight.

Section 6.3.2 requires 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 6.3.3 requires that operators maintain records of the following items:

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

The following existing conditions will be included on the Authority to Construct for the furnace:

- When the electrostatic precipitator is in operation, the specific power of the electrostatic precipitator shall be continuously monitored and recorded. [District Rules 2201 and 4354 and 40 CFR Part 64]
- Permittee shall keep a record of the daily hours of operation, the amount of glass pulled from the furnace (in tons), the NOx emissions (in lb/ton of glass pulled), the SOx emissions (in lb/ton of glass pulled), the weight of mixed color mix cullet used, the total amount of cullet used (by weight) and the ratio of the mixed color cullet weight to the total cullet weight (in percent). [District Rules 2201 and 4354]
- The oxygen to fuel ratio shall be continuously monitored and recorded. [District Rule 4354]
- The permittee shall maintain daily records of the aggregated NOx emissions. [District Rules 2520 and 4354]
- The permittee shall maintain the burner oxygen to fuel ratio records required by this permit. [District Rules 2201 and 4354]
- A record of the cumulative annual number of hours that the emission control system is either fully or partially bypassed shall be kept. The record shall be updated at least weekly. [District Rules 2201 and 4354]
- When the electrostatic precipitator is in operation, the permittee shall maintain daily records of the specific power of the electrostatic precipitator (in milliwatts/acfm). [District Rules 2201, 4354 and 40 CFR Part 64]

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

The following existing condition will be included on the Authority to Construct for the furnace:

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

Compliance Source Testing

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

The following existing conditions will be included on the Authority to Construct permit for the furnace:

- Source testing to demonstrate compliance with permit conditions and all rules and regulations for both natural gas and LPG shall be conducted within 60 days after the end of the start-up exemption, and at least once every calendar year thereafter. NOx and CO testing shall be performed using CARB Method 100. VOC testing shall be performed using EPA method 25A. SOx testing shall be performed using EPA Method 8 or CARB Method 100. PM10 testing shall be performed using EPA methods 201 and 202, EPA methods 201a and 202, or CARB methods 501 and 5. In lieu of performing a source test for PM10, the results of CARB Method 5 or EPA Methods 5 and 202 may be used for compliance with the PM10 emissions limit. If this option is used, then all of the particulate emissions will be considered to be PM10. Alternative test methods as approved by EPA, ARB, and the District may also be used to address the source testing requirements of this permit. [District Rules 1081, 2201, 2520, §9.3.2; and 4354, 6.4 and 6.5]
- Source testing when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. A source test shall be performed within 90 days after this furnace exceeds 100 hours of operation, on LPG, on an annual basis. [District Rule 1081]
- Source testing shall be conducted by a CARB-certified source testing contractor. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to source testing. The results of each source test shall be submitted to the District within 60 days after the source test date. [District Rule 1081]
- PM and PM10 source testing shall be conducted down stream of the particulate matter control equipment in the common stack. Furnaces #1, #2, #3, and #4 must operate simultaneously during source testing unless prior approval is obtained from the District. [District Rule 1081]

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

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

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

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

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

Section 6.4.4 requires that during source testing in accordance with Section 6.4.1, the arithmetic average of three (3) 30-consecutive-minute test runs shall be used to determine compliance with NOx, CO, VOC, and SOx emission limits.

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

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

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

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

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

The following existing condition will be included on the Authority to Construct for the furnace:

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

Test Methods

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

- Oxides of nitrogen – EPA Method 7E, EPA Method 19, or ARB Method 100.

- Carbon monoxide (ppmv) – EPA Method 10, or ARB Method 100.
- Volatile Organic Compound (ppmv) – EPA Method 25A expressed in terms of carbon or ARB Method 100. EPA Method 18 or ARB Method 422 shall be used to determine emissions of exempt compounds.
- Stack gas oxygen, carbon dioxide, excess air, and dry molecular weight EPA Method 3 or 3A, or ARB Method 100.
- Stack gas velocity and volumetric flow rate – EPA Method 2.
- Oxides of sulfur – EPA Method 6C, EPA Method 8, or ARB Method 100.
- Filterable PM_{10} emissions - EPA Method 5; EPA Method 201; or EPA Method 201A. An operator choosing EPA Method 5 shall count all PM collected as PM_{10}.
- Condensable PM 10 emissions - EPA Method 202.

The following existing condition will be included on the Authority to Construct for the furnace:

- Source testing to demonstrate compliance with permit conditions and all rules and regulations for both natural gas and LPG shall be conducted within 60 days after the end of the start-up exemption, and at least once every calendar year thereafter. NOx and CO testing shall be performed using CARB Method 100. VOC testing shall be performed using EPA method 25A. SOx testing shall be performed using EPA Method 8 or CARB Method 100. PM10 testing shall be performed using EPA methods 201 and 202, EPA methods 201a and 202, or CARB methods 501 and 5. In lieu of performing a source test for PM10, the results of CARB Method 5 or EPA Methods 5 and 202 may be used for compliance with the PM10 emissions limit. If this option is used, then all of the particulate emissions will be considered to be PM10. Alternative test methods as approved by EPA, ARB, and the District may also be used to address the source testing requirements of this permit. [District Rules 1081, 2201, 2520, §9.3.2; and 4354, 6.4 and 6.5]

Emissions Monitoring Systems

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

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

The following existing condition will be included on the Authority to Construct for the furnace:

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

Specifications) and Appendix F (Quality Assurance Procedures) and the applicable sections of Rule 1080 (Stack Monitoring). [District Rule 4354, 5.9 and 6.6.1]

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

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

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

Section 6.7 requires the operator of any glass melting furnace claiming an exemption under Section 4.4 notify the APCO 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 within 24 hours after completion of the start-up, shutdown, or idling. The operator claiming exemption under Section 4.4 shall maintain all operating records/support documentation necessary to support claim of exemption. Records/support documentation required by Section 6.7.3 shall meet the following requirements: the records/support documentation shall be retained on-site for five years; the records/support documentation shall be made available to the APCO, ARB, or EPA during normal business hours; and the records/support documentation shall be submitted to the APCO, ARB, or EPA upon request.

The following existing condition will be included on the Authority to Construct for the furnace:

- The permittee shall notify the District at least 24 hours prior to initiating idling, shutdown, or startup of the glass furnace and this notification shall include: The 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 within 24 hours after completion of the operation and shall maintain operating records and/or support documentation necessary to claim exemption. [District Rule 4354]

Calculations

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

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

Section 8.3 requires the operator of a oxy-fuel fired furnace, oxygen-assisted combustion furnace, or a furnace utilizing any fuel oxidants other than 100% ambient air, to submit to the APCO, ARB, and EPA for approval any methodologies and data that will be used to calculate emission rates for NOx, CO, and VOC if the methods are different than specified in Sections 8.1 or 8.2. Unless the operator received prior written approval from APCO, ARB, and EPA of all the calculation methods to be used that are different than specified in Sections 8.1 or 8.2,

compliance with the emissions limits cannot be fully demonstrated, and it shall be deemed to be a violation of the rule.

The following existing condition will be included on the Authority to Construct for the furnace:

- The pollutant mass emission rate in lb/hr shall be converted to lb pollutant/ton of glass pulled as specified in Rule 4354. The operator of a oxy-fuel fired furnace, oxygen-assisted combustion furnace, or a furnace utilizing any fuel oxidants other than 100% ambient air, shall submit to the APCO, ARB, and EPA for approval any methodologies and data that will be used to calculate emission rates for NOx, CO, and VOC if the methods are different from those specified in Rule 4354. Unless the operator received prior written approval from APCO, ARB, and EPA of all the calculation methods to be used that are different from those specified in Rule 4354, compliance with the emissions limits cannot be fully demonstrated, and it shall be deemed to be a violation of the rule. [District Rule 4354]

Continued compliance with the requirements of this rule is expected.

Rule 4801 Sulfur Compounds

A person shall not discharge into the atmosphere sulfur compounds, which would exist as a liquid or gas at standard conditions, exceeding in concentration at the point of discharge: 0.2 % by volume calculated as SO_2, on a dry basis averaged over 15 consecutive minutes.

