San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

JUL 13 2017

Ms. Julia Bonardi
Gallo Glass Company
PO Box 1230
Modesto, CA 95353

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # N-1662
Project # N-1161175

Dear Ms. Bonardi:

Enclosed for your review is the District's analysis of an application for Authorities to Construct for the facility identified above. You requested that Certificates of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. This project is for the rebuild and expansion of glass furnace #3, the addition of three natural gas-fired lehrs, the modification of the shared control system for Gallo's four glass furnaces to add a ceramic filter, and to reduce the SOx emission limits for the four glass furnaces.

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

If you have any questions, please contact Mr. Nick Peirce, Permit Services Manager, at (209) 557-6400.

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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4800 Enterprise Way
Modesto, CA 95356-8718
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Bakersfield, CA 93308-9725
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www.valleyair.org www.healthyairliving.com

Thank you for your cooperation in this matter.

Sincerely,

Arnaud Marjollet
Director of Permit Services

Enclosures

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

San Joaquin Valley Air Pollution Control District

Authority to Construct Application Review

Rebuild and Expansion of Glass Furnace #3, Installation of Three New Gas-Fired Lehrs, and Modify all Glass Furnaces to Lower the SOx Emission Limit and add a Ceramic Dust Collector

Facility Name:	Gallo Glass Company	Date:	June 26, 2017
Mailing Address:	PO Box 1230 Modesto, CA 95353	Engineer:	James Harader
		Lead Engineer:	Nick Peirce
Contact Person:	Julia Bonardi		
Telephone:	(209) 341-4298		
Fax:	N/A		
E-Mail:	Julia.bonardi@ejgallo.com		
Application #(s):	N-1662-1-18, '-2-20, '3-19, '-4-20, '-21-0, '-22-0, and '-23-0		
Project #:	N-1161175		
Deemed Complete:	June 20, 2016		

I. Proposal

Gallo Glass Company has requested Authority to Construct permits for the following:

N-1662-3-19

The applicant is proposing to rebuild and expand furnace #3 as follows:

Parameter	Existing Furnace #3	Modified Furnace #3
Dimensions - Length - Width - Glass Depth	 38 feet 22 feet 55 inches	 56 feet 25 feet 80 inches
Footprint	836 ft^2	1,400 ft^2
Number of Burners	12	10
Burner Manufacturer/Model	Praxair Wideflame (10) Air Products Cleanfire Gen 1 (2)	Praxair Wideflame Gen III (10)
Maximum Heat Input Rating	75 MMBtu/hr Total Heat Input	75 MMBtu/hr Total Heat Input
Electrodes	18 3-inch diameter electrodes	18 3-inch diameter electrodes and 8 3-inch barrier boost electrodes
Electric Boost Capacity	3,489 kVa	2,700 kW
Production Capacity	352.1 tons per day	430 tons per day
Operating Temperature	2,850 °F	2,876 °F
Emission Controls	Gas-Oxygen Combustion Shared Electrostatic Precipitator Shared Ceramic Dust Collector Batch Charger Dust Collectors	

Currently, this unit has an outstanding Authority to Construct to replace the existing Praxair Wideflame Generation I burners with new Praxair Wideflame Generation III burners. That Authority to Construct, N-1662-3-18, will be implemented prior to or concurrently with this proposed Authority to Construct permit.

Additionally, Gallo Glass is proposing the following:

- The installation of an additional ceramic dust collector unit, serving the four glass furnaces at the site.
- To reduce the maximum permitted SOx emission limit from 0.99 to 0.95 lb/ton of glass produced when using ≥ 25% mixed color cullet.
- To reduce the maximum permitted SOx emission limit from 0.81 to 0.79 lb/ton of glass produced when using < 25% mixed color cullet.

N-1662-1-18, '-2-20, and '-4-20

Gallo Glass is proposing the following modifications to the shared furnace control system and the glass furnace emission limits:

- The installation of an additional ceramic dust collector unit, serving the four glass furnaces at the site.
- To reduce the maximum permitted SOx emission limit from 0.99 to 0.95 lb/ton of glass produced when using ≥ 25% mixed color cullet.
- To reduce the maximum permitted SOx emission limit from 0.81 to 0.79 lb/ton of glass produced when using < 25% mixed color cullet.

N-1662-21-0, '-22-0, and '-23-0

In addition to the modifications to the furnaces, Gallo Glass Company is proposing to install three new 5.0 MMBtu/hr natural gas-fired lehrs that will be dedicated to furnace #3.

Gallo Glass Company received their Title V Permit on May 1, 1998. This modification can be classified as a Title V significant modification pursuant to Rule 2520, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. 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 (2/18/16)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4002	National Emissions Standards for Hazardous Air Pollutants (5/20/04)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4201	Particulate Matter Concentration (12/17/92)
Rule 4202	Particulate Matter Emission Rate (12/17/92)
Rule 4301	Fuel Burning Equipment (12/17/92)
Rule 4309	Dryers, Dehydrators, and Ovens (12/15/05)
Rule 4354	Glass Melting Furnaces (5/19/11)
Rule 4801	Sulfur Compounds (12/17/92)
CH&SC 41700	Health Risk Assessment
CH&SC 42301.6	School Notice
40 CFR Part 64	Compliance Assurance Monitoring

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. 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

N-1662-3-19

Gas Furnace #3 is a gas-oxygen fired furnace. The furnace is lined with refractory brick and contains molten glass. Mixed batch (sand, limestone, soda ash) and cullet (recycled glass) are fed from the batch plant and deposited upon the molten glass within the furnace, which has a typical glass bath depth of 73 inches. At the operating temperature of the furnace (2850 °F), soda ash and calcium carbonate decompose and release carbon dioxide (CO_2), which comprises about 15% by weight of the batch added to the furnace. The sodium sulfate in the blended batch acts as a refining agent. Sodium sulfate (Na_2SO_4) also decomposes and releases sulfur trioxide (SO_3). SO_3 is soluble in glass and tends to agglomerate small glass bubbles as it rises in the melt, thus removing gas bubbles that are considered an impurity in the glass. As the batch and cullet melt, the melt moves gravimetrically towards the front of the melter and eventually flows through a throat leading to the glass refiner. Recovered dust from the electrostatic precipitator (ESP) or ceramic dust collector system may be used in conjunction with salt cake as a fining agent, as ESP dust is a functional representative for salt cake.

Currently, twelve natural gas-fired burners provide the furnace with up to 75 MMBtu/hr of radiant heat input capacity to maintain the furnace operating temperature. A gas-oxygen furnace uses oxygen, rather than ambient air, as the oxidizer, which reduces thermal NOx formation and results in more complete combustion thus also minimizing CO and VOC emissions. Eighteen 3-inch diameter boost electrodes powered by three 1,166 kVa single phase transformers (3,498 kVa of electric boost) provide heat to the lower regions of the glass bath that are not directly heated by the gas-oxygen burners. The furnace is equipped with one side exhaust port. Exhaust from the furnace is discharged into a common header shared by three other gas-oxygen furnaces. The combined exhaust passes through an electrostatic precipitator equipped with a lime scrubber, which removes SO_3 and filterable PM. The main stack is also equipped with parallel ceramic dust filter dust collector that treats a slip stream of the exhaust gas while the ESP treats the majority of the main exhaust gas. The main stack discharges the combined furnace exhaust to the atmosphere.

The four walls of Glass Furnace #3 will be widened and the furnace walls will be rebricked. These modifications will increase the footprint of the glass furnace #3 from 836 ft^2 to 1,400 ft^2. The glass bath depth will also be increased to 80 inches. The 12 existing burners will be replaced by the ten Praxair Generation III burners. The eighteen 3-inch diameter electric boost electrodes will be retained, and eight barrier boost electrodes powered by a new transformer will be added. The modified glass furnace #3 will provide 2,700 kW of electric boost to further heat the submerged melt. The operating temperature will be increased to 2,876 °F. The alterations are being implemented to increase the glass production capacity, extend furnace life, and improve energy efficiency. The glass production will increase from 352.1 tons per day to 430 tons per day.

Glass Melting Furnace Process Rate Information		
Parameter	**Existing**	**Modified**
Maximum Daily Glass Pull Rate (tons/day)	352.1	430
Maximum 12-Month Glass Pull rate (tons/year)	128,517	156,950

N-1662-1-18, '-2-20, and '-4-20

Gas Furnaces #1, #2, and #4 are gas-oxygen fired furnaces. The furnaces are lined with refractory brick and contains molten glass. Mixed batch (sand, limestone, soda ash) and cullet (recycled glass) are fed from the batch plant and deposited upon the molten glass within the furnace, which has a typical glass bath depth of 73 inches. At the operating temperature of the furnace (2850 °F), soda ash and calcium carbonate decompose and release carbon dioxide (CO_2), which comprises about 15% by weight of the batch added to the furnace. The sodium sulfate in the blended batch acts as a refining agent. Sodium sulfate (Na_2SO_4) also decomposes and releases sulfur trioxide (SO_3). SO_3 is soluble in glass and tends to agglomerate small glass bubbles as it rises in the melt, thus removing gas bubbles that are considered an impurity in the glass. As the batch and cullet melt, the melt moves gravimetrically towards the front of the melter and eventually flows through a throat leading to the glass refiner. Recovered dust from the electrostatic precipitator (ESP) or ceramic dust collector system may be used in conjunction with salt cake as a fining agent, as ESP dust is a functional representative for salt cake.

The applicant is proposing to install an additional ceramic filter that will serve all four glass furnaces at the site. Additionally, the applicant is proposing to reduce the permitted SOx emission limits as discussed earlier in this evaluation. This project will not result in any changes to the maximum daily and 12-month glass pull rates for these furnaces.

Glass Melting Furnace #1 (N-1662-1) Process Rate Information	
Maximum Daily Glass Pull Rate (tons/day)	520.1
Maximum 12-Month Glass Pull rate (tons/year)	189,837

Glass Melting Furnace #2 (N-1662-2) Process Rate Information	
Maximum Daily Glass Pull Rate (tons/day)	430
Maximum 12-Month Glass Pull rate (tons/year)	156,950

Glass Melting Furnace #4 (N-1662-4) Process Rate Information	
Maximum Daily Glass Pull Rate (tons/day)	637.9
Maximum 12-Month Glass Pull rate (tons/year)	22,834

N-1662-21-0, '-22-0, and '-23-0

Hot formed glass exits the glass former at a temperature of approximately 1,000 °F. The applicant is proposing to install three new natural gas-fired lehrs. Each lehr is a tunnel through which a belt, which contains the formed glass, passes. The tunnel is divided into hot zones at the upstream end and cool zones on the downstream end. The hot zones are heated either electrically or with gas burners and operate at temperatures as high as 1,150 °F. The hot zones essentially bake the formed glass to allow the glass to anneal before entering the cold zones. The unheated cold zones allow the glass to slowly cool to a temperature of approximately 250 °F to 300 °F. Recirculating fans blow high velocity air into each zone to convectively heat or cool the glass.

The 12-foot wide belt will feed the hot formed glass into each of the new natural gas-fired lehrs. Each lehr tunnel will be approximately 16 feet wide and 89 feet long. Each of the three new natural gas-fired lehrs will contain five hot zones and 4 cold zones. Each of the lehrs will be equipped with ten 0.5 MMBtu/hr burners, for a total maximum heat input rating of 5 MMBtu/hr per lehr.

V. Equipment Listing

Pre-Project Equipment Descriptions:

N-1662-1-17: GLASS FURNACE #1 WITH 10 PRAXAIR GEN III GAS/OXYGEN BURNERS AND ASSOCIATED EQUIPMENT (75 MMBTU/HR MAX HEAT CAPACITY). THIS FURNACE IS DUCTED THROUGH A STACK COMMON TO PERMIT UNITS N-1662-1, N-1662-2, N-1662-3 AND N-1662-4. THE FURNACES ARE SERVED BY A SHARED SOX SCRUBBER AND AN ELECTROSTATIC PRECIPITATOR AND/OR A TRI-MER UTF460 CERAMIC FILTER TYPE DUST COLLECTOR

N-1662-2-19: GLASS FURNACE #2 WITH 10 PRAXAIR GEN III GAS/OXYGEN BURNERS (OR EQUIVALENT) AND ASSOCIATED FORMING EQUIPMENT (75 MMBTU/HR MAX HEAT CAPACITY). THIS FURNACE IS DUCTED THROUGH A STACK COMMON TO PERMIT UNITS N-1662-1, N-1662-2, N-1662-3 AND N-1662-4. THE FURNACES ARE SERVED BY A SHARED SOX SCRUBBER AND AN ELECTROSTATIC PRECIPITATOR AND/OR A TRI-MER UTF460 CERAMIC FILTER TYPE DUST COLLECTOR, AND A FURNACE CHARGING AREA SERVED BY TWO DUST COLLECTORS

N-1662-3-17: GLASS FURNACE #3 WITH 10 MAXON GAS/OXYGEN BURNERS AND ASSOCIATED FORMING EQUIPMENT (75 MMBTU/HR MAX HEAT CAPACITY). THIS FURNACE IS DUCTED THROUGH A STACK COMMON TO PERMIT UNITS N-1662-1, N-1662-2, N-1662-3 AND N-1662-4. THE FURNACES ARE SERVED BY A SHARED SOX SCRUBBER AND AN ELECTROSTATIC PRECIPITATOR AND/OR A TRI-MER UTF460 CERAMIC FILTER TYPE DUST COLLECTOR

N-1662-4-18: GLASS FURNACE #4 WITH 10 PRAXAIR GAS/OXYGEN BURNERS AND ASSOCIATED FORMING EQUIPMENT (90 MMBTU/HR MAX HEAT CAPACITY). THIS FURNACE IS DUCTED THROUGH A STACK COMMON TO PERMIT UNITS N-1662-1, N-1662-2, N-1662-3 AND N-1662-4. THE FURNACES ARE SERVED BY A SHARED SOX SCRUBBER AND AN ELECTROSTATIC PRECIPITATOR AND/OR A TRI-MER UTF460 CERAMIC FILTER TYPE DUST COLLECTOR

Post Project Equipment Descriptions:

N-1662-1-18: GLASS FURNACE #1 WITH 10 NORTH AMERICAN PRAXAIR GEN III 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 TWO TRI-MER UTF460 CERAMIC FILTER TYPE DUST COLLECTORS

N-1662-2-20: GLASS FURNACE #2 WITH 10 NORTH AMERICAN PRAXAIR GEN III 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 TWO TRI-MER UTF460 CERAMIC FILTER TYPE DUST COLLECTOR, AND A FURNACE CHARGING AREA SERVED BY TWO DUST COLLECTORS

N-1662-3-19: GLASS FURNACE #3 WITH 10 PRAXAIR GEN III GAS/OXYGEN BURNERS AND ASSOCIATED FORMING EQUIPMENT (75 MMBTU/HR MAX HEAT CAPACITY) AND A 2700 KW ELECTRIC BOOST SYSTEM. THIS FURNACE IS DUCTED THROUGH A STACK COMMON TO PERMIT UNITS N-1662-1, N-1662-2, N-1662-3 AND N-1662-4. THE FURNACES ARE SERVED BY A SHARED SOX SCRUBBER AND AN ELECTROSTATIC PRECIPITATOR AND/OR A TRI-MER UTF460 CERAMIC FILTER TYPE DUST COLLECTOR

N-1662-4-20: GLASS FURNACE #4 WITH 10 NORTH AMERICAN PRAXAIR GEN III GAS/OXYGEN BURNERS (90 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 TWO TRI-MER UTF460 CERAMIC FILTER TYPE DUST COLLECTOR.

N-1662-21-0: 5.0 MMBTU/HR NATURAL GAS-FIRED LEHR WITH ECLIPSE RA0075 BURNERS, OR EQUIVALENT (LEHR SHOP #31 SERVING GLASS FURNACE #3)

N-1662-22-0: 5.0 MMBTU/HR NATURAL GAS-FIRED LEHR WITH ECLIPSE RA0075 BURNERS, OR EQUIVALENT (LEHR SHOP #32 SERVING GLASS FURNACE #3)

N-1662-23-0: 5.0 MMBTU/HR NATURAL GAS-FIRED LEHR WITH ECLIPSE RA0075 BURNERS, OR EQUIVALENT (LEHR SHOP #33 SERVING GLASS FURNACE #3)

VI. Emission Control Technology Evaluation

N-1662-1-18, '-2-20, '3-19, and '-4-20

The glass furnaces are equipped with emission control technology for NOx, SOx and PM10. NOx is controlled utilizing oxy-fuel firing, SOx is controlled utilizing a shared scrubber and PM10 is controlled utilizing a shared electrostatic precipitator (ESP) and/or will be controlled by two shared ceramic filter dust collectors.

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 inhibits the formation of thermal NO_x.

Shared SOx Scrubber:

Gallo Glass utilizes a scrubber for SOx control followed by an Electrostatic Precipitator (ESP)/Ceramic Dust Collection System for SOx/particulate matter control.

From the furnace, the SOx contaminated airstream travels through a scrubber. Inside of the scrubber, SOx is absorbed by a reagent (lime, trona, etc.), which exits the scrubber in the form of particulate matter. The contaminated airstream (sulfur contaminated scrubber reagent and the particulate matter generated in the furnace) then enters the ESP or two ceramic filter type dust collectors.

Shared Electrostatic Precipitator:

An electrostatic precipitator (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.

Shared Ceramic Filter Type Dust Collector:

The dust collectors operate like a traditional cellulose cartridge filter type baghouse but utilizes ceramic cartridge filters that will provide a reliably high filtering efficiency at high temperatures. The units utilize reverse pulse air type cartridge cleaning.

Batch Charging Dust Collectors:

PM_{10} emissions from the batch charging equipment will be controlled using dust collectors. A PM_{10} filter efficiency of 99% is typical for dust collection systems.

N-1662-21-0, '-22-0, and '-23-0

Each lehr will be equipped with Eclipse Ratio Air natural gas-fired burners. The burners are specially manufactured to operate in a high excess oxygen environment and are rated at 60 ppm NOx at 3% oxygen.

VII. General Calculations

A. Assumptions

N-1662-1-18

- The glass furnace operates 24 hours/day, 365 days/year.
- All other assumptions will be stated as they are made.

N-1662-2-20

- The glass furnace operates 24 hours/day, 365 days/year.
- All other assumptions will be stated as they are made.

N-1662-3-19

- The glass furnace operates 24 hours/day, 365 days/year.
- PM10 emissions from the batch charging equipment served by the dust collectors is negligible.[1]
- All other assumptions will be stated as they are made.

N-1662-4-20

- The glass furnace operates 24 hours/day, 365 days/year.
- All other assumptions will be stated as they are made.

N-1662-21-0, '-22-0, and '-23-0

- The lehrs will operate 24 hours/day, 365 days/year.
- The higher heating value of natural gas is 1,000 Btu/scf.
- The f-factor for natural gas is 8,578 scf/MMBtu.
- The only source of emissions in the lehr is the combustion of natural gas by the burners.
- All PM_{10} is assumed to be $PM_{2.5}$.
- All other assumptions will be stated as they are made.

B. Emission Factors

1. Pre-Project Emission Factors

N-1662-1-18

The following table lists the pre-project emission factors for the glass furnace:

[1] Per AP-42 table 11.15-1, batch emissions from within the furnace are negligible when served by a control device.

