



November 30, 2023

Mr. Peter Olney  
Gallo Glass Company  
PO Box 1230  
Modesto, CA 95353

**Re: Notice of Preliminary Decision  
District Facility # N-1662  
Project # N-1234386**

Dear Mr. Olney:

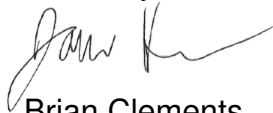
Enclosed for your review is the District's analysis of an application for Authorities to Construct for the facility identified above. The proposed project is to modify glass melting furnace permits for District Rule 4354 compliance.

The notice of preliminary decision for this project has been posted on the District's website ([www.valleyair.org](http://www.valleyair.org)). After addressing all comments made during the 30-day public notice comment periods, the District intends to issue the Authorities to Construct. 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 a minor modification amendment, in accordance with District Rule 2520.

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

Thank you for your cooperation in this matter.

Sincerely,



Brian Clements  
Director of Permit Services

Enclosures

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

**Samir Sheikh**  
Executive Director/Air Pollution Control Officer

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

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

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

# San Joaquin Valley Air Pollution Control District

## Authority to Construct Application Review

Modification of Glass Melting Furnaces To Install Ammonia Storage and Injection Equipment for Compliance with District Rule 4354 Phase 1 NOx Requirements.

Facility Name: Gallo Glass Company

Date: November 28, 2023

Mailing Address: PO Box 1230  
Modesto, CA 95353

Engineer: James Harader

Lead Engineer: Nick Peirce

Contact Person: Michael Kummer

Telephone: (209) 380-5908

E-Mail: [Michael.Kummer@ejgallo.com](mailto:Michael.Kummer@ejgallo.com)

Application #s: N-1662-1-24, '-2-25, '-3-24, '-4-26, and '-28-0

Project #: N-1234386

Deemed Complete: November 15, 2023

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### I. Proposal

N-1662-1-24, '-2-25, '-3-24 and '-4-26:

Gallo Glass Company was previously issued Authority to Construct permits under District Projects N-1221795 and N-1210489 to comply with the NOx (Phase 1), SOx, and PM<sub>10</sub> requirements of District Rule 4354, *Glass Melting Furnaces (12/16/21)*. The ATCs issued under District Project N-1221795 reduced the NOx emission limit for the furnace battery to 0.99 lb/ton of glass produced to comply with the phase 1 NOx limit of District Rule 4354. Gallo Glass proposed to lower the NOx emissions by minimizing the ambient air ingress to the furnaces by improving the insulation around each furnace. Under District project N-1210489, Gallo Glass further enhanced their system to comply with the Phase 1 NOx limit by increasing the CO emissions limits to allow for better tuning of the furnaces to obtain lower NOx emissions. Gallo plans to implement the ATCs for both of these permitting projects prior to or concurrently with the changes proposed in this project..

Gallo engineers have determined that further controls are necessary to ensure that their furnace battery meets the Phase 1 NOx emission limit in all operating modes. Particularly, they have determined that it may be difficult to meet the Phase 1 NOx limit while a furnace is idling, as emissions are high and the furnace output is low during that operating mode. Therefore, they are proposing the following additional equipment to comply with the phase 1 NOx emission limit of District Rule 4354:

- Install a selective catalytic reduction system including aqueous ammonia injection system. This installation may require some of the existing ceramic tube filters that are only reducing PM<sub>10</sub> be replaced with UltraCat tube filters that are embedded with SCR catalyst material for the control of NOx.

- Install continuous emissions monitoring system (CEMS) for monitoring ammonia (NH<sub>3</sub>) emissions in the exhaust; and
- Remove reference of the electrostatic precipitator (ESP) and associated conditions from each furnace permit.

Gallo Glass Company has completely transitioned to and is using the ceramic filter dust collectors system. They are going to completely disconnect the electrostatic precipitator (ESP); therefore, they have proposed to remove reference of the ESP and associated conditions from each furnace permit.

#### N-1662-28-0:

Gallo Glass Company has proposed to install and operate aqueous ammonia receiving and storage system consisting of a temporary 500-gallon tote equipped with pressure-vacuum relief valve until the installation of a permanent 10,000-gallon polyurethane tank (10 feet diameter, 15.3 feet high) with pressure-vacuum relief valve. Tank or tote will be filled with aqueous ammonia (20% NH<sub>3</sub> concentration) via a delivery truck using vapor balance type closed loop system where displaced vapors from the tote or tank will be routed to the delivery truck.

Gallo Glass Company has received their renewed Title V Permit on August 17, 2022. This modification can be classified as a Title V minor modification pursuant to Rule 2520, and can be processed with a Certificate of Conformity (COC). But the facility has not requested that this project be processed in that manner; therefore, Gallo Glass Company will be required to submit a Title V minor modification application prior to operating under the revised provisions of the ATC(s) issued with this project.

#### Disposition of existing ATCs:

The ATCs N-1662-1-23, '-2-24, '-3-23, '-4-25 (in **Appendix C**) issued under project N-1221795, and ATCs N-1622-1-22, '-2-23, '-3-22 and '-4-24 (in **Appendix C**) issued under project N-1210489 will be required to be implemented prior to, or concurrently with the ATC under this project. The ATCs N-1622-1-22, '-2-23, '-3-22 and '-4-24, which were issued after ATCs N-1662-1-23, '-2-24, '-3-23 and '-4-25 are being used as base document for this project.

The draft ATCs are included in **Appendix A** of this document.

## **II. Applicable Rules**

Rule 1080	Stack Monitoring (12/17/92)
Rule 1081	Source Sampling (12/16/93)
Rule 2020	Exemptions (12/18/14)
Rule 2201	New and Modified Stationary Source Review Rule (4/20/23)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
Rule 2520	Federally Mandated Operating Permits (8/15/19)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4002	National Emissions Standards for Hazardous Air Pollutants (5/20/04)

Rule 4101 Visible Emissions (2/17/05)  
Rule 4102 Nuisance (12/17/92)  
Rule 4201 Particulate Matter Concentration (12/17/92)  
Rule 4301 Fuel Burning Equipment (12/17/92)  
Rule 4354 Glass Melting Furnaces (12/16/21)  
Rule 4623 Storage of Organic Liquids (6/15/23)  
Rule 4801 Sulfur Compounds (12/17/92)  
40 CFR Part 64 Compliance Assurance Monitoring  
CH&SC 41700 Health Risk Assessment  
CH&SC 42301.6 School Notice  
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)  
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA guidelines

### **III. Project Location**

The facility is located at 605 S Santa Cruz Ave in Modesto, California. 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**

Four glass production furnaces are charged with a combination of recycled glass cullet and raw materials (sand, soda ash, limestone and other minor ingredients) to produce molten glass that is then molded into bottles. The heat for the glass production furnaces is produced from the combustion of natural gas and pure oxygen, also called OXY-fuel. The gaseous products of combustion from the OXY-fueled glass furnaces combine into one flue gas stream that passes through a dry SO<sub>x</sub> scrubber, a particulate matter control system and then through a single exhaust stack equipped with a continuous emission monitoring system (CEMS) for NO<sub>x</sub>, SO<sub>x</sub>, CO<sub>2</sub> and O<sub>2</sub>, before exhausting to the atmosphere. The exhaust is drawn through the emission control systems by downstream induction fans.

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

After passing through the SO<sub>x</sub> scrubber, the exhaust gases are drawn through a ceramic dust collector system for the removal of particulate matter from the exhaust stream.

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

In this project, the ceramic dust collectors will be modified to include filters that are embedded with SCR catalyst material. An ammonia receiving, storage, and injection system will be installed

as well. The ceramic dust collector will effectively serve as a selective catalytic reduction system for the reduction of NOx emissions from the glass furnace battery for compliance with the Phase 1 NOx limit of District Rule 4354.

## **V. Equipment Listing**

### Pre-Project Equipment Description:

As noted in the proposal section, ATCs N-1662-1-22, '-2-23, '-3-22, '-4-24, issued under project N-1210489, will be used as base document for this project.

N-1662-1-23: GLASS FURNACE #1 WITH EIGHT 10 MMBTU/HR (EACH), TWO 5 MMBTU/HR (EACH), TWO 2 MMBTU/HR (EACH) BURNER (94 MMBTU/HR MAX HEAT CAPACITY), AND ASSOCIATED FORMING EQUIPMENT INCLUDING FOREHEARTHS, COATING, AND CHAIN BURNERS. THIS FURNACE IS DUCTED THROUGH A STACK COMMON TO PERMIT UNITS N-1662-1, N-1662-2, N-1662-3 AND N-1662-4. THE FURNACES ARE SERVED BY THE FOLLOWING SHARED EQUIPMENT: SOX SCRUBBER INCLUDING A LIME STORAGE SILO SERVED BY A BIN VENT FILTER, AN ELECTROSTATIC PRECIPITATOR, AND/OR FOUR TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS

N-1662-2-24: 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 THE FOLLOWING SHARED EQUIPMENT: SOX SCRUBBER INCLUDING A LIME STORAGE SILO SERVED BY A BIN VENT FILTER, AN ELECTROSTATIC PRECIPITATOR, AND/OR FOUR TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS

N-1662-3-23: 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 THE FOLLOWING SHARED EQUIPMENT: SOX SCRUBBER INCLUDING A LIME STORAGE SILO SERVED BY A BIN VENT FILTER, AN ELECTROSTATIC PRECIPITATOR, AND/OR FOUR TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS

N-1662-4-24: 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 THE FOLLOWING SHARED EQUIPMENT: SOX SCRUBBER INCLUDING A LIME STORAGE SILO SERVED BY A BIN VENT FILTER, AN ELECTROSTATIC

PRECIPITATOR, AND/OR FOUR TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS

Proposed Modification:

N-1662-1-23: MODIFICATION OF GLASS FURNACE #1 WITH EIGHT 10 MMBTU/HR (EACH), TWO 5 MMBTU/HR (EACH), TWO 2 MMBTU/HR (EACH) BURNER (94 MMBTU/HR MAX HEAT CAPACITY), AND ASSOCIATED FORMING EQUIPMENT INCLUDING FOREHEARTHS, COATING, AND CHAIN BURNERS. THIS FURNACE IS DUCTED THROUGH A STACK COMMON TO PERMIT UNITS N-1662-1, N-1662-2, N-1662-3 AND N-1662-4. THE FURNACES ARE SERVED BY THE FOLLOWING SHARED EQUIPMENT: SOX SCRUBBER INCLUDING A LIME STORAGE SILO SERVED BY A BIN VENT FILTER, AN ELECTROSTATIC PRECIPITATOR, AND/OR FOUR TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS: TO INSTALL AQUEOUS AMMONIA INJECTION SYSTEM, REPLACE CERAMIC FILTERS FOR FINE PARTICULATE WITH CERAMIC FILTERS WITH EMBEDDED CATALYST IN FOUR TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS TO COMPLY WITH PHASE 1 NOX LIMIT OF DISTRICT RULE 4354, INSTALL CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS) FOR AMMONIA, AND REMOVE REFERENCE TO ELECTROSTATIC PRECIPITATOR AND ASSOCIATED PERMIT CONDITIONS

N-1662-2-23: MODIFICATION OF 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 THE FOLLOWING SHARED EQUIPMENT: SOX SCRUBBER INCLUDING A LIME STORAGE SILO SERVED BY A BIN VENT FILTER, AN ELECTROSTATIC PRECIPITATOR, AND/OR FOUR TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS: INSTALL AMMONIA INJECTION SYSTEM, REPLACE CERAMIC TUBE FILTERS WITH ULTRACAT TUBE FILTERS, REMOVE REFERENCES TO ELECTROSTATIC PRECIPITATOR AND RELATED CONDITIONS

N-1662-3-22: MODIFICATION OF 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 THE FOLLOWING SHARED EQUIPMENT: SOX SCRUBBER INCLUDING A LIME STORAGE SILO SERVED BY A BIN VENT FILTER, AN ELECTROSTATIC PRECIPITATOR, AND/OR FOUR TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS: INSTALL AMMONIA INJECTION SYSTEM, REPLACE CERAMIC TUBE FILTERS WITH ULTRACAT TUBE FILTERS, REMOVE REFERENCES TO ELECTROSTATIC PRECIPITATOR AND RELATED CONDITIONS

N-1662-4-24: MODIFICATION OF 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 THE FOLLOWING SHARED EQUIPMENT: SOX SCRUBBER INCLUDING A LIME STORAGE SILO SERVED BY A BIN VENT FILTER, AN ELECTROSTATIC PRECIPITATOR, AND/OR FOUR TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS: INSTALL AMMONIA INJECTION SYSTEM, REPLACE CERAMIC TUBE FILTERS WITH ULTRACAT TUBE FILTERS, REMOVE REFERENCES TO ELECTROSTATIC PRECIPITATOR AND RELATED CONDITIONS

N-1662-28-0: AQUEOUS AMMONIA RECEIVING AND STORAGE OPERATION CONDUCTED USING A 10,000 GALLON POLYURETHANE TANK (APPROXIMATELY 10 FEET DIAMETER AND 15 FEET HEIGHT) EQUIPPED WITH PRESSURE-VACUUM RELIEF VALVE AND A BALANCE TYPE CLOSED-LOOP CONTROL SYSTEM

Post-Project Equipment Description:

N-1662-1-22: GLASS FURNACE #1 WITH EIGHT 10 MMBTU/HR (EACH), TWO 5 MMBTU/HR (EACH), TWO 2 MMBTU/HR (EACH) BURNER (94 MMBTU/HR MAX HEAT CAPACITY), AND ASSOCIATED FORMING EQUIPMENT INCLUDING FOREHEARTHS, COATING, AND CHAIN BURNERS. THIS FURNACE IS DUCTED THROUGH A STACK COMMON TO PERMIT UNITS N-1662-1, N-1662-2, N-1662-3 AND N-1662-4. THE FURNACES ARE SERVED BY THE FOLLOWING SHARED EQUIPMENT: SOX SCRUBBER INCLUDING A LIME STORAGE SILO SERVED BY A BIN VENT FILTER, AMMONIA INJECTION SYSTEM AND FOUR TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS

N-1662-2-23: 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 THE FOLLOWING SHARED EQUIPMENT: SOX SCRUBBER INCLUDING A LIME STORAGE SILO SERVED BY A BIN VENT FILTER, AMMONIA INJECTION SYSTEM AND FOUR TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS

N-1662-3-22: 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 THE FOLLOWING SHARED EQUIPMENT: SOX SCRUBBER INCLUDING A LIME STORAGE SILO SERVED BY A BIN VENT FILTER, AMMONIA INJECTION SYSTEM AND FOUR TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS

N-1662-4-24: 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 THE FOLLOWING SHARED EQUIPMENT: SOX SCRUBBER INCLUDING A LIME STORAGE SILO SERVED BY A BIN VENT FILTER, AMMONIA INJECTION SYSTEM AND FOUR TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS

N-1662-28-0: AQUEOUS AMMONIA RECEIVING AND STORAGE OPERATION CONDUCTED USING A 550-GALLON TOTE EQUIPPED WITH PRESSURE-VACUUM RELIEF VALVE OR A 10,000 GALLON POLYURETHANE TANK (APPROXIMATELY 10 FEET DIAMETER AND 15 FEET HEIGHT) EQUIPPED WITH PRESSURE-VACUUM RELIEF VALVE, AND THE TOTE OR TANK SHALL BE FILLED USING BALANCE TYPE CLOSED-LOOP CONTROL SYSTEM

## **VI. Emission Control Technology Evaluation**

### N-1662-1, -2, -3 and -4

The glass melting furnaces emit NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, CO and VOC emissions.

Currently, the furnaces are fired on oxy-fuel to reduce NO<sub>x</sub> emissions. The facility is proposing to further reduce NO<sub>x</sub> emissions using a Trimer Ultracat filters that are embedded with catalyst material such that the ceramic filter dust collector effectively serves as a selective catalytic reduction system. An ammonia injection system will be added. Ammonia and NO<sub>x</sub> will react in the presence of the embedded catalyst material to form Nitrogen and water, reducing NO<sub>x</sub> emissions to levels below the Rule 4354 phase 1 No<sub>x</sub> limit.

SO<sub>x</sub> is reduced by injecting calcium hydroxide powder in the exhaust stream that reacts with the SO<sub>x</sub> to form particulates. The reacted particulates are then collected in an existing ceramic filter dust collector system.

PM<sub>10</sub> emissions are reduced with the use of ceramic filter dust collector system.

CO and VOC are reduced by optimizing proper mixture of fuel and oxidant and other similar good combustion practices as well as by periodically maintaining the furnaces.

### N-1662-28-0

To reduce ammonia emissions during tote or tank filling, the applicant has proposed to use vapor balance type closed loop system connecting a hose between the storage tote or tank and the delivery vessel. This system is expected to reduce 95% of the working loss emissions.



## VII. General Calculations

### A. Assumptions

- Assumptions will be stated as they are made during the evaluation.

### B. Emission Factors

#### 1. Pre-Project Emission Factors (EF1)

##### N-1662-1-22: Glass Melting Furnace #1

Pollutant	EF1
NO <sub>x</sub>	0.99 lb/ton of glass produced*
SO <sub>x</sub>	0.77 lb/ton of glass produced*
PM <sub>10</sub>	0.18 lb/ton of glass produced – steady state**
	0.71 lb/ton of glass produced – during full or partial emission control system bypass episode for routine maintenance
CO	0.2 lb/ton of glass produced
VOC	0.02 lb/ton of glass produced

\*Limit “over a rolling 30-day average”; \*\*block 24-hour average

##### N-1662-2-23: Glass Melting Furnace #2

Pollutant	EF1
NO <sub>x</sub>	0.99 lb/ton of glass produced*
SO <sub>x</sub>	0.77 lb/ton of glass produced*
PM <sub>10</sub>	0.18 lb/ton of glass produced – steady state**
	0.71 lb/ton of glass produced – during full or partial emission control system bypass episode for routine maintenance
CO	0.2 lb/ton of glass produced
VOC	0.02 lb/ton of glass produced

\*Limit “over a rolling 30-day average”; \*\*block 24-hour average

##### N-1662-3-22: Glass Melting Furnace #3

Pollutant	EF1
NO <sub>x</sub>	0.99 lb/ton of glass produced*
SO <sub>x</sub>	0.77 lb/ton of glass produced*
PM <sub>10</sub>	0.18 lb/ton of glass produced – steady state**
	0.71 lb/ton of glass produced – during full or partial emission control system bypass episode for routine maintenance
CO	0.2 lb/ton of glass produced
VOC	0.02 lb/ton of glass produced

\*Limit “over a rolling 30-day average”; \*\*block 24-hour average

N-1662-4-24: Glass Melting Furnace #4

Pollutant	EF1
NO <sub>x</sub>	0.99 lb/ton of glass produced*
SO <sub>x</sub>	0.77 lb/ton of glass produced*
PM <sub>10</sub>	0.18 lb/ton of glass produced – steady state**
	0.71 lb/ton of glass produced – during full or partial emission control system bypass episode for routine maintenance
CO	0.2 lb/ton of glass produced
VOC	0.02 lb/ton of glass produced

\*Limit “over a rolling 30-day average”; \*\*block 24-hour average

N-1662-1, ‘-2, ‘-3 & 4: Hydrated Lime Receiving & Storage

The hydrated lime storage silo is served by a bin vent filter. This silo is shared by all four glass melting furnaces. EF from receiving and storing hydrated lime are summarized below:

Pollutant	EF1 lb-PM <sub>10</sub> /ton of material received	Source
PM <sub>10</sub>	0.0049	Permits N-1662-1-21, ‘-2-21, ‘-3-20 and ‘-4-22

**2. Post-Project Emission Factors (EF2)**

N-1662-1-24: Glass Melting Furnace #1

N-1662-2-25: Glass Melting Furnace #2

N-1662-3-24: Glass Melting Furnace #3

N-1662-4-26: Glass Melting Furnace #4

For each permit unit, the applicant has proposed to retain the existing emission factors for NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, CO and VOC emissions. Therefore, EF2 is equal to EF1 for these pollutants.

The applicant has proposed to establish mass emissions limit for unreacted ammonia that may pass-through embedded catalyst in the ceramic dust collectors and into the atmosphere.

The applicant is not proposing any changes to the hydrated lime storage silo. Therefore, EF2 will be same as EF1.

N-1662-28-0: Aqueous Ammonia Receiving & Storage Operation

No separate EF is established for this operation. Rather, emissions are based upon the ammonia concentration of 20%, using EPA AP-42 emission equations.

## C. Calculations

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

N-1662-1-23

The permit limits glass production rate to 520.1 tons/day.

PE1 (lb/day) = EF1 (lb/ton of glass) x Process rate (tons/day)

Pollutant	EF1	Process rate (tons/day)	PE1 (lb/day)
NOx	0.99 lb/ton of glass produced	520.1	514.9
SOx	0.77 lb/ton of glass produced	520.1	400.5
PM <sub>10</sub>	0.18 lb/ton of glass produced – steady state	520.1	93.6
	0.71 lb/ton of glass produced – during full or partial emission control system bypass episode for routine maintenance	520.1	369.3
CO	0.2 lb/ton of glass produced	520.1	104.0
VOC	0.02 lb/ton of glass produced	520.1	10.4

For PM<sub>10</sub> emissions, the maximum permitted emission control system by-pass time is 144 hr/yr (6 days/yr). Thus, worst-case emission would occur if the unit operate 6 days in emission control system by-pass mode and 359 days in normal mode.

PE1 (lb/yr) = EF1 (lb/ton of glass) x Process rate (tons/day) x Op. days (days/yr)

Pollutant	EF1	Process rate (tons/day)	Op. days (day/yr)	PE1 (lb/yr)
NOx	0.99 lb/ton of glass produced	520.1	365	187,938
SOx	0.77 lb/ton of glass produced	520.1	365	146,174
PM <sub>10</sub>	0.18 lb/ton of glass produced – steady state	520.1	359	33,609
	0.71 lb/ton of glass produced – during full or partial emission control system bypass episode for routine maintenance	520.1	6	2,216
	TOTAL	--	--	35,825
CO	0.2 lb/ton of glass produced	520.1	365	37,967
VOC	0.02 lb/ton of glass produced	520.1	365	3,797

\*Lime storage silo is shared among all four furnaces. Total PM<sub>10</sub> emissions from this silo are counted under permit N-1662-1.

Note that this permit also limits quarterly PM<sub>10</sub> emissions to the following: Q1: 22,936 lb, Q2: 23,190 lb, Q3: 23,445 lb, and Q4: 23,445 lb.

N-1662-2-24

The permit limits glass production rate to 430 tons/day.

$$PE1 \text{ (lb/day)} = EF1 \text{ (lb/ton of glass)} \times \text{Process rate (tons/day)}$$

Pollutant	EF1	Process rate (tons/day)	PE1 (lb/day)
NOx	0.99 lb/ton of glass produced	430	425.7
SOx	0.77 lb/ton of glass produced	430	331.1
PM10	0.18 lb/ton of glass produced – steady state	430	77.4
	0.71 lb/ton of glass produced – during full or partial emission control system bypass episode for routine maintenance	430	305.3
CO	0.2 lb/ton of glass produced	430	86.0
VOC	0.02 lb/ton of glass produced	430	8.6

For PM<sub>10</sub> emissions, the maximum permitted emission control system by-pass time is 144 hr/yr (6 days/yr). Thus, worst-case emission would occur if the unit operate 6 days in emission control system by-pass mode and 359 days in normal mode.

$$PE1 \text{ (lb/yr)} = EF1 \text{ (lb/ton of glass)} \times \text{Process rate (tons/day)} \times \text{Op. days (days/yr)}$$

Pollutant	EF1	Process rate (tons/day)	Op. days (day/yr)	PE1 (lb/yr)
NOx	0.99 lb/ton of glass produced	430	365	155,381
SOx	0.77 lb/ton of glass produced	430	365	120,852
PM <sub>10</sub>	0.18 lb/ton of glass produced – steady state	430	359	27,787
	0.71 lb/ton of glass produced – during full or partial emission control system bypass episode for routine maintenance	430	6	1,832
	TOTAL	--	--	29,619
CO	0.2 lb/ton of glass produced	430	365	31,390
VOC	0.02 lb/ton of glass produced	430	365	3,139

N-1662-3-23

The applicant has proposed to retain the existing production rate of 430 tons/day.

$$PE1 \text{ (lb/day)} = EF1 \text{ (lb/ton of glass)} \times \text{Process rate (tons/day)}$$

Pollutant	EF1	Process rate (tons/day)	PE1 (lb/day)
NOx	0.99 lb/ton of glass produced	430	425.7
SOx	0.77 lb/ton of glass produced	430	331.1
PM <sub>10</sub>	0.18 lb/ton of glass produced – steady state	430	77.4
	0.71 lb/ton of glass produced – during full or partial emission control system bypass episode for routine maintenance	430	305.3
CO	0.2 lb/ton of glass produced	430	86.0
VOC	0.02 lb/ton of glass produced	430	8.6

For PM<sub>10</sub> emissions, the maximum permitted emission control system by-pass time is 144 hr/yr (6 days/yr). Thus, worst-case emission would occur if the unit operate 6 days in emission control system by-pass mode and 359 days in normal mode.

$$PE1 \text{ (lb/yr)} = EF1 \text{ (lb/ton of glass)} \times \text{Process rate (tons/day)} \times \text{Op. days (days/yr)}$$

Pollutant	EF1	Process rate (tons/day)	Op. days (day/yr)	PE1 (lb/yr)
NOx	0.99 lb/ton of glass produced	430	365	155,381
SOx	0.77 lb/ton of glass produced	430	365	120,852
PM <sub>10</sub>	0.18 lb/ton of glass produced – steady state	430	359	27,787
	0.71 lb/ton of glass produced – during full or partial emission control system bypass episode for routine maintenance	430	6	1,832
	TOTAL	--	--	29,619
CO	0.2 lb/ton of glass produced	430	365	31,390
VOC	0.02 lb/ton of glass produced	430	365	3,139

N-1662-4-25

This permit limits glass production rate to 637.9 tons/day.

$$PE1 \text{ (lb/day)} = EF1 \text{ (lb/ton of glass)} \times \text{Process rate (tons/day)}$$

Pollutant	EF1	Process rate (tons/day)	PE1 (lb/day)
NOx	0.99 lb/ton of glass produced	637.9	631.5
SOx	0.77 lb/ton of glass produced	637.9	491.2
PM <sub>10</sub>	0.18 lb/ton of glass produced – steady state	637.9	114.8
	0.71 lb/ton of glass produced – during full or partial emission control system bypass episode for routine maintenance	637.9	452.9
CO	0.2 lb/ton of glass produced	637.9	127.6
VOC	0.02 lb/ton of glass produced	637.9	12.8

For PM<sub>10</sub> emissions, the maximum permitted emission control system by-pass time is 144 hr/yr (6 days/yr). Thus, worst-case emission would occur if the unit operate 6 days in emission control system by-pass mode and 359 days in normal mode.

$$PE1 \text{ (lb/yr)} = EF1 \text{ (lb/ton of glass)} \times \text{Process rate (tons/day)} \times \text{Op. days (days/yr)}$$

Pollutant	EF1	Process rate (tons/day)	Op. days (day/yr)	PE1 (lb/yr)
NOx	0.99 lb/ton of glass produced	637.9	365	230,505
SOx	0.77 lb/ton of glass produced	637.9	365	179,282
PM <sub>10</sub>	0.18 lb/ton of glass produced – steady state	637.9	359	41,221
	0.71 lb/ton of glass produced – during full or partial emission control system bypass episode for routine maintenance	637.9	6	2,717
	TOTAL	--	--	43,938
CO	0.2 lb/ton of glass produced	637.9	365	46,567
VOC	0.02 lb/ton of glass produced	637.9	365	4,657

N-1662-1, '-2, '-3 & 4: Hydrated Lime Receiving & Storage

The existing permit limits hydrated lime receiving rate to 65 tons/day and 110 tons/quarter.

$$\begin{aligned} \text{Daily PE1} &= 0.0049 \text{ lb-PM}_{10}/\text{ton} \times 65 \text{ tons/day} \\ &= 0.3 \text{ lb-PM}_{10}/\text{day} \end{aligned}$$

$$\begin{aligned}\text{Annual PE1} &= 0.0049 \text{ lb-PM}_{10}/\text{ton} \times 110 \text{ tons/qtr} \times 4 \text{ qtr/yr} \\ &= 2 \text{ lb-PM}_{10}/\text{year}\end{aligned}$$

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

N-1662-1-24, '-2-25, '-3-24, '-4-26

### *Furnace Emissions:*

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

The applicant has proposed to retain existing emission factors and production rates. Thus, PE2 will be same as PE1.

Additionally, there will be some unreacted ammonia that will pass-through catalytic filtration system and release into the atmosphere. The applicant has proposed to limit ammonia emissions for the furnace battery to:

$$\text{PE2} = 1.3 \text{ lb-NH}_3/\text{hr}; 30.0 \text{ lb-NH}_3/\text{day} \text{ and } 10,990 \text{ lb-NH}_3/\text{yr}$$

### *Hydrated Lime Receiving & Storage:*

The applicant wants to retain the exiting hydrated lime receiving rate limits to 65 tons/day and 110 tons/quarter, and the existing emission factors. Thus, PE2 will be same as PE1.

N-1662-28-0

There are two type of activities during which ammonia vapors can be released to the atmosphere: (1) Solution Storage (Breathing Loss), and (2) Tank Filling Process (Working Loss)

Data from Table 9 (Page 43) of University of Illinois Bulletin No. 146 is used to determine the partial vapor pressure of ammonia over the aqueous ammonia solution. Using linear interpolation, the partial vapor pressures (P) are:

$$P_{20\%, 70^\circ\text{F}} = 4.28 \text{ psia}$$

$$P_{20\%, 80^\circ\text{F}} = 5.45 \text{ psia}$$

These numbers are linearly interpolated to determine the partial vapor pressure at 78°F. Thus,

$$P_{20\%, 78^\circ\text{F}} = 5.22 \text{ psia}$$

Molecular weight of ammonia is 17.03 lb/lb-mol.

### Breathing Loss

Daily breathing loss is estimated using the following equation and tables found in AP-42, 7.1-15:

$$L_{Breathing} = \frac{\Delta T_{Vapor}}{T_{Liquid}} \times \frac{1}{2} V_{tank}, \text{ where}$$

$T_{Liquid}$  is the average surface temperature ( $^{\circ}R$ ) of the liquid, taken to be the average ambient temperature. Breathing loss is expected to be maximum during summer months. Per <https://www.extremeweatherwatch.com/cities/modesto/month-july> typical July weather in Modesto, California,

$$T_{max} = 95^{\circ}F (554.67^{\circ}R)$$

$$T_{min} = 64^{\circ}F (523.67^{\circ}R)$$

$$T_{liquid} = (554.67^{\circ}R + 523.67^{\circ}R) \div 2 = 539.17^{\circ}R$$

$V_{tank}$  is the volume of the tank.  $V_{tank} = 10,000$  gallons

$$\Delta T_{vapor} = 0.72 \times \Delta T_{ambient} + 0.028\alpha I, \text{ where}$$

$$\Delta T_{ambient} = 554.67^{\circ}F - 523.67^{\circ}F = 31^{\circ}R$$

$\alpha$  is determined by the paint's solar absorbance ( $\alpha = 0.17$  if paint is white and in good condition per AP-42 Table 7.1.6).

$I$  is the daily solar insulation factor ( $I = 1,643$  Btu/ft<sup>2</sup>-day for Sacramento per AP-42 Table 7.1.6)

Therefore,

$$\Delta T_{vapor} = 0.72 \times 31^{\circ}R + (0.028)(0.17)(1,643) = 30.1^{\circ}R$$

Substituting the above values in the main equation,

$$L_{Breathing} = \frac{30.1}{539.17} \times \frac{1}{2} \times 10,000 \text{ gallons} = 279 \frac{\text{gal}}{\text{day}}$$

$$PE2 = 279 \frac{\text{gal}}{\text{day}} \times \frac{\text{ft}^3}{7.48 \text{ gal}} \times 5.22 \text{ psia} \times 17.03 \frac{\text{lb-NH}_3}{\text{lb-mol}} \times \frac{\text{lb-mol} \cdot ^{\circ}R}{10.73 \text{ psia} \cdot \text{ft}^3} \times \frac{1}{539.17^{\circ}R} = 0.6 \frac{\text{lb-NH}_3}{\text{day}}$$

Since breathing loss will continue to occur throughout the year, the annual emissions would be 219 lb/yr (0.6 lb/day x 365 days/yr).

#### *Working Loss:*

The applicant has proposed to receive a maximum of 5,000 gallon of aqueous ammonia (20% conc.) via tanker truck. During the tank filling process, vapors released from the tank will be routed to the tanker truck via closed loop vapor balance system. This system is expected to reduce at least 95% of the ammonia emissions.



$$\begin{aligned} PE2 &= 5,000 \frac{\text{gal}}{\text{day}} \times \frac{\text{ft}^3}{7.48 \text{ gal}} \times 5.22 \text{ psia} \times 17.03 \frac{\text{lb} - \text{NH}_3}{\text{lb} - \text{mol}} \times \frac{\text{lb} - \text{mol} \cdot ^\circ\text{R}}{10.73 \text{ psia} \cdot \text{ft}^3} \times \frac{1}{539.17^\circ\text{R}} \times (1 - 0.95) \\ &= 0.5 \frac{\text{lb} - \text{NH}_3}{\text{day}} \end{aligned}$$

The applicant has proposed to receive 5,000 gallons of aqueous ammonia every 9 days. Under this scenario, the annual aqueous ammonia receive rate would be 202,778 gallons/yr (5000 gallons/9 days x 365 days/yr). The working loss emissions would be:

$$\begin{aligned} PE2 &= 202,778 \frac{\text{gal}}{\text{yr}} \times \frac{\text{ft}^3}{7.48 \text{ gal}} \times 5.22 \text{ psia} \times 17.03 \frac{\text{lb} - \text{NH}_3}{\text{lb} - \text{mol}} \times \frac{\text{lb} - \text{mol} \cdot ^\circ\text{R}}{10.73 \text{ psia} \cdot \text{ft}^3} \times \frac{1}{539.17^\circ\text{R}} \times (1 - 0.95) \\ &= 21 \frac{\text{lb} - \text{NH}_3}{\text{yr}} \end{aligned}$$

Total daily and annual emissions would be:

$$\begin{aligned} PE2_{\text{Total}} &= 0.6 \text{ lb-NH}_3/\text{day} + 0.5 \text{ lb-NH}_3/\text{day} \\ &= 1.1 \text{ lb-NH}_3/\text{day} \end{aligned}$$

$$\begin{aligned} PE2_{\text{Total}} &= 219 \text{ lb-NH}_3/\text{yr} + 21 \text{ lb-NH}_3/\text{yr} \\ &= 240 \text{ lb-NH}_3/\text{yr} \end{aligned}$$

Note that the potential emissions from tote filling process will be less than the tank filling process. The above calculations represent the worst-case ammonia emissions. Separate calculations for the tote filling process are not necessary.

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

Pursuant to District Rule 2201, the SSPE1 is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of Emission Reduction Credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions (AER) that have occurred at the source, and which have not been used on-site.

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

$$SSPE1_{\text{Total}} = SSPE1_{\text{Permit Unit}} + \text{Total}_{\text{ERC}}$$

Except for the units under this project, the potential emissions for each permit unit are taken from their respective permitting project.

SSPE1 (lb/year)					
Permit Unit/ERC	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
ATC N-1662-1-22	187,938	146,174	35,825	37,967	3,797
ATC N-1662-2-23	155,381	120,852	29,619	31,390	3,139
ATC N-1662-3-22	155,381	120,852	29,619	31,390	3,139
ATC N-1662-4-24	230,505	179,282	43,938	46,567	4,657
Hydrated lime receiving & storage listed in N-1662-1, '-2, '-3 & '-4	0	0	2	0	0
ATC N-1662-7-8	0	0	11	0	0
N-1662-8-11	1,003	1,537	11,531	766	50
N-1662-10-5	642	0	31	195	73
N-1662-11-5	642	0	31	195	73
N-1662-12-5	642	0	31	195	73
N-1662-14-13	0	0	59,420	0	0
N-1662-15-4	65	5	14	270	10
N-1662-17-1	3,197	125	333	3,679	241
N-1662-18-1	3,197	125	333	3,679	241
N-1662-19-5	0	0	0	0	219
N-1662-21-2	3,197	125	333	3,679	241
N-1662-22-2	3,197	125	333	3,679	241
N-1662-23-2	3,197	125	333	3,679	241
N-1662-25-2	122	91	8	559	252
ATC N-1662-26-0	0	0	146	0	0
<b>SSPE1 Permit Unit</b>	<b>748,306</b>	<b>569,418</b>	<b>211,891</b>	<b>167,889</b>	<b>16,687</b>
ERC N-966-2	229,479	-	-	-	-
ERC N-1563-2	231,282	-	-	-	-
ERC N-1510-2	1,459	-	-	-	-
ERC N-1583-4	-	-	58,032	-	-
<b>Total<sub>ERC</sub></b>	<b>462,220</b>	<b>0</b>	<b>58,032</b>	<b>0</b>	<b>0</b>
<b>SSPE1<sub>Total</sub></b>	<b>1,210,526</b>	<b>569,418</b>	<b>269,923</b>	<b>167,889</b>	<b>16,687</b>

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

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

SSPE2 (lb/year)						
Permit Unit/ERC	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC	NH <sub>3</sub>
ATC N-1662-1-24	187,938	146,174	35,825	37,967	3,797	10,990
ATC N-1662-2-25	155,381	120,852	29,619	31,390	3,139	
ATC N-1662-3-24	155,381	120,852	29,619	31,390	3,139	
ATC N-1662-4-26	230,505	179,282	43,938	46,567	4,657	
Hydrated lime receiving & storage listed in N-1662-1, '-2, '-3 & 4	0	0	2	0	0	0
ATC N-1662-7-8	0	0	11	0	0	0
N-1662-8-11	1,003	1,537	11,531	766	50	0
N-1662-10-5	642	0	31	195	73	0
N-1662-11-5	642	0	31	195	73	0
N-1662-12-5	642	0	31	195	73	0
N-1662-14-13	0	0	59,420	0	0	0
N-1662-15-4	65	5	14	270	10	0
N-1662-17-1	3,197	125	333	3,679	241	0
N-1662-18-1	3,197	125	333	3,679	241	0
N-1662-19-5	0	0	0	0	219	0
N-1662-21-2	3,197	125	333	3,679	241	0
N-1662-22-2	3,197	125	333	3,679	241	0
N-1662-23-2	3,197	125	333	3,679	241	0
N-1662-25-2	122	91	8	559	252	0
ATC N-1662-26-0	0	0	146	0	0	0
ATC N-1662-28-0	0	0	0	0	0	240
<b>SSPE2<sub>Permit Unit</sub></b>	<b>748,306</b>	<b>569,418</b>	<b>211,891</b>	<b>167,889</b>	<b>16,687</b>	<b>11,230</b>
ERC N-966-2	229,479	-	-	-	-	-
ERC N-1563-2	231,282	-	-	-	-	-
ERC N-1510-2	1,459	-	-	-	-	-
ERC N-1583-4	-	-	58,032	-	-	-
<b>Total<sub>ERC</sub></b>	<b>462,220</b>	<b>0</b>	<b>58,032</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>SSPE2<sub>Total</sub></b>	<b>1,210,526</b>	<b>569,418</b>	<b>269,923</b>	<b>167,889</b>	<b>16,687</b>	<b>11,230</b>

## 5. Major Source Determination

### Rule 2201 Major Source Determination:

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

- Any ERCs associated with the stationary source
- Emissions from nonroad IC engines (i.e. IC engines at a particular site at the facility for less than 12 months), pursuant to the Clean Air Act, Title 3, Section 302, US Codes 7602(j) and (z)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 70.2

<b>Rule 2201 Major Source Determination (lb/year)</b>						
	<b>NO<sub>x</sub></b>	<b>SO<sub>x</sub></b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>	<b>CO</b>	<b>VOC</b>
SSPE1	748,306	569,418	211,891	211,890	167,889	16,687
SSPE2	748,306	569,418	211,891	211,890	167,889	16,687
Major Source Threshold	20,000	140,000	140,000	140,000	200,000	20,000
Major Source?	Yes	Yes	Yes	Yes	No	No

As seen in the table above, this facility is an existing Major Source for NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions and will remain a Major Source for these pollutants after implementing ATCs under this project.

#### **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.

<b>PSD Major Source Determination (tons/year)</b>						
	<b>NO<sub>2</sub></b>	<b>VOC</b>	<b>SO<sub>2</sub></b>	<b>CO</b>	<b>PM</b>	<b>PM<sub>10</sub></b>
Estimated Facility PE before Project Increase*	374	8	285	84	106	106
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source?	Yes	No	Yes	No	No	No

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

As seen in the table above, this facility is an existing PSD major source for at least one pollutant.