The latest available source test for the furnace battery, dated June 30 – July 1, 2020, indicates that the furnace was operating with a sulfur concentration less than 2,000 ppmv (or 0.2 %). This project is not expected to increase the SO_2 concentration. Therefore, continued compliance is expected with this rule and the following existing condition will be included on the ATC issued in this project:

- Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [Stanislaus County Rule 407 and District Rule 4801]

40 CFR Part 64 Compliance Assurance Monitoring

40 CFR Part 64 requires Compliance Assurance Monitoring (CAM) for units that meet the following three criteria:

1) the unit must have an emission limit for the pollutant;
2) the unit must have add-on controls for the pollutant; these are devices such as flue gas recirculation (FGR), baghouses, and catalytic oxidizers; and
3) the unit must have a pre-control potential to emit of greater than the major source thresholds.

CAM is only required to be addressed during significant Title V modification and during a Title V renewal. Since this is project is not a significant Title V modification or a Title V renewal, CAM

is not required to be evaluated. Therefore, the following existing conditions will be included on the Authority to Construct permit for the furnace:

- Devices to measure the primary and secondary voltage and current of the electrostatic precipitator shall be maintained in accordance with the manufacturer's specifications. [District Rule 4354 and 40 CFR Part 64]
- When the electrostatic precipitator is in operation, the specific power of the electrostatic precipitator shall be at least 70 milliwatts/acfm except during the bypass episodes allowed by this permit. [District Rule 2520 and 40 CFR Part 64] The ceramic filter dust collector shall be equipped with a pressure differential gauge to indicate the pressure drop across the filters. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rules 2201 and 4354 and 40 CFR Part 64]
- During operation of the ceramic filter dust collector, the pressure differential gauge reading shall be 1 to 20 inches of water column. [District Rules 2201 and 4354 and 40 CFR Part 64]
- The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR Part 64.7. [40 CFR Part 64]
- If the District or EPA determine that a Quality Improvement Plan is required under 40 CFR Part 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR Part 64.8. [40 CFR Part 64]
- The permittee shall comply with the record keeping and reporting requirements of 40 CFR Part 64.9. [40 CFR Part 64]
- When the electrostatic precipitator is in operation, the specific power of the electrostatic precipitator shall be continuously monitored and recorded. [District Rules 2201 and 4354, and 40 CFR Part 64]
- When the electrostatic precipitator is in operation, the permittee shall maintain daily records of the specific power of the electrostatic precipitator (in milliwatts/acfm). [District Rules 2201, 4354, and 40 CFR Part 64]
- The operator shall monitor and record the pressure differential gauge reading of the ceramic filter dust collector at least once during each day that the unit operates. [District Rules 2201 and 4354 and 40 CFR Part 64]
- All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 2201 and 4354 and 40 CFR Part 64]

California Health & Safety Code 42301.6 (School Notice)

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

California Environmental Quality Act (CEQA)

CEQA requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental

documents. The District adopted its *Environmental Review Guidelines* (ERG) in 2001. The basic purposes of CEQA are to:

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

Greenhouse Gas (GHG) Significance Determination

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

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

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

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

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

District CEQA Findings

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project.

The District performed an Engineering Evaluation (this document) for the proposed project and determined that for each emissions unit affected by the project the potential project emission increase is equal to or less than 2 lbs per day per pollutant. Therefore, the potential project emission increase is considerably below all annual criteria emissions CEQA significant thresholds. The activity will occur at an existing facility and 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 EPA and public noticing period, issue ATC N-1662-1-21 subject to the permit conditions on the attached draft ATC in Appendix G.

X. Billing Information

Annual Permit Fees			
Permit Number	**Fee Schedule**	**Fee Description**	**Annual Fee**
N-1662-1-21	3020-02-H	94 MMBtu/hr	$1,238.00

Appendices

A*:* Draft ATC
B: Current PTO
C: BACT Guideline 1.5.9 and Analysis
D: Actual Emissions Calculations
E: Start-up Exemption

APPENDIX A
Draft ATC

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: N-1662-1-21 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: GALLO GLASS COMPANY
MAILING ADDRESS: ATTN: ENVIRO HEALTH & SAFETY MANAGER
PO BOX 1230
MODESTO, CA 95353

LOCATION: 605 S SANTA CRUZ AVE
MODESTO, CA 95354

EQUIPMENT DESCRIPTION:
MODIFICATION OF GLASS FURNACE #1 WITH 10 MAXON GAS/OXYGEN BURNERS (75 MMBTU/HR MAX HEAT CAPACITY), AND ASSOCIATED FORMING EQUIPMENT INCLUDING FOREHEARTHS, COATING, AND CHAIN BURNERS. THIS FURNACE IS DUCTED THROUGH A STACK COMMON TO PERMIT UNITS N-1662-1, N-1662-2, N-1662-3 AND N-1662-4. THE FURNACES ARE SERVED BY THE FOLLOWING SHARED EQUIPMENT: SOX SCRUBBER INCLUDING A LIME STORAGE SILO SERVED BY A BIN VENT FILTER, AN ELECTROSTATIC PRECIPITATOR, AND/OR FOUR TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS: REBRICK THE FURNACE AND REPLACE THE BURNERS WITH EIGHT 10 MMBTU/HR (EACH), TWO 5 MMBTU/HR (EACH), TWO 2 MMBTU/HR (EACH) BURNER FOR A TOTAL HEAT INPUT RATE OF 94 MMBTU/HR

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) N-1662-1-19 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
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Samir Sheikh, Executive Director / APCO

Brian Clements, Director of Permit Services

N-1662-1-21 : Jul 9 2021 3:28PM -- GARCIAJ : Joint Inspection NOT Required

5. Particulate matter emissions shall not exceed 0.1 grain/dscf in concentration. [District Rule 4201 and Stanislaus County Rule 404] Federally Enforceable Through Title V Permit

6. The furnace shall be fired on natural gas and LPG only. [District Rule 2201] Federally Enforceable Through Title V Permit

7. The furnace shall have continuous monitoring systems for NOx and SOx. The monitoring devices shall have continuous recording devices, and all records shall be kept on site. [District Rules 1080 and 4354, §5.9] Federally Enforceable Through Title V Permit

8. One continuous emissions monitoring (CEM) system may be used for monitoring oxy-fuel fired furnaces #1, #2, #3, and #4 provided all of the exhaust gases of each of these furnaces are ducted to a common stack, and monitored down stream of the common stack. The CEMS shall comply with the requirements of 40 Code of Federal Regulations (CFR) Part 51, 40 CFR Parts 60.7 and 60.13, 40 CFR Part 60 Appendix B (Performance Specifications) and Appendix F (Quality Assurance Procedures) and the applicable sections of Rule 1080 (Stack Monitoring). [District Rule 4354, 5.9 and 6.6.1] Federally Enforceable Through Title V Permit

9. The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080] Federally Enforceable Through Title V Permit

10. The common exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NOx, CO, and O2 analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Source Emission Monitoring and Testing. [District Rule 1081] Federally Enforceable Through Title V Permit

11. The permittee shall notify the District at least 24 hours prior to initiating idling, shutdown, or startup of the glass furnace and this notification shall include: The 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 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

12. The emission control systems shall be in operation whenever conditions are consistent with equipment manufacturer's specifications during startup, idling and shutdown periods. [District Rule 4354] Federally Enforceable Through Title V Permit

13. The duration of a furnace shutdown shall not exceed 20 days, measured from the time furnace operations drop below the idle threshold specified in Section 3.17 of District Rule 4354 to when all emissions from the furnace cease. [District Rule 4354] Federally Enforceable Through Title V Permit

14. NOx, CO, VOC, SOx, and PM10 emissions during idling shall not exceed the amount as calculated using the following equation: NOx, CO, VOC, SOx, or PM10 (lb/day) = Applicable emission limit (lb/ton) x Furnace permitted production capacity (tons/day). [District Rule 4354] Federally Enforceable Through Title V Permit

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

16. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation E=3.59P^0.62 (P< 30 tph) or E=17.31P^0.16 (P> 30 tph). [District Rule 4202] Federally Enforceable Through Title V Permit

17. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [Stanislaus County Rule 407 and District Rule 4801] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