Pollutant	Pre-Project Emission Factors (EF1) and/or Emission Rates	Source
NO_X	1.3 lb/ton of glass produced (rolling 30-day average)	ATC N-1662-1-17
SO_X	When producing glass that is equal to or greater than 25% mixed color cullet by weight 0.99 lb/ton of glass produced (rolling 30-day average) When producing glass that is less than 25% mixed color cullet by weight 0.81 lb/ton of glass produced (rolling 30-day average)	ATC N-1662-1-17
PM_{10}	Normal Operation: 0.45 lb/ton of glass produced Emission Bypass Periods: 0.71 lb/ton of glass produced	ATC N-1662-1-17
CO	0.04 lb/ton of glass produced	ATC N-1662-1-17
VOC	0.02 lb/ton of glass produced	ATC N-1662-1-17

N-1662-2-20

The following table lists the pre-project emission factors for the glass furnace:

Pollutant	Pre-Project Emission Factors (EF1) and/or Emission Rates	Source
NO_X	1.3 lb/ton of glass produced (rolling 30-day average)	ATC N-1662-2-19
SO_X	When producing glass that is equal to or greater than 25% mixed color cullet by weight 0.99 lb/ton of glass produced (rolling 30-day average) When producing glass that is less than 25% mixed color cullet by weight 0.81 lb/ton of glass produced (rolling 30-day average)	ATC N-1662-2-19
PM_{10}	Normal Operation: 0.45 lb/ton of glass produced Emission Bypass Periods: 0.71 lb/ton of glass produced	ATC N-1662-2-19
CO	0.2 lb/ton of glass produced	ATC N-1662-2-19
VOC	0.02 lb/ton of glass produced	ATC N-1662-2-19

N-1662-3-19

The following table lists the pre-project emission factors for the glass furnace:

Pollutant	Pre-Project Emission Factors (EF1) and/or Emission Rates	Source
NO_X	1.3 lb/ton of glass produced (rolling 30-day average)	ATC N-1662-3-18
SO_X	When producing glass that is equal to or greater than 25% mixed color cullet by weight 0.99 lb/ton of glass produced (rolling 30-day average) When producing glass that is less than 25% mixed color cullet by weight 0.81 lb/ton of glass produced (rolling 30-day average)	ATC N-1662-3-18
PM_{10}	Normal Operation: 0.45 lb/ton of glass produced Emission Bypass Periods: 0.71 lb/ton of glass produced	ATC N-1662-3-18
CO	0.01 lb/ton of glass produced	ATC N-1662-3-18
VOC	0.02 lb/ton of glass produced	ATC N-1662-3-18

N-1662-4-20

The following table lists the pre-project emission factors for the glass furnace:

Pollutant	Pre-Project Emission Factors (EF1) and/or Emission Rates	Source
NO_X	1.3 lb/ton of glass produced (rolling 30-day average)	ATC N-1662-4-18
SO_X	When producing glass that is equal to or greater than 25% mixed color cullet by weight 0.99 lb/ton of glass produced (rolling 30-day average) When producing glass that is less than 25% mixed color cullet by weight 0.81 lb/ton of glass produced (rolling 30-day average)	ATC N-1662-4-18
PM_{10}	Normal Operation: 0.45 lb/ton of glass produced Emission Bypass Periods: 0.71 lb/ton of glass produced	ATC N-1662-4-18
CO	0.2 lb/ton of glass produced	ATC N-1662-4-18
VOC	0.02 lb/ton of glass produced	ATC N-1662-4-18

N-1662-21-0, '-22-0, and '-23-0

These are new units; therefore, pre-project emission factors are not required.

2. Post-Project Emission Factors

N-1662-1-18

The following table lists the post-project emission factors for the glass furnace. Emission factors that have been modified are displayed in bold-italic font.

Pollutant	Post-Project Emission Factors (EF2) and/or Emission Rates	Source
NO_X	1.3 lb/ton of glass produced (rolling 30-day average)	ATC N-1662-1-17
SO_X	***When producing glass that is equal to or greater than 25% mixed color cullet by weight*** ***0.95 lb/ton of glass produced (rolling 30-day average)*** ***When producing glass that is less than 25% mixed color cullet by weight*** ***0.79 lb/ton of glass produced (rolling 30-day average)***	***Proposed***
PM_{10}	Normal Operation: 0.45 lb/ton of glass produced Emission Bypass Periods: 0.71 lb/ton of glass produced	ATC N-1662-1-17
CO	0.04 lb/ton of glass produced	ATC N-1662-1-17
VOC	0.02 lb/ton of glass produced	ATC N-1662-1-17

N-1662-2-20

The following table lists the post-project emission factors for the glass furnace. Emission factors that have been modified are displayed in bold-italic font.

Pollutant	Post-Project Emission Factors (EF2) and/or Emission Rates	Source
NO_X	1.3 lb/ton of glass produced (rolling 30-day average)	ATC N-1662-2-19
SO_X	***When producing glass that is equal to or greater than 25% mixed color cullet by weight*** ***0.95 lb/ton of glass produced (rolling 30-day average)*** ***When producing glass that is less than 25% mixed color cullet by weight*** ***0.79 lb/ton of glass produced (rolling 30-day average)***	***Proposed***
PM_{10}	Normal Operation: 0.45 lb/ton of glass produced Emission Bypass Periods: 0.71 lb/ton of glass produced	ATC N-1662-2-19
CO	0.2 lb/ton of glass produced	ATC N-1662-2-19
VOC	0.02 lb/ton of glass produced	ATC N-1662-2-19

N-1662-3-19

The following table lists the post-project emission factors for the glass furnace. Emission factors that have been modified are displayed in bold-italic font.

Pollutant	Post-Project Emission Factors (EF2) and/or Emission Rates	Source
NO_X	1.3 lb/ton of glass produced (rolling 30-day average)	ATC N-1662-3-18
SO_X	***When producing glass that is equal to or greater than 25% mixed color cullet by weight*** ***0.95 lb/ton of glass produced (rolling 30-day average)*** ***When producing glass that is less than 25% mixed color cullet by weight*** ***0.79 lb/ton of glass produced (rolling 30-day average)***	***Proposed***
PM_{10}	Normal Operation: 0.45 lb/ton of glass produced Emission Bypass Periods: 0.71 lb/ton of glass produced	ATC N-1662-3-18
CO	0.01 lb/ton of glass produced	ATC N-1662-3-18
VOC	0.02 lb/ton of glass produced	ATC N-1662-3-18

N-1662-4-20

The following table lists the post-project emission factors for the glass furnace. Emission factors that have been modified are displayed in bold-italic font.

Pollutant	Post-Project Emission Factors (EF2) and/or Emission Rates	Source
NO_X	1.3 lb/ton of glass produced (rolling 30-day average)	ATC N-1662-4-18
SO_X	***When producing glass that is equal to or greater than 25% mixed color cullet by weight*** ***0.95 lb/ton of glass produced (rolling 30-day average)*** ***When producing glass that is less than 25% mixed color cullet by weight*** ***0.79 lb/ton of glass produced (rolling 30-day average)***	***Proposed***
PM_{10}	Normal Operation: 0.45 lb/ton of glass produced Emission Bypass Periods: 0.71 lb/ton of glass produced	ATC N-1662-4-18
CO	0.2 lb/ton of glass produced	ATC N-1662-4-18
VOC	0.02 lb/ton of glass produced	ATC N-1662-4-18

N-1662-21-0, '-22-0, and '-23-0

The new natural gas-fired lehrs are identical. The following table lists the post-project emission factors for the lehrs.

Pollutant	Post-Project Emission Factors (EF2) and/or Emission Rates	Source
NO_X	0.073 lb/MMBtu (equivalent to 60 ppmvd @ 3% O_2)	Burner Manufacturer
SO_X	0.00285 lb/MMBtu	District Policy APR 1720
PM_{10}	0.0076 lb/MMBtu	AP-42 Table 1.4-2 (7/98)
CO	0.015 lb/MMBtu (equivalent to 20 ppmvd @ 3% O_2)	Burner Manufacturer
VOC	0.0055 lb/MMBtu	AP-42 Table 1.4-2 (7/98)

C. Calculations

1. Pre-Project Potential to Emit (PE1)

N-1662-1-17

The following summary of the pre-project emissions for the glass furnace was obtained from the application review for District Project N-1153172.

Pollutant	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NOx	676.1	246,787
SOx	514.9	187,938
PM_{10}	369.3	86,238
CO	20.8	7,593
VOC	10.4	3,797

N-1662-2-19

The following summary of the pre-project emissions for the glass furnace was obtained from the application review for District Project N-1153172.

Pollutant	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NOx	559.0	204,035
SOx	425.7	155,381
PM_{10}	305.3	71,299
CO	86.0	31,390
VOC	8.6	3,139

N-1662-3-18

The following summary of the pre-project emissions for the glass furnace was obtained from the application review for District Project N-1153172.

Pollutant	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NOx	457.7	167,072
SOx	348.6	127,231
PM_{10}	250.0	58,382
CO	3.5	1,285
VOC	7.0	2,570

N-1662-4-19

The following summary of the pre-project emissions for the glass furnace was obtained from the application review for District Project N-1151826.

Pollutant	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NOx	829.3	302,684
SOx	631.5	230,505
PM_{10}	452.9	105,770
CO	127.6	46,567
VOC	12.8	4,657

N-1662-21-0, '-22-0, and '-23-0

The natural gas-fired lehrs are new; therefore, there are no pre-project emissions from the lehrs.

2. Post Project Potential to Emit (PE2)

N-1662-1-18

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

- PE2 = 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). Therefore, the maximum daily emissions would occur if the unit operated for an entire day in emission control system by-pass mode.

Daily Post-Project Potential to Emit			
Pollutant	Emissions Factor (lb/ton)	Throughput (tons/day)	PE2 (lb/day)
NO_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 Post-Project Potential to Emit				
Pollutant	Emissions Factor (lb/ton)	Throughput (tons/day)	Schedule (days/year)	PE2 (lb/year)
NO_X	1.3	520.1	365	246,787
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

N-1662-2-20

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

- PE2 = 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). Therefore, the maximum daily emissions would occur if the unit operated for an entire day in emission control system by-pass mode.

Daily Post-Project Potential to Emit			
Pollutant	Emissions Factor (lb/ton)	Throughput (tons/day)	PE2 (lb/day)
NO_X	1.3	430	559.0
SO_X (≥ 25% mixed cullet)	0.95	430	408.5
PM_{10} (by-pass mode)	0.71	430	305.3
CO	0.2	430	86.0
VOC	0.02	430	8.6

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 Post-Project Potential to Emit				
Pollutant	Emissions Factor (lb/ton)	Throughput (tons/day)	Schedule (days/year)	PE2 (lb/year)
NO_X	1.3	430	365	204,035
SO_X (≥ 25% mixed cullet)	0.95	430	365	149,103
PM_{10} (normal mode)	0.45	430	359	69,467
PM_{10} (by-pass mode)	0.71	430	6	1,832
PM_{10} (total)	-	-	-	71,299
CO	0.2	430	365	31,390
VOC	0.02	430	365	3,139

N-1662-3-19

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

- PE2 = 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). Therefore, the maximum daily emissions would occur if the unit operated for an entire day in emission control system by-pass mode.

Daily Post-Project Potential to Emit			
Pollutant	Emissions Factor (lb/ton)	Throughput (tons/day)	PE2 (lb/day)
NO_X	1.3	430	559.0
SO_X (≥ 25% mixed cullet)	0.95	430	408.5
PM_{10} (by-pass mode)	0.71	430	305.3
CO	0.01	430	4.3
VOC	0.02	430	8.6

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 Post-Project Potential to Emit				
Pollutant	Emissions Factor (lb/ton)	Throughput (tons/day)	Schedule (days/year)	PE2 (lb/year)
NOx	1.3	430	365	204,035
SOx (≥ 25% mixed cullet)	0.95	430	365	149,103
PM_{10} (normal mode)	0.45	430	359	69,467
PM_{10} (by-pass mode)	0.71	430	6	1,832
PM_{10} (total)	-	-	-	71,299
CO	0.01	430	365	1,570
VOC	0.02	430	365	3,139

N-1662-4-20

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

- PE2 = 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). Therefore, the maximum daily emissions would occur if the unit operated for an entire day in emission control system by-pass mode.

Daily Post-Project Potential to Emit			
Pollutant	Emissions Factor (lb/ton)	Throughput (tons/day)	PE2 (lb/day)
NOx	1.3	637.9	829.3
SOx (≥ 25% mixed cullet)	0.95	637.9	606.0
PM_{10} (by-pass mode)	0.71	637.9	452.9
CO	0.2	637.9	127.6
VOC	0.02	637.9	12.8

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 Post-Project Potential to Emit				
Pollutant	Emissions Factor (lb/ton)	Throughput (tons/day)	Schedule (days/year)	PE2 (lb/year)
NO_X	1.3	637.9	365	302,684
SO_X (≥ 25% mixed cullet)	0.99	637.9	365	221,192
PM_{10} (normal mode)	0.45	637.9	359	103,053
PM_{10} (by-pass mode)	0.71	637.9	6	2,717
PM_{10} (total)	-	-	-	105,770
CO	0.2	637.9	365	46,567
VOC	0.02	637.9	365	4,657

N-1662-21-0, '-22-0, and '-23-0

The natural gas-fired lehrs are identical. The following emission calculations are applicable to each lehr.

The following formulas will be used to calculate emissions from each of the lehrs.

$PE2_{Daily}$ = 5.0 MMBtu/hr x EF (lb/MMBtu) x 24 hr/day
$PE2_{Annual}$ = 5.0 MMBtu/hr x EF (lb/MMBtu) x 8760 hr/year

Pollutant	Emissions Factor (lb/ton)	PE2 (lb/day)	PE2 (lb/year)
NO_X	0.073	8.8	3,197
SOx	0.00285	0.3	125
PM10	0.0076	0.9	333
PM2.5	0.0076	0.9	333
CO	0.015	1.8	657
VOC	0.0055	0.7	241

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 following emission data was obtained from the application review for District Project N-1153172.

Pre-Project Stationary Source Potential to Emit [SSPE1] (lb/year)						
Permit #	**NO_X**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO**	**VOC**
ATC N-1662-1-17	246,787	187,938	86,238	61,229	7,593	3,797
ATC N-1662-2-19	204,035	155,381	71,299	51,080	31,390	3,139
N-1662-3-18	167,072	127,231	58,382	41,151	1,285	2,570
ATC N-1662-4-18	302,684	230,505	105,770	74,744	46,567	4,657
N-1662-5-3	0	0	1,840	1,840	0	0
N-1662-6-6	0	0	27,156	27,156	0	0
N-1662-7-3	0	0	114	114	0	0
N-1662-8-7	1,199	1,552	11,570	11,570	1,890	78
N-1662-10-3	5,994	2	171	171	1,297	488
N-1662-11-3	5,994	2	171	171	1,297	488
N-1662-12-3	5,994	2	171	171	1,297	488
N-1662-14-7	0	0	49,618	9,712	0	0
N-1662-15-3	324	26	108	108	1,350	27
N-1662-16-0	0	0	5	5	0	0
N-1662-17-0	3,197	125	333	333	657	241
N-1662-18-0	3,197	125	333	333	657	241
$SSPE1_{Permit\ Unit}$	**946,477**	**702,889**	**413,279**	**279,888**	**95,280**	**16,214**
ERC N-3-2	379,472	-	-	-	-	-
ERC N-54-2	85,737	-	-	-	-	-
ERC N-56-2	305,681	-	-	-	-	-
ERC N-107-2	326,978	-	-	-	-	-
ERC N-3-3	-	-	-	-	3,417	-
ERC N-56-3	-	-	-	-	2,044	-
ERC N-161-4	-	-	92,898	-	-	-
$Total_{ERC}$	1,097,868	0	92,898	0	5,461	0
Pre-project SSPE ($SSPE1_{Total}$)	**2,044,345**	**702,889**	**506,177**	**279,888**	**100,741**	**16,214**

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.

Post-Project Stationary Source Potential to Emit [SSPE2] (lb/year)						
Permit #	**NO_X**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO**	**VOC**
ATC N-1662-1-18	***246,787***	***180,345***	***86,238***	***61,229****	***7,593***	***3,797***
ATC N-1662-2-20	***204,035***	***149,103***	***71,299***	***51,080****	***31,390***	***3,139***
N-1662-3-19	***204,035***	***149,103***	***71,299***	***50,622****	***1,570***	***3,139***
ATC N-1662-4-20	***302,684***	***221,192***	***105,770***	***74,744****	***46,567***	***4,657***
N-1662-5-3	0	0	1,840	1,840	0	0
N-1662-6-6	0	0	27,156	27,156	0	0
N-1662-7-3	0	0	114	114	0	0
N-1662-8-7	1,199	1,552	11,570	11,570	1,890	78
N-1662-10-3	5,994	2	171	171	1,297	488
N-1662-11-3	5,994	2	171	171	1,297	488
N-1662-12-3	5,994	2	171	171	1,297	488
N-1662-14-4	0	0	49,618	9,712	0	0
N-1662-15-3	324	26	108	108	1,350	27
N-1662-16-0	0	0	5	5	0	0
N-1662-17-0	3,197	125	333	333	657	241
N-1662-18-0	3,197	125	333	333	657	241
N-1662-21-0	***3,197***	***125***	***333***	***333***	***657***	***241***
N-1662-22-0	***3,197***	***125***	***333***	***333***	***657***	***241***
N-1662-23-0	***3,197***	***125***	***333***	***333***	***657***	***241***
$SSPE2_{Permit\ Unit}$	**993,031**	**701,952**	**427,195**	**290,358**	**97,536**	**17,506**
ERC N-3-2	379,472	-	-	-	-	-
ERC N-54-2	85,737	-	-	-	-	-
ERC N-56-2	305,681	-	-	-	-	-
ERC N-107-2	326,978	-	-	-	-	-
ERC N-3-3	-	-	-	-	3,417	-
ERC N-56-3	-	-	-	-	2,044	-
ERC N-161-4	-	-	92,898	-	-	-
$Total_{ERC}$	1,097,868	0	92,898	0	5,461	0
Post-project SSPE ($SSPE2_{Total}$)	**2,090,899**	**701,952**	**520,093**	**290,358**	**108,458**	**17,506**

* Per AP-42 Table 11.15-3, 71% of the PM10 emissions from a glass furnace controlled by an electrostatic precipitator are PM2.5.

5. Major Source Determination

Rule 2201 Major Source Determination:

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

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

Rule 2201 Major Source Determination (lb/year)						
	NO_X	SO_X	PM_{10}	$PM_{2.5}$	CO	VOC
SSPE1	946,477	702,889	413,279	279,888	95,280	16,214
SSPE2	993,031	701,952	427,195	290,358	97,536	17,506
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 NOx, SOx, PM10, and PM2.5 emissions and will remain a Major Source for these pollutants.

Rule 2410 Major Source Determination:

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

PSD Major Source Determination (tons/year)						
	NO2	VOC	SO2	CO	PM	PM10
Estimated Facility PE before Project Increase	473.2	8.1	365.7	47.6	275.5	206.6
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source ? (Y/N)	Y	N	Y	N	Y	N

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

6. Baseline Emissions (BE)

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

Pursuant to District Rule 2201, BE = PE1 for:

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

otherwise,

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

a. BE NOx

N-1662-1-18, 2-20, 3-19, and 4-20

This facility is a Major Source for NOx 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.

Pursuant to District BACT Guideline 1.5.9, Container Glass Melting Furnace (Last Updated 12/9/2014), Achieved in Practice BACT for NOx is 1.3 lb-NOx/ton of glass pulled on a rolling 30-day average, except during periods of startup, shutdown, and idling.

The existing glass furnaces each operate in compliance with the achieved-in-practice BACT standard listed above. Therefore, the units are each clean for NOx emissions. Thus,

BE = PE1

N-1662-21-0, '-22-0, and '-23-0

The natural gas-fired lehrs are new emission units; therefore, the baseline emissions are equal to zero for these units.

b. BE SOx

N-1662-1-18, 2-20, 3-19, and 4-20

This facility is a Major Source for SOx 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.

Pursuant to District BACT Guideline 1.5.9, Container Glass Melting Furnace (Last Updated 12/9/2014), Achieved in Practice BACT for SOx is 0.99 lb-SOx/ton of glass pulled on a rolling 30-day average for furnaces that are processing material that contains cullet that is 25% mixed color cullet.

These glass furnaces always operate with mixed color cullet greater than 25% of the total cullet, and the existing glass furnaces each operate in compliance with the achieved-in-practice BACT standard listed above; therefore, the units are clean for SOx emissions and the baseline emissions are equal to the pre-project potential to emit.

BE = PE1

N-1662-21-0, '-22-0, and '-23-0

The natural gas-fired lehrs are new emission units; therefore, the baseline emissions are equal to zero for these units.

c. BE PM_{10}

N-1662-1-18, 2-20, 3-19, and 4-20

This facility is a Major Source for PM10 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.

Pursuant to District BACT Guideline 1.5.9, Container Glass Melting Furnace (Last Updated 12/9/2014), Achieved in Practice BACT for PM10 is 0.45 lb-PM10/ton of glass pulled.

The existing glass furnaces each operate in compliance with the achieved-in-practice BACT standard listed above; therefore, the units are clean for PM10 emissions and the baseline emissions are equal to the pre-project potential to emit.

BE = PE1

N-1662-21-0, '-22-0, and '-23-0

The natural gas-fired lehrs are new emission units; therefore, the baseline emissions are equal to zero for these units.

d. BE CO

N-1662-1-18, 2-20, 3-19, and 4-20

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

Therefore BE=PE1.

N-1662-21-0, '-22-0, and '-23-0

The natural gas-fired lehrs are new emission units; therefore, the baseline emissions are equal to zero for these units.

e. BE VOC

N-1662-1-18, 2-20, 3-19, and 4-20

As shown in Section VII.C.5 above, the facility is not a major source for VOC emissions.

Therefore BE=PE1.

