



SEP 11 2013

Mr. Phillip Newell
Guardian Industries, Inc.
11535 E. Mountain View Avenue
Kingsburg, CA 93631

Re: Proposed Authority to Construct/Certificate of Conformity (Minor Mod)
District Facility # C-598
Project # 1130125

Dear Mr. Newell:

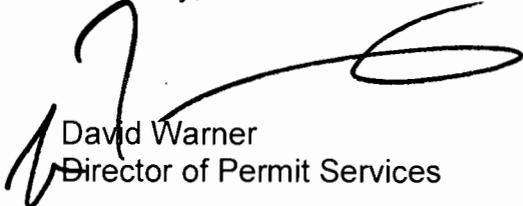
Enclosed for your review is the District's analysis of an application for Authority to Construct (ATC) for the facility identified above. You requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. This ATC authorizes the modification of one 212 MMBtu/hr natural gas fired float glass furnace to incorporate the routine maintenance of add-on emission control systems requirements allowed by District Rule 4354, Section 5.10.

After addressing all comments made during the 45-day EPA comment period, the District intends to issue the ATC with a Certificate of Conformity. Prior to operating with modifications authorized by the ATC, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

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

Thank you for your cooperation in this matter.

Sincerely,



David Warner
Director of Permit Services

Enclosures

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

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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**San Joaquin Valley Air Pollution Control District
Authority to Construct
Application Review**

Modification of 212 MMBtu/hr Float Glass Furnace for Rule 4354 Compliance

Facility Name:	Guardian Industries Corp.	Date:	August 20, 2013
Mailing Address:	11535 E. Mountain View Ave. Kingsburg, CA 93631	Engineer:	Dustin Brown
Contact Person:	Phillip Newell	Lead Engineer:	Joven Refuerzo
Telephone:	(559) 896-6400		
Email Address:	pnewell@guardian.com		
Application #(s):	C-598-4-10		
Project #:	1130125		
Deerned Complete:	May 6, 2013		

I. PROPOSAL

Guardian Industries Corp. requests an Authority to Construct (ATC) for modifications to their 212 MMBtu/hr natural gas/LPG fired float glass furnace for District Rule 4354 compliance. The modifications are as follows:

- Incorporate the routine maintenance of add-on emission control systems allowed by District Rule 4354, Section 5.10 which allows an operator of a glass melting furnace to be exempt from the emission limits specified in Rule 4354, Sections 5.1 through 5.4 if routine maintenance in each calendar year does not exceed 144 hours and the routine maintenance is conducted in a manner consistent with good air pollution control practices for minimizing emissions.

Guardian Industries has regularly performed maintenance on the electrostatic precipitator at least once every year and on the selective catalytic reduction (SCR) system once every three years since the glass furnace was rebuilt in 2008 in accordance with the requirements specified in Rule 4354. The purpose of this project is to incorporate those Rule 4354 requirements in to their operating permit. Therefore, the proposed change will not be considered a change in the facilities existing method(s) of operation and this project will not be subject to the requirements of District Rule 2201.

The facility currently maintains and monitors the furnace temperature above 1,800 °F to satisfy the VOC emission monitoring requirements of District Rule 4354, Section 5.9.2. However, the temperature monitoring requirements are not included as conditions on the current permit to operate for this glass furnace. Therefore in addition to the changes requested by the applicant in this project, the VOC monitoring requirements will be added as conditions to the proposed operating permit as well.

Guardian Industries Corp. is a major source and has received their Title V Permit. This modification can be classified as a Title V minor modification pursuant to Rule 2520, Section 3.20, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. Guardian Industries must then apply to administratively amend their Title V permit.

II. APPLICABLE RULES

District Rule 2201 New and Modified Stationary Source Review Rule (4/21/11)
District Rule 2410 Prevention of Significant Deterioration (6/16/11)⁽¹⁾
District Rule 2520 Federally Mandated Operating Permits (6/21/01)
District Rule 4001 New Source Performance Standards (4/14/99)
District Rule 4002 National Emissions Standards for Hazardous Air Pollutants (5/20/04)
District Rule 4101 Visible Emissions (2/17/05)
District Rule 4102 Nuisance (12/17/92)
District Rule 4201 Particulate Matter Concentration (12/17/92)
District Rule 4202 Particulate Matter - Emission Rate (12/17/92)
District Rule 4301 Fuel Burning Equipment (12/17/92)
District Rule 4354 Glass Melting Furnaces (5/19/11)
District Rule 4801 Sulfur Compounds (12/17/92)
CH&SC 41700 Health Risk Assessment
CH&SC 42301.6 School Notice
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

III. PROJECT LOCATION

The facility is located at 11535 E. Mountain View Avenue in Kingsburg, CA. The District has verified that 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.

⁽¹⁾ This rule became effective on November 26, 2012, based on EPA's final and full approval into the State Implementation Plan that was published in the Federal Register (77 FR 65305).

IV. PROCESS DESCRIPTION

The glass manufacturing process starts with the receiving and storage of raw materials consisting mainly of silica sand, soda ash and limestone. The materials are stored in a batch house, then weighed into batches and mixed with cullet (broken glass) returned from the process. The mixed batch is conveyed to regenerative glass melting furnace (currently firing natural gas) and stored in a large hopper over the furnace. The furnace is capable of melting 700 tons/day of clear glass. The batch materials are fed in blanket form into the furnace and are pushed away from its backwall by the blanket feeder. Floating on top of the molten glass, the batch passes under the fires, pouring out of the ports along the sidewall. The furnace operates at temperatures approaching 2,900 °F, and currently exhausts through an electrostatic precipitator before exiting a stack to the atmosphere.

The batch material is subsequently melted into solution and the molten glass is gradually cooled in the refiner section of the furnace. This homogenous blend is now delivered onto the surface of a pool of molten tin inside the float bath, which is essentially an electrically heated forming oven. The process temperature is maintained at 1,900 degrees F, and a continuous ribbon is drawn from this pool and transported and cooled along the length of the float bath. The ribbon is then subjected to an annealing lehr, which cools it to approximately 200 degrees F. The continuous glass ribbon is inspected for defects. The glass ribbon is then precisely cut by scoring, applying cutting fluid to maintain the score, and breakout for product sizing and edge trimming. An interleave product is applied to the glass prior to packaging to reduce scratching and maintain glass separation.

The regenerator unit inside the furnace consists of a series of cruciform checkers. The checkers are instrumental in trapping exhaust heat which is then used to preheat the combustion air. It is hence vital to keep these checkers clean and unplugged. The regenerator, if maintained in good condition, is very useful in conserving energy losses and increasing system efficiency.