18. Source testing to demonstrate compliance with permit conditions and all rules and regulations for both natural gas and LPG shall be conducted within 60 days after the end of the start-up exemption, and at least once every calendar year thereafter. NOx and CO testing shall be performed using CARB Method 100. VOC testing shall be performed using EPA method 25A. SOx testing shall be performed using EPA Method 8 or CARB Method 100. PM10 testing shall be performed using EPA methods 201 and 202, EPA methods 201a and 202, or CARB methods 501 and 5. In lieu of performing a source test for PM10, the results of CARB Method 5 or EPA Methods 5 and 202 may be used for compliance with the PM10 emissions limit. If this option is used, then all of the particulate emissions will be considered to be PM10. Alternative test methods as approved by EPA, ARB, and the District may also be used to address the source testing requirements of this permit. [District Rules 1081, 2201, 2520, §9.3.2; and 4354, 6.4 and 6.5] Federally Enforceable Through Title V Permit

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

20. Source testing shall be conducted by a CARB-certified source testing contractor. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to source testing. The results of each source test shall be submitted to the District within 60 days after the source test date. [District Rule 1081] Federally Enforceable Through Title V Permit

21. Source test conditions shall be representative of operations equal to or greater than 60 percent of capacity for each furnace as stated in the Permit to Operate. [District Rule 4354, §6.4.2] Federally Enforceable Through Title V Permit

22. For source testing purposes, the arithmetic average of three 30-consecutive-minute test runs shall be used to determine compliance with NOx, CO, VOC, and SOx emission limits. [District Rule 4354] Federally Enforceable Through Title V Permit

23. 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

24. For source testing purposes, 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

25. PM and PM10 source testing shall be conducted downstream of the electrostatic precipitator and the ceramic filter dust collector in the common stack. Furnaces #1, #2, #3, and #4 must operate simultaneously during source testing unless prior approval is obtained from the District. [District Rule 1081] Federally Enforceable Through Title V Permit

26. An annual Relative Accuracy Test Audit (RATA) shall be performed on the continuous monitoring system as outlined in 40 CFR Part 60 Appendix B. [District Rule 1080] Federally Enforceable Through Title V Permit

27. The owner/operator shall perform a relative accuracy test audit (RATA) as specified by 40 CFR Part 60, Appendix F (CGAs and RATAs) and if applicable 40 CFR Part 75, Appendix B (linearity and RATAs) at least once every four calendar quarters and annually within 30 days of the anniversary date of the initial test. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080] Federally Enforceable Through Title V Permit

28. An exceedance of a NOx or SOx emission limit as indicated by the CEMS shall be reported by the operator to the APCO within 24 hours. The notification shall include 1) name and location of the facility, 2) identification of furnace(s) causing the exceedances, 3) calculation of actual NOx, CO and VOC emissions, and 4) corrective actions and schedules to complete the work. [District Rule 1080 and Stanislaus County Rule 1080] Federally Enforceable Through Title V Permit

29. {2251} The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

30. Records shall be maintained and shall include: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEMS that have been installed pursuant to District Rule 1080, and emission measurements. [District Rule 1080] Federally Enforceable Through Title V Permit

31. The operator shall notify the APCO no later than one hour after the detection of a breakdown of the CEMS. The operator shall inform the APCO of the intent to shut down the CEMS at least 24 hours prior to the event. [District Rule 1100] Federally Enforceable Through Title V Permit

32. The permittee shall submit a written report including copies of any Equipment Breakdown reports and/or pertinent variance decisions to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess emissions (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 1080] Federally Enforceable Through Title V Permit

33. Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternative method. [District Rule 1080] Federally Enforceable Through Title V Permit

34. Results of continuous emissions monitoring shall be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080] Federally Enforceable Through Title V Permit

35. Cylinder gas audits (CGAs) of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit

36. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4201, Stanislaus County Rule 404, District Rule 4202 and Stanislaus County Rule 405. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit

37. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4801 and Stanislaus County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit

38. The requirements of District Rule 4301 and Stanislaus County Rule 408 were determined to not apply to this unit because the unit does not utilize indirect heat transfer. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit

39. The requirements of 40 CFR Part 60 Subpart CC were determined not to apply to this unit because the unit was constructed prior to the effective date in the regulation and has not been modified (according to the definition of "modified in the regulation"). A permit shield is granted from these requirements. [District Rule 2520 Section 13.2] Federally Enforceable Through Title V Permit

40. The requirements of 40 CFR Part 61, Subpart N were determined to not apply to this unit because the unit does not use commercial arsenic. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit

41. Any glass melting furnace located at an Area Source of hazardous air pollutants shall comply with 40 CFR Part 63 Subpart SSSSSS (National Emission Standards for Hazardous Air Pollutants for Glass Manufacturing Area Sources). [40 CFR Part 63 Subpart SSSSSS] Federally Enforceable Through Title V Permit

42. The quantity of glass produced shall not exceed 520.1 tons during any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

43. Except during periods of startup, shutdown, and idling, NOx emissions shall not exceed 1.3 pounds per ton of glass produced (over a rolling 30-day average). This performance based limit is to enforce the NOx emission reductions granted by certificate number N-106-2. Any CEM measurement greater than 1.3 lb-NOx/ton of glass produced for each 30-day rolling average constitutes a violation of this emission limit. [District Rule 2201] Federally Enforceable Through Title V Permit

44. Except during periods of startup, shutdown, and idling, CO emissions shall not exceed 0.04 pounds per ton of glass produced. This performance based limit is to enforce the CO emission reductions granted by certificate number N-106-3. [District Rule 2201] Federally Enforceable Through Title V Permit

45. Except during periods of startup, shutdown, and idling, VOC emissions shall not exceed 0.02 pounds per ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit

46. Except during periods of startup, shutdown, and idling, the combined SOx emissions from permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4, while producing glass with cullet that is equal to or greater than 25% by weight mixed color cullet, shall not exceed 0.95 lb/ton of glass produced (over a rolling 30 day average). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

47. Except during periods of startup, shutdown, and idling, the combined SOx emissions from permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4, while producing glass with cullet that is less than 25% by weight mixed color cullet, shall not exceed 0.79 lb/ton of glass produced (over a rolling 30 day average). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

48. Except during periods of startup, shutdown, idling, and during full or partial emission control system bypass episodes, PM10 emissions shall not exceed 0.45 lb/ton of glass produced. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

49. The PM10 emissions, during full or partial emission control system bypass episodes for routine maintenance, shall not exceed 0.71 lb/ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit

50. The emission limits of this permit shall not apply during routine maintenance of the respective add-on control systems. The routine maintenance in each calendar year shall not exceed 144 hours total for all controls and routine maintenance shall be conducted in a manner consistent with good air pollution control practices for minimizing air emissions. Routine maintenance includes, but is not limited to: 1) Calibration and scheduled parts replacement of CEMS equipment per manufacturer's recommendations, 2) Cleaning of particulate control devices and stack ductwork to ensure optimal performance, and 3) Necessary repairs to ensure optimal performance of all parts of the system. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

51. The PM10 emissions shall not exceed 22,936 pounds during the first calendar quarter, 23,190 pounds during the second calendar quarter, 23,445 pounds during the third calendar quarter and 23,445 pounds during the fourth calendar quarter. These limits are to enforce the PM10 emission reductions granted by certificate number N-161-4. [District Rule 2201] Federally Enforceable Through Title V Permit

52. The maximum throughput of lime received and stored in the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed either of the following limits: 65 tons-lime/day or 110 tons-lime/quarter. [District Rule 2201] Federally Enforceable Through Title V Permit

53. PM10 emissions rate from the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed 0.0049 lb-PM10/ton-lime stored. [District Rule 2201] Federally Enforceable Through Title V Permit

54. 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

55. Each dust collector and bin vent filter shall be maintained and operated in the range that optimizes control efficiency as recommended by the manufacturer. [District Rule 2201] Federally Enforceable Through Title V Permit

56. Each dust collector and bin vent filter's cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit

57. Material removed from each dust collector and bin vent filter shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

58. Replacement filters numbering at least 10% of the total number of filters in the largest dust collector, and for each type of filter, shall be maintained on the premises. [District Rule 2201] Federally Enforceable Through Title V Permit

59. A spare set of bags or filters shall be maintained on the premises at all times for the bin vent filter serving the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4. [District Rule 2201] Federally Enforceable Through Title V Permit

60. Devices to measure the primary and secondary voltage and current of the electrostatic precipitator shall be maintained in accordance with the manufacturer's specifications. [District Rule 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

61. When the electrostatic precipitator is in operation, the specific power of the electrostatic precipitator shall be at least 70 milliwatts/acfm except during the bypass episodes allowed by this permit. [District Rule 2520 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