N-1662-21-0, '-22-0, and '-23-0

The natural gas-fired lehrs are new emission units; therefore, the baseline emissions are equal to zero for these units.

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 NOx, SOx, and PM10, the project's PE2 is compared to the SB 288 Major Modification Thresholds in the following table in order to determine if the SB 288 Major Modification calculation is required for these pollutants.

SB 288 Major Modification Thresholds			
Pollutant	**Project PE2 (lb/year)**	**Threshold (lb/year)**	**SB 288 Major Modification Calculation Required?**
NO_x	957,541	50,000	Yes
SO_x	699,743	80,000	Yes
PM_{10}	334,606	30,000	Yes

Since the project's PE2 surpasses the SB 288 Major Modification Thresholds for NOx, SOx, and PM10, 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.

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

NEI = PE2 – BAE

Where: PE2 = the sum of all the PE2s for each permit unit in this project
BAE = for units that are fully offset, the BAE = the PE1 for every unit, otherwise, the BAE is the actual annual emissions averaged over the baseline period for every unit.

The baseline period is either the two consecutive years of operation immediately prior to the submission date of the complete application, or at least two consecutive years within the five years immediately prior to the submission date of the complete application if determined by the APCO to be more representative of normal source operation. For this specific project, the 2014 and 2015 calendar year emission rates will be used as the baseline period.

Baseline NOx and SOx emissions were obtained from CEMs data for the plant. Baseline PM10 emissions were derived from the pull rate for the furnaces and the average source tested emission factor for 2014/2015. The facility operated in compliance with its emission limits and pull rate limits during the baseline period; therefore, no adjustment to the baseline emission rate was necessary.

The following table shows the results of the net emission increase calculations and determines whether an SB288 Major Modification is triggered for each pollutant.

SB 288 Major Modification Calculation and Determination					
Pollutant	Project PE2 (lb/year)	Project BAE (lb/yr)	NEI (lb/yr)	Thresholds (lb/yr)	SB 288 Major Modification?
NO_x	957,541	502,689	454,852	50,000	Yes
SO_x	699,743	400,904	298,839	80,000	Yes
PM_{10}	334,606	21,565	313,041	30,000	Yes

As shown in the above table, this project triggers an SB 288 Major Modification for NOx, SOx, and PM10 emissions.

8. 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.

In order to determine whether a Federal Major Modification is triggered, the emission increase must be calculated. This project includes both modified and new emission units. Emission increase calculations are performed differently for modified and new units.

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

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

The net emission increase must be calculated for each pollutant for which the facility is a Major Source. In this case, the facility is a Major Source for NOx, SOx, PM10, and PM2.5; therefore, the net emission increase must be calculated for each of these pollutants.

Federal Major Modification Calculations for NOx

N-1662-1-18, '2-20, and '-4-20

The only modifications to furnaces #1, #2, and #4 is the addition of a second ceramic filter to the PM10 control system and a reduction in the SOx emission limit for the furnaces. Since no physical modifications to the furnaces themselves will occur and the design capacity will not increase, the net emission increase for each of these furnaces is equal to zero.

N-1662-3-19

NEI = PAE – BAE – UBC

For this project, the projected actual emissions will be based on the full post-project capacity for the units within this project. Thus,

PAE_{NOx} = 204,035 lb-NOx/year

Gallo Glass Company provided the following data to determine the baseline actual emissions.

The baseline actual emissions are based on CEMs data from the shared stack (shared by furnaces 1, 2, 3, and 4). The individual throughputs from the furnaces were used to determine the contribution from furnace #3 to the total NOx emissions recorded by the CEMs unit. Calendar years 2014 and 2015 were chosen to determine the 24-month baseline actual emissions from the furnaces. NOx emissions during this period complied with the 1.3 lb-NOx/ton limit; therefore, a downward adjustment to the baseline actual emissions is not necessary. Based on the CEMs and production data for 2014 and 2015, the average annual baseline NOx emissions from furnace #3 during the 24-month period are:

BAE_{NOx} = 83,534 lb-NOx/year

The unused baseline capacity is the portion of the unit's emissions following the project that an existing unit could have accommodated during the consecutive 24-month period used to establish the baseline actual emissions and that are also unrelated to the particular project, including any increased utilization due to product demand growth.

A review of the historical throughput for furnace #3 demonstrates that the furnace has operated at a throughputs up to 320 tons/day in a sustainable fashion. For example, furnace #3 operated for the entire month of Sepember 2013 at a throughput of approximately 320 tons/day. A review of the CEMs emissions data indicates that emission levels have been recorded up to, but not exceeding, the 1.3 lb-NOx/ton limit during the baseline period. Therefore, prior to the modifications proposed in this project, the unit could emit up to 151,840 lb-NOx/year (320 tons/day x 365 days/year x 1.3 lb-NOx/ton). The unused baseline capacity is then:

UBC = 151,840 lb-NOx/year – 83,534 lb-NOx/year = 68,306 lb-NOx/year

NEI = PAE – BAE – UBC
NEI = 204,035 lb-NOx/year – 83,534 lb-NOx/year – 68,306 lb-NOx/year
NEI = 52,195 lb-NOx/year

N-1662-21-0, '-22-0, and '-23-0

Each of the lehrs is a new unit. Thus,

NEI = PE2 = 3,197 lb-NOx/year (for each lehr).

NEI_{NOx} and Federal Modification Conclusion for NOx Emissions

$NEI_{NOx} = NEI_{Furnaces\ 1,2,4} + NEI_{Furnace\ 3} + NEI_{Lehrs}$
NEI_{NOx} = 0 + 52,195 lb-NOx/year + 3 x 3,197 lb-NOx/year
NEI_{NOx} = 61,786 lb-NOx/year

Since NEI_{NOx} is greater than the Federal Major Modification Threshold of 0 lb-NOx/year, a Federal Major Modification for NOx is triggered for furnace #3 and the lehrs.

Federal Major Modification Calculations for SOx

N-1662-1-18, '2-20, and '-4-20

The only modifications to furnaces #1, #2, and #4 is the addition of a second ceramic filter and a reduction in the SOx emission limit for the furnaces. Since no physical modifications to the furnaces themselves will occur and the design capacity will not increase, the net emission increase for each of these furnaces is equal to zero.

N-1662-3-19

NEI PAE – BAE – UBC

For this project, the projected actual emissions will be based on the full post-project capacity for the units within this project. Thus,

PAE_{SOx} = 149,103 lb-SOx/year

Gallo Glass Company provided the following data for determining the baseline actual emissions.

The baseline actual emissions are based on CEMs data from the shared stack (shared by furnaces 1, 2, 3, and 4). The individual throughputs from the furnaces were used to determine the contribution from furnace #3 to the total SOx emissions recorded by the CEMs unit. Calendar years 2011 and 2012 were chosen to determine the 24-month baseline actual emissions from the furnaces. SOx emissions during this period complied with the 0.99 lb-SOx/ton limit (30-day rolling average) for units processing material where the 25% or more of the total color cullet is mixed color cullet; therefore, a downward adjustment to the baseline actual emissions is not necessary. Based on the CEMs and production data for 2011 and 2102, the average annual baseline SOx emissions for furnace #3during the 24-month period are:

BAE_{SOx} = 97,131 lb-SOx/year

The unused baseline capacity is the portion of the unit's emissions following the project that an existing unit could have accommodated during the consecutive 24-month period used to establish the baseline actual emissions and that are also unrelated to the particular project, including any increased utilization due to product demand growth.

As stated earlier, Furnace #3 has demonstrated the ability to operate at a throughput of 320 tons/day on a sustained basis. A review of the emissions data indicates that emission levels have been recorded up to, but not exceeding, the 0.99 lb-SOx/ton limit during the baseline period. Therefore, prior to the modifications proposed in this project, the unit could emit up to 115,632 lb-SOx/year (320 tons/day x 365 days/year x 0.99 lb-SOx/ton). The unused baseline capacity is then:

UBC = 115,632 lb-SOx/year – 97,131 lb-SOx/year = 18,501 lb-SOx/year

NEI = PAE – BAE – UBC
NEI = 149,103 lb-SOx/year – 97,131 lb-SOx/year – 18,501 lb-SOx/year
NEI = 33,471 lb-SOx/year

N-1662-21-0, '-22-0, and '-23-0

Each of the lehrs is a new unit. Thus,

NEI = PE2 = 125 lb-SOx/year (for each lehr).

NEI_{SOx} and Federal Modification Conclusion for SOx Emissions

$NEI_{SOx} = NEI_{Furnaces\ 1,2,4} + NEI_{Furnace\ 3} + NEI_{Lehrs}$
NEI_{SOx} = 0 + 33,471 lb-SOx/year + 3 x 125 lb-SOx/year
NEI_{SOx} = 33,846 lb-SOx/year

Since NEI_{SOx} is less than the Federal Major Modification Threshold of 80,000 lb-SOx/year, a Federal Major Modification for SOx is not triggered for furnace #3 and the lehrs.

Federal Major Modification Calculations for PM10

N-1662-1-18, '2-20, and '-4-20

The only modifications to furnaces #1, #2, and #4 is the addition of a second ceramic filter and a reduction in the SOx emission limit for the furnaces. Since no physical modifications to the furnaces themselves will occur and the design capacity will not increase, the net emission increase for each of these furnaces is equal to zero.

N-1662-3-19

NEI PAE – BAE – UBC

For this project, the projected actual emissions will be based on the full post-project capacity for the units in this project. Thus,

$PAE_{PM10} = PE2_{PM10} = 71{,}299$ lb-PM10/year

Gallo Glass Company provided the following data for determining the baseline actual emissions.

The baseline actual emissions are based on the historical throughput data for furnace #3 and the annual source tests. Calendar years 2011 and 2012 were chosen to determine the 24-month baseline actual emissions from the furnace. PM10 emissions during this period complied with the 0.45 lb-PM10/ton limit; therefore, a downward adjustment to the baseline actual emissions is not necessary. Based on the throughput and source test data for 2011 and 2102, the average annual baseline PM10 emissions from furnace #3 during the 24-month period are:

$BAE_{PM10} = 6{,}075$ lb-PM10/year

The unused baseline capacity is the portion of the unit's emissions following the project that an existing unit could have accommodated during the consecutive 24-month period used to establish the baseline actual emissions and that are also unrelated to the particular project, including any increased utilization due to product demand growth.

Furnace #3 is capable of operating at the full pre-project throughput limit of 320 tons/year. A review of the historical source test data for the unit indicates that the unit has source tested as high as 0.4 lb-PM10/ton with the same control figuration. Therefore, prior to the modifications proposed in this project, the unit could emit up to 46,720 lb-PM10/year (320 tons/day x 365 days/year x 0.4 lb-PM10/ton). The unused baseline capacity is then:

UBC = 46,720 lb-PM10/year – 6,075 lb-PM10/year = 40,645 lb-PM10/year

NEI = PAE – BAE – UBC
NEI = 71,299 lb-PM10/year – 6,075 lb-PM10/year – 40,645 lb-PM10/year
NEI = 24,579 lb-PM10/year

N-1662-21-0, '-22-0, and '-23-0

Each of the lehrs is a new unit. Thus,

NEI = PE2 = 333 lb-PM10/year (for each lehr).

NEI_{PM10} and Federal Modification Conclusion for PM10 Emissions

$NEI_{PM10} = NEI_{Furnaces\ 1,2,4} + NEI_{Furnace\ 3} + NEI_{Lehrs}$
$NEI_{PM10} = 0 + 24{,}579$ lb-PM10/year + 3 x 333 lb-PM10/year
$NEI_{PM10} = 25{,}578$ lb-PM10/year

Since NEI_{PM10} is less than the Federal Major Modification Threshold of 30,000 lb-PM10/year, a Federal Major Modification for PM10 is not triggered for furnace #3 and the lehrs.

Federal Major Modification Calculations for PM2.5

N-1662-1-18, '2-20, and '-4-20

The only modifications to furnaces #1, #2, and #4 is the addition of a second ceramic filter and a reduction in the SOx emission limit for the furnaces. Since no physical modifications to the furnaces themselves will occur and the design capacity will not increase, the net emission increase for each of these furnaces is equal to zero.

N-1662-3-19

For a glass furnace controlled by an electrostatic precipitator, approximately 53% of the total PM is PM2.5, and 75% of the total PM is PM10 (AP-42 Table 11.15-3). Using this data, the PM2.5 fraction of PM10 is:

PM2.5 Fraction = 53% ÷ 75% = 0.71 lb-PM2.5/lb-PM10

Using this data for the furnace, the NEI for PM2.5 is equal to:

$NEI_{furnace, PM2.5} = NEI_{Furnace, PM10}$ x PM2.5 Fraction
$NEI_{furnace, PM2.5}$ = 25,578 lb-PM10/year x 0.71 lb-PM2.5/lb-PM10
$NEI_{furnace, PM2.5}$ = 18,160 lb-PM2.5/year

N-1662-21-0, '-22-0, and '-23-0

Each of the lehrs is a new unit. For the lehrs, all PM10 is expected to be PM2.5. Thus,

NEI = PE2 = 333 lb-PM2.5/year (for each lehr).

$NEI_{PM2.5}$ and Federal Modification Conclusion for PM2.5 Emissions

$NEI_{PM2.5} = NEI_{Furnaces\ 1,2,4} + NEI_{Furnace\ 3} + NEI_{Lehrs}$
$NEI_{PM2.5}$ = 0 + 18,160 lb-PM2.5/year + 3 x 333 lb-PM2.5/year
$NEI_{PM2.5}$ = 19,159 lb-PM2.5/year

$NEI_{PM2.5}$ is less than the threshold of 20,000 lb-PM2.5/year (direct). Additionally, the NEI for NOx and SOx are each less than the indirect PM2.5 thresholds of 80,000 lb-NOx/year and 80,000 lb-SOx/year. Therefore, a Federal Major Modification for PM2.5 is not triggered.

Summary of Federal Major Modification Calculations

In summary, a Federal Major Modification for NOx is triggered for furnace #3 and the lehrs.

Federal Offset Quantities:

NOx — Federal Offset Ratio 1.5

Permit No.	Actual Emissions (lb/year)	Potential Emissions (lb/year)	Emissions Change (lb/yr)
N-1662-3-19	83,534	204,035	120,501
N-1662-21-0	0	3,197	3,197
N-1662-22-0	0	3,197	3,197
N-1662-23-0	0	3,197	3,197
		Net Emission Change (lb/year):	130,092
		Federal Offset Quantity: (NEC * 1.5)	195,138

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)					
	NO2	SO2	CO	PM	PM10
Total PE from New and Modified Units	478.8	349.9	43.6	223.1*	167.3
PSD Significant Emission Increase Thresholds	40	40	100	25	15
PSD Significant Emission Increase?	Y	Y	N	Y	Y

* Calculated assuming 75% of PM from the glass furnace is PM10, and assuming 100% of PM from the lehrs is PM10.

As demonstrated in the table above, because the post-project potential to emit from all new and modified emission units is greater than the PSD significance threshold for NO2, SO2, PM, and PM10, further evaluation of these pollutants is necessary to determine whether a PSD modification is triggered by this proposal.

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.

The calculation methodology for determining the Net Emission Increase for PSD purposes is identical to the methodology used for determining the Net Emission increase for Federal Major Modification purposes.

PSD Calculations for NOx

The NEI for NOx for this project was calculated earlier in the Federal Major Modification section of this evaluation.

NEI_{NOx} = 61,786 lb-NOx/year (30.9 tons-NOx/year)

Since NEI_{NOx} is less than the PSD threshold of 40 tons-NOx/year, PSD is not triggered for NOx.

PSD Calculations for SO2

The NEI for SOx (primarily SO2) for this project was calculated earlier in the Federal Major Modification section of this evaluation.

NEI_{SOx} = 33,846 lb-SO2/year (16.9 tons-SO2/year)

Since NEI_{SO2} is less than the PSD threshold of 40 tons-SO_2/year, PSD is not triggered for SO_2.

PSD Calculations for PM10

The NEI for PM10 for this project was calculated earlier in the Federal Major Modification section of this evaluation.

NEI_{PM10} = 25,578 lb-PM10/year (12.8 tons-PM10/year)

Since NEI_{PM10} is less than the PSD threshold of 15 tons-PM10/year, PSD is not triggered for PM10.

PSD Calculations for PM

N-1662-3-19

The NEI for PM10 was calculated to be 25,578 lb/year for furnace #3. Per AP-42 Table 11.15-3, the PM10 fraction for a furnace served by an electrostatic precipitator is 75%.

Using this data for the furnace, the NEI for PM is equal to:

$NEI_{furnace, PM} = NEI_{Furnace, PM10} \div$ PM10 fraction
$NEI_{furnace, PM}$ = 25,578 lb-PM10/year ÷ 0.75 lb-PM10/lb-PM
$NEI_{furnace, PM}$ = 34,104 lb-PM/year

N-1662-21-0, '-22-0, and '-23-0

For the lehrs, all PM is expected to be PM10. Thus,

NEI = PE2 = 333 lb-PM/year (for each lehr).

NEI_{PM} and PSD Conclusion for PM Emissions

$NEI_{PM} = NEI_{Furnace\ 3} + NEI_{Lehrs}$
NEI_{PM} = 34,104 lb-PM/year + 3 x 333 lb-PM/year
NEI_{PM} = 35,103 lb-PM/year (17.6 tons-PM/year)

Since NEI_{PM} is less than the PSD threshold of 25 tons-PM/year, PSD is not triggered for PM10.

Summary of PSD Calculations

In summary, the proposed project does not trigger a PSD modification.

10. Quarterly Net Emissions Change (QNEC)

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

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.

No stack monitoring is required for the lehrs. Furnace #1, #2, #3, and #4 are equipped with an operational CEMs for NOx and SOx from the shared stack. Continued compliance with the requirements of this Rule is anticipated.

The following conditions will be included on the Authority to Construct permit for each of the furnaces:

- *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.

Testing is not required for the lehrs therefore, only the furnaces are subject to Rule 1081 requirements. The following conditions will be included on the Authority to Construct permit for each of the furnaces:

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

- *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]*

- *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

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 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

Each of the natural gas-fired lehrs are new emission units. NOx emissions from each lehr are greater than 2.0 lb/day. Therefore, BACT is triggered for NOx emissions from the lehrs.

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

N-1662-1-18

Glass furnace #1 will be modified in this project; therefore, AIPE calculations are necessary.

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))

CO emissions are less than 200,000 lb-VOC/year for the facility; therefore, BACT is not triggered for CO.

Pollutant	PE2 (lb/day)	PE1 (lb/day)	EF2 (lb/ton)	EF1 (lb/ton)	AIPE (lb/day)
NOx	676.1	676.1	1.3	1.3	0.0
SOx	494.1	514.9	0.99	0.95	0.0
PM10	369.3	369.3	0.71	0.71	0.0
VOC	10.4	10.4	0.02	0.02	0.0

As shown in the above table, the AIPE is less than 2.0 lb/day for all pollutants; Therefore, BACT is not triggered for AIPE purposes for furnace #1.

N-1662-2-20

Glass furnace #2 will be modified in this project; therefore, AIPE calculations are necessary.

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))

CO emissions are less than 200,000 lb-VOC/year for the facility; therefore, BACT is not triggered for CO.

Pollutant	PE2 (lb/day)	PE1 (lb/day)	EF2 (lb/ton)	EF1 (lb/ton)	AIPE (lb/day)
NOx	559.0	559.0	1.3	1.3	0.0
SOx	408.5	425.7	0.99	0.95	0.0
PM10	305.3	305.3	0.71	0.71	0.0
VOC	8.6	8.6	0.02	0.02	0.0

As shown in the above table, the AIPE is less than 2.0 lb/day for all pollutants; Therefore, BACT is not triggered for AIPE purposes for furnace #2.

N-1662-3-19

Glass furnace #3 will be modified in this project; therefore, AIPE calculations are necessary.

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))

CO emissions are less than 200,000 lb-VOC/year for the facility; therefore, BACT is not triggered for CO.

Pollutant	PE2 (lb/day)	PE1 (lb/day)	EF2 (lb/ton)	EF1 (lb/ton)	AIPE (lb/day)
NOx	559.0	457.7	1.3	1.3	101.3
SOx	408.5	348.6	0.99	0.95	74.0
PM10	305.3	250.0	0.71	0.71	55.3
VOC	8.6	7.0	0.02	0.02	1.6

As shown in the above table, the AIPE is greater than 2.0 lb/day for NOx, SOx, and PM10 emissions; Therefore, BACT is triggered for NOx, SOx, and PM10 emissions for furnace #3.

N-1662-4-20

Glass furnace #4 will be modified in this project; therefore, AIPE calculations are necessary.