## 6. Baseline Emissions (BE)

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

Pursuant to District Rule 2201, BE = PE1 for:

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

otherwise,

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

### N-1662-1, '-2, '-3 and '-4

The proposed project is exempt from offset requirements per section 4.6.8 of Rule 2201 (refer to discussion in Section VIII under Rule 2201 of this document). Therefore, BE calculations are not required.

### N-1662-28

No criteria pollutants are emitted from the proposed ammonia receiving and storage operation.

## 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."

Per section VII.C.5 above, this facility is a Major source for NO<sub>x</sub>, SO<sub>x</sub>, and PM<sub>10</sub>. Thus, the project's PE2 is compared to the SB 288 Major Modification Threshold in the following table in order to determine if the SB 288 Major Modification calculation is required.

SB 288 Major Modification Thresholds			
Pollutant	Project PE2* (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
NO <sub>x</sub>	729,205	50,000	Yes
SO <sub>x</sub>	567,160	80,000	Yes
PM <sub>10</sub>	139,001	30,000	Yes

\*All four furnaces

Since the project's PE2 surpasses the SB 288 Major Modification Threshold for NO<sub>x</sub>, SO<sub>x</sub>, and PM<sub>10</sub>, 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:

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

Where: PE2 = the sum of all the PE2s for each permit unit in this project  
 AE = Actual emissions, as of a particular date, shall equal the average rate, in tons per year, at which the unit actually emitted the pollutant during a consecutive 24-month period which precedes the particular date and which is representative of normal source operation. The reviewing authority shall allow the use of a different time period upon a determination that it is more representative of normal source operation.

### Baseline Period:

Per guidance on page 8 of District Policy APR-1150 (1/5/21), for a specific regulated NSR pollutant, when a project involves multiple emissions units, only one consecutive 24-month period must be used to determine the baseline actual emissions for all modified emissions units.

Under project N-1210489, Gallo Glass Company has provided glass production data for the past 10 year period from 2011 to 2020. Using this production data, year 2015 and 2016 was determined to be the 2 year period (24-month period) during which the facility operated most closely to the average production rate over the 10 year period of data provided by the applicant. Thus, year 2015 and 2016 data will be used as the baseline period for this analysis.

### NO<sub>x</sub>:

Gallo Glass Company uses a CEMS to monitor and record NO<sub>x</sub> emissions. The NO<sub>x</sub> emissions over the 2015 and 2016 baseline period are summarized below.

NO <sub>x</sub> Avg. Actual Emissions			
Permit#	Baseline period	AE (lb/yr)	Avg. AE (lb/yr)
N-1662-1	2015	128,396	132,442
	2016	136,488	
N-1662-2	2015	48,160	82,990
	2016	117,820	
N-1662-3	2015	90,400	102,240
	2016	114,080	
N-1662-4	2015	146,680	151,290
	2016	155,900	

Using the PE2 from this project and the calculated AE from the above table, the NEI for NO<sub>x</sub> is calculated as follows:

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

NEI for NOx			
Permit Unit	PE2 (lb/yr)	AE (lb/yr)	NEI (lb/yr)
N-1662-1	187,938	132,442	55,496
N-1662-2	155,381	82,990	72,391
N-1662-3	155,381	102,240	53,141
N-1662-4	230,505	151,290	79,215
NEI (total):			260,243

### SO<sub>x</sub>:

Gallo Glass Company uses CEMS to monitor and record SO<sub>x</sub> emissions. The SO<sub>x</sub> emissions over the 2015 and 2016 baseline period are summarized below.

SO <sub>x</sub> Avg. Actual Emissions			
Permit#	Baseline period	AE (lb/yr)	Avg. AE (lb/yr)
N-1662-1	2015	125,555	111,952
	2016	98,349	
N-1662-2	2015	42,340	74,530
	2016	106,720	
N-1662-3	2015	79,440	91,390
	2016	103,340	
N-1662-4	2015	128,920	135,060
	2016	141,200	

Using the PE2 from this project and the calculated AE (above table), the NEI for SO<sub>x</sub> is calculated as follows:

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

NEI for SO <sub>x</sub>			
Permit Unit	PE2 (lb/yr)	AE (lb/yr)	NEI (lb/yr)
N-1662-1	146,174	111,952	34,222
N-1662-2	120,852	74,530	46,322
N-1662-3	120,852	91,390	29,462
N-1662-4	179,282	135,060	44,222
NEI (total):			154,228

**PM<sub>10</sub>:**

Gallo Glass Company provided actual production and source test data to estimate PM<sub>10</sub> emission rate over the 2015 and 2016 baseline period.

<b>PM<sub>10</sub> Avg. Actual Emissions</b>			
<b>Permit#</b>	<b>Baseline period</b>	<b>AE (lb/yr)</b>	<b>Avg. AE (lb/yr)</b>
N-1662-1	2015	10,800	9,736
	2016	8,672	
N-1662-2	2015	4,028	5,203
	2016	6,377	
N-1662-3	2015	7,559	6,867
	2016	6,175	
N-1662-4	2015	12,265	10,352
	2016	8,439	

Using the PE2 from this project and the calculated AE (above table), the NEI is calculated as follows:

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

<b>NEI for PM10</b>			
<b>Permit Unit</b>	<b>PE2 (lb/yr)</b>	<b>AE (lb/yr)</b>	<b>NEI (lb/yr)</b>
N-1662-1	35,825	9,736	26,089
N-1662-2	29,619	5,203	24,416
N-1662-3	29,619	6,867	22,752
N-1662-4	43,938	10,352	33,586
NEI (total):			106,843

In conclusion, the project's net emission increases are summarized in the following table and are compared to the SB-288 Major Modification Thresholds in the following table.

<b>SB 288 Major Modification Determination</b>			
<b>Pollutant</b>	<b>NEI (lb/year)</b>	<b>SB 288 Modification Threshold (lb/year)</b>	<b>SB 288 Major Modification?</b>
NO <sub>x</sub>	260,243	50,000	Yes
SO <sub>x</sub>	154,228	80,000	Yes
PM <sub>10</sub>	106,843	30,000	Yes

As seen in the table above, NEI for NO<sub>x</sub>, SO<sub>x</sub> and PM<sub>10</sub> surpassed the respective SB-288 thresholds; therefore, this project triggers an SB-288 major modification.



## 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.

As defined in 40 CFR 51.165, Section (a)(1)(v) and part D of Title I of the CAA, a Federal Major Modification is any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act. The significant net emission increase threshold for each criteria pollutant is included in Rule 2201.

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

### Step 1: Project Emissions Increase

For modified existing emissions units, according to 40 CFR 51.165(a)(2)(ii)(C), the project’s emission increase for each pollutant is equal to the sum of the differences between the projected actual emissions (PAE) and the baseline actual emissions (BAE). Please note that in step 1, since the District is classified as extreme non-attainment for ozone, no NO<sub>x</sub> and VOC emission decreases associated with the proposed project shall be accounted for.

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

As described in 40 CFR 51.165(a)(1)(xxviii)(B), when using historical data and company’s expected business activity to determine PAE, the portion of the emissions after the project that the existing unit could have accommodated (Unused Baseline Capacity, UBC) before the project (during the same 24-month baseline period used to determine BAE) and that are unrelated to the particular project (including emissions increases due to product demand growth) are to be excluded.

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

Since the applicant has provided the data required to calculate PAE, the project emissions increase will be calculated as follows:

Project Emissions Increase = PAE – BAE – UBC, where:

PAE = Projected Actual Emissions;

BAE = Baseline Actual Emissions;

UBC = Unused baseline capacity

Projected Actual Emissions (PAE)

As indicated in previous permitting projects N-1201553 (Sept 2020) and N-1210180 (July 2021), Gallo Glass Company projects to produce glass up to 520.1 ton/day, 189,836.5 tons/yr in furnace 1 (N-1662-1); 430 tons/day, 156,950 tons/yr in furnace 2 (N-1662-2); 430 tons/day, 156,950 tons/yr in furnace 3 (N-1662-3); and 637.9 tons/day, 232,833.5 tons/yr in furnace 4 (N-1662-4). The projected actual production amount accounts for historical operational data, the company's own representations, the company's expected business activity and the company's highest projections of business activity. The projected future use accounts for expanded growth with the E&J Gallo Winery brand, expanded outside sales, and business mergers and acquisitions. Using these rates, the emissions from each furnace are as follows:

**NO<sub>x</sub>, SO<sub>x</sub>:**

Projected Actual Emissions = Emission Factor (lb/ton) x Projected Actual Glass Production (tons/yr)

**PM<sub>10</sub>:**

Projected Actual Emissions = Emission Factor during full or partial emission control system bypass episode for routine maintenance x Projected Actual Glass Production (tons/yr) over 6 day period<sup>1</sup>

Projected Actual Emissions = Emission Factor during steady state x Projected Actual Glass Production (tons/yr) over 359 days

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<sup>1</sup> Gallo Glass Company is permitted to use full or partial PM10 emission control system for up to 144 hr/yr (6 days/yr)

Permit#	Pollutant	EF (lb/ton)	Production (tons/yr)	PAE (lb/yr)
N-1662-1	NO <sub>x</sub>	0.99	189,836.5	187,938
	SO <sub>x</sub>	0.77		146,174
	PM <sub>10</sub>	0.71*	3,120.6	2,216
		0.18**	186,715.9	33,609
		Total	--	35,825
N-1662-2	NO <sub>x</sub>	0.99	156,950	155,381
	SO <sub>x</sub>	0.77		120,852
	PM <sub>10</sub>	0.71*	2,580	1,832
		0.18**	154,370	27,787
		Total	--	29,619
N-1662-3	NO <sub>x</sub>	0.99	156,950	155,381
	SO <sub>x</sub>	0.77		120,852
	PM <sub>10</sub>	0.71*	2,580	1,832
		0.18**	154,370	27,787
		Total	--	29,619
N-1662-4	NO <sub>x</sub>	0.99	232,833.5	230,505
	SO <sub>x</sub>	0.77		179,282
	PM <sub>10</sub>	0.71*	3,827	2,717
		0.18**	229,006	41,221
		Total	--	44,938

\*EF during full or partial emission control system bypass episode for routine maintenance; \*\* EF during steady state operation

#### Baseline Actual Emissions (BAE)

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

The Federal Major Modification Baseline Actual Emissions will be calculated utilizing information provided by the applicant. As noted in section VII.C.7 above, baseline period is found to be a two year period between 2015 and 2016 using plant production records.

Permit#	Pollutant	Baseline period	BAE (lb/yr)	Avg. BAE (lb/yr)
N-1662-1	NOx	2015	128,396	132,442
		2016	136,488	
	SOx	2015	125,555	111,952
		2016	98,349	
	PM <sub>10</sub>	2015	10,800	9,736
		2016	8,672	
N-1662-2	NOx	2015	48,160	82,990
		2016	117,820	
	SOx	2015	42,340	74,530
		2016	106,720	
	PM <sub>10</sub>	2015	4,028	5,203
		2016	6,377	
N-1662-3	NOx	2015	90,400	102,240
		2016	114,080	
	SOx	2015	79,440	91,390
		2016	103,340	
	PM <sub>10</sub>	2015	7,559	6,867
		2016	6,175	
N-1662-4	NOx	2015	146,680	151,290
		2016	155,900	
	SOx	2015	128,920	135,060
		2016	141,200	
	PM <sub>10</sub>	2015	12,265	10,352
		2016	8,439	

#### Unused Baseline Capacity (UBC)

As described in 40 CFR 51.165(a)(1)(xxviii)(B), when using historical data and company's expected business activity and highest projections of business activity to determine PAE, the portion of the emissions after the project that the existing unit could have accommodated before the project (during the same 24-month baseline period used to determine BAE) and that are unrelated to the particular project (including emissions increases due to product demand growth) are to be excluded.

As determined under project N-1201553, furnaces at this site have historically operated near their permitted emission limits for NOx and SOx as demonstrated by CEMS data. For PM<sub>10</sub> emissions, the source test data has demonstrated that the emission rate varies and has ranged from as low as 0.053 lb-PM<sub>10</sub>/ton of glass pulled, up to 0.28 lb-PM<sub>10</sub>/ton of glass pulled with one of the runs during that source test measuring as high as 0.47 lb-PM<sub>10</sub>/ton of glass pulled. To maintain a margin of compliance when accounting for all startups, shutdowns, and malfunctions, as authorized by 40 CFR 51.165 (a)(1)(xxviii)(B)(2), the permitted emission limits will be used when calculating the emissions that the unit could have physically and legally accommodated during the baseline period.

Additionally, as noted in the table below, the furnaces have actually produced up to a combined 1,684 tons per day of glass. The following table considers the maximum operational data from each furnace based on product demand on any given day during the period used to estimate baseline period since the furnaces do not typically operate at the maximum capacity on a single day.

<b>Actual Production Data (tons/day)</b>				
<b>Date</b>	<b>N-1662-1</b>	<b>N-1662-2</b>	<b>N-1662-3</b>	<b>N-1662-4</b>
10/23/15	456	387	283	505
10/25/15	<b>463</b>	381	283	502
2/26/16	463	<b>391</b>	316	
2/28/16	462	389	<b>318</b>	
8/5/16	458	383	313	483
*10/04/16	441	388	317	<b>512</b>
<b>Total (sum of max values): 463+391+318+512 = 1,684</b>				

\*Noted under project N-1201553

Gallo Glass Company furnaces have maximum glass pull rate design capacities of the following: Furnace 1 (520.1 tons/day), Furnace 2 (430 tons/day), Furnace 3 (430 tons/day) and Furnace 4 (637.9 tons/day). The applicant stated that the furnaces typically operate over 80% of their maximum pull capacity ( $1,684/2,018 = 83\%$ ) and are only limited by the facility's current demand for product (glass wine bottles). Based on the applicant's statement, there is nothing physically preventing the facility from operating each furnace at their maximum capacity, as noted above.

Further, as noted under project N-1201553, the applicant stated that the market demand for higher production rates, due to increases from internal demand (E&J Gallo Winery) or from expanded outside sales, and business mergers and acquisitions could be accommodated if the demand materialized. Additionally, since Gallo Glass Company produces containers for the E&J Gallo Winery (with an international market) and to outside customers, if disruptions in container glass supply from another facility (i.e. catastrophic plant closure) or as a whole (e.g. loss of alternate suppliers, import tariffs, global pandemics), Gallo Glass Company could easily increase production and would do so with the furnaces as they are currently permitted/configured. Therefore, if the market demand required such production, all furnaces could be operated to the maximum capacity.

Permit#	Pollutant	Max furnace design capacity production emissions lb/year
N-1662-1	NO <sub>x</sub>	187,938
	SO <sub>x</sub>	146,174
	PM <sub>10</sub>	35,825
N-1662-2	NO <sub>x</sub>	155,381
	SO <sub>x</sub>	120,852
	PM <sub>10</sub>	29,619
N-1662-3	NO <sub>x</sub>	155,381
	SO <sub>x</sub>	120,852
	PM <sub>10</sub>	29,619
N-1662-4	NO <sub>x</sub>	230,505
	SO <sub>x</sub>	179,282
	PM <sub>10</sub>	43,938

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

Unused Baseline Capacity				
Permit#	Pollutant	Max furnace design capacity production emissions lb/year	BAE (lb/yr)	UBC (lb/yr)
N-1662-1	NO <sub>x</sub>	187,938	132,442	55,496
	SO <sub>x</sub>	146,174	111,952	34,222
	PM <sub>10</sub>	35,825	9,736	26,089
N-1662-2	NO <sub>x</sub>	155,381	82,990	72,391
	SO <sub>x</sub>	120,852	74,530	46,322
	PM <sub>10</sub>	29,619	5,203	24,416
N-1662-3	NO <sub>x</sub>	155,381	102,240	53,141
	SO <sub>x</sub>	120,852	91,390	29,462
	PM <sub>10</sub>	29,619	6,175	23,444
N-1662-4	NO <sub>x</sub>	230,505	151,290	79,215
	SO <sub>x</sub>	179,282	135,060	44,222
	PM <sub>10</sub>	43,938	10,352	33,586

#### Project Emissions Increase For Modified Emission Units

Project emissions increase =  $\sum(\text{PAE} - \text{BAE} - \text{UBC})$ ;

Since the District is classified as extreme non-attainment for ozone, no NO<sub>x</sub> and VOC emission decreases associated with the proposed project shall be accounted for in the calculations below.

**NO<sub>x</sub>:**

Project Emission Increase (lb/yr)				
Permit#	PAE (lb/yr)	BAE (lb/yr)	UBC (lb/yr)	Project emissions increase (lb/yr)
N-1662-1	187,938	132,442	55,496	0
N-1662-2	155,381	82,990	72,391	0
N-1662-3	155,381	102,240	53,141	0
N-1662-4	230,505	151,290	79,215	0
$\Sigma(\text{PAE} - \text{BAE} - \text{UBC})$				0

**SO<sub>x</sub>:**

Project Emission Increase (lb/yr)				
Permit#	PAE (lb/yr)	BAE (lb/yr)	UBC (lb/yr)	Project emissions increase (lb/yr)
N-1662-1	146,174	129,826	34,222	0
N-1662-2	120,852	111,952	46,322	0
N-1662-3	120,852	91,390	29,462	0
N-1662-4	207,322	135,060	44,222	0
$\Sigma(\text{PAE} - \text{BAE} - \text{UBC})$				0

**PM<sub>10</sub>:**

Project Emission Increase (lb/yr)				
Permit#	PAE (lb/yr)	BAE (lb/yr)	UBC (lb/yr)	Project emissions increase (lb/yr)
N-1662-1	35,825	9,736	26,089	0
N-1662-2	29,619	5,203	24,416	0
N-1662-3	29,619	6,175	23,444	0
N-1662-4	43,938	10,352	33,586	0
$\Sigma(\text{PAE} - \text{BAE} - \text{UBC})$				0

In conclusion, the project's total emission increases are summarized in the following table and are compared to the Federal Major Modification Thresholds in the following table. Note that conservatively, it is assumed that all PM<sub>10</sub> is PM<sub>2.5</sub>.

Federal Major Modification Thresholds for Emission Increases			
Pollutant	Total Project Emissions Increases (lb/year)	Thresholds (lb/year)	Federal Major Modification?
NO <sub>x</sub> *	0	0	No
SO <sub>x</sub>	0	80,000	No
PM <sub>10</sub>	0	30,000	No
PM <sub>2.5</sub>	0	20,000	No

\*If there is any emission increases in NO<sub>x</sub> or VOC, this project is a Federal Major Modification and no further analysis is required;

As seen in the table above, since none of the Federal Major Modification Thresholds are being surpassed with this project, this project does not constitute a Federal Major Modification, step 2 is not required and no further discussion is required.

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

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

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

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

As demonstrated in the “PSD Major Source Determination” Section above, the facility was determined to be a existing PSD Major Source. Because the project is not located within 10 km (6.2 miles) of a Class 1 area – modeling of the emission increase is not required to determine if the project is subject to the requirements of Rule 2410.

### II. Project Emission Increase – Significance Determination

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

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

PSD Significant Emission Increase Determination: Potential to Emit (tons/year)					
	NO <sub>2</sub>	SO <sub>2</sub>	CO	PM	PM <sub>10</sub>
Total PE from New and Modified Units	365	284	84	70	70
PSD Significant Emission Increase Thresholds	40	40	100	25	15
Further Analysis required?	Yes	Yes	No	Yes	Yes

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



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

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

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

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

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

The project's total emission increases, as calculated in the Federal Major Modification section VII.C.8 above, are listed below and compared to the PSD significant emission increase thresholds in the following table.

PSD Significant Emission Increase Determination: Emission Increase (tons/year)					
	NO <sub>2</sub>	SO <sub>2</sub>	CO	PM	PM <sub>10</sub>
Emission Increases (only)	0	0	74*	0	0
PSD Significant Emission Increase Thresholds	40	40	100	25	15
PSD Significant Emission Increase?	No	No	No	No	No

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

As seen in the table above, the emission increases from the project, for modified emission units, does not exceed any of the PSD significant emission increase thresholds. Therefore the project does not result in a PSD major modification and no further discussion is required.

## 10. Quarterly Net Emissions Change (QNEC)

The QNEC is calculated solely to establish emissions that are used to complete the District's PAS emissions profile screen. Refer to **Appendix D** for QNEC for this project.

## 11. PM<sub>2.5</sub> Federal Offset Sanctions

As of June 27, 2023, the District is in nonattainment new source review (NNSR) offset sanctions pursuant to CAA 179(a) for PM<sub>2.5</sub>. Therefore, any New Major Source or Federal Major Modification for PM<sub>2.5</sub> (including increases of its precursors NO<sub>x</sub>, VOC, and SO<sub>x</sub>), must supply any required federal offsets at a 2:1 ratio.

For the purposes of determining major source status the following shall not be included:

- any ERCs associated with the stationary source
- Emissions from non-road IC engines (i.e. IC engines at a particular site at the facility for less than 12 months), pursuant to the Clean Air Act, Title 3, Section 302, US Codes 7602(j) and (z)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 70.2

<b>PM2.5 Federal Major Source Determination (lb/year)</b>				
	<b>NO<sub>x</sub>*</b>	<b>SO<sub>x</sub>*</b>	<b>PM<sub>2.5</sub></b>	<b>VOC*</b>
SSPE1	748,306	569,418	211,890	16,687
SSPE2	748,306	569,418	211,890	16,687
PM2.5 Federal Major Source Threshold**	140,000	140,000	140,000	140,000
Pre or Post-Project PM2.5 Federal Major Source?	Yes	Yes	Yes	No

\* PM2.5 Precursors

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

As shown in the table above, this facility is an existing PM2.5 federal Major Source for PM2.5, NO<sub>x</sub>, and SO<sub>x</sub>. Consequently, project's net emission increase is required for these pollutants. This project's net emission increase is estimated in section VII.C.8 above and are summarized in the following table:

<b>PM2.5 Federal Major Modification Source Determination (lb/year)</b>			
	<b>NO<sub>x</sub>*</b>	<b>SO<sub>x</sub>*</b>	<b>PM<sub>2.5</sub></b>
NEI	0	0	0
Significance Threshold for PM2.5**	80,000	80,000	20,000
PM2.5 Federal Major Modification?	No	No	No

\* PM2.5 Precursors

\*\* Pursuant to 40 CFR 51.165(a)(1)(x)(A)

As seen in the tables above, this facility is an existing Major Source for PM2.5, NO<sub>x</sub>, and SO<sub>x</sub>, and the emission increases from this project are less than the significance thresholds for PM2.5, NO<sub>x</sub>, and SO<sub>x</sub>. Therefore, this project is not a federal major modification for PM2.5 and 2:1 offsets are not required.

## 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.

Currently, the shared stack for all four furnaces is equipped with CEMs for NO<sub>x</sub> and SO<sub>x</sub> emissions and has an existing ATC to install a CO CEMs. Gallo Glass will add NH<sub>3</sub> monitor to the existing CEMs. The following conditions will be included in the permits:

- *The furnace shall have continuous monitoring systems for NO<sub>x</sub>, CO, NH<sub>3</sub> and SO<sub>x</sub> emissions. The monitoring devices shall have continuous recording devices, and all records shall be kept on site. [District Rules 1080 and 4354]*
- *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 downstream of the common stack. The CEMS shall comply with the requirements of 40 Code of Federal Regulations (CFR) Part 51, 40 CFR Parts 60.7 and 60.13, 40 CFR Part 60 Appendix B (Performance Specifications) and Appendix F (Quality Assurance Procedures) and the applicable sections of Rule 1080 (Stack Monitoring). [District Rule 4354]*
- *The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080]*
- *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 NO<sub>x</sub>, CO, NH<sub>3</sub> or SO<sub>x</sub> emission limit as indicated by the CEMS shall be reported by the operator to the APCO within 24 hours. The notification shall include 1) name and location of the facility, 2) identification of furnace(s) causing the exceedances, 3) calculation of actual NO<sub>x</sub>, CO and VOC emissions, and 4) corrective actions and schedules to complete the work. [District Rule 1080 and Stanislaus County Rule 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 (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]*
- *{2251} The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080]*
- *Records shall be maintained and shall include: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEMS that have been installed pursuant to District Rule 1080, and emission measurements. [District Rule 1080]*

### **Rule 1081 Source Sampling**

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

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

- *The common exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NOx, CO, and O2 analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Source Emission Monitoring and Testing. [District Rule 1081]*
- *Source testing to demonstrate compliance with permit conditions and all rules and regulations for both natural gas and LPG shall be conducted within 60 days of startup of the selective catalytic reduction and tuning of the furnaces to meet the Phase 1 emission limits of District Rule 4354, 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. NH3 testing shall be performed using BAAQMD Method ST-1B. [District Rules 1081, 2201, 2520, §9.3.2; and 4354]*
- *Source testing when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. A source test shall be performed within 90 days after this furnace exceeds 100 hours of operation, on LPG, on an annual basis. [District Rule 1081]*
- *Source testing shall be conducted by a CARB-certified source testing contractor. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to source testing. The results of each source test shall be submitted to the District within 60 days after the source test date. [District Rule 1081]*
- *PM and PM10 source testing shall be conducted downstream of 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)**

#### N-1662-1, '-2, '-3 and '-4

Pursuant to Section 4.2.3 of Rule 2201, for existing facilities, the installation or modification of an emission control technique performed solely for the purpose of compliance with the requirements of District, State or Federal air pollution control laws,

regulations, or orders, as approved by the APCO, shall be exempt from Best Available Control Technology for all air pollutants, provided all of the following conditions are met:

- There shall be no increase in the physical or operational design of the existing facility, except for those changes to the design needed for the installation or modification of the emission control technique itself;
- There shall be no increase in the permitted rating or permitted operating schedule of the permitted unit;
- There shall be no increase in emissions from the stationary source that will cause or contribute to any violation of a National Ambient Air Quality Standard, Prevention of Significant Deterioration increment, or Air Quality Related Value in Class I areas;
- The project shall not result in an increase in permitted emissions or potential to emit of more than 25 tons per year of NO<sub>x</sub>, or 25 tons per year of VOC, or 15 tons per year of SO<sub>x</sub>, or 15 tons per year of PM<sub>10</sub>, or 50 tons per year of CO; and
- The project shall not constitute a federal major modification.

The proposed project is solely to comply with the requirements of District Rule 4354. There is no increase in physical or operational design (except the ones noted in the proposal section). Further, there will be no increases in emissions from the stationary source that would cause or contribute to any violation of a National Ambient Air Quality Standard, Prevention of Significant Deterioration increment, or Air Quality Related Value in a Class 1 area. Lastly, as concluded in Section VII.C.8 above, this project does not constitute a Federal Major Modification. Thus, the proposed project to add an ammonia injection system and catalytic filters is exempt from the BACT requirements.

N-1662-28-0:

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

- a. Any new emissions unit with a potential to emit exceeding 2.0 pounds per day, or the relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding 2.0 pounds per day,
- b. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an Adjusted Increase in Permitted Emissions (AIPE) exceeding 2.0 pounds per day, and/or
- c. 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.

Per section VII.C.2 above, the potential emissions from aqueous ammonia receiving and storage operation are not greater than 2.0 lb/day. Therefore, BACT is not triggered for ammonia emissions.

## **B. Offsets**

### N-1662-1, '-2, '-3 and '-4

Pursuant to Section 4.6.8 of Rule 2201, for existing facilities, the installation or modification of an emission control technique performed solely for the purpose of compliance with the requirements of District, State or Federal air pollution control laws, regulations, or orders, as approved by the APCO, shall be exempt from Best Available Control Technology for all air pollutants, provided all of the following conditions are met:

- There shall be no increase in the physical or operational design of the existing facility, except for those changes to the design needed for the installation or modification of the emission control technique itself;
- There shall be no increase in the permitted rating or permitted operating schedule of the permitted unit;
- There shall be no increase in emissions from the stationary source that will cause or contribute to any violation of a National Ambient Air Quality Standard, Prevention of Significant Deterioration increment, or Air Quality Related Value in Class I areas; and
- The project shall not result in an increase in permitted emissions or potential to emit of more than 25 tons per year of NO<sub>x</sub>, or 25 tons per year of VOC, or 15 tons per year of SO<sub>x</sub>, or 15 tons per year of PM<sub>10</sub>, or 50 tons per year of CO;

The proposed project is solely to comply with the requirements of District Rule 4354. There is no increase in physical or operational design. Further, there will be no increases in emissions from the stationary source that would cause or contribute to any violation of a National Ambient Air Quality Standard, Prevention of Significant Deterioration increment, or Air Quality Related Value in a Class 1 area. As concluded in Section VII.C.8 above, this project does not constitute a Federal Major Modification. Finally, the project will not result in an increase in permitted emissions of NO<sub>x</sub>, VOC, SO<sub>x</sub>, PM<sub>10</sub>, or SO<sub>x</sub>. Thus, the proposed project is exempt from the offset requirements.

### N-1662-28-0:

The proposed ammonia receiving and storage operation only emits ammonia; therefore, offsets are not required.

## C. Public Notification

### 1. Applicability

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

- New Major Sources, Federal Major Modifications, and SB 288 Major Modifications,
- Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
- Any project which results in the offset thresholds being surpassed,
- Any project with an SSPE of greater than 20,000 lb/year for any pollutant, and/or
- 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 seen in Section VII.C.7 above, this project is an SB 288 Major Modification. Therefore, public noticing for SB 288 Major Modification purposes is required.

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

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements.

The proposed project does not include any new emissions unit, therefore this section is not applicable.

#### c. Offset Threshold

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

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO <sub>x</sub>	1,210,526	1,210,526	20,000 lb/year	No
SO <sub>x</sub>	569,418	569,418	54,750 lb/year	No
PM <sub>10</sub>	269,922	269,922	29,200 lb/year	No
CO	167,889	167,889	200,000 lb/year	No
VOC	16,687	16,687	20,000 lb/year	No



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

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

Public notification is required for any permitting action that results in a SSIPE of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE = SSPE2 – SSPE1. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table. Negative SSIPE values are equated to 0.

SSIPE Public Notice Thresholds					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO <sub>x</sub>	1,210,526	1,210,526	0	20,000 lb/year	No
SO <sub>x</sub>	569,418	569,418	0	20,000 lb/year	No
PM <sub>10</sub>	269,922	269,922	0	20,000 lb/year	No
CO	167,889	167,889	0	20,000 lb/year	No
VOC	16,687	16,687	0	20,000 lb/year	No
NH3	11,230	0	11,230	20,000 lb/year	No

As seen in the table above, the SSIPE does not exceed 20,000 lb/year for any pollutant; therefore public noticing for SSIPE purposes is not required.

**e. Minor Sources with SSPE Exceeding 80% of Major Source Threshold**

Public notification is required for any project for new and/or modified stationary sources at minor source facilities that results in a SSPE exceeding 80% of the major source threshold.

As seen in Section VII.C.5 above, this facility is an existing Major Source. Thus, public noticing for this purpose is not required.

**f. Title V Significant Permit Modification**

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

**2. Public Notice Action**

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

#### **D. Daily Emission Limits (DELs)**

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

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

##### **N-1662-1, -2, -3, and -4**

- *The furnace shall be fired on natural gas and LPG only. [District Rule 2201]*
- *Except during periods of startup, shutdown, and idling, the combined SO<sub>x</sub> emissions from permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed 0.77 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, PM<sub>10</sub> emissions shall not exceed 0.18 lb/ton of glass produced. [District Rules 2201 and 4354]*
- *PE<sub>2</sub> = 1.3 lb-NH<sub>3</sub>/hr; 30.0 lb-NH<sub>3</sub>/day and 10,990 lb-NH<sub>3</sub>/yr*
- *Ammonia (NH<sub>3</sub>) emissions from the furnace battery shall not exceed any of the following limits: 1.30 lb/hr, 30.0 lb/day, and 10,990 lb in any rolling 12-month period. [District Rules 2201 and 4102]*
- *The PM<sub>10</sub> emissions, during full or partial emission control system bypass episodes for routine maintenance, shall not exceed 0.71 lb/ton of glass produced. [District Rule 2201]*
- *The maximum throughput of lime received and stored in the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed either of the following: 65 ton-lime/day or 110 tons-lime/quarter. [District Rule 2201]*
- *PM<sub>10</sub> emissions rate from the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed 0.0049 lb-PM<sub>10</sub>/ton-lime stored. [District Rule 2201]*

**N-1662-1-23**

- *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 0.99 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, as well as, Phase I NOx limit in Rule 4354. Any CEM measurement greater than 0.99 lb-NOx/ton of glass produced for each 30-day rolling average constitutes a violation of this emission limit. [District Rules 2201 and 4354]*
- *Except during periods of startup, shutdown, and idling, CO emissions shall not exceed 0.20 pounds per ton of glass produced. [District Rule 2201]*
- *Except during periods of startup, shutdown, and idling, VOC emissions shall not exceed 0.02 pounds per ton of glass produced. [District Rule 2201]*
- *The PM10 emissions shall not exceed 22,936 pounds during the first calendar quarter, 23,190 pounds during the second calendar quarter, 23,445 pounds during the third calendar quarter and 23,445 pounds during the fourth calendar quarter. These limits are to enforce the PM10 emission reductions granted by certificate number N-161-4. [District Rule 2201]*

**N-1662-2-24**

- *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 0.99 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, as well as, Phase I NOx limit in Rule 4354. Any CEM measurement greater than 0.99 lb-NOx/ton of glass produced for each 30-day rolling average constitutes a violation of this emission limit. [District Rules 2201 and 4354]*
- *Except during periods of startup, shutdown, and idling, CO emissions shall not exceed 0.20 pounds per ton of glass produced. [District Rule 2201]*
- *Except during periods of startup, shutdown, and idling, VOC emissions shall not exceed 0.02 pounds per ton of glass produced. [District Rule 2201]*
- *The PM10 emissions shall not exceed 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 Rule 2201]*

#### **N-1662-3-23**

- *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 0.99 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, as well as, Phase I NOx limit in Rule 4354. Any CEM measurement greater than 0.99 lb-NOx/ton of glass produced for each 30-day rolling average constitutes a violation of this emission limit. [District Rules 2201 and 4354]*
- *Except during periods of startup, shutdown, and idling, CO emissions shall not exceed 0.20 pounds per ton of glass produced. [District Rule 2201]*
- *Except during periods of startup, shutdown, and idling, VOC emissions shall not exceed 0.02 pounds per ton of glass produced. [District Rule 2201]*
- *The PM10 emissions shall not exceed 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 Rule 2201]*

#### **N-1662-4-25**

- *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 0.99 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-107-2, as well as, Phase I NOx limit in Rule 4354. Any CEM measurement greater than 0.99 lb-NOx/ton of glass produced for each 30-day rolling average constitutes a violation of this emission limit. [District Rules 2201 and 4354]*
- *Except during periods of startup, shutdown, and idling, CO emissions shall not exceed 0.20 pounds per ton of glass produced. [District Rule 2201]*
- *Except during periods of startup, shutdown, and idling, VOC emissions shall not exceed 0.02 pounds per ton of glass produced. [District Rule 2201]*

- *The PM<sub>10</sub> emissions shall not exceed 28,132 pounds during the first calendar quarter, 28,445 pounds during the second calendar quarter, 28,757 pounds during the third calendar quarter and 28,758 pounds during the fourth calendar quarter. These limits are to enforce the PM<sub>10</sub> emission reductions granted by certificate number N-161-4. [District Rule 2201]*

#### **N-1662-28-0**

- *The quantity of aqueous ammonia delivered shall not exceed 5,000 gallons of aqueous ammonia in any one day and shall not exceed 202,778 gallons of aqueous ammonia in any rolling 12-month period. [District Rules 2201 and 4102]*
- *Ammonia emissions from the aqueous ammonia receiving and storage operation shall not exceed any of the following limits: 1.1 lb/day and 240 lb in any rolling 12-month period. [District Rules 2201 and 4102]*
- *The storage tank shall be equipped with a pressure-vacuum (PV) relief valve shall be set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings, properly maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in a leak-free condition except when the operating pressure exceeds the valve's set pressure. [District Rule 2201]*

### **E. Compliance Assurance**

#### **1. Source Testing**

#### **N-1662-1, -2, -3, and -4**

Gallo Glass Company is required to conduct a source testing to verify compliance with NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, CO and VOC emission limits within 60 days of initial startup under each permit.

NO<sub>x</sub> reduction would be achieved by injecting aqueous ammonia into exhaust of furnaces upstream of the sorbent (calcium hydroxide) injection system. The exhaust stream is then passed through UltraCat filter catalyst layer that reduces NO<sub>x</sub> emissions.

As noted in previous projects, the facility is expected to increase sorbent injection rate to the scrubber to reduce SO<sub>x</sub> emissions, which could cause a spike in PM<sub>10</sub> emissions; therefore, PM<sub>10</sub> testing is required.

As noted in previous projects, NO<sub>x</sub> reductions would also be achieved by operating furnaces in low excess oxygen environment, which may cause an increase in CO or VOC emissions. As such, CO and VOC testing is also required.

The annual testing is required for District Rule 4354 compliance. The following existing 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 of startup of the selective catalytic reduction and tuning of the furnaces to meet the Phase 1 emission limits of District Rule 4354, and at least once every calendar year thereafter. NO<sub>x</sub> and CO testing shall be performed using CARB Method 100. VOC testing shall be performed using EPA method 25A. PM<sub>10</sub> testing shall be performed using EPA methods 201 and 202, EPA methods 201a and 202, or CARB methods 501 and 5. SO<sub>x</sub> testing shall be performed using EPA Method 8 and CARB Method 1-100. NH<sub>3</sub> testing shall be performed using BAAQMD Method ST-1B. [District Rules 1081, 2201, 2520, §9.3.2; and 4354]*
- Source testing when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. A source test shall be performed within 90 days after this furnace exceeds 100 hours of operation, on LPG, on an annual basis. [District Rule 1081]
- Source testing shall be conducted by a CARB-certified source testing contractor. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to source testing. The results of each source test shall be submitted to the District within 60 days after the source test date. [District Rule 1081]
- Source test conditions shall be representative of operations equal to or greater than 60 percent of the fuel use capacity for each furnace as stated in the Permit to Operate. [District Rule 4354]
- PM and PM<sub>10</sub> 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-1662-28-0**

Emissions from the ammonia receiving and storage operation are based upon generally accepted EPA formulas. Therefore, source testing is not required to verify emissions from this proposed operation.

## 2. Monitoring

### **N-1662-1, -2, -3, and -4**

The furnaces at this facility exhaust through a common stack that is equipped with an operational CEMs for NO<sub>x</sub> and SO<sub>x</sub>, and the facility will install a CEMS for CO and a CEMS for NH<sub>3</sub>. The following existing conditions will be included in each furnace permit:

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

In addition, to ensure that each furnace operates within the permitted VOC emissions, the facility is required to maintain each furnace's crown temperature above the temperature established at which compliance is demonstrated with VOC emissions in the previous test. The following conditions will be included in each permit:

- *The permittee shall install, operate, and maintain a monitoring and recording system that continuously monitor and records the furnace crown temperature. The recorded temperature shall be averaged over 30-minute period to demonstrate compliance with minimum furnace crown temperature established during the latest source testing. [District Rules 2201 and 4354]*
- *The furnace crown temperature shall be maintained at or above temperature at which compliance with VOC emissions have been demonstrated in the previous source test. If the measured furnace temperature is below this temperature, the permittee shall conduct a certified VOC source test within 60 days to re-establish the minimum temperature. In lieu of conducting a certified VOC source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the furnace temperature to or above the established minimum temperature), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule*

*1100 in lieu of performing the notification and testing required by this condition.  
[District Rules 2201 and 4354]*

**N-1662-28-0**

No monitoring requirements are necessary for the ammonia receiving and storage operation.

**3. Recordkeeping**

**N-1662-1, -2, -3, and -4**

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 NO<sub>x</sub> emissions (in lb/ton of glass pulled), the SO<sub>x</sub> emissions (in lb/ton of glass pulled), the CO emissions (in lb/ton of glass pulled), the NH<sub>3</sub> emissions (in lb/hr), 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] Y [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]*
- *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 operator shall monitor and record the pressure differential gauge reading of the ceramic filter dust collector at least once during each day that the unit operates. [District Rules 2201 and 4354 and 40 CFR Part 64]*
- *Records of dust collector and bin vent filter maintenance, inspections and repairs shall be maintained. The records shall include, date of inspection, change outs of filter media, corrective action taken, and identification of the individual performing the inspection. [District Rules 2201 and 2520, 9.4.2]*



- *Records of daily and quarterly amount of lime transferred into the lime storage silo shall be maintained. [District Rules 1070 and 2201]*
- *The permittee shall maintain records of the date and time, the furnace crown temperature readings, and the furnace crown temperature measured during the latest source testing during which compliance was demonstrated with the VOC emission limit. [District Rules 2201 and 4354]*
- *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-1662-28-0**

- *The permittee shall maintain records of the daily and rolling 12-month quantity of ammonia received. [District Rules 2201 and 4102]*
- *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 4102]*

#### **4. Reporting**

No reporting is required for compliance with District Rule 2201 requirements.