62. The ceramic filter dust collectors shall each be equipped with a pressure differential gauge to indicate the pressure drop across the filters. The gauges shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

63. During operation of the ceramic filter dust collectors, the pressure differential gauge reading shall be 1 to 20 inches of water column. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

64. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR Part 64.7. [40 CFR Part 64] Federally Enforceable Through Title V Permit

65. If the District or EPA determine that a Quality Improvement Plan is required under 40 CFR Part 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR Part 64.8. [40 CFR Part 64] Federally Enforceable Through Title V Permit

66. The permittee shall comply with the record keeping and reporting requirements of 40 CFR Part 64.9. [40 CFR Part 64] Federally Enforceable Through Title V Permit

67. When the electrostatic precipitator is in operation, the specific power of the electrostatic precipitator shall be continuously monitored and recorded. [District Rules 2201 and 4354, and 40 CFR Part 64] Federally Enforceable Through Title V Permit

68. Dust collector filters shall be inspected annually while in operation for evidence of particulate matter breakthrough and replaced as needed. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

69. Dust collector filters shall be inspected annually while not in operation for tears, scuffs, abrasions or hole that might interfere with the PM collection efficiency and shall be replaced as needed. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

70. Permittee shall keep a record of the daily hours of operation, the amount of glass pulled from the furnace (in tons), the NOx emissions (in lb/ton of glass pulled), the SOx emissions (in lb/ton of glass pulled), the weight of mixed color mix cullet used, the total amount of cullet used (by weight) and the ratio of the mixed color cullet weight to the total cullet weight (in percent). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

71. Permittee shall maintain records of the following: 1) Source tests and source test results, 2) the acceptable range for each approved key system operating parameter, as established during source tests, 3) The operating values of the key system operating parameters at the approved recording frequency, 4) any maintenance and repair, and 5) any malfunctions. [District Rule 4354] Federally Enforceable Through Title V Permit

72. The pollutant mass emission rate in lb/hr shall be converted to lb pollutant/ton of glass pulled as specified in Rule 4354. The operator of a oxy-fuel fired furnace, oxygen-assisted combustion furnace, or a furnace utilizing any fuel oxidants other than 100% ambient air, shall submit to the APCO, ARB, and EPA for approval any methodologies and data that will be used to calculate emission rates for NOx, CO, and VOC if the methods are different from those specified in Rule 4354. Unless the operator received prior written approval from APCO, ARB, and EPA of all the calculation methods to be used that are different from those specified in Rule 4354, compliance with the emissions limits cannot be fully demonstrated, and it shall be deemed to be a violation of the rule. [District Rule 4354] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

73. The oxygen to fuel ratio shall be continuously monitored and recorded. [District Rule 4354] Federally Enforceable Through Title V Permit

74. The permittee shall maintain daily records of the aggregated NOx emissions. [District Rules 2520, 9.3.2 and 4354, 9.6.1 and 9.7] Federally Enforceable Through Title V Permit

75. The permittee shall maintain the burner oxygen to fuel ratio records required by this permit. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

76. A record of the PM10 emissions from this unit, in pounds per calendar quarter, shall be kept. [District Rule 2201] Federally Enforceable Through Title V Permit

77. A record of the cumulative annual number of hours that the emission control system is either fully or partially bypassed shall be kept. The record shall be updated at least weekly. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

78. The permittee shall keep a record of the cumulative annual hours of operation of the glass furnace on LPG fuel. [District Rule 2201] Federally Enforceable Through Title V Permit

79. When the electrostatic precipitator is in operation, the permittee shall maintain daily records of the specific power of the electrostatic precipitator (in milliwatts/acfm). [District Rules 2201, 4354, and 40 CFR Part 64] Federally Enforceable Through Title V Permit

80. The operator shall monitor and record the pressure differential gauge reading of each ceramic filter dust collector at least once during each day that the units operate. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

81. Records of dust collector and bin vent filter maintenance, inspections and repairs shall be maintained. The records shall include, date of inspection, change outs of filter media, corrective action taken, and identification of the individual performing the inspection. [District Rules 2201 and 2520, 9.4.2] Federally Enforceable Through Title V Permit

82. Records of daily and quarterly amount of lime transferred into the lime storage silo shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit

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

APPENDIX B
Current PTO

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: N-1662-1-18 **EXPIRATION DATE:** 06/30/2021

EQUIPMENT DESCRIPTION:
GLASS FURNACE #1 WITH 10 MAXON GAS/OXYGEN BURNERS (75 MMBTU/HR MAX HEAT CAPACITY), AND ASSOCIATED FORMING EQUIPMENT INCLUDING FOREHEARTHS, COATING, AND CHAIN BURNERS. THIS FURNACE IS DUCTED THROUGH A STACK COMMON TO PERMIT UNITS N-1662-1, N-1662-2, N-1662-3 AND N-1662-4. THE FURNACES ARE SERVED BY A SHARED SOX SCRUBBER AND AN ELECTROSTATIC PRECIPITATOR AND/OR A TRI-MER UTF-500 CERAMIC FILTER TYPE DUST COLLECTORS

PERMIT UNIT REQUIREMENTS

1. No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101 (02/17/05). If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101, and County Rules 401 (in all eight counties in the San Joaquin Valley)] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. Particulate matter emissions shall not exceed 0.1 grain/dscf in concentration. [District Rule 4201 and Stanislaus County Rule 404] Federally Enforceable Through Title V Permit
4. The furnace shall be fired on natural gas and LPG only. [District NSR Rule] Federally Enforceable Through Title V Permit
5. The furnace shall have continuous monitoring systems for NOx and SOx. The monitoring devices shall have continuous recording devices, and all records shall be kept on site. [District Rules 1080 and 4354, §5.9] Federally Enforceable Through Title V Permit
6. One continuous emissions monitoring (CEM) system may be used for monitoring oxy-fuel fired furnaces #1, #2, #3, and #4 provided all of the exhaust gases of each of these furnaces are ducted to a common stack, and monitored down stream of the common stack. The CEMS shall comply with the requirements of 40 Code of Federal Regulations (CFR) Part 51, 40 CFR Parts 60.7 and 60.13, 40 CFR Part 60 Appendix B (Performance Specifications) and Appendix F (Quality Assurance Procedures) and the applicable sections of Rule 1080 (Stack Monitoring). [District Rule 4354, 5.9 and 6.6.1] Federally Enforceable Through Title V Permit
7. The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080] Federally Enforceable Through Title V Permit
8. The common exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NOx, CO, and O2 analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Source Emission Monitoring and Testing. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

9. The permittee shall notify the District at least 24 hours prior to initiating idling, shutdown, or startup of the glass furnace and this notification shall include: The 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

10. The emission control systems shall be in operation whenever conditions are consistent with equipment manufacturer's specifications during startup, idling and shutdown periods. [District Rule 4354] Federally Enforceable Through Title V Permit

11. The duration of a furnace shutdown shall not exceed 20 days, measured from the time furnace operations drop below the idle threshold specified in Section 3.17 of District Rule 4354 to when all emissions from the furnace cease. [District Rule 4354] Federally Enforceable Through Title V Permit

12. NOx, CO, VOC, SOx, and PM10 emissions during idling shall not exceed the amount as calculated using the following equation: NOx, CO, VOC, SOx, or PM10 (lb/day) = Applicable emission limit (lb/ton) x Furnace permitted production capacity (tons/day). [District Rule 4354] Federally Enforceable Through Title V Permit

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

14. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation E=3.59P^0.62 (P< 30 tph) or E=17.31P^0.16 (P> 30 tph). [District Rule 4202] Federally Enforceable Through Title V Permit

15. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [Stanislaus County Rule 407 and District Rule 4801] Federally Enforceable Through Title V Permit

16. Source testing to demonstrate compliance with permit conditions and all rules and regulations for both natural gas and LPG shall be conducted within 60 days after the end of the start-up exemption, and at least once every calendar year thereafter. NOx and CO testing shall be performed using CARB Method 100. VOC testing shall be performed using EPA method 25A. PM10 testing shall be performed using EPA methods 201 and 202, EPA methods 201a and 202, or CARB methods 501 and 5. SOx testing shall be performed using EPA Method 8 and CARB Method 1-100. [District Rules 1081, 2201, 2520, §9.3.2; and 4354, 6.4 and 6.5] Federally Enforceable Through Title V Permit