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))

CO emissions are less than 200,000 lb-VOC/year for the facility; therefore, BACT is not triggered for CO.

Pollutant	PE2 (lb/day)	PE1 (lb/day)	EF2 (lb/ton)	EF1 (lb/ton)	AIPE (lb/day)
NOx	829.3	829.3	1.3	1.3	0.0
SOx	606.0	631.5	0.99	0.95	0.0
PM10	452.9	452.9	0.71	0.71	0.0
VOC	12.8	12.8	0.02	0.02	0.0

As shown in the above table, the AIPE is less than 2.0 lb/day for all pollutants; Therefore, BACT is not triggered for AIPE purposes for furnace #4.

d. SB 288/Federal Major Modification

This project triggers a Federal Major Modification for NOx emissions for furnace #3 and the lehrs, and triggers an SB288 Modification for NOx, SOx, and PM10 emissions. Therefore, BACT is triggered for NOx, SOx, and PM10 emissions from the glass furnaces and natural gas-fired lehrs.

In summary, BACT is triggered for NOx, SOx, and PM10 for the glass furnaces. BACT is triggered for NOx, SOx, and PM10 from the natural gas-fired lehrs.

2. BACT Guideline

N-1662-1-18, '-2-20, N-1662-3-19, and '-4-20

BACT Guideline 1.5.9 applies to container glass melting furnaces (See **Appendix C**).

N-1662-21-0, '-22-0, and '-23-0

BACT Guideline 1.5.10 applies to container glass melting lehrs (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.

N-1662-1-18, '-2-20, N-1662-3-19, and '-4-20

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

NO_X: 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.

SO_X: While processing material where ≥ 25.0 percent of the total cullet is mixed color cullet: 0.99 lb-SOx/ton of glass pulled on a 30-day average and compliance with District Rule 4354 requirements for startup, shutdown, and idling. While processing material where < 25.0 percent of the total cullet is mixed color cullet: 0.8 lb-SOx/ton on a rolling 30-day average and compliance with District Rule 4354 requirements for startup, shutdown, and idling.

PM_{10}: 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.

N-1662-21-0, '-22-0, and '-23-0

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

NOx: Natural gas-fired container glass lehr with emissions of 60 ppmv NOx @ 3% O_2 or 0.073 lb-NOx/MMBtu

PM_{10}: Use of natural gas fuel

SOx: Use of natural gas fuel

B. Offsets

1. Offset Applicability

Offset requirements shall be triggered on a pollutant-by-pollutant basis and shall be required if the SSPE2 equals to 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	2,090,899	701,952	520,093	108,512	17,506
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	**Yes**	**Yes**	**Yes**	No	No

As shown in the above table, offsets are triggered for NOx, SOx, and PM10 emissions. Additionally, offsets may be required for projects that trigger a Federal Major Modification for PM2.5 emissions. Since this project did not trigger a Federal Major Modification for PM2.5 emissions, offsets are not triggered for PM2.5.

2. Quantity of Offsets Required

As stated above, offsets were triggered for NOx, SOx, and PM10 emissions.

Quantity of Offsets required for NOx

The quantity of offsets in pounds per year for NOx 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

The baseline emissions for each emission unit were determined earlier in this evaluation. Cargo Carriers are defined as trains solely dedicated to the stationary source, or vessel dockside activites as defined in 45 Federal Register 52696 for vessels dedicated to a specific stationary source. There are no trains or vessels solely dedicated to Gallo Glass Company's stationary source; therefore, there are no cargo carrier emissions. The following table shows the quantity of offsets required, not including the distance offset ratio of 1.5:1 for NOx.

Unit	$PE2_{NOx}$ (lb/year)	BE_{NOx} (lb/year)	$PE2_{NOx}$ - BE_{NOx} (lb/year)
N-1662-1-18	246,787	246,787	0
N-1662-2-20	204,035	204,035	0
N-1662-3-19	204,035	167,072	36,963
N-1662-4-20	302,684	302,684	0
N-1662-21-0	3,197	0	3,197
N-1662-22-0	3,197	0	3,197
N-1662-23-0	3,197	0	3,197
		Σ(PE2 – PE1)	46,554

Using the distance offset ratio of 1.5:1 for NOx, the total quantity of offsets required becomes:

Offsets Required = 46,554 lb-NOx/year x 1.5 = 69,831

Quarterly offsets required (lb/qtr) = (69,831 NOx/year) ÷ (4 quarters/year)
= 17,457.75 lb/qtr

As shown in the calculation above, the quarterly amount of offsets required for this project, when evenly distributed to each quarter, results in fractional pounds of offsets being required each quarter. Since offsets are required to be withdrawn as whole pounds, the quarterly amounts of offsets need to be adjusted to ensure the quarterly values sum to the total annual amount of offsets required.

To adjust the quarterly amount of offsets required, the fractional amount of offsets required in each quarter will be summed and redistributed to each quarter based on the number of days in each quarter. The redistribution is based on the Quarter 1 having the fewest days and the Quarters 3 and 4 having the most days. The redistribution method is summarized in the following table:

Redistribution of Required Quarterly Offsets (where X is the annual amount of offsets, and X ÷ 4 = Y.z)				
Value of z	**Quarter 1**	**Quarter 2**	**Quarter 3**	**Quarter 4**
.0	Y	Y	Y	Y
.25	Y	Y	Y	Y+1
.5	Y	Y	Y+1	Y+1
.75	Y	Y+1	Y+1	Y+1

Therefore, the appropriate quarterly emissions to be offset are as follows:

1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total Annual
17,457	17,458	17,458	17,458	69,831

Gallo Glass Company plans to use a combination of the following ERC certificates to offset the increases in NOx emissions associated with this project. The certificates have available quarterly NOx credits as follows:

NOx Certificate	**1st Quarter**	**2nd Quarter**	**3rd Quarter**	**4th Quarter**
ERC N-768-2	14,634	12,268	15,814	10,504
ERC N-849-2	0	14	111	0
ERC N-1221-2	9,542	9,542	10,501	9,541
ERC C-1071-2	612	605	563	535
ERC N-900-2	63,691	64,821	66,246	61,340
ERC N-966-2	63,525	46,849	57,176	61,929
ERC N-1011-2	625	625	625	625
ERC N-1012-2	545	545	545	545
ERC N-1230-2	1,276	1,275	1,275	1,275
ERC N-1272-2	0	0	0	953
ERC N-1380-2	1,224	1,225	1,225	1,225
Total	**155,674**	**137,769**	**154,081**	**148,472**

As seen above, the facility has sufficient credits to fully offset the quarterly NOx emissions increases associated with this project.

Proposed Rule 2201 (offset) Conditions:

The following conditions will be included on the ATC for furnace #3.

- *{GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender NO_X emission reduction credits for the following quantity of emissions: 1st quarter – 17,457 lb, 2nd quarter – 17,458 lb, 3rd quarter – 17,458 lb, and fourth quarter – 17,458 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]*

- *ERC Certificate Numbers N-768-2, N-849-2, N-1221-2, C-1071-2, N-900-2, N-966-2, N-1011-2, N-1012-2, N-1230-2, N-1272-2, and N-1380-2 (or a certificate split from this certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]*

The following condition will be included on each of the lehr permits:

- *Prior to operating equipment under this Authority to Construct, permittee shall surrender NOx emission reduction credits as required by Authority to Construct N-1662-3-19. [District 2201]*

Quantity of Offsets required for SOx

The quantity of offsets in pounds per year for SO_X 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

The baseline emissions for each emission unit were calculated earlier in this evaluation. Cargo Carriers are defined as trains solely dedicated to the stationary source, or vessel dockside activites as defined in 45 Federal Register 52696 for vessels dedicated to a specific stationary source. There are no trains or vessels solely dedicated to Gallo Glass Company's stationary source; therefore, there are no cargo carrier emissions. The following table shows the quantity of offsets required, not including the Distance offset ratio for SOx.

Unit	$PE2_{SOx}$ (lb/year)	BE_{SOx} (lb/year)	$PE2_{SOx}$ - BE_{SOx} (lb/year)
N-1662-1-18	180,345	187,938	-7,593
N-1662-2-20	149,103	155,381	-6,278
N-1662-3-19	149,103	127,231	21,872
N-1662-4-20	221,192	230,505	-9,313
N-1662-21-0	125	0	0*
N-1662-22-0	125	0	0*
N-1662-23-0	125	0	0*
		Σ(PE2 – PE1)	< 0

* Pursuant to District Policy APR 1130, permit units with increases in emissions less than 0.5 lb/day (183 lb/year) are set equal to zero for the purposes of determining the quantity of offsets required.

Thus, the quantity of SOx offsets required is zero.

Quantity of Offsets required for PM10

The quantity of offsets in pounds per year for PM10 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

The baseline emissions for each emission unit were calculated earlier in this evaluation. Cargo Carriers are defined as trains solely dedicated to the stationary source, or vessel dockside activites as defined in 45 Federal Register 52696 for vessels dedicated to a specific stationary source. There are no trains or vessels solely dedicated to Gallo Glass Company's stationary source; therefore, there are no cargo carrier emissions. The following table shows the quantity of offsets required, not including the distance offset ratio for PM10.

Unit	$PE2_{PM10}$ (lb/year)	BE_{PM10} (lb/year)	$PE2_{PM10} - BE_{PM10}$ (lb/year)
N-1662-1-18	86,238	86,238	0
N-1662-2-20	71,299	71,299	0
N-1662-3-19	71,299	58,382	12,917
N-1662-4-20	105,770	105,770	0
N-1662-21-0	333	0	333
N-1662-22-0	333	0	333
N-1662-23-0	333	0	333
		Σ(PE2 – PE1)	13,916

Using the distance offset ratio of 1.0:1 for PM10 since the proposed ERC certificates were from reductions in emissions generated on-site, the total quantity of offsets required becomes:

Offsets Required = 13,916 lb-PM10/year

Quarterly offsets required (lb/qtr) = (13,916 lb-PM10/year) ÷ (4 quarters/year)
= 3,479 lb/qtr

Gallo Glass Company plans to use the following ERC certificate to offset the increases in PM10 emissions associated with this project. The certificate has available quarterly PM10 credits as follows:

NOx Certificate	**1st Quarter**	**2nd Quarter**	**3rd Quarter**	**4th Quarter**
ERC N-161-4	3,479	3,479	3,479	3,479
Total	**3,479**	**3,479**	**3,479**	**3,479**

As seen above, the facility has sufficient credits to fully offset the quarterly PM10 emissions increases associated with this project.

Proposed Rule 2201 (offset) Conditions:

The following conditions will be includes on the ATC for furnace #3.

- *{GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter – 3,479 lb, 2nd quarter – 3,479 lb, 3rd quarter – 3,479 lb, and fourth quarter – 3,479 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]*

- *ERC Certificate Number N-161-4 (or a certificate split from this certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]*

The following condition will be included on each of the lehr permits:

- *Prior to operating equipment under this Authority to Construct, permittee shall surrender PM10 emission reduction credits as required by Authority to Construct N-1662-3-19. [District 2201]*

C. Public Notification

1. Applicability

Public noticing is required for:
a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications,
b. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
c. Any project which results in the offset thresholds being surpassed, and/or
d. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.
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 triggers an SB 288 and a Federal Major Modification. Therefore, public noticing for SB 288 and Federal Major Modification purposes is required.

b. PE > 100 lb/day

Applications that 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

The SSPE1 and SSPE2 are compared to the offset thresholds in the following table.

Offset Thresholds				
Pollutant	**SSPE1 (lb/year)**	**SSPE2 (lb/year)**	**Offset Threshold**	**Public Notice Required?**
NO_X	2,044,345	2,090,899	20,000 lb/year	No
SO_X	702,889	701,952	54,750 lb/year	No
PM_{10}	506,177	520,093	29,200 lb/year	No
CO	100,741	108,512	200,000 lb/year	No
VOC	16,214	17,506	20,000 lb/year	No

The facility already surpassed the offset thresholds for NOx, SO, and PM10; thus, emissions cannot surpass the offset threshold again for these pollutants. There were no offset 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	2,090,899	2,044,345	46,554	20,000 lb/year	**Yes**
SO_x	701,952	702,889	< 0	20,000 lb/year	No
PM_{10}	520,093	506,177	13,916	20,000 lb/year	No
CO	108,512	100,741	7,771	20,000 lb/year	No
VOC	17,506	16,214	1,292	20,000 lb/year	No

As demonstrated above, the SSIPE for NOx is greater than 20,000 lb/year; therefore public noticing for SSIPE purposes is required.

e. Title V Significant Permit Modification

As shown in the Discussion of Rule 2520 below, this project constitutes a Title V significant modification. Therefore, public noticing for Title V significant modifications is required for this project.

2. Public Notice Action

As discussed above, public noticing is required for this project. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC 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.

N-1662-1-18

- *The furnace shall be fired on natural gas and LPG only. [District NSR Rule]*
- *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, 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, 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]*
- *Except during periods of startup, shutdown, and idling, VOC emissions shall not exceed 0.02 pounds per ton of glass produced. [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 NSR 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 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]*

N-1662-2-20

- *The furnace shall be fired on natural gas and LPG only. [District NSR Rule]*

- *The quantity of glass produced shall not exceed 430 tons during any one day. [District Rules 2201 and 4354]*

- *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-54-2. 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, CO emissions shall not exceed 0.2 pounds per ton of glass produced. [District NSR Rule]*

- *Except during periods of startup, shutdown, and idling, VOC emissions shall not exceed 0.02 pounds per ton of glass produced. [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 NSR 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 PM10 emissions shall not exceed 18,712 pounds during the first calendar quarter, 18,919 pounds during the second calendar quarter, 19,127 pounds during the third calendar quarter and 19,128 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]*

N-1662-3-19

- *The furnace shall be fired on natural gas and LPG only. [District NSR Rule]*

- *The quantity of glass produced shall not exceed 430 tons during any one day. [District Rules 2201 and 4354]*

- *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, CO emissions shall not exceed 0.01 pounds per ton of glass produced. This performance based limit is to enforce the CO emission reductions granted by certificate number N-56-3. [District NSR Rule]*

- *Except during periods of startup, shutdown, and idling, VOC emissions shall not exceed 0.02 pounds per ton of glass produced. [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 NSR 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 PM10 emissions shall not exceed 19,006 pounds during the first calendar quarter, 19,178 pounds during the second calendar quarter, 19,351 pounds during the third calendar quarter and 19,351 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][2]*

N-1662-4-20

- *The furnace shall be fired on natural gas and LPG only. [District NSR Rule]*
- *The quantity of glass produced shall not exceed 637.9 tons during any one day. [District Rules 2201 and 4354]*
- *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 107-2. 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, CO emissions shall not exceed 0.01 pounds per ton of glass produced. [District NSR Rule]*
- *Except during periods of startup, shutdown, and idling, VOC emissions shall not exceed 0.02 pounds per ton of glass produced. [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 NSR 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]*

[2] The current permit limits quarterly PM10 emissions to 15,527 pounds during the first quarter, 15,699 pounds during the second quarter, 15,872 pounds during the third quarter, and 15,872 pounds during the fourth quarter. The applicant is supplying offsets for 3,479 lb/quarter of PM10 emissions. The quarterly emission limits have been increased by the quantity of offsets supplied.

- *The PM10 emissions shall not exceed 28,132 pounds during the first calendar quarter, 28,445 pounds during the second calendar quarter, 28,757 pounds during the third calendar quarter and 28,758 pounds during the fourth calendar quarter. These limits are to enforce the PM10 emission reductions granted by certificate number N-161-4. [District Rule 2201]*

N-1662-21-0, '-22-0, and '-23-0

- *This unit shall be fired on PUC-Quality natural gas. [District Rules 2201 and 4102]*

- *Emissions from the natural gas-fired lehr shall not exceed any of the following limits: 0.073 lb-NO/MMBtu (equivalent to 60 ppmvd NOx @ 3% O2), 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 0.015 lb-CO/MMBtu (Equivalent to 20 ppmvd CO @ 3% O2), or 0.0055 lb-VOC/MMBtu. [District Rule 2201]*

E. Compliance Assurance

1. Source Testing

N-1662-1-18, '-2-20, N-1662-3-19, and '-4-20

Source testing will be required to demonstrate that the furnace battery is still complying with all the applicable emission limits once furnace #3 is expanded and the new ceramic dust filter is installed. Additionally, annual testing is required for District Rule 4354 compliance. The following conditions will be included each 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. 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]*

- *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]*

N-1662-21-0, '-22-0, and '-23-0

Pursuant to District Policy APR 1705, Section I.E,

> *In establishing source test requirements, it must be noted that certain types of equipment or operation do not lend themselves to source testing. Large Sources (i.e. too big for total enclosure) of fugitive emissions without a stack are an example of such sources.*

The proposed lehrs are large sources that are not equipped with exhaust stacks. Furthermore, the lehrs will occupy a tight space and operate at very high temperatures; therefore, erecting a temporary total enclosure for the purposes of source testing is neither safe nor practical. The lehrs are not conducive to source testing; therefore, source testing will not be required for these units.

2. Monitoring

N-1662-1-18, '-2-20, N-1662-3-19, and '-4-20

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 conditions will continue to be included in each 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]*

N-1662-21-0, '-22-0, and '-23-0

No monitoring is required for District Rule 2201 compliance.

3. Recordkeeping

N-1662-1-18, '-2-20, N-1662-3-19, and '-4-20

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]*

- *The permittee shall maintain daily records of the specific power of the electrostatic precipitator (in milliwatts/acfm). [District Rules 2201, 4354, and 40 CFR Part 64]*

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

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

- *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]*

N-1662-21-0, '-22-0, and '-23-0

No monitoring is required for District Rule 2201 compliance.

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

An AAQA shall be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. The District's Technical Services Division conducted the required analysis. Refer to **Appendix E** of this document for the AAQA summary sheet.

The proposed location is in an attainment area for NO_X, CO, and SO_X. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for NO_X, CO, or SO_X.

The proposed location is in a non-attainment area for the state's PM_{10} as well as federal and state $PM_{2.5}$ thresholds. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for PM_{10} and $PM_{2.5}$.

G. Compliance Certification

Section 4.15.2 of this Rule requires the owner of a new Major Source or a source undergoing a Title I Modification to demonstrate to the satisfaction of the District that all other Major Sources owned by such person and operating in California are in compliance or are on a schedule for compliance with all applicable emission limitations and standards. As discussed in Section VIII above, this facility triggers a Federal Major Modification; therefore, this requirement is applicable. Gallo also owns:

1. A Modesto Winery and Distilled Spirits Plant
2. A Livingston Winery; and
3. A Fresno Winery.

The application submitted by Gallo Glass Company states that all these sources currently comply with the applicable emission limitations and standards. Therefore, this requirement is satisfied.

H. Alternate Siting Analysis

The current project occurs at an existing facility. The applicant is proposing to rebuild and expand an existing glass furnace. Use of the existing site will result in the least possible impact from the project. Alternative sites would involve the relocation and/or construction of various support structures on a much greater scale, and would therefore result in a much greater impact.

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

As discussed above, this facility is a major source. Pursuant to Rule 2520 and as required by permit condition, the facility will have up to 12 months from the date of ATC issuance to either submit a Title V Application or comply with District Rule 2530 *Federally Enforceable Potential to Emit.*

This facility is subject to this Rule, and has received their Title V Operating Permit. A significant permit modification is defined as a "permit amendment that does not qualify as a minor permit modification or administrative amendment."

Since this project triggers a Title I Modification (Federal Major Modification), the proposed project is considered a modification under the Federal Clean Air Act. As a result, the proposed project constitutes a Significant Modification to the Title V Permit.

As discussed above, the facility has applied for a Certificate of Conformity (COC); therefore, the facility must apply to modify their Title V permit with an administrative amendment, prior to operating with the proposed modifications. Continued compliance with this rule is expected. The facility shall not implement the changes requested until the final permit is issued.