#### **F. Ambient Air Quality Analysis (AAQA)**

Section 4.15 of District Rule 2201 requires that an AAQA 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 proposed location is in an attainment area for NO<sub>x</sub>, CO, and SO<sub>x</sub>. This project will not result in an increase in NO<sub>x</sub>, CO, or SO<sub>x</sub> emissions.

The proposed location is in a non-attainment area for the state's PM<sub>10</sub> as well as federal and state PM<sub>2.5</sub> thresholds. This project will not result in an increase in PM<sub>10</sub> and PM<sub>2.5</sub> emissions.

Since this project doesn't result in an increase in pollutants for which an AAQA would be performed, an AAQA is not required.

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

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

## **Rule 2520 Federally Mandated Operating Permits**

This facility is subject to this Rule, and has received their Title V Operating Permit. The proposed modification is a Minor Modification to the Title V Permit. In accordance with Rule 2520, Minor Permit Modifications are permit modifications that:

1. Do not violate requirements of any applicable federally enforceable local or federal requirement;

The proposed project is not expected to violate any federally enforceable local or federal requirements.

2. Do not relax monitoring, reporting, or recordkeeping requirements in the permit and are not significant changes in existing monitoring permit terms or conditions;

The applicant is not proposing to relax any applicable monitoring, reporting, or recordkeeping requirements.

3. Do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis;

The applicant is not seeking any changes to applicable limits or standards, except for a change to release some unreacted ammonia from the selective catalytic reduction system to comply with NO<sub>x</sub> emissions limit in Rule 4354.

4. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:

- a. A federally enforceable emission cap assumed to avoid classification as a modification under any provisions of title I of the Federal Clean Air Act, prevention of significant deterioration (PSD) provisions of the CAA, or EPA PSD regulations; and
- b. An alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Federal Clean Air Act;

The applicant is not seeking to establish or change existing permit requirement that would exempt them from an applicable requirement.

5. Are not 'Title I modifications' as defined in this rule, modifications as defined in 'section 111 or 112 of the Federal Clean Air Act', or 'major modifications under the prevention of significant deterioration (PSD) provisions of Title I of the CAA or under EPA PSD regulations'; and

#### Title I modifications

Section 3.31 of Rule 2520 defines "Title I Modification" to be same as defined in District Rule 2201. An older version of District Rule 2201 (4/25/02) defined Title I modification. Since that time state and federal laws required the District to amend it's Rule 2201 multiple times. These amendments led to the removal of Title I Modification, instead, the District incorporated a separate state and federal provisions - "SB-288 Major Modification" (state based provision) and "Federal Major Modification" (federal regulation (40 CFR 51.165) based provision) in the latest District Rule 2201.

Since Title V permit is a federally mandated operating permit, identifying changes to a Title V permit as "minor" or "significant" are based on results of a "Federal Major Modification". If a project is a "Federal Major Modification" under Rule 2201, then that project is a "major modification" under federal regulations, and the permit changes are considered "significant" modifications; otherwise, the permit changes are considered "minor" modifications.

As discussed in section VII.C.8 above, the proposed project is not a "Federal Major Modification". Thus, the proposed changes to the Title V permit are classified as "minor" modifications.

#### Section 111 or 112 of the Federal Clean Air Act

Section 111, U.S. Code 7411, Standards of performance for new stationary sources<sup>2</sup>, section (a)(4) defines "modification" as any physical change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted.

The proposed project does not result in an increase in amount of any air pollutant. Therefore, the proposed project is not considered modification under this section.

Section 112, U.S. Code 7412, Hazardous air pollutants<sup>3</sup>, section (a) defines "modification" as any physical change in, or change in the method of operation of a major source which increases the actual emissions of any hazardous air pollutant emitted by such source by more than a de minimis amount or which results in the emission of any hazardous air pollutant not previously emitted by more than a de minimus amount.

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<sup>2</sup> <https://www.govinfo.gov/content/pkg/USCODE-2013-title42/html/USCODE-2013-title42-chap85-subchapl-partA-sec7411.htm>

<sup>3</sup> <https://www.govinfo.gov/content/pkg/USCODE-2013-title42/html/USCODE-2013-title42-chap85-subchapl-partA-sec7412.htm>

The term “major source” means any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants (HAP).

As determined under project N-1204878, this facility is not a Major Source for HAP emissions.

Since the proposed project is at a facility that is not a major source of HAPs, this section does not apply.

Major modifications under the PSD provisions of Title I of the CAA or under EPA PSD regulations

As seen in section VII.C.9 above, the proposed project does not result in emission increase of any pollutant above the PSD significance thresholds. Consequently, the project is not a major modification under the PSD provisions.

6. Do not seek to consolidate overlapping applicable requirements;

The applicant is not proposing to consolidate any applicable requirements.

7. Do not grant or modify a permit shield.

The applicant will not be granted any permit shield. Further, the company is not requesting to modify any of the existing permit shields.

Based on the discussion in each section, it is concluded that the proposed project does not meet any of the above criteria. Thus, this project is a “Minor Modification” to a Title V permit under Rule 2520.

Compliance is expected with this rule.

**Rule 4001 New Source Performance Standards (NSPS)**

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

N-1662-2, -3, -4

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.”

Furnaces #2, #3 and #4 have been modified since 1979 and are subject to the requirements of Subpart CC. Furnace #1 has not been modified, as defined in the subpart, since 1979 and is not subject to the requirements of Subpart CC. The following existing conditions will be included on the ATCs for furnaces #2, #3, and #4 as a mechanism 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]*
- *When the electrostatic precipitator is in operation, the specific power of the electrostatic precipitator shall be at least 70 milliwatts/acfm except during the bypass episodes allowed by this permit. [District Rule 2520, §9.3.2, 40 CFR 60.293(d), and 40 CFR Part 64]*
- *When the electrostatic precipitator is in operation, the specific power of the electrostatic precipitator shall be continuously monitored and recorded. [District Rules 2201 and 4354, 40 CFR 60.293(d), and 40 CFR Part 64]*
- *When the electrostatic precipitator is in operation, the permittee shall maintain daily records of the specific power of the electrostatic precipitator (in milliwatts/acfm). [District Rules 2201, 4354, 40 CFR 60.293(d) and 40 CFR Part 64]*

**40 CFR Part 60 Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984**

The storage tank in this project only stores ammonia, which is an inorganic material. Therefore, Subpart Kb requirements are not applicable.

**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, -2, -3, -4

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

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

N-1662-2, -3, and -4

##### Section 63.11448

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

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

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

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

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

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

- *{4383} No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101 (02/17/05). If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101, and County Rules 401 (in all eight counties in the San Joaquin Valley)]*

## **Rule 4102 Nuisance**

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

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

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

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

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

According to the Technical Services Memo for this project, the total facility prioritization score including this project was greater than one. Therefore, an HRA was required to determine the short-term acute and long-term chronic exposure from this project.

The resulting prioritization score, acute hazard index, chronic hazard index, and cancer risk for this project is shown below.

Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required	Special Permit Requirements
1-24	0.94	0.00	0.00	N/A <sup>1</sup>	No	Yes
2-25	0.94	0.00	0.00	N/A <sup>1</sup>	No	Yes
3-24	0.94	0.00	0.00	N/A <sup>1</sup>	No	Yes
4-26	0.94	0.00	0.00	N/A <sup>1</sup>	No	Yes
28-0	0.02	0.03	0.00	N/A <sup>1</sup>	No	No
<b>Project Totals</b>	>1	0.03	0.00	0.00		
<b>Facility Totals</b>	>1	0.04	0.01	7.26E-06		

Notes:

- Maximum Individual Cancer Risk was not calculated for Units 1, 2, 3, & 4 since there is no risk factor or the risk factor is so low that it has been determined to be insignificant for this type of unit.

### Discussion of T-BACT

BACT for toxic emission control (T-BACT) is required if the cancer risk exceeds one in one million. As shown above, T-BACT is not required for this project because the HRA indicates that the worst case cancer risk does not exceed one in one million; therefore, compliance with the District's Risk Management Policy is expected.

In accordance with District policy APR 1905, no further analysis is required, and compliance with District Rule 4102 requirements is expected.

See Appendix E: Health Risk Assessment Summary

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

#### Units # 1-24, 2-25, 3-24, & 4-26

- 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.

### 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, -2, -3, and -4

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

For the shared lime storage silo:

$$\text{PM Conc. (gr/scf)} = \frac{(\text{PM emission rate}) \times (7,000 \text{ gr/lb})}{(\text{Air flow rate}) \times (60 \text{ min/hr}) \times (24 \text{ hr/day})}$$



PM<sub>10</sub> emission rate = 0.3 lb/day. Assuming 100% of PM is PM<sub>10</sub>  
Exhaust Gas Flow = 500 scfm per the applicant

PM Conc. (gr/scf) =  $[(0.3 \text{ lb/day}) * (7,000 \text{ gr/lb})] \div [(500 \text{ ft}^3/\text{min}) * (60 \text{ min/hr}) * (24 \text{ hr/day})]$   
PM Conc. = 0.0029 gr/scf

Therefore, compliance with the Rule is expected.

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

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

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

Where P = process weight in tons/hr

#### N-1662-1, -2, -3, and -4 (Hydrated Lime Receiving & Storage)

Hourly Process Rate =  $400 \text{ lb/ft}^3 \times 500 \text{ ft}^3/\text{min} \times 60 \text{ min/hr} \div 2000 \text{ lb/ton} = 6000 \text{ ton/hr}$

Where 400 lb/ft<sup>3</sup> is the density of lime and 500 ft<sup>3</sup>/min is the flow rate through the silo per the applicant.

Rule 4202 emission limit =  $17.31 * P^{0.16}$  (where P is greater than 30 tons/hr)  
=  $17.31 * (2.5)^{0.16}$   
= 20.04 lb/hr

The operation has a maximum Post-Project Potential to Emit (PE<sub>2</sub>) of 0.3 lb/hr (assuming that the entire daily throughput limit can be processed in one hour).

Since the PE PM is less than the allowable value of 20.04 lb-PM/hr, the PM emissions are within allowable limits and compliance with the rule is expected.

#### N-1662-1 (Glass Melting Furnace #1)

Hourly Process Rate =  $520.1 \text{ tons/day} \div 24 \text{ hr/day} = 21.67 \text{ tons/hr}$

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

The worst case particulate matter emission concentration from the furnaces will occur during operation with the emission control system (ESP and ceramic filter dust collectors) by-passed.

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

$$\begin{aligned}\text{PE PM} &= 369.3 \text{ lb-PM}_{10}/\text{day} \times \text{lb-PM}/0.75 \text{ lb-PM}_{10} \times \text{day}/24 \text{ hours} \\ \text{PE PM} &= 20.51 \text{ lb/hr}\end{aligned}$$

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

#### N-1662-2 (Glass Melting Furnace #2)

$$\text{Hourly Process Rate} = 430 \text{ tons/day} \div 24 \text{ hr/day} = 17.92 \text{ tons/hr}$$

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

The worst case particulate matter emission concentration from the furnaces will occur during operation with the emission control system (ESP and ceramic filter dust collectors) by-passed. Pursuant to AP-42 Table 11.15-3, the PM<sub>10</sub> fraction for a glass furnace manufacturing operation served by an electrostatic precipitator is 0.75 lb-PM<sub>10</sub>/lb-PM. Since the PM<sub>10</sub>/lb-PM ratio is expected to be similar, using this data and the PM<sub>10</sub> emission rate from the furnace:

$$\begin{aligned}\text{PE PM} &= 305.3 \text{ lb-PM}_{10}/\text{day} \times \text{lb-PM}/0.75 \text{ lb-PM}_{10} \times \text{day}/24 \text{ hours} \\ \text{PE PM} &= 16.96 \text{ lb/hr}\end{aligned}$$

Since the 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 (Glass Melting Furnace #3)

$$\text{Hourly Process Rate} = 430 \text{ tons/day} \div 24 \text{ hr/day} = 17.92 \text{ tons/hr}$$

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

The worst case particulate matter emission concentration from the furnaces will occur during operation with the emission control system (ESP and ceramic filter dust collectors) by-passed.

Pursuant to AP-42 Table 11.15-3, the PM<sub>10</sub> fraction for a glass furnace manufacturing operation served by an electrostatic precipitator is 0.75 lb-PM<sub>10</sub>/lb-PM. Since the PM<sub>10</sub>/lb-PM ratio is expected to be similar, the PM<sub>10</sub> emission rate from the furnace:

$$\begin{aligned}\text{PE PM} &= 305.3 \text{ lb-PM}_{10}/\text{day} \times \text{lb-PM}/0.75 \text{ lb-PM}_{10} \times \text{day}/24 \text{ hours} \\ \text{PE PM} &= 16.96 \text{ lb/hr}\end{aligned}$$

Since the 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 (Glass Melting Furnace #4)

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

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

The worst case particulate matter emission concentration from the furnaces will occur during operation with the emission control system (ESP and ceramic filter dust collectors) by-passed.

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

$$\begin{aligned}\text{PE PM} &= 452.9 \text{ lb-PM}_{10}/\text{day} \times \text{lb-PM}/0.75 \text{ lb-PM}_{10} \times \text{day}/24 \text{ hours} \\ \text{PE PM} &= 25.18 \text{ lb/hr}\end{aligned}$$

Since the 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.

### **Rule 4301 Fuel Burning Equipment**

This rule specifies maximum emission rates in lb/hr for SO<sub>2</sub>, NO<sub>2</sub>, and combustion contaminants (defined as total PM in Rule 1020). This rule also limits combustion contaminants to ≤ 0.1 gr/scf. According to AP 42 (Table 1.4-2, footnote c), all PM emissions from natural gas combustion are less than 1 μm in diameter.

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

### **Rule 4354 Glass Melting Furnaces**

The purpose of this rule is to limit emissions of nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), volatile organic compounds (VOC), oxides of sulfur (SO<sub>x</sub>), and particulate matter (PM<sub>10</sub>) from glass melting furnaces. This rule and the following analysis applies to the furnaces under permits N-1662-1, -2, -3, and -4.

## ***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:

<b>Table 1 – NOx Emission Limits (lb/ton glass produced), in effect until December 31, 2023</b>	
<b>Furnace Type</b>	<b>NO<sub>x</sub> Limit</b>
Container Glass	1.5 <sup>A</sup>

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

<b>Table 2 – NOx Emission Limits (lb/ton glass produced), in effect on and after January 1, 2024</b>		
<b>Furnace Type</b>	<b>Phase I NO<sub>x</sub> Limit</b>	<b>Phase II NO<sub>x</sub> Limit</b>
Container Glass	1.1 <sup>A</sup>	0.75 <sup>A</sup>

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

Section 5.1.2 states instead of each furnace individually meeting the applicable Table 1 and 2 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 9.1 through 9.4.8.5 for NOx.

Pursuant to section 9.4.1, 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 limit in section 5.1.

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

### Until December 31, 2023

NOx Limit = 1.5 lb/ton – 1.5 lb/ton x 0.1 = 1.4 lb/ton of glass produced

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

### On and after January 1, 2024 (Phase I)

NOx Limit = 1.1 lb/ton – 1.1 lb/ton x 0.1 = 0.99 lb/ton of glass produced

Gallo Glass Company has proposed to comply with furnace battery Phase I NOx limit of 0.99 lb/ton under this project. The applicant is required to and will verify compliance with this limit via source testing and CEMS on an on-going basis. Compliance is expected with this limit.

## CO and VOC Emission Limits

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

<b>Table 3 – CO and VOC Emission Limits – rolling three hour average (ppmv limits are referenced at 8% O<sub>2</sub> and dry stack conditions)</b>			
<b>Furnace Type</b>	<b>Firing Technology</b>	<b>CO Limit</b>	<b>VOC Limit</b>
Container Glass or Fiberglass	100% air fired furnace	300 ppmv	20 ppmv
	Oxygen-assisted or Oxy-fuel furnace	1.0 lb/ton glass produced	0.25 lb/ton glass produced

Section 5.2.2 states that 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 9.1 through 9.4.8.5 for CO emissions or VOC emissions or both.

Pursuant to section 9.4.1, 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 Company operates a furnace battery. Therefore, the furnace battery must meet an emission limits of:

CO Limit = 1.0 lb/ton – 1.0 lb/ton x 0.1 = 0.9 lb/ton of glass produced

VOC Limit = 0.25 lb/ton – 0.25 lb/ton x 0.1 = 0.23 lb/ton of glass produced

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

## SOx Emission Limits

Section 5.3.1 identifies SOx emission limits for glass melting furnaces. The following applicable emission limits pursuant to Section 5.2 for glass furnaces are:

<b>Table 4 – SOx Emission Limits (lb/ton glass produced) in effect through December 31, 2023</b>		
<b>Furnace Type</b>	<b>Firing Technology</b>	<b>SOx Limit</b>
Container Glass	Oxy-fuel furnaces and ≥ 25.0% of total cullet is mixed color cullet	1.1 <sup>B</sup>
	All other container glass furnaces	0.90 <sup>B</sup>

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

**Table 5 – SOx Emission Limits (lb/ton glass produced) in effect on and after January 1, 2024**

Furnace Type	Firing Technology	SOx Limit
Container Glass	All technologies	0.85 <sup>B</sup>

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

Section 5.3.3 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 9.1 through 9.7.8.5 for SOx emissions.

Pursuant to section 9.4.1, 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 Company operates a furnace battery. Therefore, the furnace battery must meet an emission limits of:

Until December 31, 2023

SOx Limit = 1.1 lb/ton – 1.1 lb/ton x 0.1 = 0.99 lb/ton of glass produced for units with > 25.0% color cullet

SOx Limit = 0.90 lb/ton – 0.90 lb/ton x 0.1 = 0.81 lb/ton of glass produced for units with < 25.0% color cullet

The furnace battery is limited to SOx limits of 0.79 lb/ton of glass produced for <25% mixed color cullet and 0.95 lb/ton of glass produced for >25% color cullet. Therefore, continued compliance is expected.

On and after January 1, 2024 (Phase I)

SOx Limit = 0.85 lb/ton – 0.85 lb/ton x 0.1 = 0.77 lb/ton of glass produced

Gallo Glass Company has proposed to comply with furnace battery SOx limit of 0.77 lb/ton under this project. The applicant is required to and will verify compliance with this limit via source testing and CEMS on an on-going basis. Compliance is expected with this limit.

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

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

<b>Table 6 – PM<sub>10</sub> Emission Limits (lb/ton glass produced) Block 24-hour average</b>		
<b>Furnace Type</b>	<b>Firing Technology</b>	<b>PM<sub>10</sub> Limit</b>
Container Glass	All technologies	0.50

Section 5.4.2 states instead of each furnace individually meeting the applicable PM<sub>10</sub> limit in Table 4, an operator may choose to meet the PM<sub>10</sub> limit for multiple furnaces or furnace batteries by considering the multiple furnaces or furnace battery as a single unit. An operator choosing this option shall conform to the provisions of Sections 9.1 through 9.4.8.5 for PM<sub>10</sub> emissions.

Pursuant to section 9.4.1, 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.

PM<sub>10</sub> Limit = 0.50 lb/ton – 0.50 lb/ton x 0.1 = 0.45 lb/ton of glass produced

Gallo Glass Company has proposed to comply with furnace battery SO<sub>x</sub> limit of 0.18 lb/ton of glass produced under this project. The applicant is required to and will verify compliance with this limit via source testing. Compliance is expected with this limit.

### **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. This project is not for a furnace rebuild; therefore, this section does not apply.

Section 5.5.2 requires that the operator shall submit to the APCO, ARB, and EPA any information deemed necessary by the APCO, ARB, or EPA to determine the appropriate length of start-up exemption.

Section 5.5.3 start-up exemptions shall begin upon activation of the primary combustion system.

Section 5.5.4 states that the approved length of the start-up exemption shall be determined by the APCO, CARB, and EPA at the time of the ATC issuance, but in any case, it shall not exceed the amount of time specified in Table 8, which for container glass is a minimum of 70 days.

Gallo Glass Company has not formally requested a start-up exemption during which the rule limits do not apply. However, the District has allowed to achieve compliance with the limits within 60 days of startup under the ATC issued under this project.

Section 5.5.5 states that during start-up period, the stoichiometric ratio of the primary furnace combustion system shall not exceed 5% excess oxygen, as calculated from the actual fuel and oxidant stream flow measurements for combustion in the glass melting furnace, except during the time when the oxidant stream for an oxy-fuel fired furnace contains at least 50% oxygen.

As stated previously, Gallo Glass Company operates oxy-fuel furnaces where more than 50% of the oxidant for the fuel is provided from enriched oxygen stream from their on-site oxygen plant. As such, this section this section does not apply.

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

The exhaust from the furnaces is discharged through a shared dry sorbent scrubber injection and CDC/ESP controls. The exhaust temperature is expected to stay within an operating range of these technologies, and are expected to abate emissions to optimal levels during the startup. Therefore, continued compliance is expected with this section.

Section 5.5.7 states that notifications shall be performed and records shall be kept in accordance with section 6.6. The following existing 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 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]*

### **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. The following condition(s) in existing permits ensures on-going compliance with this section:

- *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]*

Section 5.6.2 requires that the emission control system shall be in operation whenever technologically feasible during shutdown to minimize emissions. The following condition(s) in existing permits ensures on-going compliance with this section:

- *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]*



Section 5.6.3 states that notifications shall be performed and records shall be kept in accordance with section 6.6. The following condition(s) in existing permits ensures on-going compliance with this section:

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

### **Idling Requirements**

Section 5.7.1 requires that the emission control system shall be in operation whenever technologically feasible during idling to minimize emissions. The following condition(s) in existing permits ensures on-going compliance with this section:

- *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]*

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

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

Where,

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

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

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

The following condition(s) in permits ensures on-going compliance with this section:

- *NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, and PM<sub>10</sub> emissions during idling shall not exceed the amount as calculated using the following equation: NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, or PM<sub>10</sub> (lb/day) = Applicable emission limit (lb/ton) x Furnace permitted production capacity (tons/day). [District Rule 4354]*

Section 5.7.3 states that notifications shall be performed and records shall be kept in accordance with section 6.6. The following condition(s) in existing permits ensures on-going compliance with this section:

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

## **Compliance Determination**

Any source testing result, CEMS, or alternate emission monitoring method averaged value exceeding the applicable emission limits in Section 5.1, Section 5.2, Section 5.3, or Section 5.4 shall constitute a violation of the rule.

Gallo Glass Company is aware of the fact that they need to operate the furnace within the permitted limits and any source testing results, CEMS or metric exceeding above the limits constitute a violation of the respective permit and constitute a violation of this rule. Continued compliance is expected with this section.

## **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 6.5. 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 existing conditions ensures on-going compliance with this section:

- *The furnace shall have continuous monitoring systems for NOx, CO, NH3 and SOx emissions. 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 downstream 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]*

### 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 6.5.1, and that is approved, in writing, by the APCO.

In a previous project, Gallo Glass proposed to install CEMS for CO. In lieu of installing and operating a CEMS for VOC, 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 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 9.1 through 9.4.8.5 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 has proposed to monitor crown temperature of each furnace to demonstrate compliance with VOC emissions. The following conditions will be included in each permit:

- *The permittee shall install, operate, and maintain a monitoring and recording system that continuously monitor and records the furnace crown temperature. The recorded temperature shall be averaged over 30-minute period to demonstrate compliance with minimum furnace crown temperature established during the latest source testing. [District Rules 2201 and 4354]*
- *The furnace crown temperature shall be maintained at or above temperature at which compliance with VOC emissions have been demonstrated in the previous source test. If the measured furnace temperature is below this temperature, the permittee shall conduct a certified VOC source test within 60 days to re-establish the minimum temperature. In lieu of conducting a certified VOC source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the furnace temperature to or above the established minimum temperature), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 2201 and 4354]*
- *The permittee shall maintain records of the date and time, the furnace crown temperature readings, and the furnace crown temperature measured during the latest source testing during which compliance was demonstrated with the VOC emission limit. [District Rules 2201 and 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 6.5.1 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 9.1 through 9.4.8.5 and one of the following: For units using a CEMS - the emission measurements are made at the common stack; For units using a parametric monitoring arrangement – the key system operating parameters are representative of the combined exhaust stream.

The facility uses a CEMS on the common stack to show compliance with the SOx limits for the furnace battery. The following existing conditions ensure on-going compliance with this section:

- *The furnace shall have continuous monitoring systems for NOx, CO, SOx, and NH3 emissions. 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 downstream of the common stack. The CEMS shall comply with the requirements of 40 Code of Federal Regulations (CFR) Part 51, 40 CFR Parts 60.7 and 60.13, 40 CFR Part 60 Appendix B (Performance Specifications) and Appendix F (Quality Assurance Procedures) and the applicable sections of Rule 1080 (Stack Monitoring). [District Rule 4354]*

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

Section 5.9.4 requires the operator to propose key system operating parameter(s) and frequency of monitoring and recording. The parametric monitoring shall meet the requirements of Section 6.5.1. The operator shall obtain approval of the APCO and EPA for the specific key system operating parameter(s), monitoring frequency, and recording frequency used by the operator to monitor PM<sub>10</sub> emissions. The operator shall monitor approved key system operating parameter(s) at the approved monitoring frequency to ensure compliance with the emission limit(s) during periods of emission-producing activities. Acceptable range(s) for key system operating parameter(s) shall be demonstrated through source test. In lieu of parametric monitoring, the operator may elect to implement a PM<sub>10</sub> CEMS that meets the requirements of Section 6.6.1, and that is approved, in writing, by the APCO and EPA.

Section 5.9.4.3 states for the operator of multiple furnaces or a furnace battery utilizing Section 5.4.2 to comply with PM<sub>10</sub> emission limits, a single parametric monitoring arrangement or a single CEMS may be used to determine the total PM<sub>10</sub> emissions from all the furnaces provided that the multiple furnaces/furnace battery is subject to the provisions of Sections 9.1 through 9.4.8.5 and one of the following: For units using a CEMS - the emission measurements are made at the common stack; For units using a parametric monitoring arrangement – the key system operating parameters are representative of the combined exhaust stream.

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

The following conditions from the existing ATCs will be retained to show compliance with this requirement:

- The ceramic filter dust collectors shall each be equipped with a pressure differential gauge to indicate the pressure drop across the filters. The gauges shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rules 2201 and 4354 and 40 CFR Part 64]
- During operation of the ceramic filter dust collectors, the pressure differential gauge reading shall be 1 to 20 inches of water column. [District Rules 2201 and 4354 and 40 CFR Part 64]

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

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

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

## **Administrative Requirements**

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

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 6.2.1 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<sub>10</sub> emission rate in lb/ton glass pulled, if a CEMS is used;
- For container glass furnaces that are oxy-fuel fired:
  - The weight of mixed color mix cullet used;
  - The total amount of cullet used by weight; and
  - The ratio, expressed in percent, of mixed color mix weight to total cullet weight.

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

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

The following existing conditions ensure on-going compliance with this section:

- *Permittee shall keep a record of the daily hours of operation, the amount of glass pulled from the furnace (in tons), the NOx emissions (in lb/ton of glass pulled), the SOx emissions (in lb/ton of glass pulled), the weight of mixed color mix cullet used, the total amount of cullet used (by weight) and the ratio of the mixed color cullet weight to the total cullet weight (in percent). [District Rules 2201 and 4354]*
- *The permittee shall maintain records of the date and time, the furnace crown temperature readings, and the furnace crown temperature measured during the latest source testing during which compliance was demonstrated with the VOC emission limit. [District Rules 2201 and 4354]*
- *The permittee shall maintain daily records of the aggregated NOx emissions. [District Rules 2520 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]*

Section 6.2.4 requires that the operator retain records specified in Sections 6.3.1 through 6.3.3 for a period of five years; make the records available on site during normal business hours to the APCO, ARB, or EPA; and submit the records to the APCO, ARB, or EPA upon request.

The following existing condition ensures on-going compliance with this section:

- *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 6.3.1 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. During annual source testing, compliance shall be demonstrated with the applicable short term emission limit (i.e. the applicable emission limit with the shortest averaging period). Sources exempt under Section 4.2 are not required to source test for the exempted pollutants.

The following existing conditions ensure on-going compliance with this section:

- *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 of startup of the selective catalytic reduction and tuning of the furnaces to meet the Phase 1 emission limits of District Rule 4354, 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. NH3 testing shall be performed using BAAQMD Method ST-1B. [District Rules 1081, 2201, 2520, §9.3.2; and 4354]*

- *Source testing when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. A source test shall be performed within 90 days after this furnace exceeds 100 hours of operation, on LPG, on an annual basis. [District Rule 1081]*
- *Source testing shall be conducted by a CARB-certified source testing contractor. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to source testing. The results of each source test shall be submitted to the District within 60 days after the source test date. [District Rule 1081]*
- *PM and PM10 source testing shall be conducted downstream 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 6.3.2 requires that source test conditions to be representative of normal operations, but not less than 60 percent of the permitted glass production capacity.

The following existing condition ensure on-going compliance with this section:

- *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 6.3.3 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 6.3.4 requires that during source testing in accordance with Section 6.4.1, the arithmetic average of three (3) 30-consecutive-minute test runs shall be used to determine compliance with NOx, CO, VOC, and SOx emission limits.

The following existing condition ensure on-going compliance with this section:

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

The following existing condition ensure on-going compliance with this section:

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

Section 6.3.6 requires that for a given pollutant, if two of the three runs individually demonstrate emissions above the applicable limit, the test cannot be used to demonstrate compliance for the furnace, even if the averaged emissions of all three test runs is less than the applicable limit.

The following existing condition ensure on-going compliance with this section:

- *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 CARB Method 100.
- Carbon monoxide (ppmv) – EPA Method 10, or CARB Method 100.
- Volatile Organic Compound (ppmv) – EPA Method 25A expressed in terms of carbon or ARB Method 100. EPA Method 18 or CARB 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 CARB Method 100.
- Stack gas velocity and volumetric flow rate – EPA Method 2.
- Oxides of sulfur – EPA Method 6C, EPA Method 8, or CARB Method 100.
- Filterable PM<sub>10</sub> emissions - EPA Method 5; EPA Method 201; or EPA Method 201A. An operator choosing EPA Method 5 shall count all PM collected as PM<sub>10</sub>.
- Condensable PM 10 emissions - EPA Method 202.

The following existing condition ensure on-going compliance with this section:

- *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 of startup of the selective catalytic reduction and tuning of the furnaces to meet the Phase 1 emission limits of District Rule 4354, and at least once every calendar year thereafter. NO<sub>x</sub> 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. NH3 testing shall be performed using BAAQMD Method ST-1B. [District Rules 1081, 2201, 2520, §9.3.2; and 4354]*

## **Emissions Monitoring Systems**

Section 6.5.1 of this rule requires that an approved CEMS shall comply with all of the following requirements:

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

The following existing condition ensure on-going compliance with this section:

- *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 downstream 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 6.5.2 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 6.6 requires the operator of any glass melting furnace claiming an exemption under Section 4.4 notify the APCO at least 24 hours before initiating idling, shutdown, or start-up. The notification shall include: date and time of the start of the exempt operation, reason for performing the operation, and an estimated completion date. The operator shall notify the APCO within 24 hours after completion of the start-up, shutdown, or idling. The operator claiming exemption under Section 4.4 shall maintain all operating records/support documentation necessary to support claim of exemption. Records/support documentation required by Section 6.7.3 shall meet the following requirements: the records/support documentation shall be retained on-site for five years; the records/support documentation shall be made available to the APCO, ARB, or EPA during normal business hours; and the records/support documentation shall be submitted to the APCO, ARB, or EPA upon request.

The following existing condition ensure on-going compliance with this section:

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

## **Calculations**

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

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

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

The following existing condition ensure on-going compliance with this section:

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

Compliance is expected with this rule.

## **Rule 4623 Storage of Organic Liquids**

This rule applies to any tank with a capacity of 1,100 gallons or greater in which any organic liquid is placed, held or stored. The proposed organic liquid storage tank will only store ammonia, which is inorganic. Therefore, the requirements of District Rule 4623 are not applicable.

## **Rule 4801 Sulfur Compounds**

A person shall not discharge into the atmosphere sulfur compounds, which would exist as a liquid or gas at standard conditions, exceeding in concentration at the point of discharge: 0.2 % by volume calculated as SO<sub>2</sub>, on a dry basis averaged over 15 consecutive minutes.

The latest available source test for the furnace battery, dated December 11, 2019, indicates that the furnaces were operating with a sulfur concentration less than 2,000 ppmv (or 0.2 %). This project is not expected to increase the SO<sub>2</sub> concentration. Therefore, continued compliance is expected with this rule. The following existing condition ensures on-going compliance with this section:

- *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]*

Compliance is expected with this rule.

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

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

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

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

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

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

It is determined that no other agency has or will prepare an environmental review document for the project. Thus the District is the Lead Agency for this project. The project will not result in an increase in project specific greenhouse gas emissions. The District therefore concludes that the project would have a less than cumulatively significant impact on global climate change.

## District CEQA Findings

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. The District performed an Engineering Evaluation (this document) for the proposed project and determined that for each emissions unit affected by the project the potential project emission increase is equal to or less than 2 lbs per day per pollutant. Therefore, the potential project emission increase is considerably below all annual criteria emissions CEQA significant thresholds. The activity will occur at an existing facility and involves negligible expansion of the existing or former use. Furthermore, the District determined that the activity will not have a significant effect on the environment. Therefore, the District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15301 (Existing Facilities), and finds that the project is exempt per the common sense exemption that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

## Indemnification Agreement/Letter of Credit Determination

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

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

## IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful EPA and public noticing period, issue ATCs N-1662-1-22, '-2-23, '-3-22, and '-4-24 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-1662-1-24	3020-02-H	94 MMBtu/hr	\$1,238
N-1662-2-25	3020-02-H	75 MMBtu/hr	\$1,238
N-1662-3-24	3020-02-H	75 MMBtu/hr	\$1,238
N-1662-4-26	3020-02-H	90 MMBtu/hr	\$1,238
N-1662-28-0	3020-05-B	10,000 Gallons	\$113

## **Appendices**

- A: Draft ATCs
- B: ATCs N-1662-1-22, '2-23, '3-22, and '4-24
- C: ATCs N-1662-1-23, '2-24, '3-23 and '4-25
- D: Quarterly Net Emissions Change
- E: Risk Management Review

## **APPENDIX A**

### **Draft ATCs**

*San Joaquin Valley  
Air Pollution Control District*

## AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

**PERMIT NO:** N-1662-1-24

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

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

**EQUIPMENT DESCRIPTION:**

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

## 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. Authorities to Construct (ATCs) N-1662-1-23 and '1-22 shall be implemented concurrently, or prior to the modification and startup of the equipment authorized by this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
3. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. Particulate matter emissions shall not exceed 0.1 grain/dscf in concentration. [District Rule 4201 and Stanislaus County Rule 404] Federally Enforceable Through Title V Permit
5. The furnace shall be fired on natural gas and LPG only. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Samir Sheikh, Executive Director / APCO

Brian Clements, Director of Permit Services

N-1662-1-24 : Nov 30 2023 9:14AM -- HARADERJ : Joint Inspection NOT Required



6. The furnace shall have continuous monitoring systems for NO<sub>x</sub>, CO, NH<sub>3</sub> and SO<sub>x</sub> emissions. 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
7. One continuous emissions monitoring (CEM) system may be used for monitoring oxy-fuel fired furnaces #1, #2, #3, and #4 provided all of the exhaust gases of each of these furnaces are ducted to a common stack, and monitored down stream of the common stack. The CEMS shall comply with the requirements of 40 Code of Federal Regulations (CFR) Part 51, 40 CFR Parts 60.7 and 60.13, 40 CFR Part 60 Appendix B (Performance Specifications) and Appendix F (Quality Assurance Procedures) and the applicable sections of Rule 1080 (Stack Monitoring). [District Rule 4354] Federally Enforceable Through Title V Permit
8. The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080] Federally Enforceable Through Title V Permit
9. The common exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NO<sub>x</sub>, CO, and O<sub>2</sub> analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Source Emission Monitoring and Testing. [District Rule 1081] Federally Enforceable Through Title V Permit
10. The permittee shall notify the District at least 24 hours prior to initiating idling, shutdown, or startup of the glass furnace and this notification shall include: The date and time of the start of the exempt operation, reason for performing the operation, and an estimated completion date. The permittee shall notify the District within 24 hours after completion of the operation and shall maintain operating records and/or support documentation necessary to claim exemption. [District Rule 4354] Federally Enforceable Through Title V Permit
11. The emission control systems shall be in operation whenever conditions are consistent with equipment manufacturer's specifications during startup, idling and shutdown periods. [District Rule 4354] Federally Enforceable Through Title V Permit
12. The duration of a furnace shutdown shall not exceed 20 days, measured from the time furnace operations drop below the idle threshold specified in Section 3.17 of District Rule 4354 to when all emissions from the furnace cease. [District Rule 4354] Federally Enforceable Through Title V Permit
13. NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, and PM<sub>10</sub> emissions during idling shall not exceed the amount as calculated using the following equation: NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, or PM<sub>10</sub> (lb/day) = Applicable emission limit (lb/ton) x Furnace permitted production capacity (tons/day). [District Rule 4354] Federally Enforceable Through Title V Permit
14. The furnace crown temperature shall be maintained at or above temperature at which compliance with VOC emissions have been demonstrated in the previous source test. If the measured furnace temperature is below this temperature, the permittee shall conduct a certified VOC source test within 60 days to re-establish the minimum temperature. In lieu of conducting a certified VOC source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the furnace temperature to or above the established minimum temperature), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
15. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation  $E=3.59P^{0.62}$  ( $P < 30$  tph) or  $E=17.31P^{0.16}$  ( $P > 30$  tph). [District Rule 4202] Federally Enforceable Through Title V Permit
16. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [Stanislaus County Rule 407 and District Rule 4801] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

17. Source testing to demonstrate compliance with permit conditions and all rules and regulations for both natural gas and LPG shall be conducted within 60 days after the end of the start-up exemption, and at least once every calendar year thereafter. NO<sub>x</sub> and CO testing shall be performed using CARB Method 100. VOC testing shall be performed using EPA method 25A. PM<sub>10</sub> testing shall be performed using EPA methods 201 and 202, EPA methods 201a and 202, or CARB methods 501 and 5. SO<sub>x</sub> testing shall be performed using EPA Method 8 and CARB Method 1-100. NH<sub>3</sub> testing shall be performed using BAAQMD Method ST-1B. [District Rules 1081, 2201, 2520, §9.3.2; and 4354] Federally Enforceable Through Title V Permit
18. Source testing when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. A source test shall be performed within 90 days after this furnace exceeds 100 hours of operation, on LPG, on an annual basis. [District Rule 1081] Federally Enforceable Through Title V Permit
19. Source testing shall be conducted by a CARB-certified source testing contractor. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to source testing. The results of each source test shall be submitted to the District within 60 days after the source test date. [District Rule 1081] Federally Enforceable Through Title V Permit
20. Source test conditions shall be representative of operations equal to or greater than 60 percent of capacity for each furnace as stated in the Permit to Operate. [District Rule 4354] Federally Enforceable Through Title V Permit
21. For source testing purposes, the arithmetic average of three 30-consecutive-minute test runs shall be used to determine compliance with NO<sub>x</sub>, CO, VOC, and SO<sub>x</sub> emission limits. [District Rule 4354] Federally Enforceable Through Title V Permit
22. For source testing purposes, the arithmetic average of three 60-consecutive-minute test runs shall be used to determine compliance with PM<sub>10</sub> emission limits. [District Rule 4354] Federally Enforceable Through Title V Permit
23. For source testing purposes, if two of the three runs individually demonstrate emissions above the applicable limit, the test cannot be used to demonstrate compliance for the furnace, even if the averaged emissions of all three test runs is less than the applicable limit. [District Rule 4354] Federally Enforceable Through Title V Permit
24. PM and PM<sub>10</sub> source testing shall be conducted downstream of the ceramic filter dust collector in the common stack. Furnaces #1, #2, #3, and #4 must operate simultaneously during source testing unless prior approval is obtained from the District. [District Rule 1081] Federally Enforceable Through Title V Permit
25. An annual Relative Accuracy Test Audit (RATA) shall be performed on the continuous monitoring system as outlined in 40 CFR Part 60 Appendix B. [District Rule 1080] Federally Enforceable Through Title V Permit
26. The owner/operator shall perform a relative accuracy test audit (RATA) as specified by 40 CFR Part 60, Appendix F (CGAs and RATAs) and if applicable 40 CFR Part 75, Appendix B (linearity and RATAs) at least once every four calendar quarters and annually within 30 days of the anniversary date of the initial test. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080] Federally Enforceable Through Title V Permit
27. An exceedance of a NO<sub>x</sub>, CO, NH<sub>3</sub>, or SO<sub>x</sub> emission limit as indicated by the CEMS shall be reported by the operator to the APCO within 24 hours. The notification shall include 1) name and location of the facility, 2) identification of furnace(s) causing the exceedances, 3) calculation of actual NO<sub>x</sub>, CO, NH<sub>3</sub> and SO<sub>x</sub> emissions, and 4) corrective actions and schedules to complete the work. [District Rule 1080 and Stanislaus County Rule 1080] Federally Enforceable Through Title V Permit
28. {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
29. Records shall be maintained and shall include: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEMS that have been installed pursuant to District Rule 1080, and emission measurements. [District Rule 1080] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