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

18. Source testing shall be conducted by a CARB-certified source testing contractor. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to source testing. The results of each source test shall be submitted to the District within 60 days after the source test date. [District Rule 1081] Federally Enforceable Through Title V Permit

19. Source test conditions shall be representative of operations equal to or greater than 60 percent of capacity for each furnace as stated in the Permit to Operate. [District Rule 4354, §6.4.2] Federally Enforceable Through Title V Permit

20. For source testing purposes, the arithmetic average of three 30-consecutive-minute test runs shall be used to determine compliance with NOx, CO, VOC, and SOx emission limits. [District Rule 4354] Federally Enforceable Through Title V Permit

21. 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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

22. For source testing purposes, 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

23. PM and PM10 source testing shall be conducted downstream of the electrostatic precipitator and the ceramic filter dust collector in the common stack. Furnaces #1, #2, #3, and #4 must operate simultaneously during source testing unless prior approval is obtained from the District. [District Rule 1081] Federally Enforceable Through Title V Permit

24. An annual Relative Accuracy Test Audit (RATA) shall be performed on the continuous monitoring system as outlined in 40 CFR Part 60 Appendix B. [District Rule 1080] Federally Enforceable Through Title V Permit

25. The owner/operator shall perform a relative accuracy test audit (RATA) as specified by 40 CFR Part 60, Appendix F (CGAs and RATAs) and if applicable 40 CFR Part 75, Appendix B (linearity and RATAs) at least once every four calendar quarters and annually within 30 days of the anniversary date of the initial test. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080] Federally Enforceable Through Title V Permit

26. An exceedance of a NOx or SOx emission limit as indicated by the CEMS shall be reported by the operator to the APCO within 24 hours. The notification shall include 1) name and location of the facility, 2) identification of furnace(s) causing the exceedances, 3) calculation of actual NOx, CO and VOC emissions, and 4) corrective actions and schedules to complete the work. [District Rule 1080 and Stanislaus County Rule 1080] Federally Enforceable Through Title V Permit

27. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit

28. Records shall be maintained and shall include: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEMS that have been installed pursuant to District Rule 1080, and emission measurements. [District Rule 1080] Federally Enforceable Through Title V Permit

29. The operator shall notify the APCO no later than one hour after the detection of a breakdown of the CEMS. The operator shall inform the APCO of the intent to shut down the CEMS at least 24 hours prior to the event. [District Rule 1100] Federally Enforceable Through Title V Permit

30. The permittee shall submit a written report including copies of any Equipment Breakdown reports and/or pertinent variance decisions to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess emissions (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 1080] Federally Enforceable Through Title V Permit

31. Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternative method. [District Rule 1080] Federally Enforceable Through Title V Permit

32. Results of continuous emissions monitoring shall be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080] Federally Enforceable Through Title V Permit

33. Cylinder gas audits (GGAs) of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

34. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4201, Stanislaus County Rule 404, District Rule 4202 and Stanislaus County Rule 405. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit

35. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4801 and Stanislaus County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit

36. The requirements of District Rule 4301 and Stanislaus County Rule 408 were determined to not apply to this unit because the unit does not utilize indirect heat transfer. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit

37. The requirements of 40 CFR Part 60 Subpart CC were determined not to apply to this unit because the unit was constructed prior to the effective date in the regulation and has not been modified (according to the definition of "modified in the regulation"). A permit shield is granted from these requirements. [District Rule 2520 Section 13.2] Federally Enforceable Through Title V Permit

38. The requirements of 40 CFR Part 61, Subpart N were determined to not apply to this unit because the unit does not use commercial arsenic. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit

39. Any glass melting furnace located at an Area Source of hazardous air pollutants shall comply with 40 CFR Part 63 Subpart SSSSSS (National Emission Standards for Hazardous Air Pollutants for Glass Manufacturing Area Sources). [40 CFR Part 63 Subpart SSSSSS] Federally Enforceable Through Title V Permit

40. The quantity of glass produced shall not exceed 520.1 tons during any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

41. Except during periods of startup, shutdown, and idling, NOx emissions shall not exceed 1.3 pounds per ton of glass produced (over a rolling 30-day average). This performance based limit is to enforce the NOx emission reductions granted by certificate number N-106-2. Any CEM measurement greater than 1.3 lb-NOx/ton of glass produced for each 30-day rolling average constitutes a violation of this emission limit. [District Rule 2201] Federally Enforceable Through Title V Permit

42. Except during periods of startup, shutdown, and idling, CO emissions shall not exceed 0.04 pounds per ton of glass produced. This performance based limit is to enforce the CO emission reductions granted by certificate number N-106-3. [District NSR Rule] Federally Enforceable Through Title V Permit

43. Except during periods of startup, shutdown, and idling, VOC emissions shall not exceed 0.02 pounds per ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit

44. Except during periods of startup, shutdown, and idling, the combined SOx emissions from permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4, while producing glass with cullet that is equal to or greater than 25% by weight mixed color cullet, shall not exceed 0.95 lb/ton of glass produced (over a rolling 30 day average). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

45. Except during periods of startup, shutdown, and idling, the combined SOx emissions from permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4, while producing glass with cullet that is less than 25% by weight mixed color cullet, shall not exceed 0.79 lb/ton of glass produced (over a rolling 30 day average). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

46. Except during periods of startup, shutdown, idling, and during full or partial emission control system bypass episodes, PM10 emissions shall not exceed 0.45 lb/ton of glass produced. [District NSR Rules 2201 and 4354] Federally Enforceable Through Title V Permit

47. The PM10 emissions, during full or partial emission control system bypass episodes for routine maintenance, shall not exceed 0.71 lb/ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

48. The emission limits of this permit shall not apply during routine maintenance of the respective control systems. The routine maintenance in each calendar year shall not exceed 144 hours total for all controls and routine maintenance shall be conducted in a manner consistent with good air pollution control practices for minimizing air emissions. Routine maintenance includes, but is not limited to: 1) Calibration and scheduled parts replacement of CEMS equipment per manufacturer's recommendations, 2) Cleaning of particulate control devices and stack ductwork to ensure optimal performance, and 3) Necessary repairs to ensure optimal performance of all parts of the system. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
49. The PM10 emissions shall not exceed 22,936 pounds during the first calendar quarter, 23,190 pounds during the second calendar quarter, 23,445 pounds during the third calendar quarter and 23,445 pounds during the fourth calendar quarter. These limits are to enforce the PM10 emission reductions granted by certificate number N-161-4. [District NSR Rule] Federally Enforceable Through Title V Permit
50. The facility shall not use commercial arsenic as a raw material in the production process. [40 CFR Part 61 Subpart N] Federally Enforceable Through Title V Permit
51. Each dust collector shall be maintained and operated in the range that optimizes control efficiency as recommended by the manufacturer. [District Rule 2201] Federally Enforceable Through Title V Permit
52. Each dust collectors cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit
53. Material removed from each dust collector shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
54. Replacement filters numbering at least 10% of the total number of filters in the largest dust collector, and for each type of filter, shall be maintained on the premises. [District Rule 2201] Federally Enforceable Through Title V Permit
55. Devices to measure the primary and secondary voltage and current of the electrostatic precipitator shall be maintained in accordance with the manufacturer's specifications. [District Rule 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
56. The specific power of the electrostatic precipitator shall be at least 70 milliwatts/acfm except during the bypass episodes allowed by this permit. [District Rule 2520 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
57. The ceramic filter dust collector shall be equipped with a pressure differential gauge to indicate the pressure drop across the filters. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
58. During operation of the ceramic filter dust collector, the pressure differential gauge reading shall be 1 to 15 inches of water column. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
59. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR Part 64.7. [40 CFR Part 64] Federally Enforceable Through Title V Permit
60. If the District or EPA determine that a Quality Improvement Plan is required under 40 CFR Part 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR Part 64.8. [40 CFR Part 64] Federally Enforceable Through Title V Permit
61. The permittee shall comply with the record keeping and reporting requirements of 40 CFR Part 64.9. [40 CFR Part 64] Federally Enforceable Through Title V Permit
62. The specific power of the electrostatic precipitator shall be continuously monitored and recorded. [District Rules 2201 and 4354, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
63. Dust collector filters shall be inspected annually while in operation for evidence of particulate matter breakthrough and replaced as needed. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

64. Dust collector filters shall be inspected annually while not in operation for tears, scuffs, abrasions or hole that might interfere with the PM collection efficiency and shall be replaced as needed. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