Rule 4001 New Source Performance Standards (NSPS)

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

N-1662-1-18, '-2-20, N-1662-3-19, and '-4-20

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 #3 is undergoing a modification and is therefore subject to the requirements of Subpart CC. Additionally, furnaces #2 and #4 have been modified since 1979 and are subject to the requirements of Subpart CC. Furnace #1 has not been modified since 1979 and is not subject to the requirements of Subpart CC The following conditions will be included on the ATC's for furnaces #2, #3, and #4 to ensure compliance with the requirements of 40 CFR 60 Subpart CC:

- *PM emissions from the glass furnace shall not exceed 1 gram of particulate matter per kilogram of glass produced. [40 CFR 60.293(b)(2)]*

- *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, 40 CFR 60.293(d), and 40 CFR Part 64]*

- *The specific power of the electrostatic precipitator shall be at least 70 milliwatts/acfm except during the bypass episodes allowed by this permit. [District Rule 2520, §9.3.2, 40 CFR 60.293(d), and 40 CFR Part 64]*

- *The specific power of the electrostatic precipitator shall be continuously monitored and recorded. [District Rules 2201 and 4354, 40 CFR 60.293(d), and 40 CFR Part 64]*

- *The permittee shall maintain daily records of the specific power of the electrostatic precipitator (in milliwatts/acfm). [District Rules 2201, 4354, 40 CFR 60.293(d) and 40 CFR Part 64]*

N-1662-21-0, '-22-0, and '-23-0

This rule is applicable to glass melting furnaces. A glass melting furnace is defined as "a unit comprising a refractory vessel in which raw materials are charged, melted at high temperature, refined, and conditioned to produce molten glass. The unit includes foundations, superstructure and retaining walls, raw material charger systems, heat exchangers, melter cooling system, exhaust system, refractory brick work, fuel supply and electrical boosting equipment, integral control systems and instrumentation, and appendages for conditioning and distributing molten glass to forming apparatuses. The forming apparatuses, including the float bath used in flat glass manufacturing and flow channels in wool fiberglass and textile fiberglass manufacturing, are not considered part of the glass melting furnace." The lehrs anneal glass that has already been distributed to the forming apparatuses and are not included in the definition of a glass melting furnace. Therefore, Subpart CC requirements are not applicable to the natural gas-fired lehrs proposed in this project.

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

N-1662-1-18, '-2-20, N-1662-3-19, and '-4-20

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

- *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]*

N-1662-21-0, '-22-0, and '-23-0

This rule is applicable to glass melting furnaces. A glass melting furnace is defined as: "a unit comprising a refractory vessel in which raw materials are charged, melted at high temperature, refined, and conditioned to produce molten glass. The unit includes foundations, superstructure and retaining walls, raw material charger systems, heat exchangers, melter cooling system, exhaust system, refractory brick work, fuel supply and electrical boosting equipment, integral control systems and instrumentation, and appendages for conditioning and distributing molten glass to forming apparatuses. The forming apparatuses, including the float bath used in flat glass manufacturing and flow channels in wool fiberglass and textile fiberglass manufacturing, are not considered part of the glass melting furnace." The lehrs anneal glass that has already been distributed to the forming apparatuses and are not included in the definition of a glass melting furnace. Therefore, Subpart N requirements are not applicable to the natural gas-fired lehrs proposed in this project.

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

N-1662-1-18, '-2-20, N-1662-3-19, and '-4-20

Section 63.11448

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

(a) A glass manufacturing facility is a plant site that manufactures flat glass, glass containers, or pressed and blown glass by melting a mixture of raw materials, as defined in §63.11459, to produce molten glass and form the molten glass into sheets, containers, or other shapes.

(b) An area source of HAP emissions is any stationary source or group of stationary sources within a contiguous area under common control that does not have the potential to emit any single HAP at a rate of 9.07 megagrams per year (Mg/yr) (10 tons per year (tpy)) or more and any combination of HAP at a rate of 22.68 Mg/yr (25 tpy) or more.

(c) Your glass manufacturing facility uses one or more continuous furnaces to produce glass that contains compounds of one or more glass manufacturing metal HAP, as defined in §63.11459, as raw materials in a glass manufacturing batch formulation.

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

N-1662-21-0, '-22-0, and '-23-0

The requirements of Subpart SSSSSS are applicable to glass melting furnaces. A glass melting furnace is defined in this subpart as: "a unit comprising a refractory-lined vessel in which raw materials are charged and melted at high temperature to produce molten glass." The lehrs do not meet the definition of a glass melting furnace; therefore Subpart SSSSSS requirements are not applicable to the lehrs.

Rule 4101 Visible Emissions

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

The following condition will be listed on each of the Authority to Construct permits:

- *{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

Section 4.0 prohibits discharge of air contaminants, which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations provided the equipment is well maintained. Therefore, compliance with this rule is expected.

The following condition will be included on each of the Authority to Construct permits:

- *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. Only glass furnace #3 and the new lehrs will have an increase in emissions; therefore, only these units were evaluated in the risk management review.

RMR Summary (see Appendix E for full results summary)						
Categories	**Glass Furnace (Unit 3-19)**	**NG Lehr (Unit 21-0)**	**NG Lehr (Unit 22-0**	**NG Lehr (Unit 23-0)**	**Project Totals**	**Facility Totals**
Prioritization Score	0.03	0.17	0.17	0.17	0.53	>1.0
Acute Hazard Index	0.00	0.00	0.00	0.00	0.00	0.01
Chronic Hazard Index	0.00	0.00	0.00	0.00	0.00	0.01
Maximum Individual Cancer Risk	7.85E-11	7.70E-08	7.74E-08	7.76E-08	2.32E-07	9.77E-06
T-BACT Required?	No	No	No	No		
Special Permit Requirements?	Yes	No	No	No		

As shown in the previous table, the project is approved without T-BACT. The following special conditions will be included on the Authority to Construct permits:

N-1662-3-19

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

Rule 4201 Particulate Matter Concentration

Section 3.1 prohibits discharge of dust, fumes, or total particulate matter into the atmosphere from any single source operation in excess of 0.1 grain per dry standard cubic foot.

N-1662-1-18

The worst case particulate matter emission concentration will occur during operation with the emission control system (ESP and ceramic filter dust collector) by-passed. Compliance with the requirements of this rule was shown during the processing of the applications for project N-1052540 utilizing source test data. Continued compliance is expected.

N-1662-2-20

The worst case particulate matter emission concentration will occur during operation with the emission control system (ESP and ceramic filter dust collector) by-passed. Compliance with the requirements of this rule was shown during the processing of the applications for project N-1052540 utilizing source test data. Continued compliance is expected.

N-1662-3-19

The worst case particulate matter emission concentration will occur during operation with the emission control system (ESP and ceramic filter dust collector) by-passed. Compliance with the requirements of this rule was shown during the processing of the applications for project N-1052540 utilizing source test data. Continued compliance is expected.

N-1662-4-20

The worst case particulate matter emission concentration will occur during operation with the emission control system (ESP and ceramic filter dust collector) by-passed. Compliance with the requirements of this rule was shown during the processing of the applications for project N-1052540 utilizing source test data. Continued compliance is expected.

N-1662-21-0, '-22-0, and '-23-0

District Rule 4201 requirements are applicable to units that are equipped with exhaust stacks. The lehr emissions are fugitive and are not directed through an exhaust stack; therefore, the requirements of District Rule 4201 are not applicable to the lehrs.

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

N-1662-1-18

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 PM10 fraction for a glass furnace manufacturing operation served by an electrostatic precipitator is 0.75 lb-PM10/lb-PM. Using this data and the PM10 emission rate from.the furnace:

PE PM = 369.3 lb-PM10/day x lb-PM/0.75 lb-PM10 x day/24 hours
PE PM = 20.51 lb/hr

Since 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.

N-1662-2-20

Hourly Process Rate = 430 tons/day ÷ 24 hr/day = 17.92 tons/hr

Rule 4202 emission limit = $3.59 * P^{0.62}$ (where P less than or equal to 30 tons/hr)
= $3.59 * (17.92)^{0.62}$
= 21.49 lb-PM/hr

Pursuant to AP-42 Table 11.15-3, the PM10 fraction for a glass furnace manufacturing operation served by an electrostatic precipitator is 0.75 lb-PM10/lb-PM. Using this data and the PM10 emission rate from the furnace:

PE PM = 305.3 lb-PM10/day x lb-PM/0.75 lb-PM10 x day/24 hours
PE PM = 16.96 lb/hr

Since PE PM is less than the allowable value of 21.49 lb-PM/hr, the PM emissions are within allowable limits and compliance with the rule is expected for this furnace.

N-1662-3-19

Hourly Process Rate = 430 tons/day ÷ 24 hr/day = 17.92 tons/hr

Rule 4202 emission limit = $3.59 * P^{0.62}$ (where P less than or equal to 30 tons/hr)
= $3.59 * (17.92)^{0.62}$
= 21.49 lb-PM/hr

Pursuant to AP-42 Table 11.15-3, the PM10 fraction for a glass furnace manufacturing operation served by an electrostatic precipitator is 0.75 lb-PM10/lb-PM. Using this data and the PM10 emission rate from the furnace:

PE PM = 305.3 lb-PM10/day x lb-PM/0.75 lb-PM10 x day/24 hours
PE PM = 16.96 lb/hr

Since PE PM is less than the allowable value of 21.49 lb-PM/hr, the PM emissions are within allowable limits and compliance with the rule is expected for this furnace.

N-1662-4-20

Hourly Process Rate = 637.9 tons/day ÷ 24 hr/day = 26.58 tons/hr

Rule 4202 emission limit = $3.59 * P^{0.62}$ (where P less than or equal to 30 tons/hr)
= $3.59 * (26.58)^{0.62}$
= 27.44 lb-PM/hr

Pursuant to AP-42 Table 11.15-3, the PM10 fraction for a glass furnace manufacturing operation served by an electrostatic precipitator is 0.75 lb-PM10/lb-PM. Using this data and the PM10 emission rate from the furnace:

PE PM = 452.9 lb-PM10/day x lb-PM/0.75 lb-PM10 x day/24 hours
PE PM = 25.18 lb/hr

Since PE PM is less than the allowable value of 27.44 lb-PM/hr, the PM emissions are within allowable limits and compliance with the rule is expected for this furnace.

N-1662-21-0, '-22-0, and '-23-0

The sole source of PM emissions from the lehrs is the combustion of gaseous fuel. Pursuant to the definition of process weight in District Rule 4202, gaseous fuels are not considered as part of the process weight. Therefore, District Rule 4202 requirements are not applicable to the lehrs.

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 ≤ 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 furnaces and the lehrs use direct heat transfer; therefore, this rule is not applicable to the glass furnaces and lehrs.

Rule 4309 Dryers, Dehydrators, and Ovens

Section 4.1.7 states the units with all of the following characteristics are exempt from District Rule 4309 requirements:

1. There is no stack for the exhaust gas, and
2. One or more sides are open to the atmosphere.

The proposed lehrs do not have exhaust stacks and the lehrs have sides that are open to the atmosphere; therefore, District Rule 4309 requirements are not applicable to the proposed lehrs.

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.

NOx Emission Limits

Section 5.1.1 identifies NOx 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 NOx Limit**	**Tier 3 NOx Limit**	**Tier 4 NOx 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 5.2.1 states on and after January 1, 2009, instead of each furnace individually meeting the applicable CO or VOC or both emission limit in Table 2, an operator may choose to meet the CO or VOC or both emission limit for multiple furnaces or furnace batteries by considering the multiple furnaces or furnace battery as a single unit. An operator choosing this option shall conform to the provisions of Sections 9.6 through 9.7.8.5 for CO emissions or VOC emissions or both.

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 F.

Shutdown Requirements

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

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

The following conditions will be listed on each Authority to Construct for the furnaces:

- *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]*

- *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:

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

Where,

Ei,max = maximum daily emission of pollutant i during idling, in pounds pollutant per day;

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

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

The following conditions will be listed on each Authority to Construct for the furnaces.

- *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]*

- *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]*

- *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 NOx CEMS. Therefore, the requirements of this section of the rule are satisfied. The following conditions will be included on each Authority to Construct for the furnaces:

- *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 condition will be listed on each Authority to Construct for the furnaces:

- *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 conditions will be included on each Authority to Construct for the furnaces:

- *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 permit currently requires monitoring and recording of the specific power of the electrostatic precipitator. Specific power is a measure of the voltage and current supplied to the electrostatic precipitator. The District has approved the monitoring and recording of this key system operating parameter. The following conditions will be included on each Authority to Construct for the furnaces:

- *Devices to measure the primary and secondary voltage and current of the electrostatic precipitator shall be maintained in accordance with the manufacturer's specifications. [District Rule 4354 and 40 CFR Part 64]*

- *The specific power of the electrostatic precipitator shall be at least 70 milliwatts/acfm except during the bypass episodes allowed by this permit. [District Rules 2520, §9.3.2 and 4354 and 40 CFR Part 64]*

Routine Maintenance of Add-On Emission Control Systems

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

The following condition will be included on each Authority to Construct for the furnaces:

- *The SOx and PM10 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.

Each of the furnaces 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 conditions will be included on each Authority to Construct for the furnaces:

- *The specific power of the electrostatic precipitator shall be continuously monitored and recorded. [District Rules 2201 and 4354 and 40 CFR Part 64]*

- *A daily record of the hours of operation, the amount of glass pulled from the furnace (in tons), the NOx emissions (in lb/ton of glass pulled), the SOx emissions (in lb/ton of glass pulled), the weight of mixed color mix cullet used, the total amount of cullet used (by weight) and the ratio of the mixed color cullet weight to the total cullet weight (in percent) shall be kept. [District Rules 2201 and 4354]*

- *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]*

- *The permittee shall maintain daily records of the specific power of the electrostatic precipitator (in milliwatts/acfm). [District Rules 2201, 4354 and 40 CFR Part 64]*

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

The following condition will be included on each Authority to Construct for the furnaces:

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

Compliance Source Testing

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

The following conditions will be included on each Authority to Construct permit for the furnaces:

- *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]*

- *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 condition will be included on each Authority to Construct permit for the furnaces:

- *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 condition will be included on each Authority to Construct permit for the furnaces:

- *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 condition will be included on each Authority to Construct permit for the furnaces:

- *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 condition will be included on each Authority to Construct for the furnaces:

- *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 condition will be included on each Authority to Construct permit for the furnaces:

- *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]*

Emissions Monitoring Systems

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

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

The following condition will be included on each Authority to Construct for the furnaces:

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

The following condition will be included on each Authority to Construct for the furnaces:

- *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]*

Calculations

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

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

Section 8.3 requires the operator of a oxy-fuel fired furnace, oxygen-assisted combustion furnace, or a furnace utilizing any fuel oxidants other than 100% ambient air, to submit to the APCO, ARB, and EPA for approval any methodologies and data that will be used to calculate emission rates for NOx, CO, and VOC if the methods are different than specified in Sections 8.1 or 8.2. Unless the operator received prior written approval from APCO, ARB, and EPA of all the calculation methods to be used that are different than specified in Sections 8.1 or 8.2, compliance with the emissions limits cannot be fully demonstrated, and it shall be deemed to be a violation of the rule.

The following condition will be included on each Authority to Construct permit for the furnaces:

- *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

Per Section 3.1, a person shall not discharge into the atmosphere sulfur compounds, which would exist as a liquid or gas at standard conditions, exceeding in concentration at the point of discharge: 0.2 % by volume (2000 ppmvd) calculated as SO_2 on a dry basis averaged over 15 consecutive minutes.

N-1662-1-18, '-2-20, '-3-19, and '-4-20

The latest available source test for the furnace battery, dated March 3, 2015, indicates that the furnaces were operating with a sulfur concentration of 182.1 ppmvd as SO_2. This project is not expected to increase the SO_2 concentration. Therefore, continued compliance is expected.

N-1662-21-0, '-22-0, and '-23-0

Natural Gas Combustion:

EPA F-Factor for Natural Gas: 8,710 dscf/MMBtu at 68 °F, equivalent to

$$Corrected\ F-factor = \left(\frac{8{,}710 dscf}{MMBtu}\right)\times\left(\frac{60^{o}F+459.6}{68^{o}F+459.6}\right) = 8{,}578\frac{dscf}{MMBtu}\ \ at\ 60^{o}F$$

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

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

Therefore, compliance with District Rule 4801 requirements is expected for the lehrs.

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.

The following Major Source thresholds will be used, as necessary, to determine whether CAM is triggered.

Pollutant	lb/year	ton/year
NOx	20,000	10
SOx	140,000	70
PM10	140,000	70
CO	200,000	100
VOC	20,000	10

The facility is a Major Source for NOx, SOx and PM10 emissions; therefore, a CAM determination must be performed for these pollutants.

NOx CAM Determination:

N-1662-1-18, '-2-20, '-3-19, and '-4-20

Pursuant to Section 64.2(b)(vi), emission limits or standards for which the permit specifies a continuous compliance determination method are exempt from CAM requirements. The glass furnace battery is equipped with a Continuous Emission Monitoring System (CEMs) that directly measures NOx emissions. Therefore, the glass furnace battery is exempt from CAM requirements for NOx emissions.

N-1662-21-0, '-22-0, and '-23-0

The lehrs are not equipped with an add-on control device for the control of NOx emissions. Therefore, CAM requirements are not applicable for NOx for the lehrs.

SOx CAM Determination

N-1662-1-18, '-2-20, '-3-19, and '-4-20

Pursuant to Section 64.2(b)(vi), emission limits or standards for which the permit specifies a continuous compliance determination method are exempt from CAM requirements. The glass furnace battery is equipped with a Continuous Emission Monitoring System (CEMs) that directly measures SOx emissions. Therefore, the glass furnace battery is exempt from CAM requirements for SOx emissions.

N-1662-21-0, '-22-0, and '-23-0

The lehrs are not equipped with an add-on control device for the control of SOx emissions. Therefore, CAM requirements are not applicable for SOx for the lehrs.

PM10 CAM Determination

N-1662-1-18, '-2-20, '-3-19, and '-4-20

The current permits each includes CAM monitoring requirements for PM10. Those monitoring requirements, shown below, will be retained on the ATC's.

- *Devices to measure the primary and secondary voltage and current of the electrostatic precipitator shall be maintained in accordance with the manufacturer's specifications. [District Rule 4354 and 40 CFR Part 64]*

- *The specific power of the electrostatic precipitator shall be at least 70 milliwatts/acfm except during the bypass episodes allowed by this permit. [District Rule 2520, §9.3.2 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 5 to 10 inches of water column. [District Rules 2201 and 4354 and 40 CFR Part 64]*

- *The specific power of the electrostatic precipitator shall be continuously monitored and recorded. [District Rules 2201 and 4354 and 40 CFR Part 64]*

- *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]*

The lehrs are not equipped with an add-on control device for the control of PM10 emissions. Therefore, CAM requirements are not applicable for PM10 for the lehrs.

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.

District CEQA Findings

The District determined that no other agency has broader discretionary approval power over the project and that the District is the first agency to act on the project, therefore establishing the District as the Lead Agency for the project (CEQA Guidelines §15051(b). An Initial Study was prepared, which identified impacts on air quality. With the incorporation of required permit conditions and the incorporation of mitigation measures as outlined in the Initial Study, the project would have a less than significant impact with mitigation on the environment.

The District's engineering evaluation of the project (this document) and the Initial Study demonstrates that compliance with District rules and permit conditions and Project design elements would reduce and mitigate the project's potential environmental impacts to less than significant. Consistent with CEQA Guidelines §15070, a Proposed Mitigated Negative Declaration was prepared and released for public review from July 3, 2017 to August 3, 2017.

Indemnification Agreement/Letter of Credit

According to Policy APR 2010 (CEQA Implementation Policy), when the District is the Lead or Responsible Agency for CEQA purposes, an indemnification agreement and/or letter of credit may be required. The decision to require an indemnity agreement and/or letter of credit are 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 proponents ability to pay for the costs of litigation without a letter of credit, among other factors.

The proposed project has a Stationary Source Increase in Potential to Emit (SSIPE) greater than the District's CEQA significance thresholds; however, it has been determined to have a less than significant environmental impact with mitigation (the applicant is proposing offsets in the form of emission reduction credits to mitigate air quality impacts). The proposed project triggers Best Available Control Technology (BACT), and triggers public notice. As such, the District has determined that an Indemnification Agreement for the project is required.

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue the Authorities to Construct subject to the permit conditions on the attached draft ATCs in **Appendix A**.