30. The operator shall notify the APCO no later than one hour after the detection of a breakdown of the CEMS. The operator shall inform the APCO of the intent to shut down the CEMS at least 24 hours prior to the event. [District Rule 1100] Federally Enforceable Through Title V Permit
31. The permittee shall submit a written report including copies of any Equipment Breakdown reports and/or pertinent variance decisions to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess emissions (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 1080] Federally Enforceable Through Title V Permit
32. Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternative method. [District Rule 1080] Federally Enforceable Through Title V Permit
33. Results of continuous emissions monitoring shall be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080] Federally Enforceable Through Title V Permit
34. Cylinder gas audits (CGAs) of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit
35. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4201, Stanislaus County Rule 404, District Rule 4202 and Stanislaus County Rule 405. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
36. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4801 and Stanislaus County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
37. The requirements of District Rule 4301 and Stanislaus County Rule 408 were determined to not apply to this unit because the unit does not utilize indirect heat transfer. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
38. The requirements of 40 CFR Part 60 Subpart CC were determined not to apply to this unit because the unit was constructed prior to the effective date in the regulation and has not been modified (according to the definition of "modified in the regulation"). A permit shield is granted from these requirements. [District Rule 2520 Section 13.2] Federally Enforceable Through Title V Permit
39. The requirements of 40 CFR Part 61, Subpart N were determined to not apply to this unit because the unit does not use commercial arsenic. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
40. Any glass melting furnace located at an Area Source of hazardous air pollutants shall comply with 40 CFR Part 63 Subpart SSSSSS (National Emission Standards for Hazardous Air Pollutants for Glass Manufacturing Area Sources). [40 CFR Part 63 Subpart SSSSSS] Federally Enforceable Through Title V Permit
41. The quantity of glass produced shall not exceed 520.1 tons during any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
42. Except during periods of startup, shutdown, and idling, NO<sub>x</sub> emissions shall not exceed 0.99 pounds per ton of glass produced (over a rolling 30-day average). This performance based limit is to enforce the NO<sub>x</sub> emission reductions granted by certificate number N-106-2, as well as, Phase I NO<sub>x</sub> limit in Rule 4354. Any CEM measurement greater than 0.99 lb-NO<sub>x</sub>/ton of glass produced for each 30-day rolling average constitutes a violation of this emission limit. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
43. Except during periods of startup, shutdown, and idling, CO emissions shall not exceed 0.20 pounds per ton of glass produced on a 3-hour rolling average. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

44. Prior to operating equipment under this Authority to Construct, permittee shall surrender ERC certificate number N-106-3 for CO emission reduction credits in the following quantity of emissions: 1st quarter - 862 lb, 2nd quarter - 867 lb, 3rd quarter - 873 lb, and fourth quarter - 825 lb. [District Rule 2201] Federally Enforceable Through Title V Permit
45. Except during periods of startup, shutdown, and idling, VOC emissions shall not exceed 0.02 pounds per ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit
46. Except during periods of startup, shutdown, and idling, the combined SO<sub>x</sub> emissions from permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed 0.77 lb/ton of glass produced (over a rolling 30 day average). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
47. Except during periods of startup, shutdown, idling, and during full or partial emission control system bypass episodes, PM<sub>10</sub> emissions shall not exceed 0.18 lb/ton of glass produced. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
48. The PM<sub>10</sub> emissions, during full or partial emission control system bypass episodes for routine maintenance, shall not exceed 0.71 lb/ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit
49. Ammonia (NH<sub>3</sub>) emissions from the furnace battery shall not exceed any of the following limits: 1.30 lb/hr, 30.0 lb/day, and 10,990 lb in any rolling 12-month period. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
50. The emission limits of this permit shall not apply during routine maintenance of the respective add-on control systems. The routine maintenance in each calendar year shall not exceed 144 hours total for all controls and routine maintenance shall be conducted in a manner consistent with good air pollution control practices for minimizing air emissions. Routine maintenance includes, but is not limited to: 1) Calibration and scheduled parts replacement of CEMS equipment per manufacturer's recommendations, 2) Cleaning of particulate control devices and stack ductwork to ensure optimal performance, and 3) Necessary repairs to ensure optimal performance of all parts of the system. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
51. The PM<sub>10</sub> 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 PM<sub>10</sub> emission reductions granted by certificate number N-161-4. [District Rule 2201] Federally Enforceable Through Title V Permit
52. The maximum throughput of lime received and stored in the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed either of the following limits: 65 tons-lime/day or 110 tons-lime/quarter. [District Rule 2201] Federally Enforceable Through Title V Permit
53. PM<sub>10</sub> emissions rate from the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed 0.0049 lb-PM<sub>10</sub>/ton-lime stored. [District Rule 2201] Federally Enforceable Through Title V Permit
54. The facility shall not use commercial arsenic as a raw material in the production process. [40 CFR Part 61 Subpart N] Federally Enforceable Through Title V Permit
55. Each dust collector and bin vent filter shall be maintained and operated in the range that optimizes control efficiency as recommended by the manufacturer. [District Rule 2201] Federally Enforceable Through Title V Permit
56. Each dust collector and bin vent filter's cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit
57. Material removed from each dust collector and bin vent filter shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
58. Replacement filters numbering at least 10% of the total number of filters in the largest dust collector, and for each type of filter, shall be maintained on the premises. [District Rule 2201] Federally Enforceable Through Title V Permit
59. A spare set of bags or filters shall be maintained on the premises at all times for the bin vent filter serving the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

60. The ceramic filter dust collectors shall each be equipped with a pressure differential gauge to indicate the pressure drop across the filters. The gauges shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
61. During operation of the ceramic filter dust collectors, the pressure differential gauge reading shall be 1 to 20 inches of water column. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
62. 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
63. 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
64. 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
65. 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
66. 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
67. Permittee shall keep a record of the daily hours of operation, the amount of glass pulled from the furnace (in tons), the NO<sub>x</sub> emissions (in lb/ton of glass pulled), the SO<sub>x</sub> emissions (in lb/ton of glass pulled), the CO emissions (in lb/ton of glass pulled), the NH<sub>3</sub> emissions (in lb/hr), 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
68. 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
69. The pollutant mass emission rate in lb/hr shall be converted to lb pollutant/ton of glass pulled as specified in Rule 4354. The operator of a oxy-fuel fired furnace, oxygen-assisted combustion furnace, or a furnace utilizing any fuel oxidants other than 100% ambient air, shall submit to the APCO, ARB, and EPA for approval any methodologies and data that will be used to calculate emission rates for NO<sub>x</sub>, CO, and VOC if the methods are different from those specified in Rule 4354. Unless the operator received prior written approval from APCO, ARB, and EPA of all the calculation methods to be used that are different from those specified in Rule 4354, compliance with the emissions limits cannot be fully demonstrated, and it shall be deemed to be a violation of the rule. [District Rule 4354] Federally Enforceable Through Title V Permit
70. The permittee shall install, operate, and maintain a monitoring and recording system that continuously monitor and records the furnace crown temperature. The recorded temperature shall be averaged over 30-minute period to demonstrate compliance with minimum furnace crown temperature established during the latest source testing. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
71. The permittee shall maintain records of the date and time, the furnace crown temperature readings, and the furnace crown temperature measured during the latest source testing during which compliance was demonstrated with the VOC emission limit. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
72. The permittee shall maintain daily records of the aggregated NO<sub>x</sub> emissions. [District Rules 2520, 9.3.2 and 4354] Federally Enforceable Through Title V Permit
73. A record of the PM<sub>10</sub> emissions from this unit, in pounds per calendar quarter, shall be kept. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

74. 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
75. 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
76. The operator shall monitor and record the pressure differential gauge reading of each ceramic filter dust collector at least once during each day that the units operate. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
77. Records of dust collector and bin vent filter maintenance, inspections and repairs shall be maintained. The records shall include, date of inspection, change outs of filter media, corrective action taken, and identification of the individual performing the inspection. [District Rules 2201 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
78. Records of daily and quarterly amount of lime transferred into the lime storage silo shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
79. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

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*San Joaquin Valley  
Air Pollution Control District*

## AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

**PERMIT NO:** N-1662-2-25

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

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

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF GLASS FURNACE #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 THE FOLLOWING SHARED EQUIPMENT: SOX SCRUBBER INCLUDING A LIME STORAGE SILO SERVED BY A BIN VENT FILTER, AN ELECTROSTATIC PRECIPITATOR, AND/OR FOUR TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS: INSTALL AMMONIA INJECTION SYSTEM, REPLACE CERAMIC TUBE FILTERS WITH ULTRACAT TUBE FILTERS, REMOVE REFERENCES TO ELECTROSTATIC PRECIPITATOR AND RELATED CONDITIONS

## 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. Authorities to Construct (ATCs) N-1662-2-24 and '12-23 shall be implemented concurrently, or prior to the modification and startup of the equipment authorized by this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
3. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. Particulate matter emissions shall not exceed 0.1 grain/dscf in concentration. [District Rule 4201 and Stanislaus County Rule 404] Federally Enforceable Through Title V Permit
5. The furnace shall be fired on natural gas and LPG only. [District Rule 2201] Federally Enforceable Through Title V Permit

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

Samir Sheikh, Executive Director / APCO

Brian Clements, Director of Permit Services

N-1662-2-25 : Nov 30 2023 9:15AM -- HARADERJ : Joint Inspection NOT Required

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6. The furnace shall have continuous monitoring systems for NO<sub>x</sub>, CO, NH<sub>3</sub> and SO<sub>x</sub> emissions. 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
7. One continuous emissions monitoring (CEM) system may be used for monitoring oxy-fuel fired furnaces #1, #2, #3, and #4 provided all of the exhaust gases of each of these furnaces are ducted to a common stack, and monitored down stream of the common stack. The CEMS shall comply with the requirements of 40 Code of Federal Regulations (CFR) Part 51, 40 CFR Parts 60.7 and 60.13, 40 CFR Part 60 Appendix B (Performance Specifications) and Appendix F (Quality Assurance Procedures) and the applicable sections of Rule 1080 (Stack Monitoring). [District Rule 4354] Federally Enforceable Through Title V Permit
8. The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080] Federally Enforceable Through Title V Permit
9. The common exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NO<sub>x</sub>, CO, and O<sub>2</sub> analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Source Emission Monitoring and Testing. [District Rule 1081] Federally Enforceable Through Title V Permit
10. The permittee shall notify the District at least 24 hours prior to initiating idling, shutdown, or startup of the glass furnace and this notification shall include: The date and time of the start of the exempt operation, reason for performing the operation, and an estimated completion date. The permittee shall notify the District within 24 hours after completion of the operation and shall maintain operating records and/or support documentation necessary to claim exemption. [District Rule 4354] Federally Enforceable Through Title V Permit
11. The emission control systems shall be in operation whenever conditions are consistent with equipment manufacturer's specifications during startup, idling and shutdown periods. [District Rule 4354] Federally Enforceable Through Title V Permit
12. The duration of a furnace shutdown shall not exceed 20 days, measured from the time furnace operations drop below the idle threshold specified in Section 3.17 of District Rule 4354 to when all emissions from the furnace cease. [District Rule 4354] Federally Enforceable Through Title V Permit
13. NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, and PM<sub>10</sub> emissions during idling shall not exceed the amount as calculated using the following equation: NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, or PM<sub>10</sub> (lb/day) = Applicable emission limit (lb/ton) x Furnace permitted production capacity (tons/day). [District Rule 4354] Federally Enforceable Through Title V Permit
14. The furnace crown temperature shall be maintained at or above temperature at which compliance with VOC emissions have been demonstrated in the previous source test. If the measured furnace temperature is below this temperature, the permittee shall conduct a certified VOC source test within 60 days to re-establish the minimum temperature. In lieu of conducting a certified VOC source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the furnace temperature to or above the established minimum temperature), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
15. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation  $E=3.59P^{0.62}$  ( $P < 30$  tph) or  $E=17.31P^{0.16}$  ( $P > 30$  tph). [District Rule 4202] Federally Enforceable Through Title V Permit
16. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [Stanislaus County Rule 407 and District Rule 4801] Federally Enforceable Through Title V Permit

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17. Source testing to demonstrate compliance with permit conditions and all rules and regulations for both natural gas and LPG shall be conducted within 60 days after the end of the start-up exemption, and at least once every calendar year thereafter. NO<sub>x</sub> and CO testing shall be performed using CARB Method 100. VOC testing shall be performed using EPA method 25A. PM<sub>10</sub> testing shall be performed using EPA methods 201 and 202, EPA methods 201a and 202, or CARB methods 501 and 5. SO<sub>x</sub> testing shall be performed using EPA Method 8 and CARB Method 1-100. NH<sub>3</sub> testing shall be performed using BAAQMD Method ST-1B. [District Rules 1081, 2201, 2520, §9.3.2; and 4354] Federally Enforceable Through Title V Permit
18. Source testing when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. A source test shall be performed within 90 days after this furnace exceeds 100 hours of operation, on LPG, on an annual basis. [District Rule 1081] Federally Enforceable Through Title V Permit
19. Source testing shall be conducted by a CARB-certified source testing contractor. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to source testing. The results of each source test shall be submitted to the District within 60 days after the source test date. [District Rule 1081] Federally Enforceable Through Title V Permit
20. Source test conditions shall be representative of operations equal to or greater than 60 percent of capacity for each furnace as stated in the Permit to Operate. [District Rule 4354] Federally Enforceable Through Title V Permit
21. For source testing purposes, the arithmetic average of three 30-consecutive-minute test runs shall be used to determine compliance with NO<sub>x</sub>, CO, VOC, and SO<sub>x</sub> emission limits. [District Rule 4354] Federally Enforceable Through Title V Permit
22. For source testing purposes, the arithmetic average of three 60-consecutive-minute test runs shall be used to determine compliance with PM<sub>10</sub> emission limits. [District Rule 4354] Federally Enforceable Through Title V Permit
23. For source testing purposes, if two of the three runs individually demonstrate emissions above the applicable limit, the test cannot be used to demonstrate compliance for the furnace, even if the averaged emissions of all three test runs is less than the applicable limit. [District Rule 4354] Federally Enforceable Through Title V Permit
24. PM and PM<sub>10</sub> source testing shall be conducted downstream of the ceramic filter dust collector in the common stack. Furnaces #1, #2, #3, and #4 must operate simultaneously during source testing unless prior approval is obtained from the District. [District Rule 1081] Federally Enforceable Through Title V Permit
25. An annual Relative Accuracy Test Audit (RATA) shall be performed on the continuous monitoring system as outlined in 40 CFR Part 60 Appendix B. [District Rule 1080] Federally Enforceable Through Title V Permit
26. The owner/operator shall perform a relative accuracy test audit (RATA) as specified by 40 CFR Part 60, Appendix F (CGAs and RATAs) and if applicable 40 CFR Part 75, Appendix B (linearity and RATAs) at least once every four calendar quarters and annually within 30 days of the anniversary date of the initial test. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080] Federally Enforceable Through Title V Permit
27. An exceedance of a NO<sub>x</sub>, CO, NH<sub>3</sub>, or SO<sub>x</sub> emission limit as indicated by the CEMS shall be reported by the operator to the APCO within 24 hours. The notification shall include 1) name and location of the facility, 2) identification of furnace(s) causing the exceedances, 3) calculation of actual NO<sub>x</sub>, CO, NH<sub>3</sub> and SO<sub>x</sub> emissions, and 4) corrective actions and schedules to complete the work. [District Rule 1080 and Stanislaus County Rule 1080] Federally Enforceable Through Title V Permit
28. {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
29. Records shall be maintained and shall include: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEMS that have been installed pursuant to District Rule 1080, and emission measurements. [District Rule 1080] Federally Enforceable Through Title V Permit

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30. The operator shall notify the APCO no later than one hour after the detection of a breakdown of the CEMS. The operator shall inform the APCO of the intent to shut down the CEMS at least 24 hours prior to the event. [District Rule 1100] Federally Enforceable Through Title V Permit
31. The permittee shall submit a written report including copies of any Equipment Breakdown reports and/or pertinent variance decisions to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess emissions (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 1080] Federally Enforceable Through Title V Permit
32. Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternative method. [District Rule 1080] Federally Enforceable Through Title V Permit
33. Results of continuous emissions monitoring shall be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080] Federally Enforceable Through Title V Permit
34. Cylinder gas audits (CGAs) of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit
35. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4201, Stanislaus County Rule 404, District Rule 4202 and Stanislaus County Rule 405. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
36. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4801 and Stanislaus County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
37. The requirements of District Rule 4301 and Stanislaus County Rule 408 were determined to not apply to this unit because the unit does not utilize indirect heat transfer. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
38. The requirements of 40 CFR Part 61, Subpart N were determined to not apply to this unit because the unit does not use commercial arsenic. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
39. Any glass melting furnace located at an Area Source of hazardous air pollutants shall comply with 40 CFR Part 63 Subpart SSSSSS (National Emission Standards for Hazardous Air Pollutants for Glass Manufacturing Area Sources). [40 CFR Part 63 Subpart SSSSSS] Federally Enforceable Through Title V Permit
40. The quantity of glass produced shall not exceed 430 tons during any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
41. Except during periods of startup, shutdown, and idling, NO<sub>x</sub> emissions shall not exceed 0.99 pounds per ton of glass produced (over a rolling 30-day average). This performance based limit is to enforce the NO<sub>x</sub> emission reductions granted by certificate number N-54-2, as well as, Phase I NO<sub>x</sub> limit in Rule 4354. Any CEM measurement greater than 0.99 lb-NO<sub>x</sub>/ton of glass produced for each 30-day rolling average constitutes a violation of this emission limit. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
42. Except during periods of startup, shutdown, and idling, CO emissions shall not exceed 0.20 pounds per ton of glass produced on a 3-hour rolling average. [District Rule 2201] Federally Enforceable Through Title V Permit
43. Except during periods of startup, shutdown, and idling, VOC emissions shall not exceed 0.02 pounds per ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit

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44. Except during periods of startup, shutdown, and idling, the combined SO<sub>x</sub> emissions from permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed 0.77 lb/ton of glass produced (over a rolling 30 day average). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
45. Except during periods of startup, shutdown, idling, and during full or partial emission control system bypass episodes, PM<sub>10</sub> emissions shall not exceed 0.18 lb/ton of glass produced. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
46. The PM<sub>10</sub> 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
47. 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
48. Ammonia (NH<sub>3</sub>) emissions from the furnace battery shall not exceed any of the following limits: 1.30 lb/hr, 30.0 lb/day, and 10,990 lb in any rolling 12-month period. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
49. The emission limits of this permit shall not apply during routine maintenance of the respective add-on control systems. The routine maintenance in each calendar year shall not exceed 144 hours total for all controls and routine maintenance shall be conducted in a manner consistent with good air pollution control practices for minimizing air emissions. Routine maintenance includes, but is not limited to: 1) Calibration and scheduled parts replacement of CEMS equipment per manufacturer's recommendations, 2) Cleaning of particulate control devices and stack ductwork to ensure optimal performance, and 3) Necessary repairs to ensure optimal performance of all parts of the system. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
50. The PM<sub>10</sub> 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 PM<sub>10</sub> emission reductions granted by certificate number N-161-4. [District Rule 2201] Federally Enforceable Through Title V Permit
51. The maximum throughput of lime received and stored in the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed either of the following limits: 65 tons-lime/day or 110 tons-lime/quarter. [District Rule 2201] Federally Enforceable Through Title V Permit
52. PM<sub>10</sub> emissions rate from the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed 0.0049 lb-PM<sub>10</sub>/ton-lime stored. [District Rule 2201] Federally Enforceable Through Title V Permit
53. The facility shall not use commercial arsenic as a raw material in the production process. [40 CFR Part 61 Subpart N] Federally Enforceable Through Title V Permit
54. Each dust collector and bin vent filter shall be maintained and operated in the range that optimizes control efficiency as recommended by the manufacturer. [District Rule 2201] Federally Enforceable Through Title V Permit
55. Each dust collector and bin vent filter's cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit
56. Material removed from each dust collector and bin vent filter shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
57. Replacement filters numbering at least 10% of the total number of filters in the largest dust collector, and for each type of filter, shall be maintained on the premises. [District Rule 2201] Federally Enforceable Through Title V Permit
58. A spare set of bags or filters shall be maintained on the premises at all times for the bin vent filter serving the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4. [District Rule 2201] Federally Enforceable Through Title V Permit
59. The ceramic filter dust collectors shall each be equipped with a pressure differential gauge to indicate the pressure drop across the filters. The gauges shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

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60. During operation of the ceramic filter dust collectors, the pressure differential gauge reading shall be 1 to 20 inches of water column. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
61. 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
62. 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
63. 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
64. 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
65. 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
66. 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 CO emissions (in lb/ton of glass pulled), the NH3 emissions (in lb/hr), 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
67. 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
68. The pollutant mass emission rate in lb/hr shall be converted to lb pollutant/ton of glass pulled as specified in Rule 4354. The operator of a oxy-fuel fired furnace, oxygen-assisted combustion furnace, or a furnace utilizing any fuel oxidants other than 100% ambient air, shall submit to the APCO, ARB, and EPA for approval any methodologies and data that will be used to calculate emission rates for NOx, CO, and VOC if the methods are different from those specified in Rule 4354. Unless the operator received prior written approval from APCO, ARB, and EPA of all the calculation methods to be used that are different from those specified in Rule 4354, compliance with the emissions limits cannot be fully demonstrated, and it shall be deemed to be a violation of the rule. [District Rule 4354] Federally Enforceable Through Title V Permit
69. The permittee shall install, operate, and maintain a monitoring and recording system that continuously monitor and records the furnace crown temperature. The recorded temperature shall be averaged over 30-minute period to demonstrate compliance with minimum furnace crown temperature established during the latest source testing. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
70. The permittee shall maintain records of the date and time, the furnace crown temperature readings, and the furnace crown temperature measured during the latest source testing during which compliance was demonstrated with the VOC emission limit. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
71. The permittee shall maintain daily records of the aggregated NOx emissions. [District Rules 2520, 9.3.2 and 4354] Federally Enforceable Through Title V Permit
72. 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
73. 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
74. 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

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75. The operator shall monitor and record the pressure differential gauge reading of each ceramic filter dust collector at least once during each day that the units operate. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
76. Records of dust collector and bin vent filter maintenance, inspections and repairs shall be maintained. The records shall include, date of inspection, change outs of filter media, corrective action taken, and identification of the individual performing the inspection. [District Rules 2201 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
77. The permittee shall maintain records of the actual NO<sub>2</sub>, PM<sub>10</sub>, and PM emissions from this unit for each 12 consecutive-month rolling period for a period of 10 years from July 24, 2016 for the purposes of demonstrating that there has not been a PSD "significant net emissions increase" above the baseline actual NO<sub>2</sub>, PM<sub>10</sub>, 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 NO<sub>2</sub>, PM<sub>10</sub>, 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 PM<sub>10</sub> 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
78. Records of daily and quarterly amount of lime transferred into the lime storage silo shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
79. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

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*San Joaquin Valley  
Air Pollution Control District*

## AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

**PERMIT NO:** N-1662-3-24

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

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

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF GLASS FURNACE #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 THE FOLLOWING SHARED EQUIPMENT: SOX SCRUBBER INCLUDING A LIME STORAGE SILO SERVED BY A BIN VENT FILTER, AN ELECTROSTATIC PRECIPITATOR, AND/OR FOUR TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS: INSTALL AMMONIA INJECTION SYSTEM, REPLACE CERAMIC TUBE FILTERS WITH ULTRACAT TUBE FILTERS, REMOVE REFERENCES TO ELECTROSTATIC PRECIPITATOR AND RELATED CONDITIONS

## 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. Authorities to Construct (ATCs) N-1662-3-23 and '13-22 shall be implemented concurrently, or prior to the modification and startup of the equipment authorized by this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
3. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. Particulate matter emissions shall not exceed 0.1 grain/dscf in concentration. [District Rule 4201 and Stanislaus County Rule 404] Federally Enforceable Through Title V Permit
5. The furnace shall be fired on natural gas and LPG only. [District Rule 2201] Federally Enforceable Through Title V Permit

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Samir Sheikh, Executive Director / APCO

Brian Clements, Director of Permit Services

N-1662-3-24 : Nov 30 2023 9:15AM -- HARADERJ : Joint Inspection NOT Required

6. The furnace shall have continuous monitoring systems for NO<sub>x</sub>, CO, NH<sub>3</sub> and SO<sub>x</sub> emissions. 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
7. One continuous emissions monitoring (CEM) system may be used for monitoring oxy-fuel fired furnaces #1, #2, #3, and #4 provided all of the exhaust gases of each of these furnaces are ducted to a common stack, and monitored down stream of the common stack. The CEMS shall comply with the requirements of 40 Code of Federal Regulations (CFR) Part 51, 40 CFR Parts 60.7 and 60.13, 40 CFR Part 60 Appendix B (Performance Specifications) and Appendix F (Quality Assurance Procedures) and the applicable sections of Rule 1080 (Stack Monitoring). [District Rule 4354] Federally Enforceable Through Title V Permit
8. The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080] Federally Enforceable Through Title V Permit
9. The common exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NO<sub>x</sub>, CO, and O<sub>2</sub> analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Source Emission Monitoring and Testing. [District Rule 1081] Federally Enforceable Through Title V Permit
10. The permittee shall notify the District at least 24 hours prior to initiating idling, shutdown, or startup of the glass furnace and this notification shall include: The date and time of the start of the exempt operation, reason for performing the operation, and an estimated completion date. The permittee shall notify the District within 24 hours after completion of the operation and shall maintain operating records and/or support documentation necessary to claim exemption. [District Rule 4354] Federally Enforceable Through Title V Permit
11. The emission control systems shall be in operation whenever conditions are consistent with equipment manufacturer's specifications during startup, idling and shutdown periods. [District Rule 4354] Federally Enforceable Through Title V Permit
12. The duration of a furnace shutdown shall not exceed 20 days, measured from the time furnace operations drop below the idle threshold specified in Section 3.17 of District Rule 4354 to when all emissions from the furnace cease. [District Rule 4354] Federally Enforceable Through Title V Permit
13. NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, and PM<sub>10</sub> emissions during idling shall not exceed the amount as calculated using the following equation: NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, or PM<sub>10</sub> (lb/day) = Applicable emission limit (lb/ton) x Furnace permitted production capacity (tons/day). [District Rule 4354] Federally Enforceable Through Title V Permit
14. The furnace crown temperature shall be maintained at or above temperature at which compliance with VOC emissions have been demonstrated in the previous source test. If the measured furnace temperature is below this temperature, the permittee shall conduct a certified VOC source test within 60 days to re-establish the minimum temperature. In lieu of conducting a certified VOC source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the furnace temperature to or above the established minimum temperature), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
15. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation  $E=3.59P^{0.62}$  ( $P < 30$  tph) or  $E=17.31P^{0.16}$  ( $P > 30$  tph). [District Rule 4202] Federally Enforceable Through Title V Permit
16. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [Stanislaus County Rule 407 and District Rule 4801] Federally Enforceable Through Title V Permit

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17. Source testing to demonstrate compliance with permit conditions and all rules and regulations for both natural gas and LPG shall be conducted within 60 days after the end of the start-up exemption, and at least once every calendar year thereafter. NO<sub>x</sub> and CO testing shall be performed using CARB Method 100. VOC testing shall be performed using EPA method 25A. PM<sub>10</sub> testing shall be performed using EPA methods 201 and 202, EPA methods 201a and 202, or CARB methods 501 and 5. SO<sub>x</sub> testing shall be performed using EPA Method 8 and CARB Method 1-100. NH<sub>3</sub> testing shall be performed using BAAQMD Method ST-1B. [District Rules 1081, 2201, 2520, §9.3.2; and 4354] Federally Enforceable Through Title V Permit
18. Source testing when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. A source test shall be performed within 90 days after this furnace exceeds 100 hours of operation, on LPG, on an annual basis. [District Rule 1081] Federally Enforceable Through Title V Permit
19. Source testing shall be conducted by a CARB-certified source testing contractor. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to source testing. The results of each source test shall be submitted to the District within 60 days after the source test date. [District Rule 1081] Federally Enforceable Through Title V Permit
20. Source test conditions shall be representative of operations equal to or greater than 60 percent of capacity for each furnace as stated in the Permit to Operate. [District Rule 4354, §6.4.2] Federally Enforceable Through Title V Permit
21. For source testing purposes, the arithmetic average of three 30-consecutive-minute test runs shall be used to determine compliance with NO<sub>x</sub>, CO, VOC, and SO<sub>x</sub> emission limits. [District Rule 4354] Federally Enforceable Through Title V Permit
22. For source testing purposes, the arithmetic average of three 60-consecutive-minute test runs shall be used to determine compliance with PM<sub>10</sub> emission limits. [District Rule 4354] Federally Enforceable Through Title V Permit
23. For source testing purposes, if two of the three runs individually demonstrate emissions above the applicable limit, the test cannot be used to demonstrate compliance for the furnace, even if the averaged emissions of all three test runs is less than the applicable limit. [District Rule 4354] Federally Enforceable Through Title V Permit
24. PM and PM<sub>10</sub> source testing shall be conducted downstream of the ceramic filter dust collector in the common stack. Furnaces #1, #2, #3, and #4 must operate simultaneously during source testing unless prior approval is obtained from the District. [District Rule 1081] Federally Enforceable Through Title V Permit
25. An annual Relative Accuracy Test Audit (RATA) shall be performed on the continuous monitoring system as outlined in 40 CFR Part 60 Appendix B. [District Rule 1080] Federally Enforceable Through Title V Permit
26. The owner/operator shall perform a relative accuracy test audit (RATA) as specified by 40 CFR Part 60, Appendix F (CGAs and RATAs) and if applicable 40 CFR Part 75, Appendix B (linearity and RATAs) at least once every four calendar quarters and annually within 30 days of the anniversary date of the initial test. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080] Federally Enforceable Through Title V Permit
27. An exceedance of a NO<sub>x</sub>, CO, NH<sub>3</sub>, or SO<sub>x</sub> emission limit as indicated by the CEMS shall be reported by the operator to the APCO within 24 hours. The notification shall include 1) name and location of the facility, 2) identification of furnace(s) causing the exceedances, 3) calculation of actual NO<sub>x</sub>, CO, NH<sub>3</sub> and SO<sub>x</sub> emissions, and 4) corrective actions and schedules to complete the work. [District Rule 1080 and Stanislaus County Rule 1080] Federally Enforceable Through Title V Permit
28. {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
29. Records shall be maintained and shall include: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEMS that have been installed pursuant to District Rule 1080, and emission measurements. [District Rule 1080] Federally Enforceable Through Title V Permit

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30. The operator shall notify the APCO no later than one hour after the detection of a breakdown of the CEMS. The operator shall inform the APCO of the intent to shut down the CEMS at least 24 hours prior to the event. [District Rule 1100] Federally Enforceable Through Title V Permit
31. The permittee shall submit a written report including copies of any Equipment Breakdown reports and/or pertinent variance decisions to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess emissions (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 1080] Federally Enforceable Through Title V Permit
32. Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternative method. [District Rule 1080] Federally Enforceable Through Title V Permit
33. Results of continuous emissions monitoring shall be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080] Federally Enforceable Through Title V Permit
34. Cylinder gas audits (CGAs) of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit
35. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4201, Stanislaus County Rule 404, District Rule 4202 and Stanislaus County Rule 405. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
36. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4801 and Stanislaus County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
37. The requirements of District Rule 4301 and Stanislaus County Rule 408 were determined to not apply to this unit because the unit does not utilize indirect heat transfer. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
38. The requirements of 40 CFR Part 61, Subpart N were determined to not apply to this unit because the unit does not use commercial arsenic. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
39. Any glass melting furnace located at an Area Source of hazardous air pollutants shall comply with 40 CFR Part 63 Subpart SSSSSS (National Emission Standards for Hazardous Air Pollutants for Glass Manufacturing Area Sources). [40 CFR Part 63 Subpart SSSSSS] Federally Enforceable Through Title V Permit
40. The quantity of glass produced shall not exceed 430 tons during any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
41. Except during periods of startup, shutdown, and idling, NO<sub>x</sub> emissions shall not exceed 0.99 pounds per ton of glass produced (over a rolling 30-day average). This performance based limit is to enforce the NO<sub>x</sub> emission reductions granted by certificate number N-56-2, as well as, Phase I NO<sub>x</sub> limit in Rule 4354. Any CEM measurement greater than 0.99 lb-NO<sub>x</sub>/ton of glass produced for each 30-day rolling average constitutes a violation of this emission limit. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
42. Except during periods of startup, shutdown, and idling, CO emissions shall not exceed 0.20 pounds per ton of glass produced on a 3-hour rolling average. [District Rule 2201] Federally Enforceable Through Title V Permit
43. Prior to operating equipment under this Authority to Construct, permittee shall surrender ERC certificate number N-56-3 for CO emission reduction credits in the following quantity of emissions: 1st quarter - 504 lb, 2nd quarter - 531 lb, 3rd quarter - 521 lb, and fourth quarter - 488 lb. [District Rule 2201] Federally Enforceable Through Title V Permit

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44. Except during periods of startup, shutdown, and idling, VOC emissions shall not exceed 0.02 pounds per ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit
45. Except during periods of startup, shutdown, and idling, the combined SOx emissions from permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed 0.77 lb/ton of glass produced (over a rolling 30 day average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
46. Except during periods of startup, shutdown, idling, and during full or partial emission control system bypass episodes, PM10 emissions shall not exceed 0.18 lb/ton of glass produced. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
47. The PM10 emissions, during full or partial emission control system bypass episodes for routine maintenance, shall not exceed 0.71 lb/ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit
48. 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
49. Ammonia (NH3) emissions from the furnace battery shall not exceed any of the following limits: 1.30 lb/hr, 30.0 lb/day, and 10,990 lb in any rolling 12-month period. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
50. The emission limits of this permit shall not apply during routine maintenance of the respective add-on control systems. The routine maintenance in each calendar year shall not exceed 144 hours total for all controls and routine maintenance shall be conducted in a manner consistent with good air pollution control practices for minimizing air emissions. Routine maintenance includes, but is not limited to: 1) Calibration and scheduled parts replacement of CEMS equipment per manufacturer's recommendations, 2) Cleaning of particulate control devices and stack ductwork to ensure optimal performance, and 3) Necessary repairs to ensure optimal performance of all parts of the system. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
51. The PM10 emissions shall not exceed 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 Rule 2201] Federally Enforceable Through Title V Permit
52. The maximum throughput of lime received and stored in the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed either of the following limits: 65 tons-lime/day or 110 tons-lime/quarter. [District Rule 2201] Federally Enforceable Through Title V Permit
53. PM10 emissions rate from the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed 0.0049 lb-PM10/ton-lime stored. [District Rule 2201] Federally Enforceable Through Title V Permit
54. The facility shall not use commercial arsenic as a raw material in the production process. [40 CFR Part 61 Subpart N] Federally Enforceable Through Title V Permit
55. Each dust collector and bin vent filter shall be maintained and operated in the range that optimizes control efficiency as recommended by the manufacturer. [District Rule 2201] Federally Enforceable Through Title V Permit
56. Each dust collector and bin vent filter's cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit
57. Material removed from each dust collector and bin vent filter shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
58. Replacement filters numbering at least 10% of the total number of filters in the largest dust collector, and for each type of filter, shall be maintained on the premises. [District Rule 2201] Federally Enforceable Through Title V Permit
59. A spare set of bags or filters shall be maintained on the premises at all times for the bin vent filter serving the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4. [District Rule 2201] Federally Enforceable Through Title V Permit

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60. The ceramic filter dust collectors shall each be equipped with a pressure differential gauge to indicate the pressure drop across the filters. The gauges shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
61. During operation of the ceramic filter dust collectors, the pressure differential gauge reading shall be 1 to 20 inches of water column. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
62. 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
63. 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
64. 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
65. 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
66. 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
67. 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 CO emissions (in lb/ton of glass pulled), the NH3 emissions (in lb/hr), 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
68. 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
69. 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
70. The permittee shall install, operate, and maintain a monitoring and recording system that continuously monitor and records the furnace crown temperature. The recorded temperature shall be averaged over 30-minute period to demonstrate compliance with minimum furnace crown temperature established during the latest source testing. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
71. The permittee shall maintain records of the date and time, the furnace crown temperature readings, and the furnace crown temperature measured during the latest source testing during which compliance was demonstrated with the VOC emission limit. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
72. The permittee shall maintain daily records of the aggregated NOx emissions. [District Rules 2520, 9.3.2 and 4354] Federally Enforceable Through Title V Permit
73. 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

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74. 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
75. 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
76. The operator shall monitor and record the pressure differential gauge reading of each ceramic filter dust collector at least once during each day that the units operate. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
77. Records of dust collector and bin vent filter maintenance, inspections and repairs shall be maintained. The records shall include, date of inspection, change outs of filter media, corrective action taken, and identification of the individual performing the inspection. [District Rules 2201 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
78. Records of daily and quarterly amount of lime transferred into the lime storage silo shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
79. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

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*San Joaquin Valley  
Air Pollution Control District*

## AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

**PERMIT NO:** N-1662-4-26

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

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

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF GLASS FURNACE #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 THE FOLLOWING SHARED EQUIPMENT: SOX SCRUBBER INCLUDING A LIME STORAGE SILO SERVED BY A BIN VENT FILTER, AN ELECTROSTATIC PRECIPITATOR, AND/OR FOUR TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS: INSTALL AMMONIA INJECTION SYSTEM, REPLACE CERAMIC TUBE FILTERS WITH ULTRACAT TUBE FILTERS, REMOVE REFERENCES TO ELECTROSTATIC PRECIPITATOR AND RELATED CONDITIONS

## 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. Authorities to Construct (ATCs) N-1662-4-25 and '4-24 shall be implemented concurrently, or prior to the modification and startup of the equipment authorized by this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
3. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. Particulate matter emissions shall not exceed 0.1 grain/dscf in concentration. [District Rule 4201 and Stanislaus County Rule 404] Federally Enforceable Through Title V Permit
5. The furnace shall be fired on natural gas and LPG only. [District Rule 2201] Federally Enforceable Through Title V Permit

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

Samir Sheikh, Executive Director / APCO

Brian Clements, Director of Permit Services

N-1662-4-26 : Nov 30 2023 9:15AM -- HARADERJ : Joint Inspection NOT Required

6. The furnace shall have continuous monitoring systems for NO<sub>x</sub>, CO, NH<sub>3</sub> and SO<sub>x</sub> emissions. 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
7. One continuous emissions monitoring (CEM) system may be used for monitoring oxy-fuel fired furnaces #1, #2, #3, and #4 provided all of the exhaust gases of each of these furnaces are ducted to a common stack, and monitored down stream of the common stack. The CEMS shall comply with the requirements of 40 Code of Federal Regulations (CFR) Part 51, 40 CFR Parts 60.7 and 60.13, 40 CFR Part 60 Appendix B (Performance Specifications) and Appendix F (Quality Assurance Procedures) and the applicable sections of Rule 1080 (Stack Monitoring). [District Rule 4354] Federally Enforceable Through Title V Permit
8. The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080] Federally Enforceable Through Title V Permit
9. The common exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NO<sub>x</sub>, CO, and O<sub>2</sub> analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Source Emission Monitoring and Testing. [District Rule 1081] Federally Enforceable Through Title V Permit
10. The permittee shall notify the District at least 24 hours prior to initiating idling, shutdown, or startup of the glass furnace and this notification shall include: The date and time of the start of the exempt operation, reason for performing the operation, and an estimated completion date. The permittee shall notify the District within 24 hours after completion of the operation and shall maintain operating records and/or support documentation necessary to claim exemption. [District Rule 4354] Federally Enforceable Through Title V Permit
11. The emission control systems shall be in operation whenever conditions are consistent with equipment manufacturer's specifications during startup, idling and shutdown periods. [District Rule 4354] Federally Enforceable Through Title V Permit
12. The duration of a furnace shutdown shall not exceed 20 days, measured from the time furnace operations drop below the idle threshold specified in Section 3.17 of District Rule 4354 to when all emissions from the furnace cease. [District Rule 4354] Federally Enforceable Through Title V Permit
13. NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, and PM<sub>10</sub> emissions during idling shall not exceed the amount as calculated using the following equation: NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, or PM<sub>10</sub> (lb/day) = Applicable emission limit (lb/ton) x Furnace permitted production capacity (tons/day). [District Rule 4354] Federally Enforceable Through Title V Permit
14. The furnace crown temperature shall be maintained at or above temperature at which compliance with VOC emissions have been demonstrated in the previous source test. If the measured furnace temperature is below this temperature, the permittee shall conduct a certified VOC source test within 60 days to re-establish the minimum temperature. In lieu of conducting a certified VOC source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the furnace temperature to or above the established minimum temperature), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
15. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation  $E=3.59P^{0.62}$  ( $P < 30$  tph) or  $E=17.31P^{0.16}$  ( $P > 30$  tph). [District Rule 4202] Federally Enforceable Through Title V Permit
16. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [Stanislaus County Rule 407 and District Rule 4801] Federally Enforceable Through Title V Permit