65. Permittee shall keep a record of the daily hours of operation, the amount of glass pulled from the furnace (in tons), the NOx emissions (in lb/ton of glass pulled), the SOx emissions (in lb/ton of glass pulled), the weight of mixed color mix cullet used, the total amount of cullet used (by weight) and the ratio of the mixed color cullet weight to the total cullet weight (in percent). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

66. Permittee shall maintain records of the following: 1) Source tests and source test results, 2) the acceptable range for each approved key system operating parameter, as established during source tests, 3) The operating values of the key system operating parameters at the approved recording frequency, 4) any maintenance and repair, and 5) any malfunctions. [District Rule 4354] Federally Enforceable Through Title V Permit

67. The pollutant mass emission rate in lb/hr shall be converted to lb pollutant/ton of glass pulled as specified in Rule 4354. The operator of a oxy-fuel fired furnace, oxygen-assisted combustion furnace, or a furnace utilizing any fuel oxidants other than 100% ambient air, shall submit to the APCO, ARB, and EPA for approval any methodologies and data that will be used to calculate emission rates for NOx, CO, and VOC if the methods are different from those specified in Rule 4354. Unless the operator received prior written approval from APCO, ARB, and EPA of all the calculation methods to be used that are different from those specified in Rule 4354, compliance with the emissions limits cannot be fully demonstrated, and it shall be deemed to be a violation of the rule. [District Rule 4354] Federally Enforceable Through Title V Permit

68. The oxygen to fuel ratio shall be continuously monitored and recorded. [District Rule 4354] Federally Enforceable Through Title V Permit

69. The permittee shall maintain daily records of the aggregated NOx emissions. [District Rules 2520, 9.3.2 and 4354, 9.6.1 and 9.7] Federally Enforceable Through Title V Permit

70. The permittee shall maintain the burner oxygen to fuel ratio records required by this permit. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

71. A record of the PM10 emissions from this unit, in pounds per calendar quarter, shall be kept. [District Rule 2201] Federally Enforceable Through Title V Permit

72. A record of the cumulative annual number of hours that the emission control system is either fully or partially bypassed shall be kept. The record shall be updated at least weekly. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

73. The permittee shall keep a record of the cumulative annual hours of operation of the glass furnace on LPG fuel. [District Rule 2201] Federally Enforceable Through Title V Permit

74. The permittee shall maintain daily records of the specific power of the electrostatic precipitator (in milliwatts/acfm). [District Rules 2201, 4354, and 40 CFR Part 64] Federally Enforceable Through Title V Permit

75. The operator shall monitor and record the pressure differential gauge reading of the ceramic filter dust collector at least once during each day that the unit operates. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

76. Records of dust collector maintenance, inspections and repairs shall be maintained. The records shall include, date of inspection, change outs of filter media, corrective action taken ,and identification of the individual performing the inspection. [District Rules 2201 and 2520, 9.4.2] Federally Enforceable Through Title V Permit

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

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

AUTHORITY TO CONSTRUCT

PERMIT NO: N-1662-1-19 **ISSUANCE DATE:** 11/10/2020

LEGAL OWNER OR OPERATOR: GALLO GLASS COMPANY
MAILING ADDRESS: PO BOX 1230
ATTN: ENVIRO HEALTH & SAFETY MANAGER
MODESTO, CA 95353

LOCATION: 605 S SANTA CRUZ AVE
MODESTO, CA 95354

EQUIPMENT DESCRIPTION:
MODIFICATION OF GLASS FURNACE #1 WITH 10 MAXON GAS/OXYGEN BURNERS (75 MMBTU/HR MAX HEAT CAPACITY), AND ASSOCIATED FORMING EQUIPMENT INCLUDING FOREHEARTHS, COATING, AND CHAIN BURNERS. THIS FURNACE IS DUCTED THROUGH A STACK COMMON TO PERMIT UNITS N-1662-1, N-1662-2, N-1662-3 AND N-1662-4. THE FURNACES ARE SERVED BY A SHARED SOX SCRUBBER AND AN ELECTROSTATIC PRECIPITATOR AND/OR A TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS: INSTALL THREE NEW TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS, TWO NEW INDUCTION FANS, AND A LIME STORAGE SILO SERVED BY A BIN VENT FILTER SHARED WITH PERMIT UNITS N-1662-1, N-1662-2, N-1662-3 AND N-1662-4

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. Particulate matter emissions shall not exceed 0.1 grain/dscf in concentration. [District Rule 4201 and Stanislaus County Rule 404] Federally Enforceable Through Title V Permit
5. The furnace shall be fired on natural gas and LPG only. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Samir Sheikh, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
N-1662-1-19 : Nov 10 2020 6:49AM -- GARCIAJ : Joint Inspection NOT Required

6. The furnace shall have continuous monitoring systems for NOx and SOx. The monitoring devices shall have continuous recording devices, and all records shall be kept on site. [District Rules 1080 and 4354, §5.9] Federally Enforceable Through Title V Permit

7. One continuous emissions monitoring (CEM) system may be used for monitoring oxy-fuel fired furnaces #1, #2, #3, and #4 provided all of the exhaust gases of each of these furnaces are ducted to a common stack, and monitored down stream of the common stack. The CEMS shall comply with the requirements of 40 Code of Federal Regulations (CFR) Part 51, 40 CFR Parts 60.7 and 60.13, 40 CFR Part 60 Appendix B (Performance Specifications) and Appendix F (Quality Assurance Procedures) and the applicable sections of Rule 1080 (Stack Monitoring). [District Rule 4354, 5.9 and 6.6.1] Federally Enforceable Through Title V Permit

8. The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080] Federally Enforceable Through Title V Permit

9. The common exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NOx, CO, and O2 analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Source Emission Monitoring and Testing. [District Rule 1081] Federally Enforceable Through Title V Permit

10. The permittee shall notify the District at least 24 hours prior to initiating idling, shutdown, or startup of the glass furnace and this notification shall include: The 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 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

11. The emission control systems shall be in operation whenever conditions are consistent with equipment manufacturer's specifications during startup, idling and shutdown periods. [District Rule 4354] Federally Enforceable Through Title V Permit

12. The duration of a furnace shutdown shall not exceed 20 days, measured from the time furnace operations drop below the idle threshold specified in Section 3.17 of District Rule 4354 to when all emissions from the furnace cease. [District Rule 4354] Federally Enforceable Through Title V Permit

13. NOx, CO, VOC, SOx, and PM10 emissions during idling shall not exceed the amount as calculated using the following equation: NOx, CO, VOC, SOx, or PM10 (lb/day) = Applicable emission limit (lb/ton) x Furnace permitted production capacity (tons/day). [District Rule 4354] Federally Enforceable Through Title V Permit

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

15. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation E=3.59P^0.62 (P< 30 tph) or E=17.31P^0.16 (P> 30 tph). [District Rule 4202] Federally Enforceable Through Title V Permit

16. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [Stanislaus County Rule 407 and District Rule 4801] Federally Enforceable Through Title V Permit

17. Source testing to demonstrate compliance with permit conditions and all rules and regulations for both natural gas and LPG shall be conducted within 60 days after the end of the start-up exemption, and at least once every calendar year thereafter. NOx and CO testing shall be performed using CARB Method 100. VOC testing shall be performed using EPA method 25A. PM10 testing shall be performed using EPA methods 201 and 202, EPA methods 201a and 202, or CARB methods 501 and 5. SOx testing shall be performed using EPA Method 8 and CARB Method 1-100. [District Rules 1081, 2201, 2520, §9.3.2; and 4354, 6.4 and 6.5] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

19. Source testing shall be conducted by a CARB-certified source testing contractor. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to source testing. The results of each source test shall be submitted to the District within 60 days after the source test date. [District Rule 1081] Federally Enforceable Through Title V Permit

20. Source test conditions shall be representative of operations equal to or greater than 60 percent of capacity for each furnace as stated in the Permit to Operate. [District Rule 4354, §6.4.2] Federally Enforceable Through Title V Permit

21. For source testing purposes, the arithmetic average of three 30-consecutive-minute test runs shall be used to determine compliance with NOx, CO, VOC, and SOx emission limits. [District Rule 4354] Federally Enforceable Through Title V Permit