The proposed project involves incorporating the routine maintenance of add-on control equipment requirements of Rule 4354 to the current permit. No physical changes to the existing equipment will be made. During periods of control device routine maintenance, the glass furnace exhaust path is re-routed around the control devices, then will reconnect with the existing exhaust stack after the controls devices and be released to the atmosphere. The NO_x and CO continuous emission monitoring system (CEMS) will still take readings during these types of routine maintenance activities. However, the mode of the CEMS is changed from normal operation to maintenance mode such that the higher emission values measured during maintenance do not factor in to the 24 hour and 30-day averaging periods specified in Rule 4354.

V. EQUIPMENT LISTING

Pre-Project Equipment Description:

C-598-4-9: 212.0 MMBTU/HR FLOAT GLASS MANUFACTURING LINE THAT INCLUDES: A REGENERATIVE GLASS MELTING FURNACE CONTROLLED BY A HIGH TEMPERATURE SCRUBBER (C/U1), AN ELECTROSTATIC PRECIPITATOR (C/U2), AND A SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM WITH AMMONIA INJECTION (C/U3), TIN FLOAT BATH, ANNEALING LEHR, AND A CONTINUOUS EMISSIONS MONITOR (CEMS)

ATC Equipment Description:

C-598-4-10: MODIFICATION OF 212.0 MMBTU/HR FLOAT GLASS MANUFACTURING LINE THAT INCLUDES: A REGENERATIVE GLASS MELTING FURNACE CONTROLLED BY A HIGH TEMPERATURE SCRUBBER (C/U1), AN ELECTROSTATIC PRECIPITATOR (C/U2), AND A SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM WITH AMMONIA INJECTION (C/U3), TIN FLOAT BATH, ANNEALING LEHR, AND A CONTINUOUS EMISSIONS MONITOR (CEMS): INCORPORATE ROUTINE MAINTENANCE OF ADD-ON EMISSION CONTROL SYSTEM REQUIREMENTS FROM DISTRICT RULE 4354

Post Project Equipment Description:

C-598-4-10: 212.0 MMBTU/HR FLOAT GLASS MANUFACTURING LINE THAT INCLUDES: A REGENERATIVE GLASS MELTING FURNACE CONTROLLED BY A HIGH TEMPERATURE SCRUBBER (C/U1), AN ELECTROSTATIC PRECIPITATOR (C/U2), AND A SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM WITH AMMONIA INJECTION (C/U3), TIN FLOAT BATH, ANNEALING LEHR, AND A CONTINUOUS EMISSIONS MONITOR (CEMS)

VI. EMISSION CONTROL TECHNOLOGY EVALUATION

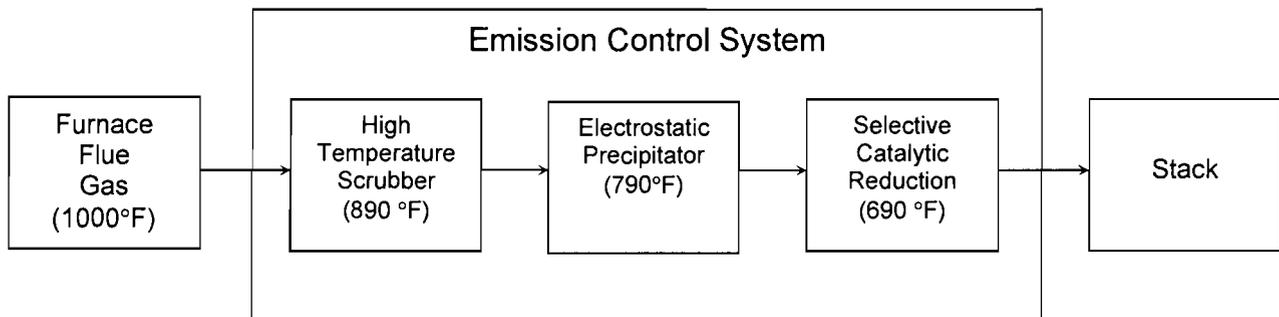
Operation of the furnace results in emissions of NO_x, SO_x, PM₁₀, CO, and VOC from the combustion of fuels and melting of the glass constituents. The natural gas-fired furnace will employ a Selective Catalytic Reduction (SCR) System with ammonia injection to reduce NO_x emissions, as well as a dry electrostatic precipitator (ESP) for PM control and a high temperature (dry) scrubber for SO_x control.

Dry scrubbing involves injecting a dry reagent into the gas stream as the gas enters a reaction chamber. The chamber serves as a location for the SO_x and reagent (alkali) to mix and react to form a dry particulate (salt). The reacted dry particulate flows downstream to a particulate control device for collection. The chamber is sized to achieve a desired retention time for the reaction to take place. The chamber's inlet and outlet temperatures are relatively the same less minor radiant heat losses. Several different dry reagents (alkalis) can be injected; most of these are sodium or calcium based. The SO_x removal efficiency of a dry injection system will be a function of the inlet temperature of the gas stream, SO_x inlet concentration, reaction chamber retention time proper mixing of the reagent in the gas stream, moisture content of the gas stream, reagent selection and reagent stoichiometry. Typically dry injection systems on float glass furnaces remove 50% of the SO_x .

The ESP removes particulate matter (PM) emissions from the flue gas by electrically charging the particles and collecting them onto the grounded surfaces. The particulates are then removed by rapping the collection plates.

Selective Catalytic Reduction systems selectively reduce NO_x emissions by injecting ammonia (NH_3) into the exhaust gas stream upstream of a catalyst. Nitrogen oxides, NH_3 , and O_2 react on the surface of the catalyst to form molecular nitrogen (N_2) and H_2O . SCR systems are capable of over 90 percent NO_x reduction. Titanium oxide is the SCR catalyst material most commonly used, though vanadium pentoxide, noble metals, or zeolites are also used. The ideal operating temperature for a conventional SCR catalyst is 600 to 850 °F. For this particular installation, the SCR system will have to be maintained at temperatures between 650 and 750 °F.

Below is a flowchart of the emission control system with typical exhaust gas temperatures:



VII. GENERAL CALCULATIONS

As discussed in Section VIII of this document, the proposed changes are not subject to the requirements of District Rule 2201. Therefore, formal calculations for Rule 2201 (e.g. SSPE, BACT, offset, public notification, and SB288 major modification) are not required. However, daily and annual potential to emit (PE) calculations will be performed for reference purposes only and in order to complete the emission profiles in the District's permit database for this particular operation.

A. Assumptions

- The maximum operating schedule is 24 hours per day
- Annual pre-project and post-project potential to emit is calculated based on 8,760 hours of operation per year
- The glass pull rate shall not exceed 700 tons per day (current permit limit, no proposed change)
- CO emissions from the glass furnace shall not exceed 100 tons per year, based on a 12 month rolling average (current permit limit, no proposed change).