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17. Source testing to demonstrate compliance with permit conditions and all rules and regulations for both natural gas and LPG shall be conducted within 60 days after the end of the start-up exemption, and at least once every calendar year thereafter. NO<sub>x</sub> and CO testing shall be performed using CARB Method 100. VOC testing shall be performed using EPA method 25A. PM<sub>10</sub> testing shall be performed using EPA methods 201 and 202, EPA methods 201a and 202, or CARB methods 501 and 5. SO<sub>x</sub> testing shall be performed using EPA Method 8 and CARB Method 1-100. NH<sub>3</sub> testing shall be performed using BAAQMD Method ST-1B. [District Rules 1081, 2201, 2520, §9.3.2; and 4354] Federally Enforceable Through Title V Permit
18. Source testing when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. A source test shall be performed within 90 days after this furnace exceeds 100 hours of operation, on LPG, on an annual basis. [District Rule 1081] Federally Enforceable Through Title V Permit
19. Source testing shall be conducted by a CARB-certified source testing contractor. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to source testing. The results of each source test shall be submitted to the District within 60 days after the source test date. [District Rule 1081] Federally Enforceable Through Title V Permit
20. Source test conditions shall be representative of operations equal to or greater than 60 percent of capacity for each furnace as stated in the Permit to Operate. [District Rule 4354] Federally Enforceable Through Title V Permit
21. For source testing purposes, the arithmetic average of three 30-consecutive-minute test runs shall be used to determine compliance with NO<sub>x</sub>, CO, VOC, and SO<sub>x</sub> emission limits. [District Rule 4354] Federally Enforceable Through Title V Permit
22. For source testing purposes, the arithmetic average of three 60-consecutive-minute test runs shall be used to determine compliance with PM<sub>10</sub> emission limits. [District Rule 4354] Federally Enforceable Through Title V Permit
23. For source testing purposes, if two of the three runs individually demonstrate emissions above the applicable limit, the test cannot be used to demonstrate compliance for the furnace, even if the averaged emissions of all three test runs is less than the applicable limit. [District Rule 4354] Federally Enforceable Through Title V Permit
24. PM and PM<sub>10</sub> source testing shall be conducted downstream of the ceramic filter dust collector in the common stack. Furnaces #1, #2, #3, and #4 must operate simultaneously during source testing unless prior approval is obtained from the District. [District Rule 1081] Federally Enforceable Through Title V Permit
25. An annual Relative Accuracy Test Audit (RATA) shall be performed on the continuous monitoring system as outlined in 40 CFR Part 60 Appendix B. [District Rule 1080] Federally Enforceable Through Title V Permit
26. The owner/operator shall perform a relative accuracy test audit (RATA) as specified by 40 CFR Part 60, Appendix F (CGAs and RATAs) and if applicable 40 CFR Part 75, Appendix B (linearity and RATAs) at least once every four calendar quarters and annually within 30 days of the anniversary date of the initial test. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080] Federally Enforceable Through Title V Permit
27. An exceedance of a NO<sub>x</sub>, CO, NH<sub>3</sub>, or SO<sub>x</sub> emission limit as indicated by the CEMS shall be reported by the operator to the APCO within 24 hours. The notification shall include 1) name and location of the facility, 2) identification of furnace(s) causing the exceedances, 3) calculation of actual NO<sub>x</sub>, CO, NH<sub>3</sub> and SO<sub>x</sub> emissions, and 4) corrective actions and schedules to complete the work. [District Rule 1080 and Stanislaus County Rule 1080] Federally Enforceable Through Title V Permit
28. {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
29. Records shall be maintained and shall include: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEMS that have been installed pursuant to District Rule 1080, and emission measurements. [District Rule 1080] Federally Enforceable Through Title V Permit

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30. The operator shall notify the APCO no later than one hour after the detection of a breakdown of the CEMS. The operator shall inform the APCO of the intent to shut down the CEMS at least 24 hours prior to the event. [District Rule 1100] Federally Enforceable Through Title V Permit
31. The permittee shall submit a written report including copies of any Equipment Breakdown reports and/or pertinent variance decisions to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess emissions (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 1080] Federally Enforceable Through Title V Permit
32. Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternative method. [District Rule 1080] Federally Enforceable Through Title V Permit
33. Results of continuous emissions monitoring shall be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080] Federally Enforceable Through Title V Permit
34. Cylinder gas audits (CGAs) of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit
35. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4201, Stanislaus County Rule 404, District Rule 4202 and Stanislaus County Rule 405. A permit shield is granted from these requirements. [District Rule 2520] Federally Enforceable Through Title V Permit
36. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4801 and Stanislaus County Rule 407. A permit shield is granted from these requirements. [District Rule 2520] Federally Enforceable Through Title V Permit
37. The requirements of District Rule 4301 and Stanislaus County Rule 408 were determined to not apply to this unit because the unit does not utilize indirect heat transfer. A permit shield is granted from these requirements. [District Rule 2520] Federally Enforceable Through Title V Permit
38. The requirements of 40 CFR Part 61, Subpart N were determined to not apply to this unit because the unit does not use commercial arsenic. A permit shield is granted from these requirements. [District Rule 2520] Federally Enforceable Through Title V Permit
39. Any glass melting furnace located at an Area Source of hazardous air pollutants shall comply with 40 CFR Part 63 Subpart SSSSSS (National Emission Standards for Hazardous Air Pollutants for Glass Manufacturing Area Sources). [40 CFR Part 63 Subpart SSSSSS] Federally Enforceable Through Title V Permit
40. The 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
41. Except during periods of startup, shutdown, and idling, NO<sub>x</sub> emissions shall not exceed 0.99 pounds per ton of glass produced (over a rolling 30-day average). This performance based limit is to enforce the NO<sub>x</sub> emission reductions granted by certificate number N-107-2, as well as, Phase I NO<sub>x</sub> limit in Rule 4354. Any CEM measurement greater than 0.99 lb-NO<sub>x</sub>/ton of glass produced for each 30-day rolling average constitutes a violation of this emission limit. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
42. Except during periods of startup, shutdown, and idling, CO emissions shall not exceed 0.20 pounds per ton of glass produced on a 3-hour rolling average. [District Rule 2201] Federally Enforceable Through Title V Permit
43. Except during periods of startup, shutdown, and idling, VOC emissions shall not exceed 0.02 pounds per ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit

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44. Except during periods of startup, shutdown, and idling, the combined SO<sub>x</sub> emissions from permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed 0.77 lb/ton of glass produced (over a rolling 30 day average). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
45. Except during periods of startup, shutdown, idling, and during full or partial emission control system bypass episodes, PM<sub>10</sub> emissions shall not exceed 0.18 lb/ton of glass produced. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
46. The PM<sub>10</sub> 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
47. 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
48. Ammonia (NH<sub>3</sub>) emissions from the furnace battery shall not exceed any of the following limits: 1.30 lb/hr, 30.0 lb/day, and 10,990 lb in any rolling 12-month period. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
49. The emission limits of this permit shall not apply during routine maintenance of the respective add-on control systems. The routine maintenance in each calendar year shall not exceed 144 hours total for all controls and routine maintenance shall be conducted in a manner consistent with good air pollution control practices for minimizing air emissions. Routine maintenance includes, but is not limited to: 1) Calibration and scheduled parts replacement of CEMS equipment per manufacturer's recommendations, 2) Cleaning of particulate control devices and stack ductwork to ensure optimal performance, and 3) Necessary repairs to ensure optimal performance of all parts of the system. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
50. The facility shall not use commercial arsenic as a raw material in the production process. [40 CFR Part 61 Subpart N] Federally Enforceable Through Title V Permit
51. The PM<sub>10</sub> emissions shall not exceed 28,132 pounds during the first calendar quarter, 28,445 pounds during the second calendar quarter, 28,757 pounds during the third calendar quarter and 28,758 pounds during the fourth calendar quarter. These limits are to enforce the PM<sub>10</sub> emission reductions granted by certificate number N-161-4. [District Rule 2201] Federally Enforceable Through Title V Permit
52. The maximum throughput of lime received and stored in the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed either of the following limits: 65 tons-lime/day or 110 tons-lime/quarter. [District Rule 2201] Federally Enforceable Through Title V Permit
53. PM<sub>10</sub> emissions rate from the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed 0.0049 lb-PM<sub>10</sub>/ton-lime stored. [District Rule 2201] Federally Enforceable Through Title V Permit
54. Each dust collector and bin vent filter shall be maintained and operated in the range that optimizes control efficiency as recommended by the manufacturer. [District Rule 2201] Federally Enforceable Through Title V Permit
55. Each dust collector and bin vent filter's cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit
56. Material removed from each dust collector and bin vent filter shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
57. Replacement filters numbering at least 10% of the total number of filters in the largest dust collector, and for each type of filter, shall be maintained on the premises. [District Rule 2201] Federally Enforceable Through Title V Permit
58. A spare set of bags or filters shall be maintained on the premises at all times for the bin vent filter serving the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4. [District Rule 2201] Federally Enforceable Through Title V Permit
59. The ceramic filter dust collectors shall each be equipped with a pressure differential gauge to indicate the pressure drop across the filters. The gauges shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

60. During operation of the ceramic filter dust collectors, the pressure differential gauge reading shall be 1 to 20 inches of water column. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
61. 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
62. 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
63. 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
64. 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
65. 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
66. 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 CO emissions (in lb/ton of glass pulled), the NH3 emissions (in lb/hr), 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
67. 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
68. The pollutant mass emission rate in lb/hr shall be converted to lb pollutant/ton of glass pulled as specified in Rule 4354. The operator of a oxy-fuel fired furnace, oxygen-assisted combustion furnace, or a furnace utilizing any fuel oxidants other than 100% ambient air, shall submit to the APCO, ARB, and EPA for approval any methodologies and data that will be used to calculate emission rates for NOx, CO, and VOC if the methods are different from those specified in Rule 4354. Unless the operator received prior written approval from APCO, ARB, and EPA of all the calculation methods to be used that are different from those specified in Rule 4354, compliance with the emissions limits cannot be fully demonstrated, and it shall be deemed to be a violation of the rule. [District Rule 4354] Federally Enforceable Through Title V Permit
69. The permittee shall install, operate, and maintain a monitoring and recording system that continuously monitor and records the furnace crown temperature. The recorded temperature shall be averaged over 30-minute period to demonstrate compliance with minimum furnace crown temperature established during the latest source testing. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
70. The permittee shall maintain records of the date and time, the furnace crown temperature readings, and the furnace crown temperature measured during the latest source testing during which compliance was demonstrated with the VOC emission limit. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
71. The permittee shall maintain daily records of the aggregated NOx emissions. [District Rules 2520 and 4354] Federally Enforceable Through Title V Permit
72. 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
73. 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
74. The permittee shall keep a record of the cumulative annual hours of operation of the glass furnace on LPG fuel. [District Rule 1070] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

75. The operator shall monitor and record the pressure differential gauge reading of each ceramic filter dust collector at least once during each day that the units operate. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
76. Records of dust collector and bin vent filter maintenance, inspections and repairs shall be maintained. The records shall include, date of inspection, change outs of filter media, corrective action taken, and identification of the individual performing the inspection. [District Rules 2201 and 2520] Federally Enforceable Through Title V Permit
77. Records of daily and quarterly amount of lime transferred into the lime storage silo shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
78. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

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*San Joaquin Valley  
Air Pollution Control District*

## AUTHORITY TO CONSTRUCT

**PERMIT NO:** N-1662-28-0

**ISSUANCE DATE:** DRAFT

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

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

**EQUIPMENT DESCRIPTION:**

AQUEOUS AMMONIA RECEIVING AND STORAGE OPERATION CONDUCTED USING A 550-GALLON TOTE EQUIPPED WITH PRESSURE-VACUUM RELIEF VALVE OR A 10,000 GALLON POLYURETHANE TANK (APPROXIMATELY 10 FEET DIAMETER AND 15 FEET HEIGHT) EQUIPPED WITH PRESSURE-VACUUM RELIEF VALVE, AND THE TOTE OR TANK SHALL BE FILLED USING BALANCE TYPE CLOSED-LOOP CONTROL SYSTEM

## 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. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The storage tank shall be equipped with a pressure-vacuum (PV) relief valve shall be set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings, properly maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in a leak-free condition except when the operating pressure exceeds the valve's set pressure. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The quantity of aqueous ammonia delivered shall not exceed 5,000 gallons of aqueous ammonia in any one day and shall not exceed 202,778 gallons of aqueous ammonia in any rolling 12-month period. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
5. Ammonia emissions from the aqueous ammonia receiving and storage operation shall not exceed any of the following limits: 1.1 lb/day and 240 lb in any rolling 12-month period. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Samir Sheikh, Executive Director / APCO

Brian Clements, Director of Permit Services

N-1662-28-0 : Nov 30 2023 9:15AM -- HARADERJ : Joint Inspection NOT Required

6. The permittee shall maintain records of the daily and rolling 12-month quantity of ammonia received. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
7. 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 4102] Federally Enforceable Through Title V Permit

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**APPENDIX B**  
**ATCs N-1662-1-22, '-2-23, '3-22, and '-4-24**



## AUTHORITY TO CONSTRUCT

**PERMIT NO:** N-1662-1-22

**ISSUANCE DATE:** 09/18/2023

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

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

### EQUIPMENT DESCRIPTION:

MODIFICATION OF GLASS FURNACE #1 WITH EIGHT 10 MMBTU/HR (EACH), TWO 5 MMBTU/HR (EACH), TWO 2 MMBTU/HR (EACH) BURNER (94 MMBTU/HR MAX HEAT CAPACITY), AND ASSOCIATED FORMING EQUIPMENT INCLUDING FOREHEARTHS, COATING, AND CHAIN BURNERS. THIS FURNACE IS DUCTED THROUGH A STACK COMMON TO PERMIT UNITS N-1662-1, N-1662-2, N-1662-3 AND N-1662-4. THE FURNACES ARE SERVED BY THE FOLLOWING SHARED EQUIPMENT: SOX SCRUBBER INCLUDING A LIME STORAGE SILO SERVED BY A BIN VENT FILTER, AN ELECTROSTATIC PRECIPITATOR, AND/OR FOUR TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS: INCREASE CO EMISSIONS LIMIT, INSTALL CO MONITORING SYSTEM, INSTALL FURNACE CROWN TEMPERATURE MONITORING SYSTEM, AND REMOVE AND REPLACE OXYGEN-TO-FUEL RATIO REQUIREMENT WITH CO AND FURNACE CROWN TEMPERATURE MONITORING

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) N-1662-1-23 shall be implemented concurrently, or prior to the modification and startup of the equipment authorized by this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

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

Samir Sheikh, Executive Director / APCO

Brian Clements, Director of Permit Services

N-1662-1-22 : Sep 18 2023 8:26AM -- KAHLOUJ : Joint Inspection NOT Required

5. Particulate matter emissions shall not exceed 0.1 grain/dscf in concentration. [District Rule 4201 and Stanislaus County Rule 404] Federally Enforceable Through Title V Permit
6. The furnace shall be fired on natural gas and LPG only. [District Rule 2201] Federally Enforceable Through Title V Permit
7. The furnace shall have continuous monitoring systems for NO<sub>x</sub>, CO and SO<sub>x</sub> emissions. 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
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] 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 NO<sub>x</sub>, CO, and O<sub>2</sub> analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Source Emission Monitoring and Testing. [District Rule 1081] Federally Enforceable Through Title V Permit
11. The permittee shall notify the District at least 24 hours prior to initiating idling, shutdown, or startup of the glass furnace and this notification shall include: The date and time of the start of the exempt operation, reason for performing the operation, and an estimated completion date. The permittee shall notify the District within 24 hours after completion of the operation and shall maintain operating records and/or support documentation necessary to claim exemption. [District Rule 4354] Federally Enforceable Through Title V Permit
12. The emission control systems shall be in operation whenever conditions are consistent with equipment manufacturer's specifications during startup, idling and shutdown periods. [District Rule 4354] Federally Enforceable Through Title V Permit
13. The duration of a furnace shutdown shall not exceed 20 days, measured from the time furnace operations drop below the idle threshold specified in Section 3.17 of District Rule 4354 to when all emissions from the furnace cease. [District Rule 4354] Federally Enforceable Through Title V Permit
14. NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, and PM<sub>10</sub> emissions during idling shall not exceed the amount as calculated using the following equation: NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, or PM<sub>10</sub> (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 furnace crown temperature shall be maintained at or above temperature at which compliance with VOC emissions have been demonstrated in the previous source test. If the measured furnace temperature is below this temperature, the permittee shall conduct a certified VOC source test within 60 days to re-establish the minimum temperature. In lieu of conducting a certified VOC source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the furnace temperature to or above the established minimum temperature), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 2201 and 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

CONDITIONS CONTINUE ON NEXT PAGE



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. NO<sub>x</sub> and CO testing shall be performed using CARB Method 100. VOC testing shall be performed using EPA method 25A. SO<sub>x</sub> testing shall be performed using EPA Method 8 or CARB Method 100. PM<sub>10</sub> testing shall be performed using EPA methods 201 and 202, EPA methods 201a and 202, or CARB methods 501 and 5. In lieu of performing a source test for PM<sub>10</sub>, the results of CARB Method 5 or EPA Methods 5 and 202 may be used for compliance with the PM<sub>10</sub> emissions limit. If this option is used, then all of the particulate emissions will be considered to be PM<sub>10</sub>. Alternative test methods as approved by EPA, ARB, and the District may also be used to address the source testing requirements of this permit. [District Rules 1081, 2201, 2520, §9.3.2; and 4354] Federally Enforceable Through Title V Permit
19. Source testing when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. A source test shall be performed within 90 days after this furnace exceeds 100 hours of operation, on LPG, on an annual basis. [District Rule 1081] Federally Enforceable Through Title V Permit
20. Source testing shall be conducted by a CARB-certified source testing contractor. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to source testing. The results of each source test shall be submitted to the District within 60 days after the source test date. [District Rule 1081] Federally Enforceable Through Title V Permit
21. Source test conditions shall be representative of operations equal to or greater than 60 percent of capacity for each furnace as stated in the Permit to Operate. [District Rule 4354] 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 NO<sub>x</sub>, CO, VOC, and SO<sub>x</sub> 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 PM<sub>10</sub> 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 PM<sub>10</sub> 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 NO<sub>x</sub>, CO or SO<sub>x</sub> emission limit as indicated by the CEMS shall be reported by the operator to the APCO within 24 hours. The notification shall include 1) name and location of the facility, 2) identification of furnace(s) causing the exceedances, 3) calculation of actual NO<sub>x</sub>, CO and VOC emissions, and 4) corrective actions and schedules to complete the work. [District Rule 1080 and Stanislaus County Rule 1080] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

29. 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 (CGAs) of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit
36. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4201, Stanislaus County Rule 404, District Rule 4202 and Stanislaus County Rule 405. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
37. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4801 and Stanislaus County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
38. The requirements of District Rule 4301 and Stanislaus County Rule 408 were determined to not apply to this unit because the unit does not utilize indirect heat transfer. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
39. The requirements of 40 CFR Part 60 Subpart CC were determined not to apply to this unit because the unit was constructed prior to the effective date in the regulation and has not been modified (according to the definition of "modified in the regulation"). A permit shield is granted from these requirements. [District Rule 2520 Section 13.2] Federally Enforceable Through Title V Permit
40. The requirements of 40 CFR Part 61, Subpart N were determined to not apply to this unit because the unit does not use commercial arsenic. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
41. Any glass melting furnace located at an Area Source of hazardous air pollutants shall comply with 40 CFR Part 63 Subpart SSSSSS (National Emission Standards for Hazardous Air Pollutants for Glass Manufacturing Area Sources). [40 CFR Part 63 Subpart SSSSSS] Federally Enforceable Through Title V Permit
42. The quantity of glass produced shall not exceed 520.1 tons during any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

43. Except during periods of startup, shutdown, and idling, NO<sub>x</sub> emissions shall not exceed 0.99 pounds per ton of glass produced (over a rolling 30-day average). This performance based limit is to enforce the NO<sub>x</sub> emission reductions granted by certificate number N-106-2, as well as, Phase I NO<sub>x</sub> limit in Rule 4354. Any CEM measurement greater than 0.99 lb-NO<sub>x</sub>/ton of glass produced for each 30-day rolling average constitutes a violation of this emission limit. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
44. Except during periods of startup, shutdown, and idling, CO emissions shall not exceed 0.20 pounds per ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit
45. Prior to operating equipment under this Authority to Construct, permittee shall surrender ERC certificate number N-106-3 for CO emission reduction credits in the following quantity of emissions: 1st quarter - 862 lb, 2nd quarter - 867 lb, 3rd quarter - 873 lb, and fourth quarter - 825 lb. [District Rule 2201] 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 SO<sub>x</sub> emissions from permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed 0.77 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, PM<sub>10</sub> emissions shall not exceed 0.18 lb/ton of glass produced. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
49. The PM<sub>10</sub> emissions, during full or partial emission control system bypass episodes for routine maintenance, shall not exceed 0.71 lb/ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit
50. The emission limits of this permit shall not apply during routine maintenance of the respective add-on control systems. The routine maintenance in each calendar year shall not exceed 144 hours total for all controls and routine maintenance shall be conducted in a manner consistent with good air pollution control practices for minimizing air emissions. Routine maintenance includes, but is not limited to: 1) Calibration and scheduled parts replacement of CEMS equipment per manufacturer's recommendations, 2) Cleaning of particulate control devices and stack ductwork to ensure optimal performance, and 3) Necessary repairs to ensure optimal performance of all parts of the system. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
51. The PM<sub>10</sub> 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 PM<sub>10</sub> emission reductions granted by certificate number N-161-4. [District Rule 2201] Federally Enforceable Through Title V Permit
52. The maximum throughput of lime received and stored in the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed either of the following limits: 65 tons-lime/day or 110 tons-lime/quarter. [District Rule 2201] Federally Enforceable Through Title V Permit
53. PM<sub>10</sub> emissions rate from the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed 0.0049 lb-PM<sub>10</sub>/ton-lime stored. [District Rule 2201] Federally Enforceable Through Title V Permit
54. The facility shall not use commercial arsenic as a raw material in the production process. [40 CFR Part 61 Subpart N] Federally Enforceable Through Title V Permit
55. Each dust collector and bin vent filter shall be maintained and operated in the range that optimizes control efficiency as recommended by the manufacturer. [District Rule 2201] Federally Enforceable Through Title V Permit
56. Each dust collector and bin vent filter's cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit
57. Material removed from each dust collector and bin vent filter shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
58. Replacement filters numbering at least 10% of the total number of filters in the largest dust collector, and for each type of filter, shall be maintained on the premises. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

59. A spare set of bags or filters shall be maintained on the premises at all times for the bin vent filter serving the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4. [District Rule 2201] Federally Enforceable Through Title V Permit
60. Devices to measure the primary and secondary voltage and current of the electrostatic precipitator shall be maintained in accordance with the manufacturer's specifications. [District Rule 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
61. When the electrostatic precipitator is in operation, the specific power of the electrostatic precipitator shall be at least 70 milliwatts/acfm except during the bypass episodes allowed by this permit. [District Rule 2520 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
62. The ceramic filter dust collectors shall each be equipped with a pressure differential gauge to indicate the pressure drop across the filters. The gauges shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
63. During operation of the ceramic filter dust collectors, the pressure differential gauge reading shall be 1 to 20 inches of water column. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
64. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR Part 64.7. [40 CFR Part 64] Federally Enforceable Through Title V Permit
65. If the District or EPA determine that a Quality Improvement Plan is required under 40 CFR Part 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR Part 64.8. [40 CFR Part 64] Federally Enforceable Through Title V Permit
66. The permittee shall comply with the record keeping and reporting requirements of 40 CFR Part 64.9. [40 CFR Part 64] Federally Enforceable Through Title V Permit
67. When the electrostatic precipitator is in operation, the specific power of the electrostatic precipitator shall be continuously monitored and recorded. [District Rules 2201 and 4354, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
68. Dust collector filters shall be inspected annually while in operation for evidence of particulate matter breakthrough and replaced as needed. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
69. Dust collector filters shall be inspected annually while not in operation for tears, scuffs, abrasions or hole that might interfere with the PM collection efficiency and shall be replaced as needed. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
70. Permittee shall keep a record of the daily hours of operation, the amount of glass pulled from the furnace (in tons), the NOx emissions (in lb/ton of glass pulled), the SOx emissions (in lb/ton of glass pulled), the weight of mixed color mix cullet used, the total amount of cullet used (by weight) and the ratio of the mixed color cullet weight to the total cullet weight (in percent). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
71. Permittee shall maintain records of the following: 1) Source tests and source test results, 2) the acceptable range for each approved key system operating parameter, as established during source tests, 3) The operating values of the key system operating parameters at the approved recording frequency, 4) any maintenance and repair, and 5) any malfunctions. [District Rule 4354] Federally Enforceable Through Title V Permit
72. The pollutant mass emission rate in lb/hr shall be converted to lb pollutant/ton of glass pulled as specified in Rule 4354. The operator of a oxy-fuel fired furnace, oxygen-assisted combustion furnace, or a furnace utilizing any fuel oxidants other than 100% ambient air, shall submit to the APCO, ARB, and EPA for approval any methodologies and data that will be used to calculate emission rates for NOx, CO, and VOC if the methods are different from those specified in Rule 4354. Unless the operator received prior written approval from APCO, ARB, and EPA of all the calculation methods to be used that are different from those specified in Rule 4354, compliance with the emissions limits cannot be fully demonstrated, and it shall be deemed to be a violation of the rule. [District Rule 4354] Federally Enforceable Through Title V Permit

73. The permittee shall install, operate, and maintain a monitoring and recording system that continuously monitor and records the furnace crown temperature. The recorded temperature shall be averaged over 30-minute period to demonstrate compliance with minimum furnace crown temperature established during the latest source testing. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
74. The permittee shall maintain records of the date and time, the furnace crown temperature readings, and the furnace crown temperature measured during the latest source testing during which compliance was demonstrated with the VOC emission limit. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
75. The permittee shall maintain daily records of the aggregated NOx emissions. [District Rules 2520, 9.3.2 and 4354] Federally Enforceable Through Title V Permit
76. A record of the PM10 emissions from this unit, in pounds per calendar quarter, shall be kept. [District Rule 2201] Federally Enforceable Through Title V Permit
77. A record of the cumulative annual number of hours that the emission control system is either fully or partially bypassed shall be kept. The record shall be updated at least weekly. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
78. The permittee shall keep a record of the cumulative annual hours of operation of the glass furnace on LPG fuel. [District Rule 2201] Federally Enforceable Through Title V Permit
79. When the electrostatic precipitator is in operation, the permittee shall maintain daily records of the specific power of the electrostatic precipitator (in milliwatts/acfm). [District Rules 2201, 4354, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
80. The operator shall monitor and record the pressure differential gauge reading of each ceramic filter dust collector at least once during each day that the units operate. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
81. Records of dust collector and bin vent filter maintenance, inspections and repairs shall be maintained. The records shall include, date of inspection, change outs of filter media, corrective action taken, and identification of the individual performing the inspection. [District Rules 2201 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
82. Records of daily and quarterly amount of lime transferred into the lime storage silo shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
83. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

## AUTHORITY TO CONSTRUCT

**PERMIT NO:** N-1662-2-23

**ISSUANCE DATE:** 09/18/2023

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

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

### EQUIPMENT DESCRIPTION:

MODIFICATION OF GLASS FURNACE #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 THE FOLLOWING SHARED EQUIPMENT: SOX SCRUBBER INCLUDING A LIME STORAGE SILO SERVED BY A BIN VENT FILTER, AN ELECTROSTATIC PRECIPITATOR, AND/OR FOUR TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS: INSTALL CO MONITORING SYSTEM, INSTALL FURNACE CROWN TEMPERATURE MONITORING SYSTEM, AND REMOVE AND REPLACE OXYGEN-TO-FUEL RATIO REQUIREMENT WITH CO AND FURNACE CROWN TEMPERATURE MONITORING

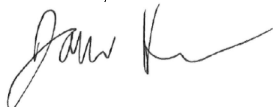
## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) N-1662-2-24 shall be implemented concurrently, or prior to the modification and startup of the equipment authorized by this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

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

Samir Sheikh, Executive Director / APCO



Brian Clements, Director of Permit Services

N-1662-2-23 : Sep 18 2023 8:26AM -- KAHLOJ : Joint Inspection NOT Required

5. Particulate matter emissions shall not exceed 0.1 grain/dscf in concentration. [District Rule 4201 and Stanislaus County Rule 404] Federally Enforceable Through Title V Permit
6. The furnace shall be fired on natural gas and LPG only. [District Rule 2201] Federally Enforceable Through Title V Permit
7. The furnace shall have continuous monitoring systems for NO<sub>x</sub>, CO and SO<sub>x</sub> emissions. 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
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] 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 NO<sub>x</sub>, CO, and O<sub>2</sub> analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Source Emission Monitoring and Testing. [District Rule 1081] Federally Enforceable Through Title V Permit
11. The permittee shall notify the District at least 24 hours prior to initiating idling, shutdown, or startup of the glass furnace and this notification shall include: The date and time of the start of the exempt operation, reason for performing the operation, and an estimated completion date. The permittee shall notify the District within 24 hours after completion of the operation and shall maintain operating records and/or support documentation necessary to claim exemption. [District Rule 4354] Federally Enforceable Through Title V Permit
12. The emission control systems shall be in operation whenever conditions are consistent with equipment manufacturer's specifications during startup, idling and shutdown periods. [District Rule 4354] Federally Enforceable Through Title V Permit
13. The duration of a furnace shutdown shall not exceed 20 days, measured from the time furnace operations drop below the idle threshold specified in Section 3.17 of District Rule 4354 to when all emissions from the furnace cease. [District Rule 4354] Federally Enforceable Through Title V Permit
14. NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, and PM<sub>10</sub> emissions during idling shall not exceed the amount as calculated using the following equation: NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, or PM<sub>10</sub> (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 furnace crown temperature shall be maintained at or above temperature at which compliance with VOC emissions have been demonstrated in the previous source test. If the measured furnace temperature is below this temperature, the permittee shall conduct a certified VOC source test within 60 days to re-establish the minimum temperature. In lieu of conducting a certified VOC source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the furnace temperature to or above the established minimum temperature), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 2201 and 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

CONDITIONS CONTINUE ON NEXT PAGE

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. NO<sub>x</sub> and CO testing shall be performed using CARB Method 100. VOC testing shall be performed using EPA method 25A. PM<sub>10</sub> testing shall be performed using EPA methods 201 and 202, EPA methods 201a and 202, or CARB methods 501 and 5. SO<sub>x</sub> testing shall be performed using EPA Method 8 and CARB Method 1-100. [District Rules 1081, 2201, 2520, §9.3.2; and 4354] Federally Enforceable Through Title V Permit
19. Source testing when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. A source test shall be performed within 90 days after this furnace exceeds 100 hours of operation, on LPG, on an annual basis. [District Rule 1081] Federally Enforceable Through Title V Permit
20. Source testing shall be conducted by a CARB-certified source testing contractor. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to source testing. The results of each source test shall be submitted to the District within 60 days after the source test date. [District Rule 1081] Federally Enforceable Through Title V Permit
21. Source test conditions shall be representative of operations equal to or greater than 60 percent of capacity for each furnace as stated in the Permit to Operate. [District Rule 4354] 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 NO<sub>x</sub>, CO, VOC, and SO<sub>x</sub> 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 PM<sub>10</sub> 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 PM<sub>10</sub> 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 NO<sub>x</sub>, CO or SO<sub>x</sub> emission limit as indicated by the CEMS shall be reported by the operator to the APCO within 24 hours. The notification shall include 1) name and location of the facility, 2) identification of furnace(s) causing the exceedances, 3) calculation of actual NO<sub>x</sub>, CO and VOC emissions, and 4) corrective actions and schedules to complete the work. [District Rule 1080 and Stanislaus County Rule 1080] Federally Enforceable Through Title V Permit
29. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE



30. Records shall be maintained and shall include: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEMS that have been installed pursuant to District Rule 1080, and emission measurements. [District Rule 1080] Federally Enforceable Through Title V Permit
31. The operator shall notify the APCO no later than one hour after the detection of a breakdown of the CEMS. The operator shall inform the APCO of the intent to shut down the CEMS at least 24 hours prior to the event. [District Rule 1100] Federally Enforceable Through Title V Permit
32. The permittee shall submit a written report including copies of any Equipment Breakdown reports and/or pertinent variance decisions to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess emissions (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 1080] Federally Enforceable Through Title V Permit
33. Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternative method. [District Rule 1080] Federally Enforceable Through Title V Permit
34. Results of continuous emissions monitoring shall be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080] Federally Enforceable Through Title V Permit
35. Cylinder gas audits (CGAs) of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit
36. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4201, Stanislaus County Rule 404, District Rule 4202 and Stanislaus County Rule 405. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
37. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4801 and Stanislaus County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
38. The requirements of District Rule 4301 and Stanislaus County Rule 408 were determined to not apply to this unit because the unit does not utilize indirect heat transfer. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
39. The requirements of 40 CFR Part 61, Subpart N were determined to not apply to this unit because the unit does not use commercial arsenic. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
40. Any glass melting furnace located at an Area Source of hazardous air pollutants shall comply with 40 CFR Part 63 Subpart SSSSSS (National Emission Standards for Hazardous Air Pollutants for Glass Manufacturing Area Sources). [40 CFR Part 63 Subpart SSSSSS] Federally Enforceable Through Title V Permit
41. The quantity of glass produced shall not exceed 430 tons during any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
42. Except during periods of startup, shutdown, and idling, NO<sub>x</sub> emissions shall not exceed 0.99 pounds per ton of glass produced (over a rolling 30-day average). This performance based limit is to enforce the NO<sub>x</sub> emission reductions granted by certificate number N-54-2, as well as, Phase I NO<sub>x</sub> limit in Rule 4354. Any CEM measurement greater than 0.99 lb-NO<sub>x</sub>/ton of glass produced for each 30-day rolling average constitutes a violation of this emission limit. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
43. Except during periods of startup, shutdown, and idling, CO emissions shall not exceed 0.20 pounds per ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit

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44. Except during periods of startup, shutdown, and idling, VOC emissions shall not exceed 0.02 pounds per ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit
45. Except during periods of startup, shutdown, and idling, the combined SOx emissions from permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed 0.77 lb/ton of glass produced (over a rolling 30 day average). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
46. Except during periods of startup, shutdown, idling, and during full or partial emission control system bypass episodes, PM10 emissions shall not exceed 0.18 lb/ton of glass produced. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
47. The PM10 emissions, during full or partial emission control system bypass episodes for routine maintenance, shall not exceed 0.71 lb/ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit
48. 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
49. The emission limits of this permit shall not apply during routine maintenance of the respective add-on control systems. The routine maintenance in each calendar year shall not exceed 144 hours total for all controls and routine maintenance shall be conducted in a manner consistent with good air pollution control practices for minimizing air emissions. Routine maintenance includes, but is not limited to: 1) Calibration and scheduled parts replacement of CEMS equipment per manufacturer's recommendations, 2) Cleaning of particulate control devices and stack ductwork to ensure optimal performance, and 3) Necessary repairs to ensure optimal performance of all parts of the system. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
50. The PM10 emissions shall not exceed 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 Rule 2201] Federally Enforceable Through Title V Permit
51. The maximum throughput of lime received and stored in the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed either of the following limits: 65 tons-lime/day or 110 tons-lime/quarter. [District Rule 2201] Federally Enforceable Through Title V Permit
52. PM10 emissions rate from the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed 0.0049 lb-PM10/ton-lime stored. [District Rule 2201] Federally Enforceable Through Title V Permit
53. The facility shall not use commercial arsenic as a raw material in the production process. [40 CFR Part 61 Subpart N] Federally Enforceable Through Title V Permit
54. Each dust collector and bin vent filter shall be maintained and operated in the range that optimizes control efficiency as recommended by the manufacturer. [District Rule 2201] Federally Enforceable Through Title V Permit
55. Each dust collector and bin vent filter's cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit
56. Material removed from each dust collector and bin vent filter shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
57. Replacement filters numbering at least 10% of the total number of filters in the largest dust collector, and for each type of filter, shall be maintained on the premises. [District Rule 2201] Federally Enforceable Through Title V Permit
58. A spare set of bags or filters shall be maintained on the premises at all times for the bin vent filter serving the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4. [District Rule 2201] Federally Enforceable Through Title V Permit
59. Devices to measure the primary and secondary voltage and current of the electrostatic precipitator shall be maintained in accordance with the manufacturer's specifications. [District Rule 4354, 40 CFR 60.293(d) and 40 CFR Part 64] Federally Enforceable Through Title V Permit
60. When the electrostatic precipitator is in operation, the specific power of the electrostatic precipitator shall be at least 70 milliwatts/acfm except during the bypass episodes allowed by this permit. [District Rule 2520, §9.3.2, 40 CFR 60.293(d), and 40 CFR Part 64] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

61. The ceramic filter dust collectors shall each be equipped with a pressure differential gauge to indicate the pressure drop across the filters. The gauges shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
62. During operation of the ceramic filter dust collectors, the pressure differential gauge reading shall be 1 to 20 inches of water column. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
63. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR Part 64.7. [40 CFR Part 64] Federally Enforceable Through Title V Permit
64. If the District or EPA determine that a Quality Improvement Plan is required under 40 CFR Part 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR Part 64.8. [40 CFR Part 64] Federally Enforceable Through Title V Permit
65. The permittee shall comply with the record keeping and reporting requirements of 40 CFR Part 64.9. [40 CFR Part 64] Federally Enforceable Through Title V Permit
66. When the electrostatic precipitator is in operation, the specific power of the electrostatic precipitator shall be continuously monitored and recorded. [District Rules 2201 and 4354, 40 CFR 60.293(d), 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 NO<sub>x</sub> emissions (in lb/ton of glass pulled), the SO<sub>x</sub> emissions (in lb/ton of glass pulled), the weight of mixed color mix cullet used, the total amount of cullet used (by weight) and the ratio of the mixed color cullet weight to the total cullet weight (in percent). [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 NO<sub>x</sub>, CO, and VOC if the methods are different from those specified in Rule 4354. Unless the operator received prior written approval from APCO, ARB, and EPA of all the calculation methods to be used that are different from those specified in Rule 4354, compliance with the emissions limits cannot be fully demonstrated, and it shall be deemed to be a violation of the rule. [District Rule 4354] Federally Enforceable Through Title V Permit
72. The permittee shall install, operate, and maintain a monitoring and recording system that continuously monitor and records the furnace crown temperature. The recorded temperature shall be averaged over 30-minute period to demonstrate compliance with minimum furnace crown temperature established during the latest source testing. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
73. The permittee shall maintain records of the date and time, the furnace crown temperature readings, and the furnace crown temperature measured during the latest source testing during which compliance was demonstrated with the VOC emission limit. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
74. The permittee shall maintain daily records of the aggregated NO<sub>x</sub> emissions. [District Rules 2520, 9.3.2 and 4354] Federally Enforceable Through Title V Permit
75. A record of the PM<sub>10</sub> emissions from this unit, in pounds per calendar quarter, shall be kept. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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. When the electrostatic precipitator is in operation, the permittee shall maintain daily records of the specific power of the electrostatic precipitator (in milliwatts/acfm). [District Rules 2201, 4354, 40 CFR 60.293(d), and 40 CFR Part 64] Federally Enforceable Through Title V Permit
79. The operator shall monitor and record the pressure differential gauge reading of each ceramic filter dust collector at least once during each day that the units operate. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
80. Records of dust collector and bin vent filter maintenance, inspections and repairs shall be maintained. The records shall include, date of inspection, change outs of filter media, corrective action taken, and identification of the individual performing the inspection. [District Rules 2201 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
81. The permittee shall maintain records of the actual NO<sub>2</sub>, PM<sub>10</sub>, and PM emissions from this unit for each 12 consecutive-month rolling period for a period of 10 years from July 24, 2016 for the purposes of demonstrating that there has not been a PSD "significant net emissions increase" above the baseline actual NO<sub>2</sub>, PM<sub>10</sub>, 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 NO<sub>2</sub>, PM<sub>10</sub>, 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 PM<sub>10</sub> 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
82. Records of daily and quarterly amount of lime transferred into the lime storage silo shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
83. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit



## AUTHORITY TO CONSTRUCT

**PERMIT NO:** N-1662-3-22

**ISSUANCE DATE:** 09/18/2023

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

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

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF GLASS FURNACE #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 THE FOLLOWING SHARED EQUIPMENT: SOX SCRUBBER INCLUDING A LIME STORAGE SILO SERVED BY A BIN VENT FILTER, AN ELECTROSTATIC PRECIPITATOR, AND/OR FOUR TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS: INCREASE CO EMISSIONS LIMIT, INSTALL CO MONITORING SYSTEM, INSTALL FURNACE CROWN TEMPERATURE MONITORING SYSTEM, AND REMOVE AND REPLACE OXYGEN-TO-FUEL RATIO REQUIREMENT WITH CO AND FURNACE CROWN TEMPERATURE MONITORING

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) N-1662-3-23 shall be implemented concurrently, or prior to the modification and startup of the equipment authorized by this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

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

Samir Sheikh, Executive Director / APCO

Brian Clements, Director of Permit Services

N-1662-3-22 : Sep 18 2023 8:26AM -- KAHLOUJ : Joint Inspection NOT Required

5. Particulate matter emissions shall not exceed 0.1 grain/dscf in concentration. [District Rule 4201 and Stanislaus County Rule 404] Federally Enforceable Through Title V Permit
6. The furnace shall be fired on natural gas and LPG only. [District Rule 2201] Federally Enforceable Through Title V Permit
7. The furnace shall have continuous monitoring systems for NO<sub>x</sub>, CO and SO<sub>x</sub> emissions. 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
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] 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 NO<sub>x</sub>, CO, and O<sub>2</sub> analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Source Emission Monitoring and Testing. [District Rule 1081] Federally Enforceable Through Title V Permit
11. The permittee shall notify the District at least 24 hours prior to initiating idling, shutdown, or startup of the glass furnace and this notification shall include: The date and time of the start of the exempt operation, reason for performing the operation, and an estimated completion date. The permittee shall notify the District within 24 hours after completion of the operation and shall maintain operating records and/or support documentation necessary to claim exemption. [District Rule 4354] Federally Enforceable Through Title V Permit
12. The emission control systems shall be in operation whenever conditions are consistent with equipment manufacturer's specifications during startup, idling and shutdown periods. [District Rule 4354] Federally Enforceable Through Title V Permit
13. The duration of a furnace shutdown shall not exceed 20 days, measured from the time furnace operations drop below the idle threshold specified in Section 3.17 of District Rule 4354 to when all emissions from the furnace cease. [District Rule 4354] Federally Enforceable Through Title V Permit
14. NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, and PM<sub>10</sub> emissions during idling shall not exceed the amount as calculated using the following equation: NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, or PM<sub>10</sub> (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 furnace crown temperature shall be maintained at or above temperature at which compliance with VOC emissions have been demonstrated in the previous source test. If the measured furnace temperature is below this temperature, the permittee shall conduct a certified VOC source test within 60 days to re-establish the minimum temperature. In lieu of conducting a certified VOC source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the furnace temperature to or above the established minimum temperature), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 2201 and 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

CONDITIONS CONTINUE ON NEXT PAGE

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. NO<sub>x</sub> and CO testing shall be performed using CARB Method 100. VOC testing shall be performed using EPA method 25A. PM<sub>10</sub> testing shall be performed using EPA methods 201 and 202, EPA methods 201a and 202, or CARB methods 501 and 5. SO<sub>x</sub> testing shall be performed using EPA Method 8 and CARB Method 1-100. [District Rules 1081, 2201, 2520, §9.3.2; and 4354] Federally Enforceable Through Title V Permit
19. Source testing when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. A source test shall be performed within 90 days after this furnace exceeds 100 hours of operation, on LPG, on an annual basis. [District Rule 1081] Federally Enforceable Through Title V Permit
20. Source testing shall be conducted by a CARB-certified source testing contractor. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to source testing. The results of each source test shall be submitted to the District within 60 days after the source test date. [District Rule 1081] Federally Enforceable Through Title V Permit
21. Source test conditions shall be representative of operations equal to or greater than 60 percent of capacity for each furnace as stated in the Permit to Operate. [District Rule 4354, §6.4.2] Federally Enforceable Through Title V Permit
22. For source testing purposes, the arithmetic average of three 30-consecutive-minute test runs shall be used to determine compliance with NO<sub>x</sub>, CO, VOC, and SO<sub>x</sub> 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 PM<sub>10</sub> 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 PM<sub>10</sub> 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 NO<sub>x</sub>, CO or SO<sub>x</sub> emission limit as indicated by the CEMS shall be reported by the operator to the APCO within 24 hours. The notification shall include 1) name and location of the facility, 2) identification of furnace(s) causing the exceedances, 3) calculation of actual NO<sub>x</sub>, CO and VOC emissions, and 4) corrective actions and schedules to complete the work. [District Rule 1080 and Stanislaus County Rule 1080] Federally Enforceable Through Title V Permit
29. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

30. Records shall be maintained and shall include: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEMS that have been installed pursuant to District Rule 1080, and emission measurements. [District Rule 1080] Federally Enforceable Through Title V Permit
31. The operator shall notify the APCO no later than one hour after the detection of a breakdown of the CEMS. The operator shall inform the APCO of the intent to shut down the CEMS at least 24 hours prior to the event. [District Rule 1100] Federally Enforceable Through Title V Permit
32. The permittee shall submit a written report including copies of any Equipment Breakdown reports and/or pertinent variance decisions to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess emissions (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 1080] Federally Enforceable Through Title V Permit
33. Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternative method. [District Rule 1080] Federally Enforceable Through Title V Permit
34. Results of continuous emissions monitoring shall be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080] Federally Enforceable Through Title V Permit
35. Cylinder gas audits (CGAs) of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit
36. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4201, Stanislaus County Rule 404, District Rule 4202 and Stanislaus County Rule 405. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
37. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4801 and Stanislaus County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
38. The requirements of District Rule 4301 and Stanislaus County Rule 408 were determined to not apply to this unit because the unit does not utilize indirect heat transfer. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
39. The requirements of 40 CFR Part 61, Subpart N were determined to not apply to this unit because the unit does not use commercial arsenic. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
40. Any glass melting furnace located at an Area Source of hazardous air pollutants shall comply with 40 CFR Part 63 Subpart SSSSSS (National Emission Standards for Hazardous Air Pollutants for Glass Manufacturing Area Sources). [40 CFR Part 63 Subpart SSSSSS] Federally Enforceable Through Title V Permit
41. The quantity of glass produced shall not exceed 430 tons during any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
42. Except during periods of startup, shutdown, and idling, NO<sub>x</sub> emissions shall not exceed 0.99 pounds per ton of glass produced (over a rolling 30-day average). This performance based limit is to enforce the NO<sub>x</sub> emission reductions granted by certificate number N-56-2, as well as, Phase I NO<sub>x</sub> limit in Rule 4354. Any CEM measurement greater than 0.99 lb-NO<sub>x</sub>/ton of glass produced for each 30-day rolling average constitutes a violation of this emission limit. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
43. Except during periods of startup, shutdown, and idling, CO emissions shall not exceed 0.20 pounds per ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE



44. Prior to operating equipment under this Authority to Construct, permittee shall surrender ERC certificate number N-56-3 for CO emission reduction credits in the following quantity of emissions: 1st quarter - 504 lb, 2nd quarter - 531 lb, 3rd quarter - 521 lb, and fourth quarter - 488 lb. [District Rule 2201] Federally Enforceable Through Title V Permit
45. Except during periods of startup, shutdown, and idling, VOC emissions shall not exceed 0.02 pounds per ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit
46. Except during periods of startup, shutdown, and idling, the combined SOx emissions from permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed 0.77 lb/ton of glass produced (over a rolling 30 day average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
47. Except during periods of startup, shutdown, idling, and during full or partial emission control system bypass episodes, PM10 emissions shall not exceed 0.18 lb/ton of glass produced. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
48. The PM10 emissions, during full or partial emission control system bypass episodes for routine maintenance, shall not exceed 0.71 lb/ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit
49. 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
50. The emission limits of this permit shall not apply during routine maintenance of the respective add-on control systems. The routine maintenance in each calendar year shall not exceed 144 hours total for all controls and routine maintenance shall be conducted in a manner consistent with good air pollution control practices for minimizing air emissions. Routine maintenance includes, but is not limited to: 1) Calibration and scheduled parts replacement of CEMS equipment per manufacturer's recommendations, 2) Cleaning of particulate control devices and stack ductwork to ensure optimal performance, and 3) Necessary repairs to ensure optimal performance of all parts of the system. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
51. The PM10 emissions shall not exceed 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 Rule 2201] Federally Enforceable Through Title V Permit
52. The maximum throughput of lime received and stored in the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed either of the following limits: 65 tons-lime/day or 110 tons-lime/quarter. [District Rule 2201] Federally Enforceable Through Title V Permit
53. PM10 emissions rate from the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed 0.0049 lb-PM10/ton-lime stored. [District Rule 2201] Federally Enforceable Through Title V Permit
54. The facility shall not use commercial arsenic as a raw material in the production process. [40 CFR Part 61 Subpart N] Federally Enforceable Through Title V Permit
55. Each dust collector and bin vent filter shall be maintained and operated in the range that optimizes control efficiency as recommended by the manufacturer. [District Rule 2201] Federally Enforceable Through Title V Permit
56. Each dust collector and bin vent filter's cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit
57. Material removed from each dust collector and bin vent filter shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
58. Replacement filters numbering at least 10% of the total number of filters in the largest dust collector, and for each type of filter, shall be maintained on the premises. [District Rule 2201] Federally Enforceable Through Title V Permit
59. A spare set of bags or filters shall be maintained on the premises at all times for the bin vent filter serving the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4. [District Rule 2201] Federally Enforceable Through Title V Permit
60. Devices to measure the primary and secondary voltage and current of the electrostatic precipitator shall be maintained in accordance with the manufacturer's specifications. [District Rule 4354, 40 CFR 60.293(d), and 40 CFR Part 64] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

61. When the electrostatic precipitator is in operation, the specific power of the electrostatic precipitator shall be at least 70 milliwatts/acfm except during the bypass episodes allowed by this permit. [District Rule 2520, §9.3.2, 40 CFR 60.293(d), and 40 CFR Part 64] Federally Enforceable Through Title V Permit
62. The ceramic filter dust collectors shall each be equipped with a pressure differential gauge to indicate the pressure drop across the filters. The gauges shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
63. During operation of the ceramic filter dust collectors, the pressure differential gauge reading shall be 1 to 20 inches of water column. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
64. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR Part 64.7. [40 CFR Part 64] Federally Enforceable Through Title V Permit
65. If the District or EPA determine that a Quality Improvement Plan is required under 40 CFR Part 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR Part 64.8. [40 CFR Part 64] Federally Enforceable Through Title V Permit
66. The permittee shall comply with the record keeping and reporting requirements of 40 CFR Part 64.9. [40 CFR Part 64] Federally Enforceable Through Title V Permit
67. When the electrostatic precipitator is in operation, the specific power of the electrostatic precipitator shall be continuously monitored and recorded. [District Rules 2201 and 4354, 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 NO<sub>x</sub> emissions (in lb/ton of glass pulled), the SO<sub>x</sub> emissions (in lb/ton of glass pulled), the weight of mixed color mix cullet used, the total amount of cullet used (by weight) and the ratio of the mixed color cullet weight to the total cullet weight (in percent). [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 NO<sub>x</sub>, CO, and VOC if the methods are different from those specified in Rule 4354. Unless the operator received prior written approval from APCO, ARB, and EPA of all the calculation methods to be used that are different from those specified in Rule 4354, compliance with the emissions limits cannot be fully demonstrated, and it shall be deemed to be a violation of the rule. [District Rule 4354] Federally Enforceable Through Title V Permit
73. The permittee shall install, operate, and maintain a monitoring and recording system that continuously monitor and records the furnace crown temperature. The recorded temperature shall be averaged over 30-minute period to demonstrate compliance with minimum furnace crown temperature established during the latest source testing. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
74. The permittee shall maintain records of the date and time, the furnace crown temperature readings, and the furnace crown temperature measured during the latest source testing during which compliance was demonstrated with the VOC emission limit. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

75. The permittee shall maintain daily records of the aggregated NO<sub>x</sub> emissions. [District Rules 2520, 9.3.2 and 4354] Federally Enforceable Through Title V Permit
76. A record of the PM<sub>10</sub> emissions from this unit, in pounds per calendar quarter, shall be kept. [District Rule 2201] Federally Enforceable Through Title V Permit
77. A record of the cumulative annual number of hours that the emission control system is either fully or partially bypassed shall be kept. The record shall be updated at least weekly. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
78. The permittee shall keep a record of the cumulative annual hours of operation of the glass furnace on LPG fuel. [District Rule 2201] Federally Enforceable Through Title V Permit
79. When the electrostatic precipitator is in operation, the permittee shall maintain daily records of the specific power of the electrostatic precipitator (in milliwatts/acfm). [District Rules 2201, 4354, 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 each ceramic filter dust collector at least once during each day that the units operate. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
81. Records of dust collector and bin vent filter maintenance, inspections and repairs shall be maintained. The records shall include, date of inspection, change outs of filter media, corrective action taken, and identification of the individual performing the inspection. [District Rules 2201 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
82. Records of daily and quarterly amount of lime transferred into the lime storage silo shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
83. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

# AUTHORITY TO CONSTRUCT

**PERMIT NO:** N-1662-4-24

**ISSUANCE DATE:** 09/18/2023

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

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

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF GLASS FURNACE #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 THE FOLLOWING SHARED EQUIPMENT: SOX SCRUBBER INCLUDING A LIME STORAGE SILO SERVED BY A BIN VENT FILTER, AN ELECTROSTATIC PRECIPITATOR, AND/OR FOUR TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS: INSTALL CO MONITORING SYSTEM, INSTALL FURNACE CROWN TEMPERATURE MONITORING SYSTEM, AND REMOVE AND REPLACE OXYGEN-TO-FUEL RATIO REQUIREMENT WITH CO AND FURNACE CROWN TEMPERATURE MONITORING

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) N-1662-4-25 shall be implemented concurrently, or prior to the modification and startup of the equipment authorized by this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

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

Samir Sheikh, Executive Director / APCO



Brian Clements, Director of Permit Services

N-1662-4-24 : Sep 18 2023 8:26AM -- KAH/LONJ : Joint Inspection NOT Required

5. Particulate matter emissions shall not exceed 0.1 grain/dscf in concentration. [District Rule 4201 and Stanislaus County Rule 404] Federally Enforceable Through Title V Permit
6. The furnace shall be fired on natural gas and LPG only. [District Rule 2201] Federally Enforceable Through Title V Permit
7. The furnace shall have continuous monitoring systems for NO<sub>x</sub>, CO and SO<sub>x</sub> emissions. 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
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] 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 NO<sub>x</sub>, CO, and O<sub>2</sub> analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Source Emission Monitoring and Testing. [District Rule 1081] Federally Enforceable Through Title V Permit
11. The permittee shall notify the District at least 24 hours prior to initiating idling, shutdown, or startup of the glass furnace and this notification shall include: The date and time of the start of the exempt operation, reason for performing the operation, and an estimated completion date. The permittee shall notify the District within 24 hours after completion of the operation and shall maintain operating records and/or support documentation necessary to claim exemption. [District Rule 4354] Federally Enforceable Through Title V Permit
12. The emission control systems shall be in operation whenever conditions are consistent with equipment manufacturer's specifications during startup, idling and shutdown periods. [District Rule 4354] Federally Enforceable Through Title V Permit
13. The duration of a furnace shutdown shall not exceed 20 days, measured from the time furnace operations drop below the idle threshold specified in Section 3.17 of District Rule 4354 to when all emissions from the furnace cease. [District Rule 4354] Federally Enforceable Through Title V Permit
14. NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, and PM<sub>10</sub> emissions during idling shall not exceed the amount as calculated using the following equation: NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, or PM<sub>10</sub> (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 furnace crown temperature shall be maintained at or above temperature at which compliance with VOC emissions have been demonstrated in the previous source test. If the measured furnace temperature is below this temperature, the permittee shall conduct a certified VOC source test within 60 days to re-establish the minimum temperature. In lieu of conducting a certified VOC source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the furnace temperature to or above the established minimum temperature), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 2201 and 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

CONDITIONS CONTINUE ON NEXT PAGE

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. NO<sub>x</sub> and CO testing shall be performed using CARB Method 100. VOC testing shall be performed using EPA method 25A. PM<sub>10</sub> testing shall be performed using EPA methods 201 and 202, EPA methods 201a and 202, or CARB methods 501 and 5. SO<sub>x</sub> testing shall be performed using EPA Method 8 and CARB Method 1-100. [District Rules 1081; 2520; and 4354] Federally Enforceable Through Title V Permit
19. Source testing when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. A source test shall be performed within 90 days after this furnace exceeds 100 hours of operation, on LPG, on an annual basis. [District Rule 1081] Federally Enforceable Through Title V Permit
20. Source testing shall be conducted by a CARB-certified source testing contractor. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to source testing. The results of each source test shall be submitted to the District within 60 days after the source test date. [District Rule 1081] Federally Enforceable Through Title V Permit
21. Source test conditions shall be representative of operations equal to or greater than 60 percent of capacity for each furnace as stated in the Permit to Operate. [District Rule 4354] 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 NO<sub>x</sub>, CO, VOC, and SO<sub>x</sub> 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 PM<sub>10</sub> 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 PM<sub>10</sub> 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 NO<sub>x</sub>, CO or SO<sub>x</sub> emission limit as indicated by the CEMS shall be reported by the operator to the APCO within 24 hours. The notification shall include 1) name and location of the facility, 2) identification of furnace(s) causing the exceedances, 3) calculation of actual NO<sub>x</sub>, CO and VOC emissions, and 4) corrective actions and schedules to complete the work. [District Rule 1080 and Stanislaus County Rule 108] Federally Enforceable Through Title V Permit
29. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

30. Records shall be maintained and shall include: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEMS that have been installed pursuant to District Rule 1080, and emission measurements. [District Rule 1080] Federally Enforceable Through Title V Permit
31. The operator shall notify the APCO no later than one hour after the detection of a breakdown of the CEMS. The operator shall inform the APCO of the intent to shut down the CEMS at least 24 hours prior to the event. [District Rule 1100] Federally Enforceable Through Title V Permit
32. The permittee shall submit a written report including copies of any Equipment Breakdown reports and/or pertinent variance decisions to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess emissions (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 1080] Federally Enforceable Through Title V Permit
33. Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternative method. [District Rule 1080] Federally Enforceable Through Title V Permit
34. Results of continuous emissions monitoring shall be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080] Federally Enforceable Through Title V Permit
35. Cylinder gas audits (CGAs) of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit
36. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4201, Stanislaus County Rule 404, District Rule 4202 and Stanislaus County Rule 405. A permit shield is granted from these requirements. [District Rule 2520] 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] 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] Federally Enforceable Through Title V Permit
39. The requirements of 40 CFR Part 61, Subpart N were determined to not apply to this unit because the unit does not use commercial arsenic. A permit shield is granted from these requirements. [District Rule 2520] Federally Enforceable Through Title V Permit
40. Any glass melting furnace located at an Area Source of hazardous air pollutants shall comply with 40 CFR Part 63 Subpart SSSSSS (National Emission Standards for Hazardous Air Pollutants for Glass Manufacturing Area Sources). [40 CFR Part 63 Subpart SSSSSS] Federally Enforceable Through Title V Permit
41. The 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
42. Except during periods of startup, shutdown, and idling, NO<sub>x</sub> emissions shall not exceed 0.99 pounds per ton of glass produced (over a rolling 30-day average). This performance based limit is to enforce the NO<sub>x</sub> emission reductions granted by certificate number N-107-2, as well as, Phase I NO<sub>x</sub> limit in Rule 4354. Any CEM measurement greater than 0.99 lb-NO<sub>x</sub>/ton of glass produced for each 30-day rolling average constitutes a violation of this emission limit. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
43. Except during periods of startup, shutdown, and idling, CO emissions shall not exceed 0.20 pounds per ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit

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44. Except during periods of startup, shutdown, and idling, VOC emissions shall not exceed 0.02 pounds per ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit
45. Except during periods of startup, shutdown, and idling, the combined SOx emissions from permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed 0.77 lb/ton of glass produced (over a rolling 30 day average). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
46. Except during periods of startup, shutdown, idling, and during full or partial emission control system bypass episodes, PM10 emissions shall not exceed 0.18 lb/ton of glass produced. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
47. The PM10 emissions, during full or partial emission control system bypass episodes for routine maintenance, shall not exceed 0.71 lb/ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit
48. 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
49. The emission limits of this permit shall not apply during routine maintenance of the respective add-on control systems. The routine maintenance in each calendar year shall not exceed 144 hours total for all controls and routine maintenance shall be conducted in a manner consistent with good air pollution control practices for minimizing air emissions. Routine maintenance includes, but is not limited to: 1) Calibration and scheduled parts replacement of CEMS equipment per manufacturer's recommendations, 2) Cleaning of particulate control devices and stack ductwork to ensure optimal performance, and 3) Necessary repairs to ensure optimal performance of all parts of the system. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
50. The facility shall not use commercial arsenic as a raw material in the production process. [40 CFR Part 61 Subpart N] Federally Enforceable Through Title V Permit
51. The 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
52. The maximum throughput of lime received and stored in the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed either of the following limits: 65 tons-lime/day or 110 tons-lime/quarter. [District Rule 2201] Federally Enforceable Through Title V Permit
53. PM10 emissions rate from the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed 0.0049 lb-PM10/ton-lime stored. [District Rule 2201] Federally Enforceable Through Title V Permit
54. Each dust collector and bin vent filter shall be maintained and operated in the range that optimizes control efficiency as recommended by the manufacturer. [District Rule 2201] Federally Enforceable Through Title V Permit
55. Each dust collector and bin vent filter's cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit
56. Material removed from each dust collector and bin vent filter shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
57. Replacement filters numbering at least 10% of the total number of filters in the largest dust collector, and for each type of filter, shall be maintained on the premises. [District Rule 2201] Federally Enforceable Through Title V Permit
58. A spare set of bags or filters shall be maintained on the premises at all times for the bin vent filter serving the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4. [District Rule 2201] Federally Enforceable Through Title V Permit
59. Devices to measure the primary and secondary voltage and current of the electrostatic precipitator shall be maintained in accordance with the manufacturer's specifications. [District Rule 4354, 40 CFR 60.293(d), and 40 CFR Part 64] Federally Enforceable Through Title V Permit
60. When the electrostatic precipitator is in operation, the specific power of the electrostatic precipitator shall be at least 70 milliwatts/acfm except during the bypass episodes allowed by this permit. [District Rule 2520, §9.3.2, 40 CFR 60.293(d), and 40 CFR Part 64] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE



61. The ceramic filter dust collectors shall each be equipped with a pressure differential gauge to indicate the pressure drop across the filters. The gauges shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
62. During operation of the ceramic filter dust collectors, the pressure differential gauge reading shall be 1 to 20 inches of water column. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
63. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR Part 64.7. [40 CFR Part 64] Federally Enforceable Through Title V Permit
64. If the District or EPA determine that a Quality Improvement Plan is required under 40 CFR Part 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR Part 64.8. [40 CFR Part 64] Federally Enforceable Through Title V Permit
65. The permittee shall comply with the record keeping and reporting requirements of 40 CFR Part 64.9. [40 CFR Part 64] Federally Enforceable Through Title V Permit
66. When the electrostatic precipitator is in operation, the specific power of the electrostatic precipitator shall be continuously monitored and recorded. [District Rules 2201 and 4354, 40 CFR 60.293(d), 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] 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] 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 NO<sub>x</sub> emissions (in lb/ton of glass pulled), the SO<sub>x</sub> emissions (in lb/ton of glass pulled), the weight of mixed color mix cullet used, the total amount of cullet used (by weight) and the ratio of the mixed color cullet weight to the total cullet weight (in percent). [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 NO<sub>x</sub>, CO, and VOC if the methods are different from those specified in Rule 4354. Unless the operator received prior written approval from APCO, ARB, and EPA of all the calculation methods to be used that are different from those specified in Rule 4354, compliance with the emissions limits cannot be fully demonstrated, and it shall be deemed to be a violation of the rule. [District Rule 4354] Federally Enforceable Through Title V Permit
72. The permittee shall install, operate, and maintain a monitoring and recording system that continuously monitor and records the furnace crown temperature. The recorded temperature shall be averaged over 30-minute period to demonstrate compliance with minimum furnace crown temperature established during the latest source testing. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
73. The permittee shall maintain records of the date and time, the furnace crown temperature readings, and the furnace crown temperature measured during the latest source testing during which compliance was demonstrated with the VOC emission limit. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
74. The permittee shall maintain daily records of the aggregated NO<sub>x</sub> emissions. [District Rules 2520 and 4354] Federally Enforceable Through Title V Permit
75. A record of the PM<sub>10</sub> emissions from this unit, in pounds per calendar quarter, shall be kept. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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 1070] Federally Enforceable Through Title V Permit
78. When the electrostatic precipitator is in operation, the permittee shall maintain daily records of the specific power of the electrostatic precipitator (in milliwatts/acfm). [District Rules 2201, 4354, 40 CFR 60.293(d) and 40 CFR Part 64] Federally Enforceable Through Title V Permit
79. The operator shall monitor and record the pressure differential gauge reading of each ceramic filter dust collector at least once during each day that the units operate. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
80. Records of dust collector and bin vent filter maintenance, inspections and repairs shall be maintained. The records shall include, date of inspection, change outs of filter media, corrective action taken, and identification of the individual performing the inspection. [District Rules 2201 and 2520] Federally Enforceable Through Title V Permit
81. Records of daily and quarterly amount of lime transferred into the lime storage silo shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
82. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

**APPENDIX C**  
**ATCs N-1662-1-23, '-2-24, '-3-23 & '-4-25**

# AUTHORITY TO CONSTRUCT

**PERMIT NO:** N-1662-1-23

**ISSUANCE DATE:** 03/14/2023

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

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

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF GLASS FURNACE #1 WITH EIGHT 10 MMBTU/HR (EACH), TWO 5 MMBTU/HR (EACH), TWO 2 MMBTU/HR (EACH) BURNER (94 MMBTU/HR MAX HEAT CAPACITY), AND ASSOCIATED FORMING EQUIPMENT INCLUDING FOREHEARTHES, COATING, AND CHAIN BURNERS. THIS FURNACE IS DUCTED THROUGH A STACK COMMON TO PERMIT UNITS N-1662-1, N-1662-2, N-1662-3 AND N-1662-4. THE FURNACES ARE SERVED BY THE FOLLOWING SHARED EQUIPMENT: SOX SCRUBBER INCLUDING A LIME STORAGE SILO SERVED BY A BIN VENT FILTER, AN ELECTROSTATIC PRECIPITATOR, AND/OR FOUR TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS: REDUCE PERMITTED NOX, SOX AND PM10 EMISSION LIMITS FOR DISTRICT RULE 4354 COMPLIANCE

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) N-1662-1-21 shall be implemented concurrently, or prior to the modification and startup of the equipment authorized by this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

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

Samir Sheikh, Executive Director / APCO



Brian Clements, Director of Permit Services

N-1662-1-23 : Mar 14 2023 2:55PM -- KAHLONU : Joint Inspection NOT Required

5. Particulate matter emissions shall not exceed 0.1 grain/dscf in concentration. [District Rule 4201 and Stanislaus County Rule 404] Federally Enforceable Through Title V Permit
6. The furnace shall be fired on natural gas and LPG only. [District Rule 2201] Federally Enforceable Through Title V Permit
7. The furnace shall have continuous monitoring systems for NO<sub>x</sub> and SO<sub>x</sub>. The monitoring devices shall have continuous recording devices, and all records shall be kept on site. [District Rules 1080 and 4354] 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] 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 NO<sub>x</sub>, CO, and O<sub>2</sub> analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Source Emission Monitoring and Testing. [District Rule 1081] Federally Enforceable Through Title V Permit
11. The permittee shall notify the District at least 24 hours prior to initiating idling, shutdown, or startup of the glass furnace and this notification shall include: The date and time of the start of the exempt operation, reason for performing the operation, and an estimated completion date. The permittee shall notify the District within 24 hours after completion of the operation and shall maintain operating records and/or support documentation necessary to claim exemption. [District Rule 4354] Federally Enforceable Through Title V Permit
12. The emission control systems shall be in operation whenever conditions are consistent with equipment manufacturer's specifications during startup, idling and shutdown periods. [District Rule 4354] Federally Enforceable Through Title V Permit
13. The duration of a furnace shutdown shall not exceed 20 days, measured from the time furnace operations drop below the idle threshold specified in Section 3.17 of District Rule 4354 to when all emissions from the furnace cease. [District Rule 4354] Federally Enforceable Through Title V Permit
14. NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, and PM<sub>10</sub> emissions during idling shall not exceed the amount as calculated using the following equation: NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, or PM<sub>10</sub> (lb/day) = Applicable emission limit (lb/ton) x Furnace permitted production capacity (tons/day). [District Rule 4354] Federally Enforceable Through Title V Permit
15. The oxygen to fuel ratio shall be maintained within the range shown by the most recent source test to result in compliance with the CO and VOC limits of this permit. The acceptable range of the oxygen to fuel ratio shall be established during the initial source test and during each subsequent annual source test. [District Rule 4354] Federally Enforceable Through Title V Permit
16. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation  $E=3.59P^{0.62}$  ( $P < 30$  tph) or  $E=17.31P^{0.16}$  ( $P > 30$  tph). [District Rule 4202] Federally Enforceable Through Title V Permit
17. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [Stanislaus County Rule 407 and District Rule 4801] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

18. Source testing to demonstrate compliance with permit conditions and all rules and regulations for both natural gas and LPG shall be conducted within 60 days after the end of the start-up exemption, and at least once every calendar year thereafter. NOx and CO testing shall be performed using CARB Method 100. VOC testing shall be performed using EPA method 25A. SOx testing shall be performed using EPA Method 8 or CARB Method 100. PM10 testing shall be performed using EPA methods 201 and 202, EPA methods 201a and 202, or CARB methods 501 and 5. In lieu of performing a source test for PM10, the results of CARB Method 5 or EPA Methods 5 and 202 may be used for compliance with the PM10 emissions limit. If this option is used, then all of the particulate emissions will be considered to be PM10. Alternative test methods as approved by EPA, ARB, and the District may also be used to address the source testing requirements of this permit. [District Rules 1081, 2201, 2520, §9.3.2; and 4354] Federally Enforceable Through Title V Permit
19. Source testing when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. A source test shall be performed within 90 days after this furnace exceeds 100 hours of operation, on LPG, on an annual basis. [District Rule 1081] Federally Enforceable Through Title V Permit
20. Source testing shall be conducted by a CARB-certified source testing contractor. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to source testing. The results of each source test shall be submitted to the District within 60 days after the source test date. [District Rule 1081] Federally Enforceable Through Title V Permit
21. Source test conditions shall be representative of operations equal to or greater than 60 percent of capacity for each furnace as stated in the Permit to Operate. [District Rule 4354] 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. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

30. Records shall be maintained and shall include: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEMS that have been installed pursuant to District Rule 1080, and emission measurements. [District Rule 1080] Federally Enforceable Through Title V Permit
31. The operator shall notify the APCO no later than one hour after the detection of a breakdown of the CEMS. The operator shall inform the APCO of the intent to shut down the CEMS at least 24 hours prior to the event. [District Rule 1100] Federally Enforceable Through Title V Permit
32. The permittee shall submit a written report including copies of any Equipment Breakdown reports and/or pertinent variance decisions to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess emissions (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 1080] Federally Enforceable Through Title V Permit
33. Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternative method. [District Rule 1080] Federally Enforceable Through Title V Permit
34. Results of continuous emissions monitoring shall be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080] Federally Enforceable Through Title V Permit
35. Cylinder gas audits (CGAs) of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit
36. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4201, Stanislaus County Rule 404, District Rule 4202 and Stanislaus County Rule 405. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
37. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4801 and Stanislaus County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
38. The requirements of District Rule 4301 and Stanislaus County Rule 408 were determined to not apply to this unit because the unit does not utilize indirect heat transfer. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
39. The requirements of 40 CFR Part 60 Subpart CC were determined not to apply to this unit because the unit was constructed prior to the effective date in the regulation and has not been modified (according to the definition of "modified in the regulation"). A permit shield is granted from these requirements. [District Rule 2520 Section 13.2] Federally Enforceable Through Title V Permit
40. The requirements of 40 CFR Part 61, Subpart N were determined to not apply to this unit because the unit does not use commercial arsenic. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
41. Any glass melting furnace located at an Area Source of hazardous air pollutants shall comply with 40 CFR Part 63 Subpart SSSSSS (National Emission Standards for Hazardous Air Pollutants for Glass Manufacturing Area Sources). [40 CFR Part 63 Subpart SSSSSS] Federally Enforceable Through Title V Permit
42. The quantity of glass produced shall not exceed 520.1 tons during any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

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43. Except during periods of startup, shutdown, and idling, NO<sub>x</sub> emissions shall not exceed 0.99 pounds per ton of glass produced (over a rolling 30-day average). This performance based limit is to enforce the NO<sub>x</sub> emission reductions granted by certificate number N-106-2, as well as, Phase I NO<sub>x</sub> limit in Rule 4354. Any CEM measurement greater than 0.99 lb-NO<sub>x</sub>/ton of glass produced for each 30-day rolling average constitutes a violation of this emission limit. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
44. Except during periods of startup, shutdown, and idling, CO emissions shall not exceed 0.04 pounds per ton of glass produced. This performance based limit is to enforce the CO emission reductions granted by certificate number N-106-3. [District Rule 2201] Federally Enforceable Through Title V Permit
45. Except during periods of startup, shutdown, and idling, VOC emissions shall not exceed 0.02 pounds per ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit
46. Except during periods of startup, shutdown, and idling, the combined SO<sub>x</sub> emissions from permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed 0.77 lb/ton of glass produced (over a rolling 30 day average). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
47. Except during periods of startup, shutdown, idling, and during full or partial emission control system bypass episodes, PM<sub>10</sub> emissions shall not exceed 0.18 lb/ton of glass produced. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
48. The PM<sub>10</sub> emissions, during full or partial emission control system bypass episodes for routine maintenance, shall not exceed 0.71 lb/ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit
49. The emission limits of this permit shall not apply during routine maintenance of the respective add-on control systems. The routine maintenance in each calendar year shall not exceed 144 hours total for all controls and routine maintenance shall be conducted in a manner consistent with good air pollution control practices for minimizing air emissions. Routine maintenance includes, but is not limited to: 1) Calibration and scheduled parts replacement of CEMS equipment per manufacturer's recommendations, 2) Cleaning of particulate control devices and stack ductwork to ensure optimal performance, and 3) Necessary repairs to ensure optimal performance of all parts of the system. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
50. The PM<sub>10</sub> 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 PM<sub>10</sub> emission reductions granted by certificate number N-161-4. [District Rule 2201] Federally Enforceable Through Title V Permit
51. The maximum throughput of lime received and stored in the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed either of the following limits: 65 tons-lime/day or 110 tons-lime/quarter. [District Rule 2201] Federally Enforceable Through Title V Permit
52. PM<sub>10</sub> emissions rate from the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed 0.0049 lb-PM<sub>10</sub>/ton-lime stored. [District Rule 2201] Federally Enforceable Through Title V Permit
53. The facility shall not use commercial arsenic as a raw material in the production process. [40 CFR Part 61 Subpart N] Federally Enforceable Through Title V Permit
54. Each dust collector and bin vent filter shall be maintained and operated in the range that optimizes control efficiency as recommended by the manufacturer. [District Rule 2201] Federally Enforceable Through Title V Permit
55. Each dust collector and bin vent filter's cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit
56. Material removed from each dust collector and bin vent filter shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
57. Replacement filters numbering at least 10% of the total number of filters in the largest dust collector, and for each type of filter, shall be maintained on the premises. [District Rule 2201] Federally Enforceable Through Title V Permit
58. A spare set of bags or filters shall be maintained on the premises at all times for the bin vent filter serving the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE



59. Devices to measure the primary and secondary voltage and current of the electrostatic precipitator shall be maintained in accordance with the manufacturer's specifications. [District Rule 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
60. When the electrostatic precipitator is in operation, the specific power of the electrostatic precipitator shall be at least 70 milliwatts/acfm except during the bypass episodes allowed by this permit. [District Rule 2520 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
61. The ceramic filter dust collectors shall each be equipped with a pressure differential gauge to indicate the pressure drop across the filters. The gauges shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
62. During operation of the ceramic filter dust collectors, the pressure differential gauge reading shall be 1 to 20 inches of water column. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
63. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR Part 64.7. [40 CFR Part 64] Federally Enforceable Through Title V Permit
64. If the District or EPA determine that a Quality Improvement Plan is required under 40 CFR Part 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR Part 64.8. [40 CFR Part 64] Federally Enforceable Through Title V Permit
65. The permittee shall comply with the record keeping and reporting requirements of 40 CFR Part 64.9. [40 CFR Part 64] Federally Enforceable Through Title V Permit
66. When the electrostatic precipitator is in operation, the specific power of the electrostatic precipitator shall be continuously monitored and recorded. [District Rules 2201 and 4354, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
67. Dust collector filters shall be inspected annually while in operation for evidence of particulate matter breakthrough and replaced as needed. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
68. Dust collector filters shall be inspected annually while not in operation for tears, scuffs, abrasions or hole that might interfere with the PM collection efficiency and shall be replaced as needed. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
69. Permittee shall keep a record of the daily hours of operation, the amount of glass pulled from the furnace (in tons), the NOx emissions (in lb/ton of glass pulled), the SOx emissions (in lb/ton of glass pulled), the weight of mixed color mix cullet used, the total amount of cullet used (by weight) and the ratio of the mixed color cullet weight to the total cullet weight (in percent). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
70. Permittee shall maintain records of the following: 1) Source tests and source test results, 2) the acceptable range for each approved key system operating parameter, as established during source tests, 3) The operating values of the key system operating parameters at the approved recording frequency, 4) any maintenance and repair, and 5) any malfunctions. [District Rule 4354] Federally Enforceable Through Title V Permit
71. The pollutant mass emission rate in lb/hr shall be converted to lb pollutant/ton of glass pulled as specified in Rule 4354. The operator of a oxy-fuel fired furnace, oxygen-assisted combustion furnace, or a furnace utilizing any fuel oxidants other than 100% ambient air, shall submit to the APCO, ARB, and EPA for approval any methodologies and data that will be used to calculate emission rates for NOx, CO, and VOC if the methods are different from those specified in Rule 4354. Unless the operator received prior written approval from APCO, ARB, and EPA of all the calculation methods to be used that are different from those specified in Rule 4354, compliance with the emissions limits cannot be fully demonstrated, and it shall be deemed to be a violation of the rule. [District Rule 4354] Federally Enforceable Through Title V Permit
72. The oxygen to fuel ratio shall be continuously monitored and recorded. [District Rule 4354] Federally Enforceable Through Title V Permit
73. The permittee shall maintain daily records of the aggregated NOx emissions. [District Rules 2520, 9.3.2 and 4354] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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. When the electrostatic precipitator is in operation, the permittee shall maintain daily records of the specific power of the electrostatic precipitator (in milliwatts/acfm). [District Rules 2201, 4354, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
79. The operator shall monitor and record the pressure differential gauge reading of each ceramic filter dust collector at least once during each day that the units operate. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
80. Records of dust collector and bin vent filter maintenance, inspections and repairs shall be maintained. The records shall include, date of inspection, change outs of filter media, corrective action taken, and identification of the individual performing the inspection. [District Rules 2201 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
81. Records of daily and quarterly amount of lime transferred into the lime storage silo shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
82. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit



## AUTHORITY TO CONSTRUCT

**PERMIT NO:** N-1662-2-24

**ISSUANCE DATE:** 03/14/2023

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

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

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF GLASS FURNACE #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 THE FOLLOWING SHARED EQUIPMENT: SOX SCRUBBER INCLUDING A LIME STORAGE SILO SERVED BY A BIN VENT FILTER, AN ELECTROSTATIC PRECIPITATOR, AND/OR FOUR TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS: REDUCE PERMITTED NOX, SOX AND PM10 EMISSION LIMITS FOR DISTRICT RULE 4354 COMPLIANCE