X. Billing Information

Annual Permit Fees			
Permit Number	**Fee Schedule**	**Fee Description**	**Annual Fee**
N-1662-1-18	3020-02-H	75 MMBtu/hr	$1,128.00
N-1662-2-20	3020-02-H	75 MMBtu/hr	$1,128.00
N-1662-3-19	3020-02-H	75 MMBtu/hr	$1,128.00
N-1662-4-20	3020-02-H	90 MMBtu/hr	$1,128.00
N-1662-21-0	3020-02-G	5.0 MMBtu/hr	$893.00
N-1662-22-0	3020-02-G	5.0 MMBtu/hr	$893.00
N-1662-23-0	3020-02-G	5.0 MMBtu/hr	$893.00

Appendixes

A: Draft Authority to Construct Permits
B: Previous Permits to Operate or ATC's for Existing Furnaces
C: BACT Guideline 1.5.9 and Top-Down BACT Analysis
D: BACT Guideline 1.5.10 and Top-Down BACT Analysis
E: RMR and Ambient Air Quality Analysis Summary
F Startup Exemption Request for Furnace #3
G: Quarterly Net Emissions Change

APPENDIX A
Draft Authority to Construct Permits

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: N-1662-1-18

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: GALLO GLASS COMPANY
MAILING ADDRESS: PO BOX 1230
ATTN: JULIA BONARDI
MODESTO, CA 95353

LOCATION: 605 S SANTA CRUZ AVE
MODESTO, CA 95354

EQUIPMENT DESCRIPTION:
MODIFICATION OF FURNACE #1 WITH 10 MAXON GAS/OXYGEN BURNERS AND ASSOCIATED EQUIPMENT (75 MMBTU/HR MAX HEAT CAPACITY). THIS FURNACE IS DUCTED THROUGH A STACK COMMON TO PERMIT UNITS N-1662-1, N-1662-2, N-1662-3 AND N-1662-4. THE FURNACES ARE SERVED BY A SHARED SOX SCRUBBER AND AN ELECTROSTATIC PRECIPITATOR AND/OR A TRI-MER UTF460 CERAMIC FILTER TYPE DUST COLLECTOR.: TO ADD A SHARED TRI-MER CERAMIC FILTER AND TO REDUCE THE SOX EMISSION LIMITS

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 N-1662-1-17 shall be implemented concurrently or prior to the implementation of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
4. {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)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO

DRAFT

Arnaud Marjollet, Director of Permit Services

N-1662-1-18 : Jul 5 2017 2:02PM – HARADERJ : Joint Inspection NOT Required

5. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
6. 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
7. The furnace shall be fired on natural gas and LPG only. [District NSR Rule] Federally Enforceable Through Title V Permit
8. 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
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] Federally Enforceable Through Title V Permit
10. The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080] Federally Enforceable Through Title V Permit
11. 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
12. 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
13. 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
14. 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
15. 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
16. 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
17. 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
18. 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

19. 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

20. 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

21. 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

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

23. 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

24. 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

25. 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

26. 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

27. 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

28. 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

29. 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

30. {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

31. 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

CONDITIONS CONTINUE ON NEXT PAGE

32. 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

33. 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

34. 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

35. 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

36. 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

37. 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

38. 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

39. 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

40. 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

41. 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

42. 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

43. 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

44. 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

CONDITIONS CONTINUE ON NEXT PAGE

45. 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

46. 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

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 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

48. 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] Federally Enforceable Through Title V Permit

49. 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

50. 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

51. The SOx and PM10 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] Federally Enforceable Through Title V Permit

52. 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

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 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 collectors 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 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. 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

59. 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

60. 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

61. Each of the furnace dust collectors 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 Rule 2201] Federally Enforceable Through Title V Permit

62. During operation of the ceramic filter dust collector, the pressure differential gauge reading shall be 1 to 10 inches of water column. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

63. During operation of the furnace charger dust collectors, the pressure differential gauge reading for each dust collector shall be 2 to 8 inches of water column. [District Rule 2201] 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. 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

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

CONDITIONS CONTINUE ON NEXT PAGE

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. 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 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

81. 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

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

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: N-1662-2-20

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: GALLO GLASS COMPANY
MAILING ADDRESS: PO BOX 1230
ATTN: JULIA BONARDI
MODESTO, CA 95353

LOCATION: 605 S SANTA CRUZ AVE
MODESTO, CA 95354

EQUIPMENT DESCRIPTION:
MODIFICATION OF GLASS FURNACE #2 WITH 10 MAXON GAS/OXYGEN BURNERS AND ASSOCIATED FORMING EQUIPMENT (75 MMBTU/HR MAX HEAT CAPACITY). THIS FURNACE IS DUCTED THROUGH A STACK COMMON TO PERMIT UNITS N-1662-1, N-1662-2, N-1662-3 AND N-1662-4. THE FURNACES ARE SERVED BY A SHARED SOX SCRUBBER AND AN ELECTROSTATIC PRECIPITATOR AND/OR A TRI-MER UTF460 CERAMIC FILTER TYPE DUST COLLECTOR.: TO ADD A SHARED TRI-MER CERAMIC FILTER AND TO REDUCE THE SOX EMISSION LIMITS

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 N-1662-2-19 shall be implemented prior to or simultaneously with this Authority to Construct permit. [District Rule 2201]
4. {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)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO

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Arnaud Marjollet, Director of Permit Services

N-1662-2-20 : Jul 5 2017 2:02PM – HARADERJ : Joint Inspection NOT Required

5. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
6. 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
7. The furnace shall be fired on natural gas and LPG only. [District NSR Rule] Federally Enforceable Through Title V Permit
8. 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
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] Federally Enforceable Through Title V Permit
10. The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080] Federally Enforceable Through Title V Permit
11. 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
12. 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
13. 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
14. 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
15. 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
16. 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
17. 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
18. 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

19. 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

20. 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

21. 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

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

23. 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

24. 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

25. 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

26. 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

27. 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

28. 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

29. 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

30. {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

31. 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

CONDITIONS CONTINUE ON NEXT PAGE

32. 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

33. 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

34. 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

35. 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

36. 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

37. 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

38. 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

39. 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

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 430 tons during any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

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-54-2. 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 0.2 pounds per ton of glass produced. [District NSR Rule] 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

CONDITIONS CONTINUE ON NEXT PAGE

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 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 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 NSR 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. PM emissions from the glass furnace shall not exceed 1 lb of particulate matter per ton of glass produced. [40 CFR 60.293(b)(1)] Federally Enforceable Through Title V Permit

51. The SOx and PM10 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] Federally Enforceable Through Title V Permit

52. The PM10 emissions shall not exceed 18,712 pounds during the first calendar quarter, 18,919 pounds during the second calendar quarter, 19,127 pounds during the third calendar quarter and 19,128 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

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 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 collectors 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 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. 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, 40 CFR 60.293(d) and 40 CFR Part 64] Federally Enforceable Through Title V Permit

59. 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, §9.3.2, 40 CFR 60.293(d), and 40 CFR Part 64] Federally Enforceable Through Title V Permit

60. 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

CONDITIONS CONTINUE ON NEXT PAGE

61. Each of the furnace dust collectors 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 Rule 2201] Federally Enforceable Through Title V Permit

62. During operation of the ceramic filter dust collector, the pressure differential gauge reading shall be 1 to 10 inches of water column. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

63. During operation of the furnace charger dust collectors, the pressure differential gauge reading for each dust collector shall be 2 to 8 inches of water column. [District Rule 2201] 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. The specific power of the electrostatic precipitator shall be continuously monitored and recorded. [District Rules 2201 and 4354, 40 CFR 60.293(d), 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]

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

CONDITIONS CONTINUE ON NEXT PAGE

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. The permittee shall maintain daily records of the specific power of the electrostatic precipitator (in milliwatts/acfm). [District Rules 2201, 4354, 40 CFR 60.293(d), and 40 CFR Part 64] Federally Enforceable Through Title V Permit

80. 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

81. 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

82. The permittee shall maintain records of the actual NO2, PM10, and PM emissions from this unit for each 12 consecutive-month rolling period for a period of 10 years beginning on the date the unit starts operation under this permit for the purposes of demonstrating that there has not been a PSD "significant net emissions increase" above the baseline actual NO2, PM10, and PM emission levels reported under projects N-1141107 and N-1142733. The actual net emissions increase shall be calculated in accordance with 40 CFR 52.21 (June 16, 2011 version). If a significant net emissions increase for NO2, PM10, and PM emissions occurs during any 12 consecutive month period in the 10 year recordkeeping period, the permittee shall submit a permit application to modify the permit to meet the Prevention of Significant Deterioration requirements that were avoided under projects N1141107 and N-1142733, which are the public notice and modeling requirements of 40 CFR 52.21 (June 16, 2011 version). Actual PM and PM10 emissions for the furnace may be calculated using source test results and the throughput of the glass furnace. [District Rule 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

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: N-1662-3-19

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: GALLO GLASS COMPANY
MAILING ADDRESS: PO BOX 1230
ATTN: JULIA BONARDI
MODESTO, CA 95353

LOCATION: 605 S SANTA CRUZ AVE
MODESTO, CA 95354

EQUIPMENT DESCRIPTION:
MODIFICATION OF GLASS FURNACE #3 WITH 10 MAXON GAS/OXYGEN BURNERS AND ASSOCIATED FORMING EQUIPMENT (75 MMBTU/HR MAX HEAT CAPACITY). THIS FURNACE IS DUCTED THROUGH A STACK COMMON TO PERMIT UNITS N-1662-1, N-1662-2, N-1662-3 AND N-1662-4. THE FURNACES ARE SERVED BY A SHARED SOX SCRUBBER AND AN ELECTROSTATIC PRECIPITATOR AND/OR A TRI-MER UTF460 CERAMIC FILTER TYPE DUST COLLECTOR: TO REBRICK THE FURNACE, TO EXPAND THE FOOTPRINT OF THE FURNACE TO 1400 SQUARE FEET, TO INCREASE THE FURNACE PRODUCTION CAPACITY TO 430 TONS OF GLASS PULLED PER DAY. POST-PROJECT EQUIPMENT DESCRIPTION: GLASS FURNACE #3 WITH 10 PRAXAIR GEN III GAS/OXYGEN BURNERS AND ASSOCIATED FORMING EQUIPMENT (75 MMBTU/HR MAX HEAT CAPACITY) AND A 2700 KW ELECTRIC BOOST SYSTEM. THIS FURNACE IS DUCTED THROUGH A STACK COMMON TO PERMIT UNITS N-1662-1, N-1662-2, N-1662-3 AND N-1662-4. THE FURNACES ARE SERVED BY A SHARED SOX SCRUBBER AND AN ELECTROSTATIC PRECIPITATOR AND/OR A TRI-MER UTF460 CERAMIC FILTER TYPE DUST COLLECTOR

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

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
N-1662-3-19 : Jul 13 2017 1:53PM – HARADERJ : Joint Inspection NOT Required

3. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 17,457 lb, 2nd quarter - 17,458 lb, 3rd quarter - 17,458 lb, and fourth quarter - 17,458 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit

4. ERC Certificate Numbers N-768-2, N-849-2, N-1221-2, C-1071-2, N-900-2, N-966-2, N-1011-2, N-1012-2, N-1230-2, N-1272-2, and N-1380-2 (or a certificate split from this certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

5. Prior to operating equipment under this Authority to Construct, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter - 3,479 lb, 2nd quarter - 3,479 lb, 3rd quarter - 3,479 lb, and fourth quarter - 3,479 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit

6. ERC Certificate Number N-161-4 (or a certificate split from this certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

7. {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)] Federally Enforceable Through Title V Permit

8. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

9. 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

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

11. 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

12. 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] Federally Enforceable Through Title V Permit

13. 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

14. 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

CONDITIONS CONTINUE ON NEXT PAGE

15. 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

16. The startup exemption time period shall not exceed 70 days, beginning from the time of primary combustion system activation. [District Rule 4354] Federally Enforceable Through Title V Permit

17. 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

18. 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

19. 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

20. 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

21. 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

22. 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

23. 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

24. 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

25. 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

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

27. 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

28. 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

CONDITIONS CONTINUE ON NEXT PAGE

29. 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

30. 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

31. 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

32. 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

33. 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

34. {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

35. 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

36. 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

37. 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

38. 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

39. 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

40. 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

CONDITIONS CONTINUE ON NEXT PAGE

41. 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

42. 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

43. 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

44. 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

45. 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

46. 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

47. The quantity of glass produced shall not exceed 430 tons during any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

48. 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] Federally Enforceable Through Title V Permit

49. Except during periods of startup, shutdown, and idling, CO emissions shall not exceed 0.01 pounds per ton of glass produced. This performance based limit is to enforce the CO emission reductions granted by certificate number N-56-3. [District NSR Rule] Federally Enforceable Through Title V Permit

50. 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

51. 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] Federally Enforceable Through Title V Permit

52. 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] Federally Enforceable Through Title V Permit

53. 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

54. 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

CONDITIONS CONTINUE ON NEXT PAGE

55. The SOx and PM10 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] Federally Enforceable Through Title V Permit

56. The PM10 emissions shall not exceed 19,006 pounds during the first calendar quarter, 19,178 pounds during the second calendar quarter, 19,351 pounds during the third calendar quarter and 19,351 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

57. 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

58. 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

59. Each dust collectors cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit

60. 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

61. 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

62. 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

63. 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

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] Federally Enforceable Through Title V Permit

65. Each of the furnace dust collectors 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 Rule 2201] Federally Enforceable Through Title V Permit

66. During operation of the ceramic filter dust collector, the pressure differential gauge reading shall be 1 to 10 inches of water column. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

67. During operation of the furnace charger dust collectors, the pressure differential gauge reading for each dust collector shall be 2 to 8 inches of water column. [District Rule 2201] Federally Enforceable Through Title V Permit

68. 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

69. 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

70. 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

71. 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

CONDITIONS CONTINUE ON NEXT PAGE

72. 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

73. 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

74. 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

75. 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

76. 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

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

78. 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

79. 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

80. 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

81. 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

82. 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

83. 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

84. 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

85. 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

86. 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

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: N-1662-4-20

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: GALLO GLASS COMPANY
MAILING ADDRESS: PO BOX 1230
ATTN: JULIA BONARDI
MODESTO, CA 95353

LOCATION: 605 S SANTA CRUZ AVE
MODESTO, CA 95354

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

CONDITIONS

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

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO

DRAFT

Arnaud Marjollet, Director of Permit Services

N-1662-4-20 : Jul 5 2017 2:02PM – HARADERJ : Joint Inspection NOT Required

5. One continuous emissions monitoring (CEM) system may be used for monitoring oxy-fuel fired furnaces #1, #2, #3, and #4 provided all of the exhaust gases of each of these furnaces are ducted to a common stack, and monitored down stream of the common stack. The CEMS shall comply with the requirements of 40 Code of Federal Regulations (CFR) Part 51, 40 CFR Parts 60.7 and 60.13, 40 CFR Part 60 Appendix B (Performance Specifications) and Appendix F (Quality Assurance Procedures) and the applicable sections of Rule 1080 (Stack Monitoring). [District Rule 4354] Federally Enforceable Through Title V Permit
6. The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080] Federally Enforceable Through Title V Permit
7. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable 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
8. During startups, the permittee shall comply with the requirements of section 5.5 of District Rule 4354. [District Rule 4354] Federally Enforceable Through Title V Permit
9. The NOx control system shall be in operation as soon as technologically feasible during the startup period to minimize emissions. [District Rule 4354] Federally Enforceable Through Title V Permit
10. The NOx control system shall be in operation whenever technologically feasible during shutdown to minimize emissions. [District Rule 4354] Federally Enforceable Through Title V Permit
11. The NOx control system shall be in operation whenever technologically feasible during furnace idling to minimize emissions. [District Rule 4354] Federally Enforceable Through Title V Permit
12. The duration of shutdown, as measured from the time the furnace operations drop below the idle threshold specified in section 3.17 of District Rule 4354 to when all emissions from the furnace cease, shall not exceed 20 days. [District Rule 4354] Federally Enforceable Through Title V Permit
13. The oxygen to fuel ratio shall be maintained within the range shown by the most recent source test to result in compliance with the CO and VOC limits of this permit. The acceptable range of the oxygen to fuel ratio shall be established during the initial source test and during each subsequent annual source test. [District Rule 4354] Federally Enforceable Through Title V Permit
14. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation E=3.59P^0.62 (P< 30 tph) or E=17.31P^0.16 (P> 30 tph). [District Rule 4202] Federally Enforceable Through Title V Permit
15. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [Stanislaus County Rule 407 and District Rule 4801] Federally Enforceable Through Title V Permit
16. Source testing to demonstrate compliance with permit conditions and all rules and regulations for both natural gas and LPG shall be conducted 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; 2520; and 4354] Federally Enforceable Through Title V Permit
17. Source testing when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. A source test shall be performed within 90 days after this furnace exceeds 100 hours of operation, on LPG, on an annual basis. [District Rule 1081] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

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

20. PM and PM10 source testing shall be conducted down stream of the particulate matter control equipment in the common stack. Furnaces #1, #2, #3, and #4 must operate simultaneously during source testing unless prior approval is obtained from the District. [District Rule 1081] Federally Enforceable Through Title V Permit

21. During source testing, the arithmetic average of three (3) 30-consecutive-minute test runs shall be used to determine compliance with NOx, CO, VOC, and SOx emission limits. [District Rule 4354]

22. During source testing, the arithmetic average of three (3) 60-consecutive-minute test runs shall be used to determine compliance with PM10 emission limits. [District Rule 4354]

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

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

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

26. An exceedance of a NOx or SOx emission limit as indicated by the CEMS shall be reported by the operator to the APCO within 24 hours. The notification shall include 1) name and location of the facility, 2) identification of furnace(s) causing the exceedances, 3) calculation of actual NOx, CO and VOC emissions, and 4) corrective actions and schedules to complete the work. [District Rule 1080 and Stanislaus County Rule 108] Federally Enforceable Through Title V Permit

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

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

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

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

CONDITIONS CONTINUE ON NEXT PAGE

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

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

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

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

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

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

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

38. The amount of glass produced shall not exceed 637.9 tons during any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

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

40. CO emissions shall not exceed 0.20 pounds per ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit

41. The VOC emissions shall not exceed 0.02 pounds per ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit

42. 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] Federally Enforceable Through Title V Permit

43. 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] Federally Enforceable Through Title V Permit

44. The PM10 emissions, except for during full or partial emission control system bypass episodes, shall not exceed 0.45 lb/ton of glass produced. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

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

46. The number of hours that the furnace exhaust is not fully treated by a control device shall not exceed 144 hours per calendar year. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

47. The PM10 emissions shall not exceed 28,132 pounds during the first calendar quarter, 28,445 pounds during the second calendar quarter, 28,757 pounds during the third calendar quarter and 28,758 pounds during the fourth calendar quarter. These limits are to enforce the PM10 emission reductions granted by certificate number N-161-4. [District Rule 2201] Federally Enforceable Through Title V Permit

48. During furnace idling, NOx emissions shall not exceed 956.9 pounds in any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

49. During furnace idling, CO emissions shall not exceed 637.9 pounds in any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

50. During furnace idling, VOC emissions shall not exceed 12.8 pounds in any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

51. During furnace idling, SOx emissions shall not exceed 701.7 pounds in any one day when producing glass with equal to or greater than 25% by weight mixed color cullet. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

52. During furnace idling, SOx emissions shall not exceed 574.1 pounds in any one day when producing glass with less than 25% by weight mixed color cullet. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

53. During furnace idling, PM10 emissions shall not exceed 319.0 pounds in any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

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

55. 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]

56. The facility shall not use commercial arsenic as a raw material in the production process. [40 CFR Part 61 Subpart N] Federally Enforceable Through Title V Permit

57. The ceramic filter dust collector shall be maintained and operated according to manufacturer's specifications. [District Rule 2201] Federally Enforceable Through Title V Permit

58. The ceramic filter dust collector cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit

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

60. Replacement filters numbering at least 10% of the total number of filters in the ceramic filter dust collector shall be maintained on the premises. [District Rule 2201] Federally Enforceable Through Title V Permit

61. 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

62. The specific power of the electrostatic precipitator shall be at least 70 milliwatts/acfm except during the bypass episodes allowed by this permit. [District Rules 2520 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

63. 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

64. During operation of the ceramic filter dust collector, the pressure differential gauge reading shall be 1 to 10 inches of water column. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

65. 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

66. 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

67. 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

68. 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

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

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

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

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 and 4354] 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

77. 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

78. 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

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

80. 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

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: N-1662-21-0

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: GALLO GLASS COMPANY
MAILING ADDRESS: PO BOX 1230
ATTN: JULIA BONARDI
MODESTO, CA 95353

LOCATION: 605 S SANTA CRUZ AVE
MODESTO, CA 95354

EQUIPMENT DESCRIPTION:
5.0 MMBTU/HR NATURAL GAS-FIRED LEHR WITH ECLIPSE RA0075 BURNERS, OR EQUIVALENT (LEHR SHOP #31 SERVING GLASS FURNACE #3)

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. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOx emission reduction credits as required by Authority to Construct N-1662-3-19 [District Rule 2201] Federally Enforceable Through Title V Permit
4. Prior to operating equipment under this Authority to Construct, permittee shall surrender PM10 emission reduction credits as required by Authority to Construct N-1662-3-19. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO

DRAFT

Arnaud Marjollet, Director of Permit Services
N-1662-21-0 Jul 5 2017 2:02PM – HARADERJ Joint Inspection NOT Required