B. Emission Factors

Pre-Project Emission Factors (EF1):

The following emission factors were taken from the current permit for this glass furnace.

Steady State Emission Factors:

Pre Project Emission Factors			
Pollutant	EF (24 hr block avg)	EF (30 day rolling avg)	EF (lb/hr)
NO _x	3.70 lb/ton	3.25 lb/ton	107.92
VOC	0.1 lb/ton	N/A	0.83
PM ₁₀	0.7 lb/ton	N/A	20.42
SO _x (glass furnace)	1.7 lb/ton	1.2 lb/ton	49.58

Pre Project Emission Factors		
Pollutant	EF (rolling three hour average)	EF (lb/hr)
CO	101 ppmv @ 8% O ₂	22.05
VOC	6.6 ppmv @ 8% O ₂	0.83

Routine Maintenance Emission Factors:

Pre Project Emission Factors		
Pollutant	EF	EF (lb/hr)
NO _x	16 lb/ton of glass produced	N/A
PM ₁₀	N/A	22.0 lb/hr
SO _x	3.65 lb/ton of glass produced	N/A

Post-Project Emission Factors (EF2):

As discussed above, Guardian Industries is proposing to add the routine maintenance requirements of Rule 4354 to the conditions of their operating permit. They have always been doing routine maintenance in accordance with the rule requirements. It has just turned out that those requirements have not specifically been specified as conditions on their operating permit. Therefore, the proposed project does not result in a change to the method of operation of the existing glass furnace operations, any change in the emission factors, or any changes in the amount of fuel combusted in the burners and the post project emission factors can be set equal to the pre-project emission factors listed above.

C. Calculations

1. Pre-Project Potential to Emit (PE1)

Daily PE (PE1):

NO_x:

The worst case pre-project daily emissions for NO_x will be calculated using the routine maintenance pound per hour emission factor listed above and the maximum glass produced throughput limit listed on the permit.

$$\begin{aligned} PE_{NO_x} &= (16.0 \text{ lb/ton}) \times (700 \text{ ton/day}) \\ &= 11,200.0 \text{ lb-NO}_x/\text{day} \end{aligned}$$

CO:

The worst case CO pre-project daily emissions for CO can be determined using the pound per hour emission factor listed above and a worst case operating schedule of 24 hours per day.

$$\begin{aligned} PE_{CO} &= (22.05 \text{ lb/hr}) \times (24 \text{ hr/day}) \\ &= 529.2 \text{ lb-CO/day} \end{aligned}$$

VOC:

The worst case pre-project daily emissions for VOC can be determined using the pound per hour emission factor listed above and a worst case operating schedule of 24 hours per day.

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

PM₁₀:

The worst case pre-project daily emissions for PM₁₀ will be calculated using the routine maintenance pound per hour emission factor listed above and a worst case operating schedule of 24 hours per day.

$$\begin{aligned} PE_{PM_{10}} &= (22.0 \text{ lb/hr}) \times (24 \text{ hr/day}) \\ &= 528.0 \text{ lb-PM}_{10}/\text{day} \end{aligned}$$

SO_x:

The worst case pre-project daily emissions for SO_x will be calculated using the routine maintenance pound per hour emission factor listed above and the maximum glass produced throughput limit listed on the permit.

$$\begin{aligned} PE_{SO_x} &= [(3.65 \text{ lb/ton}) \times (700 \text{ ton/day})] \\ &= 2,555 \text{ lb-SO}_x/\text{day} \end{aligned}$$

Annual PE (APE1)

NO_x:

The worst case pre-project annual emissions for NO_x will be calculated using the routine maintenance emission factor listed above for 144 hours per year and the 30 day rolling average emission factor listed above for 8,616 hours per year (8,760 hours – 144 hours).

$$PE_{NO_x} = [(16.0 \text{ lb/ton} \times (700 \text{ ton/day} / 24 \text{ hr/day})) \times (144 \text{ hr/year})] + [(3.25 \text{ lb/ton} \times (700 \text{ ton/day} / 24 \text{ hr/day}) \times (8,616 \text{ hr/year}))]$$

$$\begin{aligned} PE_{NO_x} &= 67,200 \text{ lb/year} + 816,725 \text{ lb/year} \\ &= 883,925 \text{ lb-PM}_{10}/\text{year} \end{aligned}$$

CO:

The worst case pre-project annual emissions for CO can be determined using the pound per hour emission factor listed above and a worst case operating schedule of 8,760 hours per year.

$$\begin{aligned} PE_{CO} &= (22.05 \text{ lb/hr}) \times (8,760 \text{ hr/year}) \\ &= 193,158 \text{ lb-CO/year} \end{aligned}$$

VOC:

The worst case pre-project annual emissions for VOC can be determined using the pound per hour emission factor listed above and a worst case operating schedule of 8,760 hours per year.

$$PE_{VOC} = (0.83 \text{ lb/hr}) \times (8,760 \text{ hr/year}) \\ = 7,271 \text{ lb-VOC/year}$$

PM₁₀:

The worst case pre-project annual emissions for PM₁₀ will be calculated using the routine maintenance emission factor listed above for 144 hours per year and the 24 hour block average emission factor listed above for 8,616 hours per year (8,760 hours – 144 hours).

$$PE_{PM10} = [(22.0 \text{ lb/hr}) \times (144 \text{ hr/year})] + [0.7 \text{ lb/ton} \times (700 \text{ ton/day} / 24 \text{ hr/day}) \\ \times (8,616 \text{ hr/year})] \\ PE_{PM10} = 3,168 \text{ lb/year} + 175,910 \text{ lb/year} \\ = 179,078 \text{ lb/year}$$

SO_x:

The worst case pre-project annual emissions for SO_x will be calculated using the routine maintenance emission factor listed above for 144 hours per year and the 24 hour block average emission factor listed above for 8,616 hours per year (8,760 hours – 144 hours).

$$PE_{SOx} = [(3.65 \text{ lb/ton} \times (700 \text{ ton/day} / 24 \text{ hr/day})) \times (144 \text{ hr/year})] + [(1.2 \text{ lb/ton} \times (700 \\ \text{ton/day} / 24 \text{ hr/day}) \times (8,616 \text{ lb/year}))] \\ PE_{SOx} = 15,330 \text{ lb/year} + 301,560 \text{ lb/year} \\ = 316,890 \text{ lb-PM}_{10}/\text{year}$$

PE1 Summary		
Pollutant	Daily PE (lb/day)	Annual PE (lb/year)
NO _x	11,200.0	883,925
CO	529.2	193,158
VOC	19.9	7,271
PM ₁₀	528.0	179,078
SO _x	2,555.0	316,890

2. Post-Project Potential to Emit (PE2)

As discussed above, Guardian Industries is not proposing to modify any of the existing emission factors/rates along with this project. Therefore, there will be no changes to the NO_x, CO, VOC, PM₁₀ and SO_x emission rates calculated above and the PE2 values for these pollutants will be set equal to the PE1 values listed above.