## CONDITIONS

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

### CONDITIONS CONTINUE ON NEXT PAGE

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

Samir Sheikh, Executive Director / APCO

Brian Clements, Director of Permit Services

N-1662-2-24 : Mar 14 2023 2:55PM -- KAHILONJ : Joint Inspection NOT Required

6. The furnace shall have continuous monitoring systems for NO<sub>x</sub> and SO<sub>x</sub>. The monitoring devices shall have continuous recording devices, and all records shall be kept on site. [District Rules 1080 and 4354] Federally Enforceable Through Title V Permit
7. One continuous emissions monitoring (CEM) system may be used for monitoring oxy-fuel fired furnaces #1, #2, #3, and #4 provided all of the exhaust gases of each of these furnaces are ducted to a common stack, and monitored down stream of the common stack. The CEMS shall comply with the requirements of 40 Code of Federal Regulations (CFR) Part 51, 40 CFR Parts 60.7 and 60.13, 40 CFR Part 60 Appendix B (Performance Specifications) and Appendix F (Quality Assurance Procedures) and the applicable sections of Rule 1080 (Stack Monitoring). [District Rule 4354] Federally Enforceable Through Title V Permit
8. The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080] Federally Enforceable Through Title V Permit
9. The common exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NO<sub>x</sub>, CO, and O<sub>2</sub> analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Source Emission Monitoring and Testing. [District Rule 1081] Federally Enforceable Through Title V Permit
10. The permittee shall notify the District at least 24 hours prior to initiating idling, shutdown, or startup of the glass furnace and this notification shall include: The date and time of the start of the exempt operation, reason for performing the operation, and an estimated completion date. The permittee shall notify the District within 24 hours after completion of the operation and shall maintain operating records and/or support documentation necessary to claim exemption. [District Rule 4354] Federally Enforceable Through Title V Permit
11. The emission control systems shall be in operation whenever conditions are consistent with equipment manufacturer's specifications during startup, idling and shutdown periods. [District Rule 4354] Federally Enforceable Through Title V Permit
12. The duration of a furnace shutdown shall not exceed 20 days, measured from the time furnace operations drop below the idle threshold specified in Section 3.17 of District Rule 4354 to when all emissions from the furnace cease. [District Rule 4354] Federally Enforceable Through Title V Permit
13. NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, and PM<sub>10</sub> emissions during idling shall not exceed the amount as calculated using the following equation: NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, or PM<sub>10</sub> (lb/day) = Applicable emission limit (lb/ton) x Furnace permitted production capacity (tons/day). [District Rule 4354] Federally Enforceable Through Title V Permit
14. The oxygen to fuel ratio shall be maintained within the range shown by the most recent source test to result in compliance with the CO and VOC limits of this permit. The acceptable range of the oxygen to fuel ratio shall be established during the initial source test and during each subsequent annual source test. [District Rule 4354] Federally Enforceable Through Title V Permit
15. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation  $E=3.59P^{0.62}$  ( $P < 30$  tph) or  $E=17.31P^{0.16}$  ( $P > 30$  tph). [District Rule 4202] Federally Enforceable Through Title V Permit
16. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [Stanislaus County Rule 407 and District Rule 4801] Federally Enforceable Through Title V Permit
17. Source testing to demonstrate compliance with permit conditions and all rules and regulations for both natural gas and LPG shall be conducted within 60 days after the end of the start-up exemption, and at least once every calendar year thereafter. NO<sub>x</sub> and CO testing shall be performed using CARB Method 100. VOC testing shall be performed using EPA method 25A. PM<sub>10</sub> testing shall be performed using EPA methods 201 and 202, EPA methods 201a and 202, or CARB methods 501 and 5. SO<sub>x</sub> testing shall be performed using EPA Method 8 and CARB Method 1-100. [District Rules 1081, 2201, 2520, §9.3.2; and 4354] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

18. Source testing when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. A source test shall be performed within 90 days after this furnace exceeds 100 hours of operation, on LPG, on an annual basis. [District Rule 1081] Federally Enforceable Through Title V Permit
19. Source testing shall be conducted by a CARB-certified source testing contractor. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to source testing. The results of each source test shall be submitted to the District within 60 days after the source test date. [District Rule 1081] Federally Enforceable Through Title V Permit
20. Source test conditions shall be representative of operations equal to or greater than 60 percent of capacity for each furnace as stated in the Permit to Operate. [District Rule 4354] Federally Enforceable Through Title V Permit
21. For source testing purposes, the arithmetic average of three 30-consecutive-minute test runs shall be used to determine compliance with NO<sub>x</sub>, CO, VOC, and SO<sub>x</sub> emission limits. [District Rule 4354] Federally Enforceable Through Title V Permit
22. For source testing purposes, the arithmetic average of three 60-consecutive-minute test runs shall be used to determine compliance with PM<sub>10</sub> emission limits. [District Rule 4354] Federally Enforceable Through Title V Permit
23. For source testing purposes, if two of the three runs individually demonstrate emissions above the applicable limit, the test cannot be used to demonstrate compliance for the furnace, even if the averaged emissions of all three test runs is less than the applicable limit. [District Rule 4354] Federally Enforceable Through Title V Permit
24. PM and PM<sub>10</sub> source testing shall be conducted downstream of the electrostatic precipitator and the ceramic filter dust collector in the common stack. Furnaces #1, #2, #3, and #4 must operate simultaneously during source testing unless prior approval is obtained from the District. [District Rule 1081] Federally Enforceable Through Title V Permit
25. An annual Relative Accuracy Test Audit (RATA) shall be performed on the continuous monitoring system as outlined in 40 CFR Part 60 Appendix B. [District Rule 1080] Federally Enforceable Through Title V Permit
26. The owner/operator shall perform a relative accuracy test audit (RATA) as specified by 40 CFR Part 60, Appendix F (CGAs and RATAs) and if applicable 40 CFR Part 75, Appendix B (linearity and RATAs) at least once every four calendar quarters and annually within 30 days of the anniversary date of the initial test. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080] Federally Enforceable Through Title V Permit
27. An exceedance of a NO<sub>x</sub> or SO<sub>x</sub> emission limit as indicated by the CEMS shall be reported by the operator to the APCO within 24 hours. The notification shall include 1) name and location of the facility, 2) identification of furnace(s) causing the exceedances, 3) calculation of actual NO<sub>x</sub>, CO and VOC emissions, and 4) corrective actions and schedules to complete the work. [District Rule 1080 and Stanislaus County Rule 1080] Federally Enforceable Through Title V Permit
28. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit
29. Records shall be maintained and shall include: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEMS that have been installed pursuant to District Rule 1080, and emission measurements. [District Rule 1080] Federally Enforceable Through Title V Permit
30. The operator shall notify the APCO no later than one hour after the detection of a breakdown of the CEMS. The operator shall inform the APCO of the intent to shut down the CEMS at least 24 hours prior to the event. [District Rule 1100] Federally Enforceable Through Title V Permit

31. The permittee shall submit a written report including copies of any Equipment Breakdown reports and/or pertinent variance decisions to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess emissions (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 1080] Federally Enforceable Through Title V Permit
32. Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternative method. [District Rule 1080] Federally Enforceable Through Title V Permit
33. Results of continuous emissions monitoring shall be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080] Federally Enforceable Through Title V Permit
34. Cylinder gas audits (CGAs) of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit
35. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4201, Stanislaus County Rule 404, District Rule 4202 and Stanislaus County Rule 405. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
36. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4801 and Stanislaus County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
37. The requirements of District Rule 4301 and Stanislaus County Rule 408 were determined to not apply to this unit because the unit does not utilize indirect heat transfer. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
38. The requirements of 40 CFR Part 61, Subpart N were determined to not apply to this unit because the unit does not use commercial arsenic. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
39. Any glass melting furnace located at an Area Source of hazardous air pollutants shall comply with 40 CFR Part 63 Subpart SSSSSS (National Emission Standards for Hazardous Air Pollutants for Glass Manufacturing Area Sources). [40 CFR Part 63 Subpart SSSSSS] Federally Enforceable Through Title V Permit
40. The quantity of glass produced shall not exceed 430 tons during any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
41. Except during periods of startup, shutdown, and idling, NOx emissions shall not exceed 0.99 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, as well as, Phase I NOx limit in Rule 4354. Any CEM measurement greater than 0.99 lb-NOx/ton of glass produced for each 30-day rolling average constitutes a violation of this emission limit. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
42. Except during periods of startup, shutdown, and idling, CO emissions shall not exceed 0.2 pounds per ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit
43. Except during periods of startup, shutdown, and idling, VOC emissions shall not exceed 0.02 pounds per ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit
44. Except during periods of startup, shutdown, and idling, the combined SOx emissions from permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed 0.77 lb/ton of glass produced (over a rolling 30 day average). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

45. Except during periods of startup, shutdown, idling, and during full or partial emission control system bypass episodes, PM10 emissions shall not exceed 0.18 lb/ton of glass produced. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
46. 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
47. 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
48. The emission limits of this permit shall not apply during routine maintenance of the respective add-on control systems. The routine maintenance in each calendar year shall not exceed 144 hours total for all controls and routine maintenance shall be conducted in a manner consistent with good air pollution control practices for minimizing air emissions. Routine maintenance includes, but is not limited to: 1) Calibration and scheduled parts replacement of CEMS equipment per manufacturer's recommendations, 2) Cleaning of particulate control devices and stack ductwork to ensure optimal performance, and 3) Necessary repairs to ensure optimal performance of all parts of the system. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
49. 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 Rule 2201] Federally Enforceable Through Title V Permit
50. The maximum throughput of lime received and stored in the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed either of the following limits: 65 tons-lime/day or 110 tons-lime/quarter. [District Rule 2201] Federally Enforceable Through Title V Permit
51. PM10 emissions rate from the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed 0.0049 lb-PM10/ton-lime stored. [District Rule 2201] Federally Enforceable Through Title V Permit
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 and bin vent filter shall be maintained and operated in the range that optimizes control efficiency as recommended by the manufacturer. [District Rule 2201] Federally Enforceable Through Title V Permit
54. Each dust collector and bin vent filter's cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit
55. Material removed from each dust collector and bin vent filter shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
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. A spare set of bags or filters shall be maintained on the premises at all times for the bin vent filter serving the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4. [District Rule 2201] Federally Enforceable Through Title V Permit
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. When the electrostatic precipitator is in operation, the specific power of the electrostatic precipitator shall be at least 70 milliwatts/acfm except during the bypass episodes allowed by this permit. [District Rule 2520, §9.3.2, 40 CFR 60.293(d), and 40 CFR Part 64] Federally Enforceable Through Title V Permit
60. The ceramic filter dust collectors shall each be equipped with a pressure differential gauge to indicate the pressure drop across the filters. The gauges shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

61. During operation of the ceramic filter dust collectors, the pressure differential gauge reading shall be 1 to 20 inches of water column. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
62. 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
63. 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
64. 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
65. When the electrostatic precipitator is in operation, the specific power of the electrostatic precipitator shall be continuously monitored and recorded. [District Rules 2201 and 4354, 40 CFR 60.293(d), and 40 CFR Part 64] Federally Enforceable Through Title V Permit
66. 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
67. 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
68. 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
69. 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
70. 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
71. The oxygen to fuel ratio shall be continuously monitored and recorded. [District Rule 4354] Federally Enforceable Through Title V Permit
72. The permittee shall maintain daily records of the aggregated NOx emissions. [District Rules 2520, 9.3.2 and 4354] Federally Enforceable Through Title V Permit
73. 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
74. 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
75. 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
76. 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

CONDITIONS CONTINUE ON NEXT PAGE



77. When the electrostatic precipitator is in operation, the permittee shall maintain daily records of the specific power of the electrostatic precipitator (in milliwatts/acfm). [District Rules 2201, 4354, 40 CFR 60.293(d), and 40 CFR Part 64] Federally Enforceable Through Title V Permit
78. The operator shall monitor and record the pressure differential gauge reading of each ceramic filter dust collector at least once during each day that the units operate. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
79. Records of dust collector and bin vent filter maintenance, inspections and repairs shall be maintained. The records shall include, date of inspection, change outs of filter media, corrective action taken, and identification of the individual performing the inspection. [District Rules 2201 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
80. The permittee shall maintain records of the actual NO<sub>2</sub>, PM<sub>10</sub>, and PM emissions from this unit for each 12 consecutive-month rolling period for a period of 10 years from July 24, 2016 for the purposes of demonstrating that there has not been a PSD "significant net emissions increase" above the baseline actual NO<sub>2</sub>, PM<sub>10</sub>, 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 NO<sub>2</sub>, PM<sub>10</sub>, 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 PM<sub>10</sub> 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
81. Records of daily and quarterly amount of lime transferred into the lime storage silo shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
82. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

# AUTHORITY TO CONSTRUCT

**PERMIT NO:** N-1662-3-23

**ISSUANCE DATE:** 03/14/2023

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

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

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF GLASS FURNACE #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 THE FOLLOWING SHARED EQUIPMENT: SOX SCRUBBER INCLUDING A LIME STORAGE SILO SERVED BY A BIN VENT FILTER, AN ELECTROSTATIC PRECIPITATOR, AND/OR FOUR TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS: REDUCE PERMITTED NOX, SOX AND PM10 EMISSION LIMITS FOR DISTRICT RULE 4354 COMPLIANCE

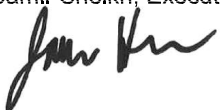
## CONDITIONS

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

CONDITIONS CONTINUE ON NEXT PAGE

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

Samir Sheikh, Executive Director / APCO



Brian Clements, Director of Permit Services

N-1662-3-23 : Mar 14 2023 2:55PM -- KAHLOJ : Joint Inspection NOT Required

6. The furnace shall have continuous monitoring systems for NO<sub>x</sub> and SO<sub>x</sub>. The monitoring devices shall have continuous recording devices, and all records shall be kept on site. [District Rules 1080 and 4354] Federally Enforceable Through Title V Permit
7. One continuous emissions monitoring (CEM) system may be used for monitoring oxy-fuel fired furnaces #1, #2, #3, and #4 provided all of the exhaust gases of each of these furnaces are ducted to a common stack, and monitored down stream of the common stack. The CEMS shall comply with the requirements of 40 Code of Federal Regulations (CFR) Part 51, 40 CFR Parts 60.7 and 60.13, 40 CFR Part 60 Appendix B (Performance Specifications) and Appendix F (Quality Assurance Procedures) and the applicable sections of Rule 1080 (Stack Monitoring). [District Rule 4354] Federally Enforceable Through Title V Permit
8. The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080] Federally Enforceable Through Title V Permit
9. The common exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NO<sub>x</sub>, CO, and O<sub>2</sub> analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Source Emission Monitoring and Testing. [District Rule 1081] Federally Enforceable Through Title V Permit
10. The permittee shall notify the District at least 24 hours prior to initiating idling, shutdown, or startup of the glass furnace and this notification shall include: The date and time of the start of the exempt operation, reason for performing the operation, and an estimated completion date. The permittee shall notify the District within 24 hours after completion of the operation and shall maintain operating records and/or support documentation necessary to claim exemption. [District Rule 4354] Federally Enforceable Through Title V Permit
11. The emission control systems shall be in operation whenever conditions are consistent with equipment manufacturer's specifications during startup, idling and shutdown periods. [District Rule 4354] Federally Enforceable Through Title V Permit
12. The duration of a furnace shutdown shall not exceed 20 days, measured from the time furnace operations drop below the idle threshold specified in Section 3.17 of District Rule 4354 to when all emissions from the furnace cease. [District Rule 4354] Federally Enforceable Through Title V Permit
13. NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, and PM<sub>10</sub> emissions during idling shall not exceed the amount as calculated using the following equation: NO<sub>x</sub>, CO, VOC, SO<sub>x</sub>, or PM<sub>10</sub> (lb/day) = Applicable emission limit (lb/ton) x Furnace permitted production capacity (tons/day). [District Rule 4354] Federally Enforceable Through Title V Permit
14. The oxygen to fuel ratio shall be maintained within the range shown by the most recent source test to result in compliance with the CO and VOC limits of this permit. The acceptable range of the oxygen to fuel ratio shall be established during the initial source test and during each subsequent annual source test. [District Rule 4354] Federally Enforceable Through Title V Permit
15. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation  $E=3.59P^{0.62}$  ( $P < 30$  tph) or  $E=17.31P^{0.16}$  ( $P > 30$  tph). [District Rule 4202] Federally Enforceable Through Title V Permit
16. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [Stanislaus County Rule 407 and District Rule 4801] Federally Enforceable Through Title V Permit
17. Source testing to demonstrate compliance with permit conditions and all rules and regulations for both natural gas and LPG shall be conducted within 60 days after the end of the start-up exemption, and at least once every calendar year thereafter. NO<sub>x</sub> and CO testing shall be performed using CARB Method 100. VOC testing shall be performed using EPA method 25A. PM<sub>10</sub> testing shall be performed using EPA methods 201 and 202, EPA methods 201a and 202, or CARB methods 501 and 5. SO<sub>x</sub> testing shall be performed using EPA Method 8 and CARB Method 1-100. [District Rules 1081, 2201, 2520, §9.3.2; and 4354] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

18. Source testing when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. A source test shall be performed within 90 days after this furnace exceeds 100 hours of operation, on LPG, on an annual basis. [District Rule 1081] Federally Enforceable Through Title V Permit
19. Source testing shall be conducted by a CARB-certified source testing contractor. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to source testing. The results of each source test shall be submitted to the District within 60 days after the source test date. [District Rule 1081] Federally Enforceable Through Title V Permit
20. Source test conditions shall be representative of operations equal to or greater than 60 percent of capacity for each furnace as stated in the Permit to Operate. [District Rule 4354, §6.4.2] Federally Enforceable Through Title V Permit
21. For source testing purposes, the arithmetic average of three 30-consecutive-minute test runs shall be used to determine compliance with NO<sub>x</sub>, CO, VOC, and SO<sub>x</sub> emission limits. [District Rule 4354] Federally Enforceable Through Title V Permit
22. For source testing purposes, the arithmetic average of three 60-consecutive-minute test runs shall be used to determine compliance with PM<sub>10</sub> emission limits. [District Rule 4354] Federally Enforceable Through Title V Permit
23. For source testing purposes, if two of the three runs individually demonstrate emissions above the applicable limit, the test cannot be used to demonstrate compliance for the furnace, even if the averaged emissions of all three test runs is less than the applicable limit. [District Rule 4354] Federally Enforceable Through Title V Permit
24. PM and PM<sub>10</sub> source testing shall be conducted downstream of the electrostatic precipitator and the ceramic filter dust collector in the common stack. Furnaces #1, #2, #3, and #4 must operate simultaneously during source testing unless prior approval is obtained from the District. [District Rule 1081] Federally Enforceable Through Title V Permit
25. An annual Relative Accuracy Test Audit (RATA) shall be performed on the continuous monitoring system as outlined in 40 CFR Part 60 Appendix B. [District Rule 1080] Federally Enforceable Through Title V Permit
26. The owner/operator shall perform a relative accuracy test audit (RATA) as specified by 40 CFR Part 60, Appendix F (CGAs and RATAs) and if applicable 40 CFR Part 75, Appendix B (linearity and RATAs) at least once every four calendar quarters and annually within 30 days of the anniversary date of the initial test. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080] Federally Enforceable Through Title V Permit
27. An exceedance of a NO<sub>x</sub> or SO<sub>x</sub> emission limit as indicated by the CEMS shall be reported by the operator to the APCO within 24 hours. The notification shall include 1) name and location of the facility, 2) identification of furnace(s) causing the exceedances, 3) calculation of actual NO<sub>x</sub>, CO and VOC emissions, and 4) corrective actions and schedules to complete the work. [District Rule 1080 and Stanislaus County Rule 1080] Federally Enforceable Through Title V Permit
28. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit
29. Records shall be maintained and shall include: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEMS that have been installed pursuant to District Rule 1080, and emission measurements. [District Rule 1080] Federally Enforceable Through Title V Permit
30. The operator shall notify the APCO no later than one hour after the detection of a breakdown of the CEMS. The operator shall inform the APCO of the intent to shut down the CEMS at least 24 hours prior to the event. [District Rule 1100] Federally Enforceable Through Title V Permit

31. The permittee shall submit a written report including copies of any Equipment Breakdown reports and/or pertinent variance decisions to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess emissions (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 1080] Federally Enforceable Through Title V Permit
32. Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternative method. [District Rule 1080] Federally Enforceable Through Title V Permit
33. Results of continuous emissions monitoring shall be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080] Federally Enforceable Through Title V Permit
34. Cylinder gas audits (CGAs) of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit
35. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4201, Stanislaus County Rule 404, District Rule 4202 and Stanislaus County Rule 405. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
36. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4801 and Stanislaus County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
37. The requirements of District Rule 4301 and Stanislaus County Rule 408 were determined to not apply to this unit because the unit does not utilize indirect heat transfer. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
38. The requirements of 40 CFR Part 61, Subpart N were determined to not apply to this unit because the unit does not use commercial arsenic. A permit shield is granted from these requirements. [District Rule 2520, §13.2] Federally Enforceable Through Title V Permit
39. Any glass melting furnace located at an Area Source of hazardous air pollutants shall comply with 40 CFR Part 63 Subpart SSSSSS (National Emission Standards for Hazardous Air Pollutants for Glass Manufacturing Area Sources). [40 CFR Part 63 Subpart SSSSSS] Federally Enforceable Through Title V Permit
40. The quantity of glass produced shall not exceed 430 tons during any one day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
41. Except during periods of startup, shutdown, and idling, NO<sub>x</sub> emissions shall not exceed 0.99 pounds per ton of glass produced (over a rolling 30-day average). This performance based limit is to enforce the NO<sub>x</sub> emission reductions granted by certificate number N-56-2, as well as, Phase I NO<sub>x</sub> limit in Rule 4354. Any CEM measurement greater than 0.99 lb-NO<sub>x</sub>/ton of glass produced for each 30-day rolling average constitutes a violation of this emission limit. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
42. 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 Rule 2201] Federally Enforceable Through Title V Permit
43. Except during periods of startup, shutdown, and idling, VOC emissions shall not exceed 0.02 pounds per ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit
44. Except during periods of startup, shutdown, and idling, the combined SO<sub>x</sub> emissions from permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed 0.77 lb/ton of glass produced (over a rolling 30 day average). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

45. Except during periods of startup, shutdown, idling, and during full or partial emission control system bypass episodes, PM10 emissions shall not exceed 0.18 lb/ton of glass produced. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
46. 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
47. 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
48. The emission limits of this permit shall not apply during routine maintenance of the respective add-on control systems. The routine maintenance in each calendar year shall not exceed 144 hours total for all controls and routine maintenance shall be conducted in a manner consistent with good air pollution control practices for minimizing air emissions. Routine maintenance includes, but is not limited to: 1) Calibration and scheduled parts replacement of CEMS equipment per manufacturer's recommendations, 2) Cleaning of particulate control devices and stack ductwork to ensure optimal performance, and 3) Necessary repairs to ensure optimal performance of all parts of the system. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
49. 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 Rule 2201] Federally Enforceable Through Title V Permit
50. The maximum throughput of lime received and stored in the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed either of the following limits: 65 tons-lime/day or 110 tons-lime/quarter. [District Rule 2201] Federally Enforceable Through Title V Permit
51. PM10 emissions rate from the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed 0.0049 lb-PM10/ton-lime stored. [District Rule 2201] Federally Enforceable Through Title V Permit
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 and bin vent filter shall be maintained and operated in the range that optimizes control efficiency as recommended by the manufacturer. [District Rule 2201] Federally Enforceable Through Title V Permit
54. Each dust collector and bin vent filter's cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit
55. Material removed from each dust collector and bin vent filter shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
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. A spare set of bags or filters shall be maintained on the premises at all times for the bin vent filter serving the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4. [District Rule 2201] Federally Enforceable Through Title V Permit
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. When the electrostatic precipitator is in operation, the specific power of the electrostatic precipitator shall be at least 70 milliwatts/acfm except during the bypass episodes allowed by this permit. [District Rule 2520, §9.3.2, 40 CFR 60.293(d), and 40 CFR Part 64] Federally Enforceable Through Title V Permit
60. The ceramic filter dust collectors shall each be equipped with a pressure differential gauge to indicate the pressure drop across the filters. The gauges shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

61. During operation of the ceramic filter dust collectors, the pressure differential gauge reading shall be 1 to 20 inches of water column. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
62. 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
63. 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
64. 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
65. When the electrostatic precipitator is in operation, the specific power of the electrostatic precipitator shall be continuously monitored and recorded. [District Rules 2201 and 4354, 40 CFR 60.293(d), and 40 CFR Part 64] Federally Enforceable Through Title V Permit
66. 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
67. 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
68. Permittee shall keep a record of the daily hours of operation, the amount of glass pulled from the furnace (in tons), the NO<sub>x</sub> emissions (in lb/ton of glass pulled), the SO<sub>x</sub> emissions (in lb/ton of glass pulled), the weight of mixed color mix cullet used, the total amount of cullet used (by weight) and the ratio of the mixed color cullet weight to the total cullet weight (in percent). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
69. 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
70. The pollutant mass emission rate in lb/hr shall be converted to lb pollutant/ton of glass pulled as specified in Rule 4354. The operator of a oxy-fuel fired furnace, oxygen-assisted combustion furnace, or a furnace utilizing any fuel oxidants other than 100% ambient air, shall submit to the APCO, ARB, and EPA for approval any methodologies and data that will be used to calculate emission rates for NO<sub>x</sub>, CO, and VOC if the methods are different from those specified in Rule 4354. Unless the operator received prior written approval from APCO, ARB, and EPA of all the calculation methods to be used that are different from those specified in Rule 4354, compliance with the emissions limits cannot be fully demonstrated, and it shall be deemed to be a violation of the rule. [District Rule 4354] Federally Enforceable Through Title V Permit
71. The oxygen to fuel ratio shall be continuously monitored and recorded. [District Rule 4354] Federally Enforceable Through Title V Permit
72. The permittee shall maintain daily records of the aggregated NO<sub>x</sub> emissions. [District Rules 2520, 9.3.2 and 4354] Federally Enforceable Through Title V Permit
73. 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
74. A record of the PM<sub>10</sub> emissions from this unit, in pounds per calendar quarter, shall be kept. [District Rule 2201] Federally Enforceable Through Title V Permit
75. 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
76. 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

CONDITIONS CONTINUE ON NEXT PAGE

77. When the electrostatic precipitator is in operation, the permittee shall maintain daily records of the specific power of the electrostatic precipitator (in milliwatts/acfm). [District Rules 2201, 4354, 40 CFR 60.293(d) and 40 CFR Part 64] Federally Enforceable Through Title V Permit
78. The operator shall monitor and record the pressure differential gauge reading of each ceramic filter dust collector at least once during each day that the units operate. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
79. Records of dust collector and bin vent filter maintenance, inspections and repairs shall be maintained. The records shall include, date of inspection, change outs of filter media, corrective action taken, and identification of the individual performing the inspection. [District Rules 2201 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
80. Records of daily and quarterly amount of lime transferred into the lime storage silo shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
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





## AUTHORITY TO CONSTRUCT

**PERMIT NO:** N-1662-4-25

**ISSUANCE DATE:** 03/14/2023

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

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

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF GLASS FURNACE #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 THE FOLLOWING SHARED EQUIPMENT: SOX SCRUBBER INCLUDING A LIME STORAGE SILO SERVED BY A BIN VENT FILTER, AN ELECTROSTATIC PRECIPITATOR, AND/OR FOUR TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS: REDUCE PERMITTED NOX, SOX AND PM10 EMISSION LIMITS FOR DISTRICT RULE 4354 COMPLIANCE

## CONDITIONS

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

### CONDITIONS CONTINUE ON NEXT PAGE

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

Samir Sheikh, Executive Director / APCO

Brian Clements, Director of Permit Services

N-1662-4-25 : Mar 14 2023 2:55PM -- KAHLOUJ : Joint Inspection NOT Required

6. The furnace shall have continuous monitoring systems for NO<sub>x</sub> and SO<sub>x</sub>. The monitoring devices shall have continuous recording devices, and all records shall be kept on site. [District Rules 1080 and 4354] Federally Enforceable Through Title V Permit
7. One continuous emissions monitoring (CEM) system may be used for monitoring oxy-fuel fired furnaces #1, #2, #3, and #4 provided all of the exhaust gases of each of these furnaces are ducted to a common stack, and monitored down stream of the common stack. The CEMS shall comply with the requirements of 40 Code of Federal Regulations (CFR) Part 51, 40 CFR Parts 60.7 and 60.13, 40 CFR Part 60 Appendix B (Performance Specifications) and Appendix F (Quality Assurance Procedures) and the applicable sections of Rule 1080 (Stack Monitoring). [District Rule 4354] Federally Enforceable Through Title V Permit
8. The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080] Federally Enforceable Through Title V Permit
9. The common exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NO<sub>x</sub>, CO, and O<sub>2</sub> analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Source Emission Monitoring and Testing. [District Rule 1081] Federally Enforceable Through Title V Permit
10. The permittee shall notify the District at least 24 hours prior to initiating idling, shutdown, or startup of the glass furnace and this notification shall include: The date and time of the start of the exempt operation, reason for performing the operation, and an estimated completion date. The permittee shall notify the District within 24 hours after completion of the operation and shall maintain operating records and/or support documentation necessary to claim exemption. [District Rule 4354] Federally Enforceable Through Title V Permit
11. The emission control systems shall be in operation whenever conditions are consistent with equipment manufacturer's specifications during startup, idling and shutdown periods. [District Rule 4354] Federally Enforceable Through Title V Permit
12. The duration of a furnace shutdown shall not exceed 20 days, measured from the time furnace operations drop below the idle threshold specified in Section 3.17 of District Rule 4354 to when all emissions from the furnace cease. [District Rule 4354] Federally Enforceable Through Title V Permit
13. 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. NO<sub>x</sub> and CO testing shall be performed using CARB Method 100. VOC testing shall be performed using EPA method 25A. PM<sub>10</sub> testing shall be performed using EPA methods 201 and 202, EPA methods 201a and 202, or CARB methods 501 and 5. SO<sub>x</sub> testing shall be performed using EPA Method 8 and CARB Method 1-100. [District Rules 1081; 2520; and 4354] Federally Enforceable Through Title V Permit
17. Source testing when firing on LPG fuel need not be performed if the LPG fuel usage for this furnace does not exceed 100 hours during any one calendar year. A source test shall be performed within 90 days after this furnace exceeds 100 hours of operation, on LPG, on an annual basis. [District Rule 1081] Federally Enforceable Through Title V Permit

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 capacity for each furnace as stated in the Permit to Operate. [District Rule 4354] Federally Enforceable Through Title V Permit
20. For source testing purposes, the arithmetic average of three 30-consecutive-minute test runs shall be used to determine compliance with NO<sub>x</sub>, CO, VOC, and SO<sub>x</sub> emission limits. [District Rule 4354] Federally Enforceable Through Title V Permit
21. For source testing purposes, the arithmetic average of three 60-consecutive-minute test runs shall be used to determine compliance with PM<sub>10</sub> emission limits. [District Rule 4354] Federally Enforceable Through Title V Permit
22. For source testing purposes, if two of the three runs individually demonstrate emissions above the applicable limit, the test cannot be used to demonstrate compliance for the furnace, even if the averaged emissions of all three test runs is less than the applicable limit. [District Rule 4354] Federally Enforceable Through Title V Permit
23. PM and PM<sub>10</sub> source testing shall be conducted downstream of the electrostatic precipitator and the ceramic filter dust collector in the common stack. Furnaces #1, #2, #3, and #4 must operate simultaneously during source testing unless prior approval is obtained from the District. [District Rule 1081] Federally Enforceable Through Title V Permit
24. An annual Relative Accuracy Test Audit (RATA) shall be performed on the continuous monitoring system as outlined in 40 CFR Part 60 Appendix B. [District Rule 1080] Federally Enforceable Through Title V Permit
25. The owner/operator shall perform a relative accuracy test audit (RATA) as specified by 40 CFR Part 60, Appendix F (CGAs and RATAs) and if applicable 40 CFR Part 75, Appendix B (linearity and RATAs) at least once every four calendar quarters and annually within 30 days of the anniversary date of the initial test. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080] Federally Enforceable Through Title V Permit
26. An exceedance of a NO<sub>x</sub> or SO<sub>x</sub> emission limit as indicated by the CEMS shall be reported by the operator to the APCO within 24 hours. The notification shall include 1) name and location of the facility, 2) identification of furnace(s) causing the exceedances, 3) calculation of actual NO<sub>x</sub>, CO and VOC emissions, and 4) corrective actions and schedules to complete the work. [District Rule 1080 and Stanislaus County Rule 108] Federally Enforceable Through Title V Permit
27. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit
28. Records shall be maintained and shall include: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEMS that have been installed pursuant to District Rule 1080, and emission measurements. [District Rule 1080] Federally Enforceable Through Title V Permit
29. The operator shall notify the APCO no later than one hour after the detection of a breakdown of the CEMS. The operator shall inform the APCO of the intent to shut down the CEMS at least 24 hours prior to the event. [District Rule 1100] Federally Enforceable Through Title V Permit
30. The permittee shall submit a written report including copies of any Equipment Breakdown reports and/or pertinent variance decisions to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess emissions (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 1080] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

31. Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternative method. [District Rule 1080] Federally Enforceable Through Title V Permit
32. Results of continuous emissions monitoring shall be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080] Federally Enforceable Through Title V Permit
33. Cylinder gas audits (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
34. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4201, Stanislaus County Rule 404, District Rule 4202 and Stanislaus County Rule 405. A permit shield is granted from these requirements. [District Rule 2520] Federally Enforceable Through Title V Permit
35. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4801 and Stanislaus County Rule 407. A permit shield is granted from these requirements. [District Rule 2520] Federally Enforceable Through Title V Permit
36. The requirements of District Rule 4301 and Stanislaus County Rule 408 were determined to not apply to this unit because the unit does not utilize indirect heat transfer. A permit shield is granted from these requirements. [District Rule 2520] Federally Enforceable Through Title V Permit
37. 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
38. 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
39. 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
40. Except during periods of startup, shutdown, and idling, NO<sub>x</sub> emissions shall not exceed 0.99 pounds per ton of glass produced (over a rolling 30-day average). This performance based limit is to enforce the NO<sub>x</sub> emission reductions granted by certificate number N-107-2, as well as, Phase I NO<sub>x</sub> limit in Rule 4354. Any CEM measurement greater than 0.99 lb-NO<sub>x</sub>/ton of glass produced for each 30-day rolling average constitutes a violation of this emission limit. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
41. Except during periods of startup, shutdown, and idling, CO emissions shall not exceed 0.20 pounds per ton of glass produced. [District Rule 2201] Federally Enforceable Through Title V Permit
42. 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
43. Except during periods of startup, shutdown, and idling, the combined SO<sub>x</sub> emissions from permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed 0.77 lb/ton of glass produced (over a rolling 30 day average). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
44. Except during periods of startup, shutdown, idling, and during full or partial emission control system bypass episodes, PM<sub>10</sub> emissions shall not exceed 0.18 lb/ton of glass produced. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
45. The PM<sub>10</sub> 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
46. 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

CONDITIONS CONTINUE ON NEXT PAGE

47. The emission limits of this permit shall not apply during routine maintenance of the respective add-on control systems. The routine maintenance in each calendar year shall not exceed 144 hours total for all controls and routine maintenance shall be conducted in a manner consistent with good air pollution control practices for minimizing air emissions. Routine maintenance includes, but is not limited to: 1) Calibration and scheduled parts replacement of CEMS equipment per manufacturer's recommendations, 2) Cleaning of particulate control devices and stack ductwork to ensure optimal performance, and 3) Necessary repairs to ensure optimal performance of all parts of the system. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
48. 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
49. The PM<sub>10</sub> emissions shall not exceed 28,132 pounds during the first calendar quarter, 28,445 pounds during the second calendar quarter, 28,757 pounds during the third calendar quarter and 28,758 pounds during the fourth calendar quarter. These limits are to enforce the PM<sub>10</sub> emission reductions granted by certificate number N-161-4. [District Rule 2201] Federally Enforceable Through Title V Permit
50. The maximum throughput of lime received and stored in the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed either of the following limits: 65 tons-lime/day or 110 tons-lime/quarter. [District Rule 2201] Federally Enforceable Through Title V Permit
51. PM<sub>10</sub> emissions rate from the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4 shall not exceed 0.0049 lb-PM<sub>10</sub>/ton-lime stored. [District Rule 2201] Federally Enforceable Through Title V Permit
52. Each dust collector and bin vent filter shall be maintained and operated in the range that optimizes control efficiency as recommended by the manufacturer. [District Rule 2201] Federally Enforceable Through Title V Permit
53. Each dust collector and bin vent filter's cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit
54. Material removed from each dust collector and bin vent filter shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
55. 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
56. A spare set of bags or filters shall be maintained on the premises at all times for the bin vent filter serving the lime storage silo shared with permit units N-1662-1, N-1662-2, N-1662-3 and N-1662-4. [District Rule 2201] Federally Enforceable Through Title V Permit
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, 40 CFR 60.293(d), and 40 CFR Part 64] Federally Enforceable Through Title V Permit
58. When the electrostatic precipitator is in operation, the specific power of the electrostatic precipitator shall be at least 70 milliwatts/acfm except during the bypass episodes allowed by this permit. [District Rule 2520, §9.3.2, 40 CFR 60.293(d), and 40 CFR Part 64] Federally Enforceable Through Title V Permit
59. The ceramic filter dust collectors shall each be equipped with a pressure differential gauge to indicate the pressure drop across the filters. The gauges shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
60. During operation of the ceramic filter dust collectors, the pressure differential gauge reading shall be 1 to 20 inches of water column. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
61. 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
62. 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

CONDITIONS CONTINUE ON NEXT PAGE

63. 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
64. When the electrostatic precipitator is in operation, the specific power of the electrostatic precipitator shall be continuously monitored and recorded. [District Rules 2201 and 4354, 40 CFR 60.293(d), and 40 CFR Part 64] Federally Enforceable Through Title V Permit
65. 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
66. 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
67. Permittee shall keep a record of the daily hours of operation, the amount of glass pulled from the furnace (in tons), the NO<sub>x</sub> emissions (in lb/ton of glass pulled), the SO<sub>x</sub> emissions (in lb/ton of glass pulled), the weight of mixed color mix cullet used, the total amount of cullet used (by weight) and the ratio of the mixed color cullet weight to the total cullet weight (in percent). [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
68. 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
69. The pollutant mass emission rate in lb/hr shall be converted to lb pollutant/ton of glass pulled as specified in Rule 4354. The operator of a oxy-fuel fired furnace, oxygen-assisted combustion furnace, or a furnace utilizing any fuel oxidants other than 100% ambient air, shall submit to the APCO, ARB, and EPA for approval any methodologies and data that will be used to calculate emission rates for NO<sub>x</sub>, CO, and VOC if the methods are different from those specified in Rule 4354. Unless the operator received prior written approval from APCO, ARB, and EPA of all the calculation methods to be used that are different from those specified in Rule 4354, compliance with the emissions limits cannot be fully demonstrated, and it shall be deemed to be a violation of the rule. [District Rule 4354] Federally Enforceable Through Title V Permit
70. The oxygen to fuel ratio shall be continuously monitored and recorded. [District Rule 4354] Federally Enforceable Through Title V Permit
71. The permittee shall maintain daily records of the aggregated NO<sub>x</sub> emissions. [District Rules 2520 and 4354] Federally Enforceable Through Title V Permit
72. 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
73. A record of the PM<sub>10</sub> emissions from this unit, in pounds per calendar quarter, shall be kept. [District Rule 2201] Federally Enforceable Through Title V Permit
74. 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
75. The permittee shall keep a record of the cumulative annual hours of operation of the glass furnace on LPG fuel. [District Rule 1070] Federally Enforceable Through Title V Permit
76. When the electrostatic precipitator is in operation, the permittee shall maintain daily records of the specific power of the electrostatic precipitator (in milliwatts/acfm). [District Rules 2201, 4354, 40 CFR 60.293(d) and 40 CFR Part 64] Federally Enforceable Through Title V Permit
77. The operator shall monitor and record the pressure differential gauge reading of each ceramic filter dust collector at least once during each day that the units operate. [District Rules 2201 and 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
78. Records of dust collector and bin vent filter maintenance, inspections and repairs shall be maintained. The records shall include, date of inspection, change outs of filter media, corrective action taken, and identification of the individual performing the inspection. [District Rules 2201 and 2520] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Using the values in Sections VII.C.2 and VII.C.1 in the evaluation above, quarterly PE2 and quarterly PE1 can be calculated as follows:

$PE2_{\text{quarterly}} = PE2_{\text{annual}} \div 4 \text{ quarters/year}$

$PE1_{\text{quarterly}} = PE1_{\text{annual}} \div 4 \text{ quarters/year}$

N-1662-1:

Quarterly NEC [QNEC]			
Pollutant	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO <sub>x</sub>	46,984.50	46,984.50	0
SO <sub>x</sub>	36,543.50	36,543.50	0
PM <sub>10</sub>	8,956.25	8,956.25	0
CO	9,491.75	9,491.75	0
VOC	949.25	949.25	0

N-1662-2:

Quarterly NEC [QNEC]			
Pollutant	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO <sub>x</sub>	38,845.25	38,845.25	0
SO <sub>x</sub>	30,213.00	30,213.00	0
PM <sub>10</sub>	7,404.75	7,404.75	0
CO	7,847.50	7,847.50	0
VOC	784.75	784.75	0

N-1662-3:

Quarterly NEC [QNEC]			
Pollutant	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO <sub>x</sub>	51,008.75	51,008.75	0
SO <sub>x</sub>	37,275.75	37,275.75	0
PM <sub>10</sub>	17,824.75	17,824.75	0
CO	11,641.75	11,641.75	0
VOC	784.75	784.75	0

N-1662-4:

Quarterly NEC [QNEC]			
Pollutant	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO <sub>x</sub>	57,626.25	57,626.25	0
SO <sub>x</sub>	44,820.50	44,820.50	0
PM <sub>10</sub>	10,984.50	10,984.50	0
CO	11,641.75	11,641.75	0
VOC	1,164.25	1,164.25	0

## **APPENDIX E**

### **Risk Management Review**

# San Joaquin Valley Air Pollution Control District

## Risk Management Review

To: Jag Kahlon – Permit Services  
From: Will Worthley – Technical Services  
Date: November 16, 2023  
Facility Name: GALLO GLASS COMPANY  
Location: 605 S SANTA CRUZ AVE, MODESTO  
Application #(s): N-1662-1-24, -2-25, -3-24, -4-26, -28-0  
Project #: N-1234386

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### 1. Summary

#### 1.1 Risk Management Review (RMR)

Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required	Special Permit Requirements
1-24	0.94	0.00	0.00	N/A <sup>1</sup>	No	Yes
2-25	0.94	0.00	0.00	N/A <sup>1</sup>	No	Yes
3-24	0.94	0.00	0.00	N/A <sup>1</sup>	No	Yes
4-26	0.94	0.00	0.00	N/A <sup>1</sup>	No	Yes
28-0	0.02	0.03	0.00	N/A <sup>1</sup>	No	No
<b>Project Totals</b>	>1	0.03	0.00	0.00		
<b>Facility Totals</b>	>1	0.04	0.01	7.26E-06		

Notes:

1. Maximum Individual Cancer Risk was not calculated for Units 1, 2, 3, & 4 since there is no risk factor or the risk factor is so low that it has been determined to be insignificant for this type of unit.