6. {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)] Federally Enforceable Through Title V Permit
7. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
8. This unit shall be fired on PUC-Quality natural gas. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
9. Emissions from the natural gas-fired lehr shall not exceed any of the following limits: 0.073 lb-NO/MMBtu (equivalent to 60 ppmvd NOx @ 3% O2), 0.00285 lb-SOx/MMbtu, 0.0076 lb-PM10/MMBtu, 0.015 lb-CO/MMBtu (Equivalent to 20 ppmvd CO @ 3% O2), or 0.0055 lb-VOC/MMBtu. [District Rule 2201]
10. 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 Rule 2201] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: N-1662-22-0

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: GALLO GLASS COMPANY
MAILING ADDRESS: PO BOX 1230
ATTN: JULIA BONARDI
MODESTO, CA 95353

LOCATION: 605 S SANTA CRUZ AVE
MODESTO, CA 95354

EQUIPMENT DESCRIPTION:
5.0 MMBTU/HR NATURAL GAS-FIRED LEHR WITH ECLIPSE RA0075 BURNERS, OR EQUIVALENT (LEHR SHOP #32 SERVING GLASS FURNACE #3)

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. " Prior to operating equipment under this Authority to Construct, permittee shall surrender NOx emission reduction credits as required by Authority to Construct N-1662-3-19. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Prior to operating equipment under this Authority to Construct, permittee shall surrender PM10 emission reduction credits as required by Authority to Construct N-1662-3-19. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO

DRAFT

Arnaud Marjollet, Director of Permit Services

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

6. {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)] Federally Enforceable Through Title V Permit
7. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
8. This unit shall be fired on PUC-Quality natural gas. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
9. Emissions from the natural gas-fired lehr shall not exceed any of the following limits: 0.073 lb-NO/MMBtu (equivalent to 60 ppmvd NOx @ 3% O2), 0.00285 lb-SOx/MMbtu, 0.0076 lb-PM10/MMBtu, 0.015 lb-CO/MMBtu (Equivalent to 20 ppmvd CO @ 3% O2), or 0.0055 lb-VOC/MMBtu. [District Rule 2201]
10. 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 Rule 2201] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: N-1662-23-0

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: GALLO GLASS COMPANY
MAILING ADDRESS: PO BOX 1230
ATTN: JULIA BONARDI
MODESTO, CA 95353

LOCATION: 605 S SANTA CRUZ AVE
MODESTO, CA 95354

EQUIPMENT DESCRIPTION:
5.0 MMBTU/HR NATURAL GAS-FIRED LEHR WITH ECLIPSE RA0075 BURNERS, OR EQUIVALENT (LEHR SHOP #33 SERVING GLASS FURNACE #3)

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. " Prior to operating equipment under this Authority to Construct, permittee shall surrender NOx emission reduction credits as required by Authority to Construct N-1662-3-19. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Prior to operating equipment under this Authority to Construct, permittee shall surrender PM10 emission reduction credits as required by Authority to Construct N-1662-3-19. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO

DRAFT

Arnaud Marjollet, Director of Permit Services

N-1662-23-0 : Jul 5 2017 2:02PM – HARADERJ : Joint Inspection NOT Required

6. {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)] Federally Enforceable Through Title V Permit
7. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
8. This unit shall be fired on PUC-Quality natural gas. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
9. Emissions from the natural gas-fired lehr shall not exceed any of the following limits: 0.073 lb-NO/MMBtu (equivalent to 60 ppmvd NOx @ 3% O2), 0.00285 lb-SOx/MMbtu, 0.0076 lb-PM10/MMBtu, 0.015 lb-CO/MMBtu (Equivalent to 20 ppmvd CO @ 3% O2), or 0.0055 lb-VOC/MMBtu. [District Rule 2201]
10. 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 Rule 2201] Federally Enforceable Through Title V Permit

APPENDIX B
Previous Permits to Operate or ATC's for Existing Furnaces

ISSUANCE DATE: 05/06/2016

LEGAL OWNER OR OPERATOR: GALLO GLASS COMPANY
MAILING ADDRESS: PO BOX 1230
ATTN: JULIA BONARDI
MODESTO, CA 95353

LOCATION: 605 S SANTA CRUZ AVE
MODESTO, CA 95354

INSPECT PROGRAM PARTICIPANT: NO

EQUIPMENT DESCRIPTION:
MODIFICATION OF FURNACE #1 WITH 10 MAXON GAS/OXYGEN BURNERS AND ASSOCIATED EQUIPMENT (75 MMBTU/HR MAX HEAT CAPACITY). THIS FURNACE IS DUCTED THROUGH A STACK COMMON TO PERMIT UNITS N-1662-1, N-1662-2, N-1662-3 AND N-1662-4. THE FURNACES ARE SERVED BY A SHARED SOX SCRUBBER AND AN ELECTROSTATIC PRECIPITATOR AND/OR A TRI-MER UTF460 CERAMIC FILTER TYPE DUST COLLECTOR: TO REPLACE THE EXISTING MAXON GAS/OXYGEN BURNERS (75 MMBTU/HR MAX HEAT CAPACITY) WITH NORTH AMERICAN PRAXIAR GENIII WIDEFLAME GAS OXYGEN BURNERS BURNERS (75 MMBTU/HR MAX HEAT CAPACITY)

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. {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)] 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]
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 NSR Rule] 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 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
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
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. 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
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 the fuel use capacity for each furnace as stated in the Permit to Operate. [District Rule 4354, §6.4.2] Federally Enforceable Through Title V Permit

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

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 (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

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

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 NSR Rule] 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 equal to or greater than 25% by weight mixed color cullet, shall not exceed 0.99 lb/ton of glass produced (over a rolling 30 day average). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

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 less than 25% by weight mixed color cullet, shall not exceed 0.81 lb/ton of glass produced (over a rolling 30 day average). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

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 NSR 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 SOx and PM10 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] 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 NSR Rule] Federally Enforceable Through Title V Permit
52. 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
53. 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
54. Each dust collectors cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit
55. 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
56. 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
57. 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
58. 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
59. 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
60. Each of the furnace dust collectors 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 Rule 2201] Federally Enforceable Through Title V Permit
61. During operation of the ceramic filter dust collector, the pressure differential gauge reading shall be 5 to 10 inches of water column. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
62. During operation of the furnace charger dust collectors, the pressure differential gauge reading for each dust collector shall be 2 to 8 inches of water column. [District Rule 2201] 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. 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

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. 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 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

80. 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

81. 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

ISSUANCE DATE: 05/06/2016

LEGAL OWNER OR OPERATOR: GALLO GLASS COMPANY
MAILING ADDRESS: PO BOX 1230
ATTN: JULIA BONARDI
MODESTO, CA 95353

LOCATION: 605 S SANTA CRUZ AVE
MODESTO, CA 95354

INSPECT PROGRAM PARTICIPANT: NO

EQUIPMENT DESCRIPTION:
MODIFICATION OF GLASS FURNACE #2 WITH 10 MAXON GAS/OXYGEN BURNERS AND ASSOCIATED FORMING EQUIPMENT (75 MMBTU/HR MAX HEAT CAPACITY). THIS FURNACE IS DUCTED THROUGH A STACK COMMON TO PERMIT UNITS N-1662-1, N-1662-2, N-1662-3 AND N-1662-4. THE FURNACES ARE SERVED BY A SHARED SOX SCRUBBER AND AN ELECTROSTATIC PRECIPITATOR AND/OR A TRI-MER UTF460 CERAMIC FILTER TYPE DUST COLLECTOR. TO REPLACE THE EXISTING MAXON GAS/OXYGEN BURNERS (75 MMBTU/HR MAX HEAT CAPACITY) WITH NORTH AMERICAN PRAXIAR GENIII WIDEFLAME GAS OXYGEN BURNERS BURNERS (75 MMBTU/HR MAX HEAT CAPACITY)

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 N-1662-2-17 shall be implemented prior to or simultaneously with this Authority to Construct permit. [District Rule 2201]
4. {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)] Federally Enforceable Through Title V Permit
5. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
6. 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
7. The furnace shall be fired on natural gas and LPG only. [District NSR Rule] Federally Enforceable Through Title V Permit
8. 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
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] Federally Enforceable Through Title V Permit

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

11. 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

12. 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

13. 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

14. 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

15. 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

16. 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

17. 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

18. 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

19. 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

20. 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

21. 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

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

23. 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

24. 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

25. 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

26. 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

27. 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

28. 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

29. 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

30. {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

31. 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

32. 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

33. 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

34. 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

35. 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

36. 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

37. 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

38. 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

39. 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

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 430 tons during any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

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-54-2. 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 0.2 pounds per ton of glass produced. [District NSR Rule] 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 equal to or greater than 25% by weight mixed color cullet, shall not exceed 0.99 lb/ton of glass produced (over a rolling 30 day average). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

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 less than 25% by weight mixed color cullet, shall not exceed 0.81 lb/ton of glass produced (over a rolling 30 day average). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

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 NSR 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. PM emissions from the glass furnace shall not exceed 1 lb of particulate matter per ton of glass produced. [40 CFR 60.293(b)(1)] Federally Enforceable Through Title V Permit

51. The SOx and PM10 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] Federally Enforceable Through Title V Permit
52. The PM10 emissions shall not exceed 18,712 pounds during the first calendar quarter, 18,919 pounds during the second calendar quarter, 19,127 pounds during the third calendar quarter and 19,128 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
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 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 collectors 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 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. 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, 40 CFR 60.293(d) and 40 CFR Part 64] Federally Enforceable Through Title V Permit
59. 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, §9.3.2, 40 CFR 60.293(d), and 40 CFR Part 64] Federally Enforceable Through Title V Permit
60. 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
61. Each of the furnace dust collectors 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 Rule 2201] Federally Enforceable Through Title V Permit
62. During operation of the ceramic filter dust collector, the pressure differential gauge reading shall be 5 to 10 inches of water column. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
63. During operation of the furnace charger dust collectors, the pressure differential gauge reading for each dust collector shall be 2 to 8 inches of water column. [District Rule 2201] 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. The specific power of the electrostatic precipitator shall be continuously monitored and recorded. [District Rules 2201 and 4354, 40 CFR 60.293(d), 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]

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. The permittee shall maintain daily records of the specific power of the electrostatic precipitator (in milliwatts/acfm). [District Rules 2201, 4354, 40 CFR 60.293(d), and 40 CFR Part 64] Federally Enforceable Through Title V Permit

80. 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

81. 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

82. The permittee shall maintain records of the actual NO2, PM10, and PM emissions from this unit for each 12 consecutive-month rolling period for a period of 10 years beginning on the date the unit starts operation under this permit for the purposes of demonstrating that there has not been a PSD "significant net emissions increase" above the baseline actual NO2, PM10, and PM emission levels reported under projects N-1141107 and N-1142733. The actual net emissions increase shall be calculated in accordance with 40 CFR 52.21 (June 16, 2011 version). If a significant net emissions increase for NO2, PM10, and PM emissions occurs during any 12 consecutive month period in the 10 year recordkeeping period, the permittee shall submit a permit application to modify the permit to meet the Prevention of Significant Deterioration requirements that were avoided under projects N1141107 and N-1142733, which are the public notice and modeling requirements of 40 CFR 52.21 (June 16, 2011 version). Actual PM and PM10 emissions for the furnace may be calculated using source test results and the throughput of the glass furnace. [District Rule 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

ISSUANCE DATE: 05/06/2016

LEGAL OWNER OR OPERATOR: GALLO GLASS COMPANY
MAILING ADDRESS: PO BOX 1230
ATTN: JULIA BONARDI
MODESTO, CA 95353

LOCATION: 605 S SANTA CRUZ AVE
MODESTO, CA 95354

INSPECT PROGRAM PARTICIPANT: NO

EQUIPMENT DESCRIPTION:
MODIFICATION OF GLASS FURNACE #3 WITH 10 MAXON GAS/OXYGEN BURNERS AND ASSOCIATED FORMING EQUIPMENT (75 MMBTU/HR MAX HEAT CAPACITY). THIS FURNACE IS DUCTED THROUGH A STACK COMMON TO PERMIT UNITS N-1662-1, N-1662-2, N-1662-3 AND N-1662-4. THE FURNACES ARE SERVED BY A SHARED SOX SCRUBBER AND AN ELECTROSTATIC PRECIPITATOR AND/OR A TRI-MER UTF460 CERAMIC FILTER TYPE DUST COLLECTOR: TO REPLACE THE EXISTING MAXON GAS/OXYGEN BURNERS (75 MMBTU/HR MAX HEAT CAPACITY) WITH NORTH AMERICAN PRAXIAR GENIII WIDEFLAME GAS OXYGEN BURNERS BURNERS (75 MMBTU/HR MAX HEAT CAPACITY)

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. {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)] 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]
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 NSR Rule] 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 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
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
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. 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
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 the fuel use capacity for each furnace as stated in the Permit to Operate. [District Rule 4354, §6.4.2] Federally Enforceable Through Title V Permit

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

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 (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

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 352.1 tons during any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

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-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] Federally Enforceable Through Title V Permit

44. Except during periods of startup, shutdown, and idling, CO emissions shall not exceed 0.01 pounds per ton of glass produced. This performance based limit is to enforce the CO emission reductions granted by certificate number N-56-3. [District NSR Rule] 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 equal to or greater than 25% by weight mixed color cullet, shall not exceed 0.99 lb/ton of glass produced (over a rolling 30 day average). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

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 less than 25% by weight mixed color cullet, shall not exceed 0.81 lb/ton of glass produced (over a rolling 30 day average). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

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 NSR 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 SOx and PM10 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] Federally Enforceable Through Title V Permit
51. The PM10 emissions shall not exceed 15,527 pounds during the first calendar quarter, 15,699 pounds during the second calendar quarter, 15,872 pounds during the third calendar quarter and 15,872 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
52. 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
53. 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
54. Each dust collectors cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit
55. 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
56. 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
57. 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
58. 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
59. 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
60. Each of the furnace dust collectors 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 Rule 2201] Federally Enforceable Through Title V Permit
61. During operation of the ceramic filter dust collector, the pressure differential gauge reading shall be 5 to 10 inches of water column. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
62. During operation of the furnace charger dust collectors, the pressure differential gauge reading for each dust collector shall be 2 to 8 inches of water column. [District Rule 2201] 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. 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

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. 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 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

80. 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

81. 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

ISSUANCE DATE: 08/24/2015

LEGAL OWNER OR OPERATOR: GALLO GLASS COMPANY
MAILING ADDRESS: PO BOX 1230
ATTN: JULIA BONARDI
MODESTO, CA 95353

LOCATION: 605 S SANTA CRUZ AVE
MODESTO, CA 95354

INSPECT PROGRAM PARTICIPANT: NO

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

CONDITIONS

1. {1829} The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. Particulate matter emissions shall not exceed 0.1 grain/dscf in concentration. [District Rule 4201 and Stanislaus County Rule 404] Federally Enforceable Through Title V Permit
3. The furnace shall be fired on natural gas and LPG only. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The furnace shall have continuous monitoring systems for NOx and SOx. The monitoring devices shall have continuous recording devices, and all records shall be kept on site. [District Rules 1080 and 4354] Federally Enforceable Through Title V Permit
5. One continuous emissions monitoring (CEM) system may be used for monitoring oxy-fuel fired furnaces #1, #2, #3, and #4 provided all of the exhaust gases of each of these furnaces are ducted to a common stack, and monitored down stream of the common stack. The CEMS shall comply with the requirements of 40 Code of Federal Regulations (CFR) Part 51, 40 CFR Parts 60.7 and 60.13, 40 CFR Part 60 Appendix B (Performance Specifications) and Appendix F (Quality Assurance Procedures) and the applicable sections of Rule 1080 (Stack Monitoring). [District Rule 4354] Federally Enforceable Through Title V Permit
6. The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080] Federally Enforceable Through Title V Permit
7. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable 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
8. During startups, the permittee shall comply with the requirements of section 5.5 of District Rule 4354. [District Rule 4354] Federally Enforceable Through Title V Permit
9. The NOx control system shall be in operation as soon as technologically feasible during the startup period to minimize emissions. [District Rule 4354] Federally Enforceable Through Title V Permit
10. The NOx control system shall be in operation whenever technologically feasible during shutdown to minimize emissions. [District Rule 4354] Federally Enforceable Through Title V Permit

11. The NOx control system shall be in operation whenever technologically feasible during furnace idling to minimize emissions. [District Rule 4354] Federally Enforceable Through Title V Permit
12. The duration of shutdown, as measured from the time the furnace operations drop below the idle threshold specified in section 3.17 of District Rule 4354 to when all emissions from the furnace cease, shall not exceed 20 days. [District Rule 4354] Federally Enforceable Through Title V Permit
13. The oxygen to fuel ratio shall be maintained within the range shown by the most recent source test to result in compliance with the CO and VOC limits of this permit. The acceptable range of the oxygen to fuel ratio shall be established during the initial source test and during each subsequent annual source test. [District Rule 4354] Federally Enforceable Through Title V Permit
14. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation E=3.59P^0.62 (P< 30 tph) or E=17.31P^0.16 (P> 30 tph). [District Rule 4202] Federally Enforceable Through Title V Permit
15. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [Stanislaus County Rule 407 and District Rule 4801] Federally Enforceable Through Title V Permit
16. Source testing to demonstrate compliance with permit conditions and all rules and regulations for both natural gas and LPG shall be conducted at least once every calendar year. NOx and CO testing shall be performed using CARB Method 100. VOC testing shall be performed using EPA method 25A. PM10 testing shall be performed using EPA methods 201 and 202, EPA methods 201a and 202, or CARB methods 501 and 5. SOx testing shall be performed using EPA Method 8 and CARB Method 1-100. [District Rules 1081; 2520; and 4354] 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 the fuel use capacity for each furnace as stated in the Permit to Operate. [District Rule 4354] Federally Enforceable Through Title V Permit
20. PM and PM10 source testing shall be conducted down stream of the particulate matter control equipment in the common stack. Furnaces #1, #2, #3, and #4 must operate simultaneously during source testing unless prior approval is obtained from the District. [District Rule 1081] Federally Enforceable Through Title V Permit
21. During source testing, the arithmetic average of three (3) 30-consecutive-minute test runs shall be used to determine compliance with NOx, CO, VOC, and SOx emission limits. [District Rule 4354]
22. During source testing, the arithmetic average of three (3) 60-consecutive-minute test runs shall be used to determine compliance with PM10 emission limits. [District Rule 4354]
23. For a given pollutant, if two of the three runs individually demonstrate emissions above the applicable limit, the test cannot be used to demonstrate compliance for the furnace, even if the averaged emissions of all three test runs is less than the applicable limit. [District Rule 4354]
24. An annual Relative Accuracy Test Audit (RATA) shall be performed on the continuous monitoring system as outlined in 40 CFR Part 60 Appendix B. [District Rule 1080] Federally Enforceable Through Title V Permit

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

26. An exceedance of a NOx or SOx emission limit as indicated by the CEMS shall be reported by the operator to the APCO within 24 hours. The notification shall include 1) name and location of the facility, 2) identification of furnace(s) causing the exceedances, 3) calculation of actual NOx, CO and VOC emissions, and 4) corrective actions and schedules to complete the work. [District Rule 1080 and Stanislaus County Rule 108] Federally Enforceable Through Title V Permit

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

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

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

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

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

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

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

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

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

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

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

38. The amount of glass produced shall not exceed 637.9 tons during any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

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

40. CO emissions shall not exceed 0.20 pounds per ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit

41. The VOC emissions shall not exceed 0.02 pounds per ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit

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

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

44. The PM10 emissions, except for during full or partial emission control system bypass episodes, shall not exceed 0.45 lb/ton of glass produced. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

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

46. The number of hours that the furnace exhaust is not fully treated by a control device shall not exceed 144 hours per calendar year. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

47. The PM10 emissions shall not exceed 28,132 pounds during the first calendar quarter, 28,445 pounds during the second calendar quarter, 28,757 pounds during the third calendar quarter and 28,758 pounds during the fourth calendar quarter. These limits are to enforce the PM10 emission reductions granted by certificate number N-161-4. [District Rule 2201] Federally Enforceable Through Title V Permit

48. During furnace idling, NOx emissions shall not exceed 956.9 pounds in any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

49. During furnace idling, CO emissions shall not exceed 637.9 pounds in any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

50. During furnace idling, VOC emissions shall not exceed 12.8 pounds in any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

51. During furnace idling, SOx emissions shall not exceed 701.7 pounds in any one day when producing glass with equal to or greater than 25% by weight mixed color cullet. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

52. During furnace idling, SOx emissions shall not exceed 574.1 pounds in any one day when producing glass with less than 25% by weight mixed color cullet. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

53. During furnace idling, PM10 emissions shall not exceed 319.0 pounds in any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

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

55. 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]
56. The facility shall not use commercial arsenic as a raw material in the production process. [40 CFR Part 61 Subpart N] Federally Enforceable Through Title V Permit
57. The ceramic filter dust collector shall be maintained and operated according to manufacturer's specifications. [District Rule 2201] Federally Enforceable Through Title V Permit
58. The ceramic filter dust collector cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit
59. Material removed from the ceramic filter dust collector shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
60. Replacement filters numbering at least 10% of the total number of filters in the ceramic filter dust collector shall be maintained on the premises. [District Rule 2201] Federally Enforceable Through Title V Permit
61. 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
62. The specific power of the electrostatic precipitator shall be at least 70 milliwatts/acfm except during the bypass episodes allowed by this permit. [District Rules 2520 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
63. 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
64. During operation of the ceramic filter dust collector, the pressure differential gauge reading shall be 5 to 10 inches of water column. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
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66. 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
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68. 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
69. Dust collector filters shall be inspected annually while in operation for evidence of particulate matter breakthrough and replaced as needed. [District Rule 2520] Federally Enforceable Through Title V Permit
70. Dust collector filters shall be inspected annually while not in operation for tears, scuffs, abrasions or hole that might interfere with the PM collection efficiency and shall be replaced as needed. [District Rule 2520] Federally Enforceable Through Title V Permit
71. A daily record of the hours of operation, the amount of glass pulled from the furnace (in tons), the NOx emissions (in lb/ton of glass pulled), the SOx emissions (in lb/ton of glass pulled), the weight of mixed color mix cullet used, the total amount of cullet used (by weight) and the ratio of the mixed color cullet weight to the total cullet weight (in percent) shall be kept. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

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 and 4354] 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

77. 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

78. 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

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

80. 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 Top-Down BACT Analysis

I. BACT Analysis for Glass Furnace N-1662-3-19

BACT is required for NOx, SOx, and PM10 emissions from the furnace battery.

a. Step 1 - Identify All Possible Control Technologies

The following control technologies have been identified in BACT Guideline 1.5.9, for container glass furnaces:

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

b. Step 2 - Eliminate Technologically Infeasible Options

There are no infeasible options. However, since this is a modification to the existing furnaces, alternate basic equipment options are not evaluated. Therefore, the option of using an electric furnace will not be considered.

c. Step 3 - Rank Remaining Control Technologies by Control Effectiveness

NOx Emissions:

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

SOx Emissions:

Rank	Control Technology	Achieved in Practice
1	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.	Y

PM10 Emissions:

Rank	Control Technology	Achieved in Practice
1	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.	Y

d. Step 4 - Cost Effectiveness Analysis

The applicant is proposing the most effective control technology for NOx, SOx, and PM10; therefore, a cost effectiveness analysis is not required.

e. Step 5 - Select BACT

BACT is the following:

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.
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.
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.