3. Quarterly Net Emissions Change (QNEC)

The QNEC will be calculated for each pollutant, for each unit, as the difference between the quarterly PE2 and the quarterly PE1. The QNEC for each pollutant is shown in the table(s) below:

$$\text{QNEC (lb/qtr)} = (\text{Annual PE2} - \text{Annual PE1}) / 4$$

QNEC			
Pollutant	PE2 (lb/yr)	PE1 (lb/yr)	QNEC (lb/qtr)
NO _x	883,925	883,925	0
CO	193,158	193,158	0
VOC	7,271	7,271	0
PM ₁₀	179,078	179,078	0
SO _x	316,890	316,890	0

VIII. COMPLIANCE

District Rule 2201 New and Modified Stationary Source Review Rule

Per Section 2.0, this rule shall apply to all new stationary sources and all modifications to existing stationary sources which are subject to the District permit requirements and after construction emit or may emit one or more affected pollutants.

Guardian Industries is an existing stationary source which is subject to District permit requirements. Per Section, 3.25, a modification to an existing stationary source is defined as an action including at least one of the following items:

- Any change in hours of operation, production rate, or method of operation of an existing emissions unit, which would necessitate a change in permit conditions.
- Any structural change or addition to an existing emissions unit which would necessitate a change in permit conditions. Routine replacement shall not be considered to be a structural change.

- An increase in emissions from an emissions unit caused by a modification of the Stationary Source when the emissions unit is not subject to a daily emissions limitation.
- Addition of any new emissions unit which is subject to District permitting requirements.
- A change in a permit term or condition proposed by an applicant to obtain an exemption from an applicable requirement to which the source would otherwise be subject.

Guardian Industries is proposing to modify their 212 MMBtu/hr float glass furnace by incorporating the routine maintenance of add-on emission control system requirements of District Rule 4354, section 5.10. District Rule 4354 allows for an operator of a glass melting furnace to be exempt from the emission limits specified within Sections 5.1 through 5.4 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.

Guardian Industries has regularly performed maintenance on the electrostatic precipitator at least once every year. In addition, since the SCR system was installed in 2008, the facility is required to go inside and inspect the catalyst material at least once every three years. During these periods of add-on control device maintenance, the devices need to be cooled in order for workers to safely enter them. In order for the control devices to cool down to a temperature that is safe enough for work to be done on them, exhaust gases cannot be routed through them for a long period of time. However, due to the nature of how the glass furnace operates, the furnace itself cannot just be turned off because when the furnace begins to cool down, extensive damage occurs inside the furnace, requiring an entire furnace re-build. Therefore, the only feasible option to cool down the control devices is to route the exhaust gases from the furnace around the control devices and out to the atmosphere.

Thus, the proposed change is not going to result in a change to the facility's hours of operation, production rate, or method of operation and is not a structural change which would necessitate a change in permit conditions. There are no new emission units associated with this project and the proposed change does not result in an increase in emissions. The facility has not proposed a change in a permit term or condition to obtain an exemption from an applicable requirement to which the source would otherwise be subject. Therefore, the proposed changes do not meet the definition of a modification as shown above and the requirements of this rule are not applicable for the purposes of this project.

District Rule 2410 Prevention of Significant Deterioration

The intent of this Rule is to incorporate the federal PSD rule requirements of Title 40 Code of Federal Regulations (40 CFR) Part 52.21 into the District's Rules and Regulations by incorporating the federal requirements by reference. The prevention of significant deterioration (PSD) program is a construction permitting program for new major stationary sources and major modifications to existing major stationary sources located in areas classified as attainment or in areas that are unclassifiable for any criteria air pollutant.

Section 4.0 states that an owner or operator must obtain a PSD permit pursuant to this Rule before beginning actual construction of a new major stationary source, a major modification, or a plantwide applicability limitation (PAL) major modification, as defined in 40 CFR 52.21(b).

As discussed above, Guardian Industries is an existing stationary source. Pursuant to Section 52.21(2)(i), a major modification at an existing stationary source means any physical change in or change in the method of operation of a major stationary source that would result in: a significant emissions increase (as defined in paragraph (b)(40) of this section) of a regulated NSR pollutant (as defined in paragraph (b)(50) of this section); and a significant net emissions increase of that pollutant from the major stationary source.

Within this project, Guardian Industries is proposing to incorporate the add-on control system routine maintenance requirements allowed within District Rule 4354, Section 5.10. The facility has always been performing routine maintenance on the add-on control devices serving the glass furnace. Therefore, the proposed changes at this glass manufacturing plant do not require the facility to make any physical changes to their equipment or changes in their method(s) of operation. Therefore, the proposed project cannot result in a major modification under PSD and the requirements of this rule are not applicable.

District Rule 2520 Federally Mandated Operating Permits

Pursuant to information in the facility files, this facility is a major source and has received their Title V permit. The proposed modification is a Minor Modification to the Title V Permit.

In accordance with Rule 2520, these modifications:

1. Do not violate requirements of any applicable federally enforceable local or federal requirement;
2. Do not relax monitoring, reporting, or recordkeeping requirements in the permit and are not significant changes in existing monitoring permit terms or conditions;
3. Do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis;
4. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:
 - a. A federally enforceable emission cap assumed to avoid classification as a modification under any provisions of Title I of the Federal Clean Air Act; and

- b. An alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Federal Clean Air Act; and
5. Are not Title I modifications as defined in District Rule 2520 or modifications as defined in section 111 or 112 of the Federal Clean Air Act; and
6. Do not seek to consolidate overlapping applicable requirements.

As discussed above, the facility has applied for a Certificate of Conformity (COC). Therefore, the facility must apply to modify their Title V permit with an administrative amendment, prior to operating with the proposed modifications. Continued compliance with this rule is expected. The facility may construct/operate under the ATC upon submittal of the Title V administrative amendment/minor modification application. The following conditions will be included on the ATC to assure continued compliance:

District Rule 4001 New Source Performance Standards

This rule incorporates NSPS from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR); and applies to all new sources of air pollution and modifications of existing sources of air pollution listed in 40 CFR Part 60. However, no subparts of 40 CFR Part 60 apply to this feed ingredients receiving and storage operation.

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

Per §60.290, a glass manufacturing facility is subject to NSPS Subpart CC if the affected facility commences construction (reconstruction) or modification after June 15, 1979. §60.2 of the CFR 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."