#### 1.2 Proposed Permit Requirements

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

##### Unit # 1-24, 2-25, 3-24, & 4-26

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.

### 2. Project Description

Technical Services received a request to perform a Risk Management Review (RMR) for the following:

- Unit -1-24: MODIFICATION OF GLASS FURNACE #1 WITH EIGHT 10 MMBTU/HR (EACH), TWO 5 MMBTU/HR (EACH), TWO 2 MMBTU/HR (EACH) BURNER (94 MMBTU/HR MAX HEAT CAPACITY), AND ASSOCIATED FORMING EQUIPMENT INCLUDING FOREHEARTHS, COATING, AND CHAIN BURNERS. THIS FURNACE IS DUCTED THROUGH A STACK COMMON TO PERMIT UNITS N-1662-1, N-1662-2, N-

1662-3 AND N-1662-4. THE FURNACES ARE SERVED BY THE FOLLOWING SHARED EQUIPMENT: SOX SCRUBBER INCLUDING A LIME STORAGE SILO SERVED BY A BIN VENT FILTER, AN ELECTROSTATIC PRECIPITATOR, AND/OR FOUR TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS: TO INSTALL AQUEOUS AMMONIA INJECTION SYSTEM, REPLACE CERAMIC FILTERS FOR FINE PARTICULATE WITH CERAMIC FILTERS WITH EMBEDDED CATALYST IN FOUR TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS TO COMPLY WITH PHASE 1 NOX LIMIT OF DISTRICT RULE 4354, INSTALL CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS) FOR AMMONIA, AND REMOVE REFERENCE TO ELECTROSTATIC PRECIPITATOR AND ASSOCIATED PERMIT CONDITIONS

- Unit -2-25: MODIFICATION OF 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 THE FOLLOWING SHARED EQUIPMENT: SOX SCRUBBER INCLUDING A LIME STORAGE SILO SERVED BY A BIN VENT FILTER, AN ELECTROSTATIC PRECIPITATOR, AND/OR FOUR TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS: TO INSTALL AQUEOUS AMMONIA INJECTION SYSTEM, REPLACE CERAMIC FILTERS FOR FINE PARTICULATE WITH CERAMIC FILTERS WITH EMBEDDED CATALYST IN FOUR TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS TO COMPLY WITH PHASE 1 NOX LIMIT OF DISTRICT RULE 4354, INSTALL CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS) FOR AMMONIA, AND REMOVE REFERENCE TO ELECTROSTATIC PRECIPITATOR AND ASSOCIATED PERMIT CONDITIONS
- Unit -3-24: MODIFICATION OF 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 THE FOLLOWING SHARED EQUIPMENT: SOX SCRUBBER INCLUDING A LIME STORAGE SILO SERVED BY A BIN VENT FILTER, AN ELECTROSTATIC PRECIPITATOR, AND/OR FOUR TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS: TO INSTALL AQUEOUS AMMONIA INJECTION SYSTEM, REPLACE CERAMIC FILTERS FOR FINE PARTICULATE WITH CERAMIC FILTERS WITH EMBEDDED CATALYST IN FOUR TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS TO COMPLY WITH PHASE 1 NOX LIMIT OF DISTRICT RULE 4354, INSTALL CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS) FOR AMMONIA, AND REMOVE REFERENCE TO ELECTROSTATIC PRECIPITATOR AND ASSOCIATED PERMIT CONDITIONS
- Unit -4-26: MODIFICATION OF 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 THE FOLLOWING SHARED EQUIPMENT: SOX SCRUBBER INCLUDING A LIME STORAGE SILO SERVED BY A BIN VENT FILTER, AN ELECTROSTATIC PRECIPITATOR, AND/OR FOUR TRI-MER UCF-500 CERAMIC FILTER DUST COLLECTORS: TO INSTALL AQUEOUS AMMONIA INJECTION SYSTEM, REPLACE CERAMIC FILTERS FOR FINE PARTICULATE WITH CERAMIC FILTERS WITH EMBEDDED CATALYST IN FOUR TRI-MER UCF-500 CERAMIC

FILTER DUST COLLECTORS TO COMPLY WITH PHASE 1 NOX LIMIT OF DISTRICT RULE 4354, INSTALL CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS) FOR AMMONIA, AND REMOVE REFERENCE TO ELECTROSTATIC PRECIPITATOR AND ASSOCIATED PERMIT CONDITIONS

- Unit -28-0: AQUEOUS AMMONIA RECEIVING AND STORAGE OPERATION CONDUCTED USING A 550-GALLON TOTE EQUIPPED WITH PRESSURE-VACUUM RELIEF VALVE OR A 10,000 GALLON POLYURETHANE TANK (APPROXIMATELY 10 FEET DIAMETER AND 15 FEET HEIGHT) EQUIPPED WITH PRESSURE-VACUUM RELIEF VALVE, AND THE TOTE OR TANK SHALL BE FILLED USING BALANCE TYPE CLOSED-LOOP SYSTEM DISPLACING VAPOR FROM TOTE OR TANK TO AQUEOUS AMMONIA DELIVERY TRUCK

### **3. RMR Report**

#### **3.1 Analysis**

The District performed an analysis pursuant to the District's Risk Management Policy for Permitting New and Modified Sources (APR 1905, May 28, 2015) to determine the possible cancer and non-cancer health impact to the nearest resident or worksite. This policy requires that an assessment be performed on a unit by unit basis, project basis, and on a facility-wide basis. If a preliminary prioritization analysis demonstrates that:

- A unit's prioritization score is less than the District's significance threshold and;
- The project's prioritization score is less than the District's significance threshold and;
- The facility's total prioritization score is less than the District's significance threshold

Then, generally no further analysis is required.

The District's significant prioritization score threshold is defined as being equal to or greater than 1.0. If a preliminary analysis demonstrates that either the units', the project's or the facility's total prioritization score is greater than the District threshold, a screening or a refined assessment is required.

If a refined assessment is greater than one in a million but less than 20 in a million for carcinogenic impacts (cancer risk) and less than 1.0 for the acute and chronic hazard indices (non-carcinogenic) on a unit by unit basis, project basis and on a facility-wide basis the proposed application is considered less than significant. For units that exceed a cancer risk of one in a million, Toxic Best Available Control Technology (TBACT) must be implemented.

Air toxics emissions for this project were calculated using the following methods:

- Ammonia (NH<sub>3</sub>) emissions for the proposed project were provided by the Permit Engineer.

These emissions were input into the San Joaquin Valley APCD's Hazard Assessment and Reporting Program (SHARP). In accordance with the District's Risk Management Policy, risks from the proposed unit's toxic emissions were prioritized using the procedure in the 2016 CAPCOA Facility Prioritization Guidelines. The prioritization score for this proposed 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 18-22 from Modesto (urban dispersion coefficient selected) 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:

Source Process Rates					
Unit ID	Process ID	Process Material	Process Units	Hourly Process Rate	Annual Process Rate
1	1	NH <sub>3</sub>	LBS	1.3	10,990
2	1	NH <sub>3</sub>	LBS		
3	1	NH <sub>3</sub>	LBS		
4	1	NH <sub>3</sub>	LBS		
28	1	NH <sub>3</sub>	LBS	0.525	240

Point Source Parameters						
Unit ID	Unit Description	Release Height (m)	Temp. (°K)	Exit Velocity (m/sec)	Stack Diameter (m)	Vertical/ Horizontal/ Capped
1, 2, 3, & 4	Ammonia Emissions from Device 1 to 4	41.15	536	16.82	1.47	Vertical
28	Ammonia Emissions	4.66	Ambient	0.15	1.00	Capped

## 4. Conclusion

### 4.1 RMR

The cumulative acute and chronic indices for this facility, including this project, are below 1.0; and the cumulative cancer risk for this facility, including this project, is less than 20 in a million. In addition, the cancer risk for each unit in this 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 this 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.

## 5. Attachments

- A. Modeling request from the project engineer
- B. Additional information from the applicant/project engineer
- C. Prioritization score w/ toxic emissions summary
- D. Facility Summary

## RMR REQUEST Form

*Please send this request to: [HRAModeler@valleyair.org](mailto:HRAModeler@valleyair.org)*

Facility Name:	Gallo Glass Company	Processing Engineer:	Jag Kahlon
Mailing Address:	PO Box 1230 Modesto, CA 95353	Tec Svces Processing Staff:	
Location:	605 S Santa Cruz Ave, Modesto, CA 95354	Tec Svces Reviewer:	
Contact Name:	Peter Olney		
Telephone:	(209) 494-7358		
Application #:	N-1662-1-24, '-2-25, '-3-24, '-4-26 & '-28-0	Completed Date:	
Project #:	N-1234386		

### Information Required

*Please check which information is provided to Tec. Services:*

Information <b>ALWAYS</b> Required	Additional Info Required Based on the <b>Source Category</b>
	<i>Oil Facilities / Glass Plant/ Power Plant</i>
	<i>Plasma Cutting / Soil Remediation / Concrete Batch</i>
<input checked="" type="checkbox"/> Receptor Distances	<input checked="" type="checkbox"/> Stack Velocity
<input checked="" type="checkbox"/> Process Rates (hour & annual)	<input checked="" type="checkbox"/> Stack Height
<input checked="" type="checkbox"/> Emission Rates (hour & annual)	<input checked="" type="checkbox"/> Stack temperature
<input type="checkbox"/> Hours of Operation	<input type="checkbox"/> MSDS
Life of Project:	<input type="checkbox"/> Other (for area sources)

### Source of Information

*Please check which form is attached to this HRA request (it can be a combination of any of the following):*

- ☐ Supplemental Application Form  
☒ HRA Request - Project Information Form  
☐ Information supplied by the applicant (attached)

### Notification Requirement

Is it obvious that notification is required?	NSR (Public Notice)	Yes: <input checked="" type="checkbox"/>	No: <input type="checkbox"/>
	COC (EPA Notice)	Yes: <input checked="" type="checkbox"/>	No: <input type="checkbox"/>
	School Notice	Yes: <input type="checkbox"/>	No: <input checked="" type="checkbox"/>

*Please note that in case notification is required, please provide distance to fence line in all four directions. Include hourly and annual emissions of VOC, NOx, SOx, CO, PM10, and PM2.5*

### Prevention of Significant Deterioration (PSD)

#### AQE:

- Based on the prelim review, is the Project subject to PSD for other pollutant than GHG? Yes: ☐ No: ☒
- Is the facility a PSD Major Source located within 10 km of a Class I area? Yes: ☐ No: ☒

*If either "Yes" box is checked, please provide all modeling and impact analyses submitted by the applicant to Technical Services. In this case, the project cannot be deemed complete until Technical Services indicates it is complete.*

#### Tec Svces:

PSD Major Source located within 10 km of a Class I area AND project impact  $\geq 1 \mu\text{g}/\text{m}^3$ ? Yes: ☐ No: ☐

Supervisor Review: Application Complete for PSD Modeling ☐ Date Returned to AQE: \_\_\_\_\_.

### Reimbursable Overtime

Has the applicant requested reimbursable overtime processing? Yes: ☒ No: ☐

*If YES, please send HRA request to Tech Services before deeming complete*

Supervisor's signature: \_\_\_\_\_

Comments and References:



# RMR REQUEST

## PROJECT INFORMATION Form

### I. Project Description

#### N-1662-1, '-2, '-3 and '-4

Under project N-1221795 and N-1210489, Gallo Glass Company was issued Authority to Construct (ATC) permits to comply with NO<sub>x</sub> (Phase I), SO<sub>x</sub> and PM<sub>10</sub> requirements in *District Rule 4354 – Glass Melting Furnaces (12/16/21)*. The company is going to implement those permits. To ensure that their furnace battery reliably complies with the Phase I NO<sub>x</sub> emissions limit, they are also proposing to:

- Install a selective catalytic reduction system including aqueous ammonia injection system. This installation may require some of the existing ceramic tube filters that are only reducing PM<sub>10</sub> be replaced with UltraCat tube filters with embedded catalyst controlling both NO<sub>x</sub> and PM<sub>10</sub> emissions;
- Install continuous emissions monitoring system (CEMS) for monitoring ammonia (NH<sub>3</sub>) emissions in the exhaust;
- Remove reference of the electrostatic precipitator (ESP) and associated conditions from each furnace permit.

Gallo Glass Company has completely transitioned to and is using the ceramic filter dust collectors system. They are going to completely disconnect the electrostatic precipitator (ESP); therefore, they have proposed to remove reference of the ESP and associated conditions from each furnace permit.

Some of the unreacted ammonia will likely pass-through catalyst filter and release into the atmosphere. Note that all four furnaces share single discharge stack.

#### N-1662-28

Gallo Glass Company has proposed to install and operate aqueous ammonia receiving and storage system consisting of a temporary 500-gallon tote equipped with pressure-vacuum relief valve until the installation of a permanent 10,000-gallon polyurethane tank (10 feet diameter, 15.3 feet high) with pressure-vacuum relief valve. Tank or tote will be filled by a aqueous ammonia (20% conc.) delivery truck using vapor balance type closed loop system where displaced vapors from the tote or tank will be routed to the delivery truck.

### II. Receptor Location(s)

#### N-1662-1, '-2, '-3, '-4 and '-28

Receptor Description	Distance From Source*
Residence	16 meters E
Business	260 meters NW

\*Info taken from RMR request made under project N-1161175

### III. Process Rate to be Modeled

N-1662-1, '-2, '-3 & '-4:

Process Description	Process Rates	
	Hourly Rate	Annual Rate
Increase in permitted heat input rate N-1662-1, '-2, '-3 & '-4	0	0

N-1662-28:

Process Description	Process Rates	
	Hourly Rate	Annual Rate
Aqueous ammonia receiving and storage operation	5,000 gal/hr	220,778 gal/yr

### IV. Emission Rate or Substances to be Modeled

N-1662-1, '-2, '-3 & '-4:

Increase in Permitted Emissions to be modeled (lb/hr)							
Permit	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	*PM <sub>2.5</sub>	CO	VOC	NH <sub>3</sub>
N-1662-1-22	0	0	0	0	0	0	1.3 lb/hr (Total)
N-1662-2-23	0	0	0	0	0	0	
N-1662-3-22	0	0	0	0	0	0	
N-1662-4-24	0	0	0	0	0	0	
Total	0	0	0	0	0	0	1.3

Potential to Emit to be modeled (lb/year)							
Permit	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	*PM <sub>2.5</sub>	CO	VOC	NH <sub>3</sub>
N-1662-1-22	0	0	0	0	0	0	10,990 lb/yr (Total)
N-1662-2-23	0	0	0	0	0	0	
N-1662-3-22	0	0	0	0	0	0	
N-1662-4-24	0	0	0	0	0	0	
Total	0	0	0	0	0	0	10,990

\*For projects triggering AAQA

N-1662-28:

PE2 = 0.525 lb-NH<sub>3</sub>/hr (0.025 lb/hr will likely release from the tank through the PV vent on the tank (see stack parameters below), 0.5 lb/hr will likely release during tank filling process as fugitives);

PE2 = 240 lb-NH<sub>3</sub>/yr (219 lb/yr will likely release from the tank through the PV vent on the tank (see stack parameters below), 21 lb/yr will likely release during tank filling process as fugitives);

### V. Project Location (Select One)

- ☒ Urban – Area of dense population  
☐ Rural – Area of sparse population

## VI. Point Sources

N-1662-1, '-2, '-3 & '-4

Stack Parameters\*:

Stack Height (Units)	Rain Cap Type	Inside Diameter (Units)	Gas Exit Flowrate (Units)	Exhaust Discharge Direction	Gas Exit Temperature (Units)
135 feet	None	4.83 feet	60,675 acfm	Vertical	506F

\*AB2588 TEIP Final.pdf document (Page 58) submitted under project N-1173778

N-1662-28

Stack Height (Units)	Rain Cap Type	Inside Diameter (Units)	Gas Exit Flowrate (Units)	Exhaust Discharge Direction	Gas Exit Temperature (Units)
15.3 feet (tank height)	Yes	8 inch*	10 cfm**	Vertical	Ambient

\* [https://morbros.com/downloads/products/VentingGuide\\_February\\_2021.pdf](https://morbros.com/downloads/products/VentingGuide_February_2021.pdf); \*\* $3.14 \times 5^2 \times 15.3/2 \times 1/60 = 10 \text{ cfm}$

## VII. Area Sources<sup>1</sup> Parameters

Release Height <sup>2</sup> (Units)	Length Of Side (Units)

1. An area source is defined as in an area with four equal sides.
2. Release height is defined as the physical height of the source. For example, if a sump has a three meter brim surrounding it. The physical height of the sump is three meters. Height is measured from the ground to the top of the source.

# SAFETY DATA SHEET

Aqua Ammonia (5-19.9%)

**Airgas**  
an Air Liquide company

## Section 1. Identification

<b>GHS product identifier</b>	: Aqua Ammonia (5-19.9%)
<b>Other means of identification</b>	: Aqua Ammonia, Ammonium Hydroxide
<b>Product type</b>	: Liquid.
<b>Product use</b>	: Synthetic/Analytical chemistry.
<b>Synonym</b>	: Aqua Ammonia, Ammonium Hydroxide
<b>SDS #</b>	: 001196
<b>Supplier's details</b>	: Airgas USA, LLC and its affiliates 259 North Radnor-Chester Road Suite 100 Radnor, PA 19087-5283 1-610-687-5253
<b>24-hour telephone</b>	: 1-866-734-3438

## Section 2. Hazards identification

<b>OSHA/HCS status</b>	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
<b>Classification of the substance or mixture</b>	: ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SKIN CORROSION - Category 1B SERIOUS EYE DAMAGE - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 AQUATIC HAZARD (ACUTE) - Category 1

### GHS label elements

#### **Hazard pictograms**



#### **Signal word**

: Danger

#### **Hazard statements**

: Harmful if swallowed or if inhaled.  
Causes severe skin burns and eye damage.  
May cause respiratory irritation.  
Very toxic to aquatic life.

### Precautionary statements

#### **General**

: Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

#### **Prevention**

: Wear protective gloves, protective clothing and eye or face protection. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Avoid breathing vapor. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

#### **Response**

: Collect spillage. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. Wash contaminated clothing before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

#### **Storage**

: Store locked up. Store in a well-ventilated place. Keep container tightly closed.

#### **Disposal**

: Dispose of contents and container in accordance with all local, regional, national and international regulations.

## Section 2. Hazards identification

**Hazards not otherwise classified** : None known.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Substance  
**Other means of identification** : Aqua Ammonia, Ammonium Hydroxide  
**Product code** : 001196

### CAS number/other identifiers

**CAS number** : Not available.

Ingredient name	%	CAS number
ammonium hydroxide	100	1336-21-6

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

**Occupational exposure limits, if available, are listed in Section 8.**

## Section 4. First aid measures

### Description of necessary first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
- Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : Harmful if inhaled. May cause respiratory irritation.
- Skin contact** : Causes severe burns.

## Section 4. First aid measures

**Frostbite** : Try to warm up the frozen tissues and seek medical attention.

**Ingestion** : Harmful if swallowed.

### Over-exposure signs/symptoms

**Eye contact** : Adverse symptoms may include the following: pain, watering, redness

**Inhalation** : Adverse symptoms may include the following: respiratory tract irritation, coughing

**Skin contact** : Adverse symptoms may include the following: pain or irritation, redness, blistering may occur

**Ingestion** : Adverse symptoms may include the following: stomach pains

### Indication of immediate medical attention and special treatment needed, if necessary

**Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Specific treatments** : No specific treatment.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : None known.

**Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is very toxic to aquatic life. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials: nitrogen oxides

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

## Section 6. Accidental release measures

### Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Avoid release to the environment. Do not ingest. Empty containers retain product residue and can be hazardous. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Do not reuse container. Do not breathe vapor or mist.

- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
ammonium hydroxide	None.

- Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

## Section 8. Exposure controls/personal protection

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties

### Appearance

- Physical state** : Liquid.
- Color** : Not available.
- Odor** : Not available.
- Odor threshold** : 5 ppm
- pH** : Not available.
- Melting point** : May start to solidify at the following temperature: -58°C (-72.4°F) This is based on data for the following ingredient: Ammonium Hydroxide.
- Boiling point** : Lowest known value: 38°C (100.4°F) (Ammonium Hydroxide).
- Critical temperature** : Not available.
- Flash point** : Not available.
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Lower: 16%  
Upper: 25%
- Vapor pressure** : Not available.
- Vapor density** : Highest known value: 0.6 to 1.2 (Air = 1) (Ammonium Hydroxide).
- Gas Density (lb/ft<sup>3</sup>)** : 0.0481
- Relative density** : Specific Gravity (S.G.): 0.9278 (19.5% @ 60 deg. F)
- Solubility** : Not available.
- Solubility in water** : Not available.
- Partition coefficient: n-octanol/water** : Not applicable.
- Auto-ignition temperature** : 651°C (1203.8°F)
- Decomposition temperature** : Not available.



## Section 9. Physical and chemical properties

**Flow time (ISO 2431)** : Not available.

## Section 10. Stability and reactivity

**Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** : The product is stable.

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to avoid** : No specific data.

**Incompatible materials** : No specific data.

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**Hazardous polymerization** : Under normal conditions of storage and use, hazardous polymerization will not occur.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
ammonium hydroxide	LD50 Oral	Rat	350 mg/kg	-

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
ammonium hydroxide	Eyes - Severe irritant	Rabbit	-	250 ug	-
	Eyes - Severe irritant	Rabbit	-	0.5 minutes 1 mg	-

#### Sensitization

Not available.

#### Mutagenicity

Not available.

#### Carcinogenicity

Not available.

#### Reproductive toxicity

Not available.

#### Teratogenicity

Not available.

#### Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
ammonium hydroxide	Category 3	-	Respiratory tract irritation

#### Specific target organ toxicity (repeated exposure)

Not available.

## Section 11. Toxicological information

### Aspiration hazard

Not available.

**Information on the likely routes of exposure** : Not available.

### Potential acute health effects

**Eye contact** : Causes serious eye damage.  
**Inhalation** : Harmful if inhaled. May cause respiratory irritation.  
**Skin contact** : Causes severe burns.  
**Ingestion** : Harmful if swallowed.

### Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : Adverse symptoms may include the following: pain, watering, redness  
**Inhalation** : Adverse symptoms may include the following: respiratory tract irritation, coughing  
**Skin contact** : Adverse symptoms may include the following: pain or irritation, redness, blistering may occur  
**Ingestion** : Adverse symptoms may include the following: stomach pains

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

**Potential immediate effects** : Not available.  
**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.  
**Potential delayed effects** : Not available.

### Potential chronic health effects

Not available.

**General** : No known significant effects or critical hazards.  
**Carcinogenicity** : No known significant effects or critical hazards.  
**Mutagenicity** : No known significant effects or critical hazards.  
**Teratogenicity** : No known significant effects or critical hazards.  
**Developmental effects** : No known significant effects or critical hazards.  
**Fertility effects** : No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Route	ATE value
Oral	500 mg/kg
Inhalation (gases)	4500 ppm

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
ammonium hydroxide	Acute LC50 37 ppm Fresh water	Fish - Gambusia affinis - Adult	96 hours

### Persistence and degradability

Not available.

### Bioaccumulative potential

Not available.

### Mobility in soil








Soil/water partition coefficient (K<sub>oc</sub>) : Not available.

Other adverse effects : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

	DOT	TDG	Mexico	IMDG	IATA
<b>UN number</b>	UN2672	UN2672	UN2672	UN2672	UN2672
<b>UN proper shipping name</b>	Ammonia solutions	Ammonia solutions	Ammonia solutions	Ammonia solutions	Ammonia solutions
<b>Transport hazard class(es)</b>	8 	8  	8 	8  	8 
<b>Packing group</b>	III	III	III	III	III
<b>Environmental hazards</b>	No.	Yes.	Yes. The environmentally hazardous substance mark is not required.	Yes.	Yes. The environmentally hazardous substance mark is not required.

“Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product.”

### Additional information

## Section 14. Transport information

- DOT Classification** : **Reportable quantity** 1000 lbs / 454 kg [2493.4 gal / 9438.7 L]. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.
- TDG Classification** : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.40-2.42 (Class 8), 2.7 (Marine pollutant mark). The marine pollutant mark is not required when transported by road or rail.
- IMDG** : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.
- IATA** : The environmentally hazardous substance mark may appear if required by other transportation regulations.
- Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to IMO instruments** : Not available.

## Section 15. Regulatory information

**U.S. Federal regulations** : **TSCA 8(a) CDR Exempt/Partial exemption:** Not determined  
**Clean Water Act (CWA) 311:** Ammonium Hydroxide

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Not listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

### SARA 302/304

#### Composition/information on ingredients

No products were found.

**SARA 304 RQ** : Not applicable.

### SARA 311/312

**Classification** : Refer to Section 2: Hazards Identification of this SDS for classification of substance.

### SARA 313

	Product name	CAS number	%
<b>Form R - Reporting requirements</b>	Ammonium Hydroxide	1336-21-6	100
<b>Supplier notification</b>	Ammonium Hydroxide	1336-21-6	100

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

### State regulations

**Massachusetts** : The following components are listed: AMMONIUM HYDROXIDE; HOUSEHOLD AMMONIA; AMMONIUM WATER

**New York** : The following components are listed: Ammonium hydroxide

**New Jersey** : The following components are listed: AMMONIUM HYDROXIDE

## Section 15. Regulatory information

**Pennsylvania** : The following components are listed: AMMONIUM HYDROXIDE

### California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

<b>Australia</b>	: All components are listed or exempted.
<b>Canada</b>	: All components are listed or exempted.
<b>China</b>	: All components are listed or exempted.
<b>Europe</b>	: All components are listed or exempted.
<b>Japan</b>	: <b>Japan inventory (CSCL)</b> : All components are listed or exempted. <b>Japan inventory (ISHL)</b> : All components are listed or exempted.
<b>New Zealand</b>	: All components are listed or exempted.
<b>Philippines</b>	: All components are listed or exempted.
<b>Republic of Korea</b>	: All components are listed or exempted.
<b>Taiwan</b>	: All components are listed or exempted.
<b>Thailand</b>	: All components are listed or exempted.
<b>Turkey</b>	: All components are listed or exempted.
<b>United States</b>	: All components are active or exempted.
<b>Viet Nam</b>	: All components are listed or exempted.

## Section 16. Other information

### Hazardous Material Information System (U.S.A.)

Health	/	3
Flammability		1
Physical hazards		0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

### National Fire Protection Association (U.S.A.)

## Section 16. Other information



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

### Procedure used to derive the classification

Classification	Justification
ACUTE TOXICITY (oral) - Category 4	Expert judgment
ACUTE TOXICITY (inhalation) - Category 4	Expert judgment
SKIN CORROSION - Category 1B	Calculation method
SERIOUS EYE DAMAGE - Category 1	Expert judgment
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method
AQUATIC HAZARD (ACUTE) - Category 1	Calculation method

### History

**Date of printing** : 8/22/2022

**Date of issue/Date of revision** : 8/22/2022

**Date of previous issue** : 8/12/2022

**Version** : 0.07

**Key to abbreviations** : ATE = Acute Toxicity Estimate  
BCF = Bioconcentration Factor  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
IATA = International Air Transport Association  
IBC = Intermediate Bulk Container  
IMDG = International Maritime Dangerous Goods  
LogPow = logarithm of the octanol/water partition coefficient  
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
UN = United Nations

**References** : Not available.

### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

# Prioritization Score For Gallo Glass Company Project : N1234386

Device ID	Device Name	Emissions and Potency				Dispersion Adjustment			
1	Ammonia	Emissions from Device 1 to 4				Method			
Process ID : 1									
CAS#	Pollutant Name	Lbs / Hour	Lbs / Year	Cancer	Chronic	Acute	Cancer	Chronic	Acute
7664417	Ammonia	1.30E+00	1.10E+04		0.944	0.609		0.94	0.61
Prioritization Score for Process 1					9.44E-01	6.09E-01		9.44E-01	6.09E-01
Prioritization Score for Device 1					9.44E-01	6.09E-01		9.44E-01	6.09E-01
Device ID	Device Name	Emissions and Potency				Dispersion Adjustment			
28	Ammonia	Emissions				Method			
Process ID : 1									
CAS#	Pollutant Name	Lbs / Hour	Lbs / Year	Cancer	Chronic	Acute	Cancer	Chronic	Acute
7664417	Ammonia	5.25E-01	2.40E+02		0.021	0.246		0.02	0.25
Prioritization Score for Process 1					2.06E-02	2.46E-01		2.06E-02	2.46E-01
Prioritization Score for Device 28					2.06E-02	2.46E-01		2.06E-02	2.46E-01

## Emissions and Potency Method

### Prioritization Scores

Cancer	CHRONIC	ACUTE
	9.64E-01	8.55E-01

TS = Total Score

t = Specific Toxic Substance

EYR = Emissions Lbs / Year

EHR = Emissions Lbs / Hour

NF = Normalization Factor ( Cancer = 7700, Acute = 1500, Chronic = 150)

URF = Unit Risk Factor

AREL = Acute Reference Exposure Level

CREL = Chronic Reference Exposure Level

RP = Receptor Proximity Adjustment Factor

R = Receptor Distance

RP	
0m < R < 100m	1.0
100m < R < 250m	0.25
250m < R < 500m	0.04
500m < R < 1000m	0.011
1000m < R < 1500m	0.003
1500m < R < 2000m	0.002
R > 2000m	0.001

Cancer Score:

$$TS(t) = EYR(t) * URF(t) * RP * 7700$$

Acute Score:

$$TS(t) = [ EHR(t) / AREL(t) ] * RP * 1500$$

Chronic Score:

$$TS(t) = \{ ( [ EYR(t) / \text{Hours Of Operation} ] / CREL(t) ) * RP * 150 \}$$

## Dispersion Adjustment Method

### Prioritization Scores

Cancer	CHRONIC	ACUTE
	9.64E-01	8.55E-01

TS = Total Score

t = Specific Toxic Substance

EYR = Emissions Lbs / Year

EHR = Emissions Lbs / Hour

NF = Normalization Factor ( Cancer = 128, Acute = 25, Chronic = 2.5)

URF = Unit Risk Factor

AREL = Acute Reference Exposure Level

CREL = Chronic Reference Exposure Level

SHA = Stack Height Adjustment ( < 20m = 60, < 45m = 9, >= 45m = 1)

RP = Receptor Proximity Adjustment Factor

R = Receptor Distance

H = Stack Height

For Stack - 0m <= H < 20m		For Stack - 20m <= H < 45m		For Stack - H >= 45m	
RP		RP		RP	
0m < R < 100m	1.0	0m < R < 100m	1.0	0m < R < 100m	1.0
100m < R < 250m	0.25	100m < R < 250m	0.85	100m < R < 250m	1.0
250m < R < 500m	0.04	250m < R < 500m	0.22	250m < R < 500m	0.90
500m < R < 1000m	0.011	500m < R < 1000m	0.064	500m < R < 1000m	0.40
1000m < R < 1500m	0.003	1000m < R < 1500m	0.018	1000m < R < 1500m	0.13
1500m < R < 2000m	0.002	1500m < R < 2000m	0.009	1500m < R < 2000m	0.066
R > 2000m	0.001	R > 2000m	0.006	R > 2000m	0.042

Cancer Score:

$$TS(t) = EYR(t) * URF(t) * RP * SHA * 128$$

Acute Score:

$$TS(t) = [ EHR(t) / AREL(t) ] * RP * SHA * 25$$

Chronic Score:

$$TS(t) = \{ ( [ EYR(t) / \text{Hours Of Operation} ] / CREL(t) ) * RP * SHA * 2.5 \}$$



# Facility Summary: GALLO GLASS COMPA

REGION: N

FACID: 1662

PROJECT	Unit ID	MOD #	EQUIPMENT	Prioritization Scores			HARP2 Risk Scores		
				CANCER	ACUTE	CHRONIC	CANCER	ACUTE	CHRONIC
1053540	1	9	75 MMBTU/HR NATURAL GAS FURNA	0.414	1.614	0.563	1.56E-06	9.81E-03	5.60E-03
1053540	2	9	75 MMBTU/HR NATURAL GAS FURNA	0.414	1.614	0.563	0.00E+00	0.00E+00	0.00E+00
1053540	3	9	75 MMBTU/HR NATURAL GAS FURNA	0.414	1.614	0.563	0.00E+00	0.00E+00	0.00E+00
1053540	4	11	90 MMBTU/HR NATURAL GAS FURNA	0.497	1.937	0.675	0.00E+00	0.00E+00	0.00E+00
Project Totals				1.738	6.779	2.363	1.56E-06	9.81E-03	5.60E-03
1074121	8	8	ELECTRIC GLASS MELTING FURNACE	0.000	0.002	0.003	0.00E+00	0.00E+00	0.00E+00
1074121	14	5	BATCH PLANT #2 SERVING GLASS ME	0.000	0.000	0.000	0.00E+00	0.00E+00	0.00E+00
Project Totals				0.000	0.002	0.003	0.00E+00	0.00E+00	0.00E+00
1141107	2	17	Glass Furnace	93.954	4.515	1.308	3.46E-06	0.00E+00	0.00E+00
Project Totals				93.954	4.515	1.308	3.46E-06	0.00E+00	0.00E+00
1150373	19	0	METAL PARTS & PRODUCTS COATIN	0.000	0.000	0.000	0.00E+00	0.00E+00	0.00E+00
Project Totals				0.000	0.000	0.000	0.00E+00	0.00E+00	0.00E+00
1161175	3	19	GLASS FURNACE	0.032	0.000	0.001	7.85E-11	0.00E+00	3.60E-08
Project Totals				0.032	0.000	0.001	7.85E-11	0.00E+00	3.60E-08
1171407	17	1	NG BURNER	0.041	0.003	0.002	9.65E-09	1.19E-04	1.86E-05
1171407	18	1	NG BURNER	0.041	0.003	0.002	9.65E-09	1.19E-04	1.86E-05
Project Totals				0.083	0.006	0.005	1.93E-08	2.38E-04	3.72E-05

PROJECT	Unit ID	MOD #	EQUIPMENT	Prioritization Scores			HARP2 Risk Scores		
				CANCER	ACUTE	CHRONIC	CANCER	ACUTE	CHRONIC
1182275	21	1	5.0 MMbtu/hr NG Lehr	0.165	0.013	0.010	5.88E-08	3.80E-04	6.90E-05
1182275	22	1	5.0 MMbtu/hr NG Lehr	0.165	0.013	0.010	5.88E-08	3.80E-04	6.90E-05
1182275	23	1	5.0 MMbtu/hr NG Lehr	0.165	0.013	0.010	5.88E-08	3.80E-04	6.90E-05
<b>Project Totals</b>				0.495	0.038	0.029	1.76E-07	1.14E-03	2.07E-04
1193401	26	0	Pneumatic Conveying System	0.000	0.000	0.000	0.00E+00	0.00E+00	0.00E+00
<b>Project Totals</b>				0.000	0.000	0.000	0.00E+00	0.00E+00	0.00E+00
1193858	19	3	Metal Coating Operation	0.000	0.000	0.000	0.00E+00	0.00E+00	0.00E+00
<b>Project Totals</b>				0.000	0.000	0.000	0.00E+00	0.00E+00	0.00E+00
1200219	14	11	Cullet Handling Operation	0.336	0.001	0.003	4.72E-07	1.26E-04	2.94E-04
<b>Project Totals</b>				0.336	0.001	0.003	4.72E-07	1.26E-04	2.94E-04
1201553	1	19	Glass Furnace	0.000	0.000	0.000	0.00E+00	0.00E+00	0.00E+00
1201553	2	21	Glass Furnace	0.000	0.000	0.000	0.00E+00	0.00E+00	0.00E+00
1201553	3	20	Glass Furnace	0.000	0.000	0.000	0.00E+00	0.00E+00	0.00E+00
1201553	4	22	Glass Furnace	0.000	0.000	0.000	0.00E+00	0.00E+00	0.00E+00
<b>Project Totals</b>				0.000	0.000	0.000	0.00E+00	0.00E+00	0.00E+00
1210489	1	22	GLASS FURNACE	0.000	0.000	0.000	0.00E+00	0.00E+00	0.00E+00
1210489	2	23	GLASS FURNACE	0.000	0.000	0.000	0.00E+00	0.00E+00	0.00E+00
1210489	3	22	GLASS FURNACE	0.000	0.000	0.000	0.00E+00	0.00E+00	0.00E+00
1210489	4	24	GLASS FURNACE	0.000	0.000	0.000	0.00E+00	0.00E+00	0.00E+00
<b>Project Totals</b>				0.000	0.000	0.000	0.00E+00	0.00E+00	0.00E+00
1210891	25	3	44.6 MMBtu/hr Emergency Flare	57.900	2.110	1.460	1.59E-06	1.61E-03	9.43E-04
<b>Project Totals</b>				57.900	2.110	1.460	1.59E-06	1.61E-03	9.43E-04

<i>PROJECT</i>	<i>Unit ID</i>	<i>MOD #</i>	<i>EQUIPMENT</i>	<i>Prioritization Scores</i>			<i>HARP2 Risk Scores</i>		
				<i>CANCER</i>	<i>ACUTE</i>	<i>CHRONIC</i>	<i>CANCER</i>	<i>ACUTE</i>	<i>CHRONIC</i>
1234386	1	24	STACK VENT	0.000	0.609	0.944	0.00E+00	2.87E-05	9.18E-06
1234386	2	25	STACK VENT	0.000	0.609	0.944	0.00E+00	2.87E-05	9.18E-06
1234386	3	24	STACK VENT	0.000	0.609	0.944	0.00E+00	2.87E-05	9.18E-06
1234386	4	26	STACK VENT	0.000	0.609	0.944	0.00E+00	2.87E-05	9.18E-06
1234386	28	0	AMMONIA TANK	0.000	0.246	0.021	0.00E+00	2.75E-02	2.57E-03
<i>Project Totals</i>				0.000	2.682	3.797	0.00E+00	2.76E-02	2.60E-03
<i>Facility Totals</i>				154.538	16.134	8.968	7.28E-06	4.05E-02	9.68E-03