The applicant has proposed this level of control. Therefore, BACT requirements for NOx, SOx, and PM10 are satisfied.

APPENDIX D
BACT Guideline 1.5.10 and Top-Down BACT Analysis

I. BACT Analysis for Lehrs N-1662-21-0, '22-0, and '-23-0

BACT is required for NOx, PM10, and SOx emissions from the proposed natural gas-fired lehrs. The following analysis is applicable to each of the proposed lehrs.

a. Step 1 - Identify All Possible Control Technologies

The following control technologies have been identified in BACT Guideline 1.5.10, for container glass lehrs.

Pollutant	Achieved in Practice or contained in SIP	Technologically Feasible	Alternate Basic Equipment
NOx	Natural gas-fired container glass lehr with emissions of 60 ppmv NOx @ 3% O2 or 0.073 lb-NOx/MMBtu and using LPG backup fuel		Electric Lehr
PM10	Use of Natural Gas Fuel*		Electric Lehr
SOx	Use of Natural Gas Fuel**		Electric Lehr

*BACT Guideline 1.5.10 does not list an achieved in practice option for PM10 emission control. No container glass lehrs were identified that utilize add-on controls for the reduction of PM10 emissions. The use of natural gas fuel limits PM10 emissions; therefore, the use of natural gas-fuel will be considered as Achieved in Practice for container glass lehrs.

*BACT Guideline 1.5.10 does not list an achieved in practice option for SOx emission control. No container glass lehrs were identified that utilize add-on controls for the reduction of SOx emissions. The use of natural gas fuel limits SOx emissions; therefore, the use of natural gas-fuel will be considered as Achieved in Practice for container glass lehrs.

Additionally, the Environmental Protection Agency (EPA), California Air Resources Board (CARB), South Coast Air Quality Management District (SCAQMD), and Bay Area Air Quality Management District (BAAQMD) BACT Clearinghouses were reviewed to determine potential control technologies for this class and category of operation. No BACT Guidelines were identified for container glass lehrs.

The District identified several facilities operating natural gas-fired lehrs at container glass production facilities. NOx emissions from the lehrs identified were equal to or greater than what is currently listed in the table above, and no additional control techniques were identified. Additionally, the District contacted Eclipse, a Low-NOx burner manufacturer, to determine whether low-NOx burners may be utilized in this type of unit. Pursuant to Chad Holstrum of Eclipse, 60 ppmv NOx @ 3% O_2 is the lowest NOx option available for this type of unit. Low-NOx and Ultra-Low NOx burners aren't capable of achieving the turndown ratio requirements for a glass annealing lehr.

b. Step 2 - Eliminate Technologically Infeasible Options

There are no infeasible options.

c. Step 3 - Rank Remaining Control Technologies by Control Effectiveness

NOx Emissions:

Rank	Control Technology	Achieved in Practice
1	Electric Lehr	N/A, Alternate Basic Equipment
2	Natural gas-fired container glass lehr with emissions of 60 ppmv NOx @ 3% O2 or 0.073 lb-NOx/MMBtu and using LPG backup fuel	Y

PM10 Emissions:

Rank	Control Technology	Achieved in Practice
1	Electric Lehr	N/A, Alternate Basic Equipment
2	Use of Natural Gas Fuel	Y

SOx Emissions:

Rank	Control Technology	Achieved in Practice
1	Electric Lehr	N/A, Alternate Basic Equipment
2	Use of Natural Gas Fuel	Y

d. Step 4 - Cost Effectiveness Analysis

A cost effective analysis is required for the alternate basic equipment option, the use of an electric lehr. The following cost analysis is applicable to each proposed lehr.

Cost Effective Analysis for Electric Lehr

Emission Reductions

The use of an electric lehr would result in zero emissions; thus, the emission reductions for each lehr are equal to the potential to emit from each lehr. The emission reductions for each lehr are:

NOx: 3,197 lb/year (1.6 tons/year)
PM10: 333 lb/year (0.2 tons/year)
SOx: 125 lb/year (0.06 tons/year

Annual Natural Gas Cost

Each lehr is rated at 5.0 MMBtu/hr and operates 8,760 hours/year. Thus, the annual fuel usage is:

Annual Fuel Usage = 5.0 MMBtu/hr x 8760 hr/year x 1000 scf/MMBtu
Annual Fuel Usage = 43,800,000 scf/year

The average natural gas price during the past 12 months of data available (March 2016 through February 2017) from the California Natural Gas Industrial Prices compiled by the US Department of Energy - Energy Information Administration database (http://www.eia.gov/dnav/ng/hist/n3035ca3m.htm) is 7.11 dollars per 1000 scf of natural gas consumed. Using this price, the annual fuel cost for natural gas for each lehr is:

Annual Fuel Cost = 43,800,000 scf/year x $7.11/1000 scf
Annual Fuel Cost = $311,418

Annual Electricity Cost

As determined in District Project N-1142733, a 517 kW electric lehr would be required to replace a 5.0 MMBtu/hr natural gas-fired lehr. The annual electricity usage for each lehr is:

Annual Electricity Usage = 517 kW/hr x 8760 hr/year
Annual Electricity Usage = 4,528,920 kW/year

PG&E's current average annual total electricity rate for industrial/general service (E-20, current rate) is $0.098/kWh. This rate will be used to calculate the annual electricity cost.

Annual Electricity Cost = 4,528,920 kW/year x $0.098/kW
Annual Electricity Cost = $443,834/year

Multi-pollutant Cost Effectiveness Threshold

Since the use of an electric lehr will result in reductions of emissions from multiple pollutants, District practice is to use a multi-pollutant cost effectiveness threshold (MCET) to determine whether a control technology is cost effective. Although the use of an MCET is not specifically addressed for alternate basic equipment in the District BACT Policy, the use of an MCET is the most conservative approach, and is the most consistent approach to addressing emission controls that reduce multiple pollutants. The MCET is calculated below

MCET = 1.6 tons-NOx/year x $24,500/ton-NOx +
0.2 tons-PM10/year x $11,400/ton-PM10 +
0.06 tons-SOx/year x $18,300/ton-SOx

MCET = $42,578/year

Cost Effectiveness Determination

Typically, the cost effectiveness for alternate basic equipment is determined by dividing the difference between the annualized cost of the alternate basic equipment and annualized cost of the proposed equipment by the emission reductions that would be achieved by installing the alternate basic equipment (see the equation below).

$$CE_{ALT} = \frac{Cost_{ALT} - Cost_{Basic}}{Emissions_{Basic} - Emissions_{ALT}}$$

CE_{ALT} is then compared with the cost effectiveness threshold for the pollutant that is being evaluated. However, in this case the alternate basic equipment controls multiple pollutants. When a control option controls multiple pollutants, the District uses the MCET to evaluate the cost effectiveness of the control option. The MCET method already factors in the emission reductions. Since $Emissions_{Basic} - Emissions_{ALT}$ is already factored in by the use of the MCET, the cost is reduced to:

$CE_{ALT} = Cost_{ALT} - Cost_{Basic}$

Where,

$Cost_{ALT}$ = The annualized cost for the alternate basic equipment.
$Cost_{Basic}$ = The annualized cost for the proposed equipment

The proposed basic equipment is a natural gas-fired lehr. The alternate basic equipment option is the use of an electric lehr. The capital cost of an electric lehr is expected to be equal to or greater than the capital cost of a natural gas-fired lehr. Thus, the capital cost from the two options will cancel out when the difference is taken. The fuel cost of the natural gas-fired lehr will be used for $Cost_{Basic}$, while the electricity cost will be used for $Cost_{Alt.}$ Thus,

$CE_{ALT} = Cost_{ALT} - Cost_{Basic}$
CE_{ALT} = Electricity Cost – Fuel Cost
CE_{ALT} = $443,834/year – $311,418/year
CE_{ALT} = $132,416/year

Since CE_{ALT} ($132,416/year), is greater than the MCET ($42,578/year), the use of an electric lehr is not cost effective.

e. Step 5 - Select BACT

BACT is the following:

NOx	Natural gas-fired container glass lehr with emissions of 60 ppmv NOx @ 3% O2 or 0.073 lb-NOx/MMBtu and using LPG backup fuel
PM10	Use of Natural Gas Fuel
SOx	Use of Natural Gas Fuel

The applicant has proposed this level of control. Therefore, BACT requirements for NOx, PM10, and SOx are satisfied.

APPENDIX E
RMR and Ambient Air Quality Analysis Summary

San Joaquin Valley Air Pollution Control District
Risk Management Review

To:	James Harader – Permit Services
From:	Cheryl Lawler – Technical Services
Date:	July 18, 2016
Facility Name:	Gallo Glass Company
Location:	605 S. Santa Cruz Avenue, Modesto
Application #(s):	N-1662-3-19, 21-0, 22-0, 23-0
Project #:	N-1161175

A. RMR SUMMARY

RMR Summary						
Categories	**Glass Furnace (Unit 3-19)**	**NG Lehr (Unit 21-0)**	**NG Lehr (Unit 22-0**	**NG Lehr (Unit 23-0)**	**Project Totals**	**Facility Totals**
Prioritization Score	0.03	0.17	0.17	0.17	0.53	>1.0
Acute Hazard Index	0.00	0.00	0.00	0.00	0.00	0.01
Chronic Hazard Index	0.00	0.00	0.00	0.00	0.00	0.01
Maximum Individual Cancer Risk	7.85E-11	7.70E-08	7.74E-08	7.76E-08	2.32E-07	9.77E-06
T-BACT Required?	**No**	**No**	**No**	**No**		
Special Permit Requirements?	**Yes**	**No**	**No**	**No**		

Proposed Permit Requirements

To ensure that human health risks will not exceed District allowable levels; the following shall be included as requirements for:

Unit 3-19

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

B. RMR REPORT

I. Project Description

Technical Services received a request on June 28, 2016, to perform an Ambient Air Quality Analysis and a Risk Management Review to rebuild and expand a glass furnace that will include an increase in the tons of glass pulled, and to install three new natural gas lehrs.

II. Analysis

Toxic emissions for this project were calculated using glass pulling emission factors provided by the facility, along with 2001 Ventura County Air Pollution Control District emission factors for natural gas fired external combustion. Emission rates were then input into the San Joaquin Valley APCD's Hazard Assessment and Reporting Program (SHARP). In accordance with the District's Risk Management Policy for Permitting New and Modified Sources (APR 1905, May 28, 2015), risks from the project were prioritized using the procedures in the 1990 CAPCOA Facility Prioritization Guidelines. The prioritization score for the facility was greater than 1.0 (see RMR Summary Table). Therefore, a refined health risk assessment was required. The AERMOD model was used, with the parameters outlined below and meteorological data for 2010-2014 from Modesto to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a receptor grid. These dispersion factors were input into the SHARP Program, which then used the Air Dispersion Modeling and Risk Tool (ADMRT) of the Hot Spots Analysis and Reporting Program Version 2 (HARP 2) to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

Analysis Parameters Unit 3-19			
Source Type	Point	**Location Type**	Urban
Stack Height (m)	42	**Closest Receptor (m)**	16
Stack Diameter (m)	1.49	**Type of Receptor**	Resident
Stack Exit Velocity (m/s)	20.16	**Increased Glass Pulling Rates (tons)**	3.25 hr 28,434 yr
Stack Exit Temp. (°K)	576		

Analysis Parameters Units 21-0, 22-0, 23-0 (each lehr)			
Source Type	Area	**Location Type**	Urban
X-Length (m)	27	**Closest Receptor (m)**	16
Y-Length (m)	5	**Type of Receptor**	Resident
Release Height (m)	12.8	**Natural Gas Process Rates (MMscf)**	0.005 hr 43.8 yr

Technical Services also performed modeling for criteria pollutants CO, NO_x, SO_x, and PM10 with the emission rates below:

Unit #	**NO_x (Lbs.)**		**SO_x (Lbs.)**		**CO (Lbs.)**		**PM_{10} (Lbs.)**	
	Hr.	Yr.	Hr.	Yr.	Hr.	Yr.	Hr.	Yr.
3-19	4.22	36,964	3.22	28,150	0.03	285	1.46	12,796
21-0	0.37	3,197	0.0125	125	0.075	657	0.0375	333
22-0	0.37	3,197	0.0125	125	0.075	657	0.0375	333
23-0	0.37	3,197	0.0125	125	0.075	657	0.0375	333

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

Glass Furnace & Lehrs	1 Hour	3 Hours	8 Hours	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO_x	Pass[1]	X	X	X	Pass
SO_x	Pass	Pass	X	Pass	Pass
PM_{10}	X	X	X	Pass[2]	Pass[2]
$PM_{2.5}$	X	X	X	Pass[2]	Pass[2]

*Results were taken from the attached PSD spreadsheet.
[1]The project was compared to the 1-hour NO2 National Ambient Air Quality Standard that became effective on April 12, 2010, using the District's approved procedures. The Ozone Limiting Method (OLM) or Plume Volume Molar Ratio Method (PVMRM) was used in accordance with the District's *Assessment of Non-Regulatory Options in AERMOD – Specifically OLM and PVMRM*. A completed AERMOD Non-Regulatory Option checklist is attached.
[2]The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

III. Conclusion

The Acute and Chronic Indices are below 1.0 and the Cancer Risk Factor associated with the project is less than 1.0 in a million. **In accordance with the District's Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).**

To ensure that human health risks will not exceed District allowable levels; the permit requirements listed on Page 1 of this report must be included for the proposed unit.

These conclusions are based on the data provided by the applicant and the project engineer. Therefore, this analysis is valid only as long as the proposed data and parameters do not change.

The emissions from the proposed equipment will not cause or contribute significantly to a violation of the State and National AAQS.

IV. Attachments

A. RMR Request Form & Related Emails
B. Emission Speciation Worksheets
C. Convert
D. Prioritization
E. Facility Summary
F. AAQA Report
G. NOX 1-HR OLM Results
H. AERMOD Non-Regulatory Option Checklist

APPENDIX F
Startup Exemption Request for Furnace #3

GALLO GLASS
COMPANY
ISO 9001 ISO 14001 ISO 22000

28 July 2016

Via Email

James Harader
San Joaquin Valley Air Pollution Control District
4800 Enterprise Way
Modesto CA 95356
James.Harader@valleyair.org

Re: Furnace 3 Rebuild
Application for Authority to Construct

Dear James,

Gallo Glass requests a start-up exemption of 70 days for new furnace 3, as allowed by Rule 4354 §5.5.1, which will allow for:

- bringing the furnace up to operating temperature on the primary combustion system;
- filling the furnace and establishing a glass pull; and
- hot-sealing the furnace and tuning the combustion system.

Sincerely,

Julia Bonardi
Gallo Glass Company

APPENDIX G
Quarterly Net Emission Change

Quarterly Net Emissions Change (QNEC)

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

QNEC = PE2 - PE1, where:

QNEC = Quarterly Net Emissions Change for each emissions unit, lb/qtr.
PE2 = Post Project Potential to Emit for each emissions unit, lb/qtr.
PE1 = Pre-Project Potential to Emit for each emissions unit, lb/qtr.

N-1662-1-18

Quarterly NEC [QNEC]			
Pollutant	**PE2 (lb/qtr)**	**PE1 (lb/qtr)**	**QNEC (lb/qtr)**
NO_X	61,696.75	61,696.75	0
SO_X	45,086.25	46,984.5	-1,898.25
PM_{10}	21,559.5	21,559.5	0
CO	1,898.25	1,898.25	0
VOC	949.25	949.25	0

N-1662-2-20

Quarterly NEC [QNEC]			
Pollutant	**PE2 (lb/qtr)**	**PE1 (lb/qtr)**	**QNEC (lb/qtr)**
NO_X	51,008.75	51,008.75	0
SO_X	37,275.75	38845.25	-1,569.5
PM_{10}	17,824.75	17,824.75	0
CO	7,847.5	7,847.5	0
VOC	784.75	784.75	0

N-1662-3-19

Quarterly NEC [QNEC]			
Pollutant	**PE2 (lb/qtr)**	**PE1 (lb/qtr)**	**QNEC (lb/qtr)**
NO_X	51,008.75	41,768.0	9,240.75
SO_X	37,275.75	31,807.75	5,468
PM_{10}	17,824.75	14,595.5	3,229.25
CO	392.5	321.25	71.25
VOC	784.75	642.5	142.25

N-1662-4-20

Quarterly NEC [QNEC]			
Pollutant	**PE2 (lb/qtr)**	**PE1 (lb/qtr)**	**QNEC (lb/qtr)**
NO_X	75,671.0	75,671.0	0
SO_X	55,298.0	57,626.25	-2328.25
PM_{10}	26,442.5	26,442.5	0
CO	11,641.75	11,641.75	0
VOC	1,164.25	1,164.25	0

N-1662-21-0

Quarterly NEC [QNEC]			
Pollutant	**PE2 (lb/qtr)**	**PE1 (lb/qtr)**	**QNEC (lb/qtr)**
NO_X	799.25	0	799.25
SO_X	31.25	0	31.25
PM_{10}	83.25	0	83.25
CO	168.75	0	168.75
VOC	60.25	0	60.25

N-1662-22-0

Quarterly NEC [QNEC]			
Pollutant	**PE2 (lb/qtr)**	**PE1 (lb/qtr)**	**QNEC (lb/qtr)**
NO_X	799.25	0	799.25
SO_X	31.25	0	31.25
PM_{10}	83.25	0	83.25
CO	168.75	0	168.75
VOC	60.25	0	60.25

N-1662-23-0

Quarterly NEC [QNEC]			
Pollutant	**PE2 (lb/qtr)**	**PE1 (lb/qtr)**	**QNEC (lb/qtr)**
NO_X	799.25	0	799.25
SO_X	31.25	0	31.25
PM_{10}	83.25	0	83.25
CO	168.75	0	168.75
VOC	60.25	0	60.25