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

Since this furnace was constructed prior to June 15, 1979 and a modification has not occurred since that time, the requirements of 40 CFR 60 Subpart CC are not applicable.

District Rule 4002 National Emission Standards for Hazardous Air Pollutants

This rule incorporates the National Emission Standards for Hazardous Air Pollutants from Part 61, Chapter I, Subchapter C, Title 40, Code of Federal Regulations (CFR) and the National Emission Standards for Hazardous Air Pollutants for Source Categories from Part 63, Chapter I, Subchapter C, Title 40, Code of Federal Regulations (CFR).

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

This subpart is applicable to glass melting furnaces that use commercial arsenic as a raw material. Guardian Industries furnace is currently prohibited from using arsenic as a raw material by a permit condition and this permit condition will remain on the glass furnace permit; therefore, Subpart N requirements will not be applicable to these furnaces. The following condition was taken from the current permit and will assure continued compliance:

- The facility shall not use commercial arsenic as a raw material in the production process. [40CFR61, Subpart N]

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

Pursuant to Section 63.11448, this subpart is applicable if you own or operate a glass manufacturing facility that is an area source of hazardous air pollutant (HAP) emissions and meets all of the criteria specified in paragraphs (a) through (c) of this section.

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

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

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

District Rule 4101 Visible Emissions

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

The following condition will assure continued compliance:

- 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 as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]

Therefore, compliance with District Rule 4101 requirements is expected.

District Rule 4102 Nuisance

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

A permit condition will be listed on the permits as follows:

- 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.

Since the applicant is only proposing to lower the NO_x emission limit from the glass furnace and add monitoring requirements for CO, VOC and PM₁₀ emissions in accordance with Rule 4354, is not proposing an increase in the process throughput and there is no increase in emissions for any pollutant, a health risk assessment is not necessary and no further risk analysis is required.

District Rule 4201 Particulate Matter Concentration

Rule 4201 requires that particulate matter emissions shall not exceed 0.1 grain per cubic foot of gas at dry standard condition.

The PM₁₀ concentration from the baghouse is expected to be less than or equal to 0.003 grains/dscf; therefore, the particulate matter concentration from the baghouse should be less than the maximum allowable 0.1 grains/dscf. The following condition will be listed on the permit to ensure continued compliance:

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

Rule 4202 Particulate Matter - Emission Rate

The purpose of this rule is to limit particulate matter emissions by establishing allowable emission rates.

Per section 4.1, particulate matter emissions from any source operation shall not exceed the allowable hourly emission rate as calculated using the following applicable formulas:

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

Where,

E = emissions in lb/hr
P = process weight rate in tons/hr

$$\text{Process Weight} = ((700 \text{ tons/day}) \div (24 \text{ hr/day}))$$
$$P = 29.17 \text{ ton/hr}$$

$$E = 3.59 \times (29.17)^{0.62}$$
$$= 29.06 \text{ lb/hr}$$

The applicant has proposed an emission rate of 22.0 lb/hr during routine maintenance activities and 20.42 lb/hr during steady state operation. Therefore, compliance with this rule is expected under regular operating conditions.

$$E_{\text{max}} = 29.06 \text{ lb/hr}$$
$$E_{\text{actual}} = 22.0 \text{ lb/hr}$$

Since the proposed PM emission rate of 22.0 lb/hr is less than the allowable maximum emission rate of 29.06 lb/hr, this unit is expected to operate in compliance with this rule.

Rule 4301 Fuel Burning Equipment

This rule applies to fuel burning equipment, which is defined as any furnace, boiler, apparatus, stack, and all appurtenances thereto, used in the process of burning fuel for the primary purpose of producing heat or power by indirect heat transfer. The glass melting furnace operated by Guardian Industries is a direct-fired unit and does not produce heat or power by indirect heat transfer. Therefore, the requirements of District Rule 4301 are not applicable to the glass melting furnaces.

Rule 4354 Glass Melting Furnaces

The purpose of this rule is to limit emissions of nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic compounds (VOC), and oxides of sulfur (SO_x) from glass melting furnaces. Guardian Industries operates a 212 MMBtu/hr glass melting furnace under permit C-598-4. Therefore, the requirements of this rule are applicable to that glass melting furnace.

Section 5.1 states that except as specified in Section 4.4, the operator of any glass melting furnace shall not operate a furnace in such a manner that results in NO_x emissions exceeding the limits in Table 1. The applicable NO_x emission limits applicable to flat glass furnaces are as follows:

Table 1 – NO_x Emission Limits in pounds NO_x per ton glass produced			
Type of Glass Produced	Tier 2 NO _x Limit	Tier 3 NO _x Limit	Tier 4 NO _x Limit
Flat Glass Standard Option	9.2 ^A 7.0 ^B	5.5 ^A 5.0 ^B	3.7 ^A 3.2 ^B
Flat Glass Enhanced Option	9.2 ^A 7.0 ^B	5.5 ^A 5.0 ^B	3.4 ^A 2.9 ^B
Flat Glass Early Enhanced Option	9.2 ^A 7.0 ^B	Not available	3.4 ^A 2.9 ^B

^A Block 24-hour average

^B Rolling 30-day average

Guardian Industries is currently subject to the Tier 3 NO_x emissions limits of this rule and is currently meeting the limits specified in the table above. The following condition was taken from the current permit and will be included on the ATC to assure continued compliance:

- NO_x emissions from the glass melting furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 107.92 lb/hr or 3.70 lb/ton of glass pulled, based on a block 24-hour average; or 3.25 lb/ton of glass pulled, based on a rolling 30-day average. [District Rules 2201 and 4354, 5.1; PSD SJ 76-44, X.D.2]

Section 5.2 states that except as specified in Section 4.4, the operator of any glass melting furnace shall not operate a furnace in such a manner that results in CO and VOC emissions exceeding the limits in Table 2. The applicable CO and VOC emission limits applicable to flat glass furnaces are as follows:

Table 2 – CO and VOC Emission Limits – rolling three hour average (ppmv limits are referenced at 8% O₂ and dry stack conditions)			
Type of Glass Produced	Firing Technology	CO Limit	VOC Limit
Flat Glass	100% air fired furnace	300 ppmv	20 ppmv
	Oxygen Assisted or Oxy-fuel furnace	0.9 lb/ton of glass produced	0.1 lb/ton of glass produced

Guardian Industries operates a natural gas fired glass furnace and complies with the emission limits specified in Table 2 above. The following conditions will assure continued compliance:

- CO emissions from the glass melting furnace, except during periods of start-up, shutdown, and idling, shall not exceed either of the following limits: 22.05 lb/hr or 101 ppmv @ 8% O₂ (equivalent to 0.104 lb/MMBtu), based on a 3-hour rolling average. [District Rules 2201 and 4354, 5.2]
- VOC emissions from the glass melting furnace, except during periods of start-up, shutdown, and idling, shall not exceed either of the following limits: 0.83 lb/hr or 6.6 ppmv VOC @ 8% O₂ (equivalent to 0.0039 lb/MMBtu), based on a 3-hour rolling average. [District Rules 2201 and 4354, 5.2]

Section 5.3 states that except as specified in Section 4.4, the operator of any glass melting furnace shall not operate a furnace in such a manner that results in SO_x emissions exceeding the limits in Table 3. The applicable SO_x emission limits applicable to flat glass furnaces are as follows:

Table 3 – SO_x Emission Limits in pounds SO_x per ton glass produced		
Type of Glass Produced	Firing Technology	SO _x Limit
Flat Glass	All Technologies	1.7 ^A
		1.2 ^B

^A Block 24-hour average

^B Rolling 30-day average

Guardian Industries operates a natural gas fired glass furnace and complies with the SO_x emission limits specified in Table 3 above. The following condition will assure continued compliance:

- SO_x emissions from the glass melting furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 49.58 lb/hr or 1.7 lb/ton of glass pulled, based on a block 24-hour average; or 1.2 lb/ton of glass pulled, based on a rolling 30-day average. [District Rules 2201 and 4354, 5.3; PSD SJ 76-44, X.D.3]

Section 5.4 states that except as specified in Section 4.4, the operator of any glass melting furnace shall not operate a furnace in such a manner that results in PM₁₀ emissions exceeding the limits in Table 4. The applicable PM₁₀ emission limits applicable to flat glass furnaces are as follows:

Table 4 – PM₁₀ Emission Limits in pounds total PM₁₀ per ton glass produced Block 24-hour average		
Type of Glass Produced	Firing Technology	PM ₁₀ Limit
Flat Glass	All Technologies	0.7

Guardian Industries operates a natural gas fired glass furnace and complies with the PM₁₀ emission limits specified in Table 4 above. The following condition will assure continued compliance:

- PM₁₀ emissions from the glass melting furnace, except during periods of start-up, shutdown, and idling, shall not exceed either of the following limits: 20.42 lb/hr or 0.7 lb/ton of glass pulled. [District Rules 2201, 4202, and 4354, 5.4; PSD SJ 76-44, X.D.4]

Sections 5.5, 5.6 and 5.7 specify requirements for startup, shutdown and idling. The current permit for this glass furnace contains conditions for startup, shutdown and idling periods. Guardian Industries is not proposing any changes to their existing startup, shutdown or idling requirements. Therefore, the following conditions were taken from the current permit for this glass furnace and will be included on the new ATC to assure continued compliance:

- Permittee shall comply with all requirements of Section 5.5 of District Rule 4354 (5/19/11) during startup. Startup exemption time shall not exceed 208 days, beginning from the time of primary combustion system activation. [District Rule 4354, 5.5; PSD SJ 76-44, X.E.4]
- Start-up is defined as the period of time, after initial construction or a furnace rebuild, during which a glass melting furnace is heated to operating temperature by the primary furnace combustion system and instrumentation are brought to stabilization. Shutdown is defined as the period of time during which a glass melting furnace is purposely allowed to cool from operating temperature and molten glass is removed from the tank for the purpose of a furnace rebuild. Idling is defined as the operation of the furnace at less than 25 percent of the permitted production capacity or fuel use capacity as stated on the Permit to Operate. [District Rule 4354, 3.0; PSD SJ 76-44, X.E.4, X.E.5, and X.E.6]
- During startup, the stoichiometric ratio of the primary furnace combustion system shall not exceed 5% oxygen as calculated from the actual fuel and oxidant flow measurements for combustion in the furnace. [District Rule 4354, 5.5]
- The furnace shall be in compliance with all applicable requirements of District Rule 4354 (5/19/11) by the end of startup. [District Rule 4354, 7.0]

- Furnace shutdown shall not exceed 20 days, measured from the time furnace operations drop below the idle threshold specified in Section 3.9 of District Rule 4354 (2/21/02) to when all emissions from the furnace cease. [District Rule 4354, 5.6]
- The emission control systems (ECS), C/Us 1, 2, and 3 shall be in operation at all times during normal operations, and whenever technologically feasible including during startup, idling and shutdown conditions. [District Rule 4354, 5.5, 5.6, 5.7; PSD SJ 76-44, X.E.7]
- NO_x, SO_x, and PM₁₀ emissions during idling shall not exceed the emissions limits as calculated using the following equation: NO_x, SO_x, and PM₁₀ (lb/day) = (Applicable Emission limit (in lbs/ton)) x (Furnace permitted production capacity (in tons/day)). CO and VOC emissions during idling shall not exceed the emissions limits as calculated using the following equation: CO and VOC (lb/day) = (Applicable Emission limit (in lb/MMBtu)) x (Furnace Maximum Heat Input (in MMBtu/hr) x (24 hrs/day)). [District Rule 4354, 5.7; PSD SJ 76-44, X.E.2]

Section 5.9 specifies monitoring requirements for NO_x, CO, VOC and PM₁₀ emissions. Section 5.9.1 states that the operator of any glass melting furnace shall implement a NO_x CEMS that is approved, in writing, by the APCO and EPA, and that meets the requirements of Section 6.6. Section 5.9.2.1 requires each furnace subject to Table 2 CO limits to implement the use of a CO CEMS that meets the requirements of Section 6.6.1. Guardian Industries currently operates their glass furnace with a NO_x and CO CEMS. The following condition will assure continued compliance with the NO_x and CO monitoring requirements of this section:

- The applicant shall install, maintain, and operate a continuous emissions monitoring system (CEMS) to measure stack gas NO_x, SO_x, CO and O₂ concentration and stack gas volumetric flow rate and shall meet the performance specification requirements in 40 CFR, Part 60, Appendix B, Performance Specifications 2 and 3 or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. The CEM systems shall also be operated, maintained, and calibrated pursuant to the requirements of 40 CFR 60.7(c) and 40 CFR 60.13. [District Rules 1080, 6.5 and 6.6, 2201, and 4354, 5.9 and 6.6; 40 CFR Part 64; PSD SJ 76-44, X.C.1 and X.C.2]

Section 5.9.2.2 requires each furnace subject to Table 2 VOC limits to implement the use of a VOC CEMS that meets the requirements of Section 6.6.1. Section 5.9.2.3 states that in lieu of installing and operating a CEMS for VOC, the operator may propose an alternate monitoring scheme for VOC's, provided it meets the requirements of Sections 5.9.2.3.1 through 5.9.2.3.4. Guardian Industries has proposed an alternate monitoring scheme for VOC emissions. Guardian Industries is proposing to monitor the furnace temperature. The proposed monitoring scheme is identical to the monitoring scheme that was approved for Owens Brockway under project N-1082218. The following conditions will assure continued compliance with the VOC monitoring requirements:

- The permittee shall install, operate, and maintain a monitoring and recording system to accurately measure and record the furnace melter crown temperature at least once per hour. [District Rule 4354]
- The furnace temperature shall be maintained at or above 1,800 °F. If the measured furnace temperature is less than 1,800 °F, the permittee shall conduct a certified VOC source test within 60 days to re-establish the minimum temperature limit. In lieu of conducting a certified VOC source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the furnace temperature to or above the minimum temperature limit), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4354]
- The permittee shall keep records of the date and time of the furnace temperature readings and the furnace melter crown temperature measured during the most recent source test that demonstrated ongoing compliance with the VOC emission limit. [District Rule 4354]

Section 5.9.3.1 requires each furnace, subject to Section 5.3, to implement a SO_x CEMS that meets the requirements of Section 6.6.1 and that is approved, in writing, by the APCO and EPA. The applicant is proposing the use of a SO_x CEMS on each furnace and compliance with these requirements is expected. Permit conditions outlining the CEMS requirements were included earlier in this evaluation.

Section 5.9.4.1 requires the operators to propose key system operating parameter(s) and frequency of monitoring and recording, as follows:

- 5.9.4.1.1: The parametric monitoring must meet the requirements of Section 6.6.2.
- 5.9.4.1.2: The operator shall obtain approval of the APCO and EPA for the specific key system operating parameter(s), monitoring frequency, and recording frequency used by the operator to monitor PM₁₀ emissions.
- 5.9.4.1.3: The operator shall monitor approved key system operating parameter(s), monitoring frequency, and recording frequency to ensure compliance with the emission limit(s) during periods of emission-producing activities.
- 5.9.4.1.4: Acceptable range(s) for the key system operating parameter(s) shall be demonstrated through a source test.

Section 5.9.4.2 states that in lieu of parametric monitoring, the operator may elect to implement a PM₁₀ CEMS that meets the requirements of Section 6.6.1, and that is approved by the APCO and EPA.

Guardian Industries currently monitors the primary and secondary voltage and current across each field of the electrostatic precipitator in order to satisfy the PM₁₀ monitoring requirements of this Rule. The following conditions were taken from the current permit and will be included on the new ATC to assure continued compliance with the PM₁₀ monitoring requirements:

- Permittee shall establish parameters for primary and secondary voltage and current, which provides a reasonable assurance of ongoing compliance with emission limitations stated in this permit. The initial parameters shall be established using at least 6 months of historical operating data and manufacturer/supplier recommendations. These parameters shall be reviewed annually and revised if necessary based on PM₁₀ source test result data, historical operating data and manufacturer/supplier recommendations. [District Rule 4354; 40 CFR Part 64; PSD SJ 76-44, X.G.9]
- During each day of operation, the permittee shall record electrostatic precipitator voltage and current readings and compare the readings with the acceptable range of current and voltage levels established. Upon detecting any excursion from the acceptable range of current or voltage readings, the permittee shall investigate the excursion and take corrective action to minimize excessive emissions and prevent recurrence of the excursion as expeditiously as practicable [District Rule 4354; 40 CFR Part 64; PSD SJ 76-44, X.G.10]

Section 5.10 states that during routine maintenance of add-on emission control system a glass furnace is exempt from the emission requirements listed in Sections 5.1 through 5.4 if:

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

Guardian Industries is proposing to add the routine maintenance requirements of Rule 4354 to their operating permit. The following condition will assure continued compliance with the requirements of this section:

- NO_x, CO, VOC, SO_x and PM₁₀ emission limitations shall not apply during periods of routine maintenance of an add-on emission control system(s) as long as the routine maintenance does not exceed 144 hours total per calendar year for all add-on controls and the routine maintenance is conducted in a manner consistent with good air pollution control practices for minimizing emissions. [District Rule 4354, 5.10]

Section 6.1 states that each glass melting furnace permit shall include the furnace's permitted glass production capacity in tons of glass pulled per day as a permit condition. Guardian's glass melting furnace includes a daily glass production throughput limit. The following condition was taken from the current permit and will be included on the new ATC to assure continued compliance:

- The glass pull rate shall not exceed 700 tons per day. [District Rules 2201 and 4354, 6.1; PSD SJ 76-44, X.D.1]

Section 6.3.1 states that the applicant shall keep daily records of the following items:

- 6.3.1.1: Total hours of operation;
- 6.3.1.2: The quantity of glass pulled from each furnace;
- 6.3.1.3: NO_x emission rate in lb/ton of glass pulled;
- 6.3.1.4: CO emission rate in lb/ton of glass pulled, if a CEMS is used;
- 6.3.1.5: VOC emission rate in lb/ton of glass pulled, if a CEMS is used;
- 6.3.1.6: SO_x emission rate in lb/ton of glass pulled, if a CEMS is used;
- 6.3.1.7: PM₁₀ emission rate in lb/ton of glass pulled, if a CEMS is used;
- 6.3.1.8: For container glass furnaces that are oxy-fuel fired:
 - 6.3.1.8.1: The weight of mixed color mix cullet used;
 - 6.3.1.8.2: The total amount of cullet used by weight; and
 - 6.3.1.8.3: The ratio expressed in percent of mixed color mix weight to total cullet weight

Section 6.3.2 states that for pollutants monitored using an approved parametric monitoring arrangement, operators shall record the operating values of the key system operating parameters at the approved recording frequency. Compliance with this requirement is expected.