22. 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

23. For source testing purposes, 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

24. PM and PM10 source testing shall be conducted downstream of the electrostatic precipitator and the ceramic filter dust collector in the common stack. Furnaces #1, #2, #3, and #4 must operate simultaneously during source testing unless prior approval is obtained from the District. [District Rule 1081] Federally Enforceable Through Title V Permit

25. An annual Relative Accuracy Test Audit (RATA) shall be performed on the continuous monitoring system as outlined in 40 CFR Part 60 Appendix B. [District Rule 1080] Federally Enforceable Through Title V Permit

26. The owner/operator shall perform a relative accuracy test audit (RATA) as specified by 40 CFR Part 60, Appendix F (CGAs and RATAs) and if applicable 40 CFR Part 75, Appendix B (linearity and RATAs) at least once every four calendar quarters and annually within 30 days of the anniversary date of the initial test. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080] Federally Enforceable Through Title V Permit

27. An exceedance of a NOx or SOx emission limit as indicated by the CEMS shall be reported by the operator to the APCO within 24 hours. The notification shall include 1) name and location of the facility, 2) identification of furnace(s) causing the exceedances, 3) calculation of actual NOx, CO and VOC emissions, and 4) corrective actions and schedules to complete the work. [District Rule 1080 and Stanislaus County Rule 1080] Federally Enforceable Through Title V Permit

28. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit

29. Records shall be maintained and shall include: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEMS that have been installed pursuant to District Rule 1080, and emission measurements. [District Rule 1080] Federally Enforceable Through Title V Permit

30. The operator shall notify the APCO no later than one hour after the detection of a breakdown of the CEMS. The operator shall inform the APCO of the intent to shut down the CEMS at least 24 hours prior to the event. [District Rule 1100] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

31. The permittee shall submit a written report including copies of any Equipment Breakdown reports and/or pertinent variance decisions to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess emissions (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 1080] Federally Enforceable Through Title V Permit

32. Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternative method. [District Rule 1080] Federally Enforceable Through Title V Permit

33. Results of continuous emissions monitoring shall be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080] Federally Enforceable Through Title V Permit

34. Cylinder gas audits (CGAs) of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit

35. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4201, Stanislaus County Rule 404, District Rule 4202 and Stanislaus County Rule 405. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit

36. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4801 and Stanislaus County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit

37. The requirements of District Rule 4301 and Stanislaus County Rule 408 were determined to not apply to this unit because the unit does not utilize indirect heat transfer. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit

38. The requirements of 40 CFR Part 60 Subpart CC were determined not to apply to this unit because the unit was constructed prior to the effective date in the regulation and has not been modified (according to the definition of "modified in the regulation"). A permit shield is granted from these requirements. [District Rule 2520 Section 13.2] Federally Enforceable Through Title V Permit

39. The requirements of 40 CFR Part 61, Subpart N were determined to not apply to this unit because the unit does not use commercial arsenic. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit

40. Any glass melting furnace located at an Area Source of hazardous air pollutants shall comply with 40 CFR Part 63 Subpart SSSSSS (National Emission Standards for Hazardous Air Pollutants for Glass Manufacturing Area Sources). [40 CFR Part 63 Subpart SSSSSS] Federally Enforceable Through Title V Permit

41. The quantity of glass produced shall not exceed 520.1 tons during any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

42. Except during periods of startup, shutdown, and idling, NOx emissions shall not exceed 1.3 pounds per ton of glass produced (over a rolling 30-day average). This performance based limit is to enforce the NOx emission reductions granted by certificate number N-106-2. Any CEM measurement greater than 1.3 lb-NOx/ton of glass produced for each 30-day rolling average constitutes a violation of this emission limit. [District Rule 2201] Federally Enforceable Through Title V Permit

43. Except during periods of startup, shutdown, and idling, CO emissions shall not exceed 0.04 pounds per ton of glass produced. This performance based limit is to enforce the CO emission reductions granted by certificate number N-106-3. [District Rule 2201] Federally Enforceable Through Title V Permit

44. Except during periods of startup, shutdown, and idling, VOC emissions shall not exceed 0.02 pounds per ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

45. Except during periods of startup, shutdown, and idling, the combined SOx emissions from permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4, while producing glass with cullet that is equal to or greater than 25% by weight mixed color cullet, shall not exceed 0.95 lb/ton of glass produced (over a rolling 30 day average). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

46. Except during periods of startup, shutdown, and idling, the combined SOx emissions from permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4, while producing glass with cullet that is less than 25% by weight mixed color cullet, shall not exceed 0.79 lb/ton of glass produced (over a rolling 30 day average). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

47. Except during periods of startup, shutdown, idling, and during full or partial emission control system bypass episodes, PM10 emissions shall not exceed 0.45 lb/ton of glass produced. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

48. The PM10 emissions, during full or partial emission control system bypass episodes for routine maintenance, shall not exceed 0.71 lb/ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit

49. The emission limits of this permit shall not apply during routine maintenance of the respective add-on control systems. The routine maintenance in each calendar year shall not exceed 144 hours total for all controls and routine maintenance shall be conducted in a manner consistent with good air pollution control practices for minimizing air emissions. Routine maintenance includes, but is not limited to: 1) Calibration and scheduled parts replacement of CEMS equipment per manufacturer's recommendations, 2) Cleaning of particulate control devices and stack ductwork to ensure optimal performance, and 3) Necessary repairs to ensure optimal performance of all parts of the system. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

50. The PM10 emissions shall not exceed 22,936 pounds during the first calendar quarter, 23,190 pounds during the second calendar quarter, 23,445 pounds during the third calendar quarter and 23,445 pounds during the fourth calendar quarter. These limits are to enforce the PM10 emission reductions granted by certificate number N-161-4. [District Rule 2201] Federally Enforceable Through Title V Permit

51. The maximum throughput of lime received and stored in the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed either of the following limits: 65 tons-lime/day or 110 tons-lime/quarter. [District Rule 2201] Federally Enforceable Through Title V Permit

52. PM10 emissions rate from the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed 0.0049 lb-PM10/ton-lime stored. [District Rule 2201] Federally Enforceable Through Title V Permit

53. 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

54. Each dust collector and bin vent filter shall be maintained and operated in the range that optimizes control efficiency as recommended by the manufacturer. [District Rule 2201] Federally Enforceable Through Title V Permit

55. Each dust collector and bin vent filter's cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit

56. Material removed from each dust collector and bin vent filter shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit

57. Replacement filters numbering at least 10% of the total number of filters in the largest dust collector, and for each type of filter, shall be maintained on the premises. [District Rule 2201] Federally Enforceable Through Title V Permit

58. A spare set of bags or filters shall be maintained on the premises at all times for the bin vent filter serving the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4. [District Rule 2201] Federally Enforceable Through Title V Permit

59. Devices to measure the primary and secondary voltage and current of the electrostatic precipitator shall be maintained in accordance with the manufacturer's specifications. [District Rule 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

60. When the electrostatic precipitator is in operation, the specific power of the electrostatic precipitator shall be at least 70 milliwatts/acfm except during the bypass episodes allowed by this permit. [District Rule 2520 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

61. The ceramic filter dust collectors shall each be equipped with a pressure differential gauge to indicate the pressure drop across the filters. The gauges shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

62. During operation of the ceramic filter dust collectors, the pressure differential gauge reading shall be 1 to 20 inches of water column. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

63. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR Part 64.7. [40 CFR Part 64] Federally Enforceable Through Title V Permit

64. If the District or EPA determine that a Quality Improvement Plan is required under 40 CFR Part 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR Part 64.8. [40 CFR Part 64] Federally Enforceable Through Title V Permit

65. The permittee shall comply with the record keeping and reporting requirements of 40 CFR Part 64.9. [40 CFR Part 64] Federally Enforceable Through Title V Permit

66. When the electrostatic precipitator is in operation, the specific power of the electrostatic precipitator shall be continuously monitored and recorded. [District Rules 2201 and 4354, and 40 CFR Part 64] Federally Enforceable Through Title V Permit

67. Dust collector filters shall be inspected annually while in operation for evidence of particulate matter breakthrough and replaced as needed. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

68. Dust collector filters shall be inspected annually while not in operation for tears, scuffs, abrasions or hole that might interfere with the PM collection efficiency and shall be replaced as needed. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

69. Permittee shall keep a record of the daily hours of operation, the amount of glass pulled from the furnace (in tons), the NOx emissions (in lb/ton of glass pulled), the SOx emissions (in lb/ton of glass pulled), the weight of mixed color mix cullet used, the total amount of cullet used (by weight) and the ratio of the mixed color cullet weight to the total cullet weight (in percent). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

70. Permittee shall maintain records of the following: 1) Source tests and source test results, 2) the acceptable range for each approved key system operating parameter, as established during source tests, 3) The operating values of the key system operating parameters at the approved recording frequency, 4) any maintenance and repair, and 5) any malfunctions. [District Rule 4354] Federally Enforceable Through Title V Permit

71. The pollutant mass emission rate in lb/hr shall be converted to lb pollutant/ton of glass pulled as specified in Rule 4354. The operator of a oxy-fuel fired furnace, oxygen-assisted combustion furnace, or a furnace utilizing any fuel oxidants other than 100% ambient air, shall submit to the APCO, ARB, and EPA for approval any methodologies and data that will be used to calculate emission rates for NOx, CO, and VOC if the methods are different from those specified in Rule 4354. Unless the operator received prior written approval from APCO, ARB, and EPA of all the calculation methods to be used that are different from those specified in Rule 4354, compliance with the emissions limits cannot be fully demonstrated, and it shall be deemed to be a violation of the rule. [District Rule 4354] Federally Enforceable Through Title V Permit

72. The oxygen to fuel ratio shall be continuously monitored and recorded. [District Rule 4354] Federally Enforceable Through Title V Permit

73. The permittee shall maintain daily records of the aggregated NOx emissions. [District Rules 2520, 9.3.2 and 4354, 9.6.1 and 9.7] Federally Enforceable Through Title V Permit

74. The permittee shall maintain the burner oxygen to fuel ratio records required by this permit. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

75. A record of the PM10 emissions from this unit, in pounds per calendar quarter, shall be kept. [District Rule 2201] Federally Enforceable Through Title V Permit

76. A record of the cumulative annual number of hours that the emission control system is either fully or partially bypassed shall be kept. The record shall be updated at least weekly. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

77. The permittee shall keep a record of the cumulative annual hours of operation of the glass furnace on LPG fuel. [District Rule 2201] Federally Enforceable Through Title V Permit

78. When the electrostatic precipitator is in operation, the permittee shall maintain daily records of the specific power of the electrostatic precipitator (in milliwatts/acfm). [District Rules 2201, 4354, and 40 CFR Part 64] Federally Enforceable Through Title V Permit

79. The operator shall monitor and record the pressure differential gauge reading of each ceramic filter dust collector at least once during each day that the units operate. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

80. Records of dust collector and bin vent filter maintenance, inspections and repairs shall be maintained. The records shall include, date of inspection, change outs of filter media, corrective action taken, and identification of the individual performing the inspection. [District Rules 2201 and 2520, 9.4.2] Federally Enforceable Through Title V Permit

81. Records of daily and quarterly amount of lime transferred into the lime storage silo shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit

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

APPENDIX C
BACT Guideline 1.5.9 and Analysis

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 1.5.9*

Last Update: 12/9/2014

Container Glass Melting Furnace

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

Top-Down BACT Analysis for NO_X emissions

Step 1 - Identify all control technologies

Achieved in Practice or contained in the SIP:

1.3 lb/ton of glass pulled on a rolling 30-day average, except during periods of startup, shutdown, and idling; and compliance with Rule 4354 for periods of startup, shutdown, and idling

Technologically Feasible:

There is no technologically feasible control technoology listed on this guideline.

Alternate Basic Equipment:

Pursuant to District BACT Policy APR 1305 III.A (11/99), alernate basic equipment only applies to new equipment. Since the furnaces are not new, the alternate basic equipment does apply and no further analysis of this equiment is required.

Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options that can be eliminated from step 1.

Step 3 - Rank remaining options by control effectiveness

Ranking of the control technologies is not required, since the applicant has proposed to utilize the only control technology, achieved in practice control technology, listed on this guideline.

Step 4 - Cost Effectiveness Analysis

Pursuant to District BACT Policy APR 1305 IX.D.3 (11/99), a cost-effective analysis is not required because the above control option is categorized as Achieved in Practice, such option is required regardless of cost. Therefore, a cost effectiveness analysis is not required.

Step 5 - Select BACT

BACT for NO_X emissions from this type of operation is 1.3 lb/ton of glass pulled on a rolling 30-day average, except during periods of startup, shutdown, and idling; and compliance with Rule 4354 for periods of startup, shutdown, and idling. The applicant has proposed these limits; therefore, BACT for NO_X emissions is satisfied.

Top-Down BACT Analysis for SO_X emissions

Step 1 - Identify all control technologies

Achieved in Practice or contained in the SIP:

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

Technologically Feasible:

There is no technologically feasible control technoology listed on this guideline.

Alternate Basic Equipment:

Pursuant to District BACT Policy APR 1305 III.A (11/99), alernate basic equipment only applies to new equipment. Since the furnaces are not new, the alternate basic equipment does apply and no further analysis of this equiment is required.

Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options that can be eliminated from step 1.

Step 3 - Rank remaining options by control effectiveness

Ranking of the control technologies is not required, since the applicant has proposed to utilize the only control technology, achieved in practice control technology, listed on this guideline.

Step 4 - Cost Effectiveness Analysis

Pursuant to District BACT Policy APR 1305 IX.D.3 (11/99), a cost-effective analysis is not required because the above control option is categorized as Achieved in Practice, such option is required regardless of cost. Therefore, a cost effectiveness analysis is not required.

Step 5 - Select BACT

BACT for SO_X emissions from this type of operation is for oxy-fuel fired furnaces while processing material where > or = 25.0 percent of the total cullet is mixed color cullet: 0.99 lb-SOx/ton of glass pulled on a rolling 30-day average; and compliance with Rule 4354 for periods of startup, shutdown, and idling. The applicant has proposed these limits; therefore, BACT for SO_X emissions is satisfied.

Top-Down BACT Analysis for PM_{10} emissions

Step 1 - Identify all control technologies

Achieved in Practice or contained in the SIP:

0.45 lb/ton of glass pulled

Technologically Feasible:

There is no technologically feasible control technoology listed on this guideline.

Alternate Basic Equipment:

There is no alternate basic equipment listed on this guideline.

Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options that can be eliminated from step 1.

Step 3 - Rank remaining options by control effectiveness

Ranking of the control technologies is not required, since the applicant has proposed to utilize the only control technology, achieved in practice control technology, listed on this guideline.

Step 4 - Cost Effectiveness Analysis

Pursuant to District BACT Policy APR 1305 IX.D.3 (11/99), a cost-effective analysis is not required because the above control option is categorized as Achieved in Practice, such option is required regardless of cost. Therefore, a cost effectiveness analysis is not required.

Step 5 - Select BACT

BACT for PM_{10} emissions from this type of operation is an emission limit of 0.45 lb/ton of glass pulled. The applicant has proposed this limit; therefore, BACT for PM_{10} emissions is satisfied.

APPENDIX D
Actual Emissions Calculations

The table below presents the determination of the consecutive 24-month period that is most representative of the normal source operation with the following considerations:

- The applicant provided the actual production records for the calendar years 2011-2020.
- The normal source operation (NSO) is determined as the average of the production rates in the past ten years in which a furnace rebuild was not performed. All the data from the past ten years will be used for the NSO calculation.
- The "Two Year Average" is calculated as the average between the current year and the previous year (for example: 115,972 = (128,036 + 103,908)/2).
- The "Difference between 2 Yr Avg vs NSO" is calculated as the difference between each two year average and the normal source operation (for example: 17,722 = (133,694 – 115,972). This calculation will determine which two year period, is closest to the normal source operation (the one with the smallest difference).

Year	Glass Produced (tons/year)	Two Year Average	Difference between 2 Yr Avg vs NSO
2020	128,036		
2019	103,908	115,972	17,722
2018	108,365	106,137	27,558
2017	109,918	109,142	24,553
2016	**149,512**	**129,715**	**3,979**
2015	152,106	150,809	-17,115
2014	149,577	150,842	-17,147
2013	152,319	150,948	-17,254
2012	134,256	143,287	-9,593
2011	148,946	141,601	-7,907
NSO	133,694		

* Excluded from NSO determination

Calendar years 2016-2017 represent the consecutive 24-month period that is most representative of the normal source operation as demonstrated in the table above by having the smallest difference between the consecutive 24-period and the NSO.