Section 6.3.3 requires operators to keep the following records:

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

The applicant is proposing to keep the appropriate records for the applicable items of the items listed above. Therefore, compliance is expected. The following conditions were taken from the current permit and will be included on the new ATC to assure continued compliance:

- Permittee shall maintain daily records of the total hours of operation, type and quantity of fuel used, and the quantity of glass pulled. The permittee shall also maintain records of all source tests, operating parameters established during source testing, all maintenance and repair performed, any periods of malfunction, and all periods of startup, idling, and shutdown. This information shall be made available on site during normal business hours from Monday through Friday, and submitted to the APCO upon request. [District Rules 1070 and 4354, 6.3; PSD SJ 76-44, X.E.3, X.G.7, and X.I.2]
- Permittee shall maintain daily records of NO_x and SO_x emission rates in lb/ton of glass pulled to demonstrate compliance with the NO_x and SO_x emission limits. [District Rules 1070, 2201, and 4354, 6.3; PSD SJ 76-44, X.G.8]
- Permittee shall maintain records of NO_x and SO_x emission rates in lb/ton of glass pulled on a "30-day rolling average" to demonstrate compliance with the NO_x and SO_x emission limits. [District Rules 1070, 2201, and 4354, 6.3]

- Permittee shall maintain records of the CO emission rates in ppmvd referenced at 8% O₂ on a "3-hour rolling average" to demonstrate compliance with the CO emission limits. [District Rules 1070 and 4354, 6.3]
- Permittee shall maintain records of the PM₁₀ emission rate in lb/ton of glass pulled on a "block 24-hour average" to demonstrate compliance with the PM₁₀ emission limit. [District Rules 1070 and 4354, 6.3]
- Permittee shall maintain records of the VOC emissions using an approved parametric monitoring arrangement, and shall record the operating values of the key system operating parameters at the approved recording frequency. [District Rules 1070 and 4534, 6.3]
- Permittee shall maintain records of the following items: 1) source tests and source test results, 2) the acceptable range each approved key system operating parameter, as established during source test, 3) glass furnace maintenance and repair, 4) date, time and duration of any add-on control device routine maintenance, and 5) malfunctions. [District Rule 4534, 6.3]
- Records shall be maintained and shall contain: the occurrence and duration of any malfunction, performance testing, calibrations, checks, adjustments, or any periods during which the CEM is inoperative; and the CEM emission measurements. [District Rules 1080, 7.3 and 4354, 6.3; 40 CFR Part 64; PSD SJ 76-44, X.G.1]

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

- All records required by this permit shall be maintained, retained on-site for a period of at least five years and shall be made readily available for District inspection upon request. [District Rules 1070, 2201, and 4354, 6.3; PSD SJ 76-44, X.G.6]

Section 6.4.1 requires 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. The following conditions will assure continued compliance with the source testing requirements:

- Source testing to measure the NO_x, SO_x, and PM₁₀ emission rates (lb/hr and lb/ton of glass pulled) shall be conducted annually (within 60 days of the initial performance test anniversary). [District Rules 1081, 2520, and 4354, 6.4; PSD SJ 76-44, X.F.1]
- Source testing to measure the CO emission rates (lb/hr and either lb/MMBtu or ppmvd @ 8% O₂) shall be conducted annually (within 60 days of the initial performance test anniversary). [District Rules 1081, 2520, and 4354, 6.4; PSD SJ 76-44, X.F.1]

- Source testing to measure the VOC and Ammonia emission rates (lb/hr and either lb/MMBtu or ppmvd @ 8% O₂) shall be conducted annually (within 60 days of the initial performance test anniversary). [District Rules 1081, 2520, and 4354, 6.4]

Section 6.4.2 requires the source test conditions to be representative of normal operations, but not less than 60 percent of the permitted glass production capacity. The following condition was taken from the current permit and will be included on the new ATC to assure continued compliance:

- Source tests shall be conducted at a minimum glass production pull rate equivalent to 90% of the maximum glass production pull rate achieved during the last year, unless otherwise approved by EPA. In no case less than 420 tons glass pulled per day or 127.2 MMBtu/hr. [District Rule 4354, 6.4, 6.5; PSD SJ 76-44, X.F.6]

Section 6.4.3 requires operators using alternate monitoring systems to, during the source test, monitor and record, at a minimum, all operating data for each parameter, fresh feed rate, and flue gas flow rate and submit that data with the test report. Compliance with this requirement is expected. The conditions presented earlier in this evaluation incorporate the requirements of this section and continued compliance is expected.

Section 6.4.4 requires states that the arithmetic average of three 30-consecutive minute source test runs must be used to determine compliance with the NO_x, CO, VOC, and SO_x emission limits. The following condition assures continued compliance:

- For source testing purposes, arithmetic average of three 30-consecutive-minute test runs shall be used to determine compliance with NO_x, CO, VOC, and SO_x emission limits. [District Rule 4354, 6.4]

Section 6.4.5 requires states that the arithmetic average of three 60-consecutive minute source test runs must be used to determine compliance with the PM₁₀ emission limits. The following condition assures continued compliance:

- For source testing purposes, arithmetic average of three 60-consecutive-minute test runs shall be used to determine compliance with PM₁₀ emission limits. [District Rule 4354, 6.4]

Section 6.4.6 states that for a given pollutant, if two of the three runs individually demonstrate emission above the applicable limit, the test cannot be used to demonstrate compliance for the furnace, even if the averaged emissions of all three test runs is less than the applicable limit. The following condition will be included on each Authority to Construct permit:

- During source testing, for a given pollutant, if two of the three runs individually demonstrate emissions above the applicable limit, the test cannot be used to demonstrate compliance for the furnace, even if the averaged emissions of all three test runs is less than the applicable limit. [District Rule 4354, 6.4]

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

Pollutant/Parameter to be Measured	Test Methods
Oxides of Nitrogen	EPA Method 7E, EPA Method 19, or ARB Method 100
Carbon Monoxide (ppmv)	EPA Method 10 or ARB Method 100
Volatile Organic Compounds (ppmv)	EPA Method 25A expressed in terms of carbon, or ARB Method 100. EPA Method 18 or ARB method 422 shall be used to determine emissions of exempt compounds.
Stack Gas Oxygen, Carbon Dioxide, Excess Air, and Dry Molecular Weight	EPA Method 3 or 3A, or ARB Method 100
Stack Gas Velocity or Volumetric Flow Rate	EPA Method 2
Oxides of Sulfur	EPA Method 6C, EPA Method 8, or ARB Method 100
Sulfur Content of Liquid Fuel	ASTM D 6248-99 or ASTM D5433-99
Filterable PM10	EPA Method 5; EPA Method 201; or EPA Method 201A. An operator choosing EPA Method 5 shall count all PM as PM10.
Condensable PM10	EPA Method 202 (with special procedures listed in Section 6.5.9.2)

The following condition assures continued compliance:

- Source testing to measure oxides of nitrogen (as NO₂) (ppmv) shall be conducted using EPA Method 7E, or ARB Method 100, or oxides of nitrogen (as NO₂) (heat input basis) shall be conducted using EPA Method 19 and in accordance with Rule 1081, section 6.0 (12/16/93). [District Rules 1081 and 4354, 6.5; PSD SJ 76-44, X.F.3.a and X.F.3.b]
- Source testing to measure oxides of sulfur (as SO₂) shall be conducted using EPA Method 8 or EPA Method 6C, and in accordance with Rule 1081, section 6.0 (12/16/93). [District Rules 1081, 4801, and 4354, 6.5; PSD SJ 76-44, X.F.3.c]
- Source testing to measure PM₁₀ including condensables, shall be conducted using EPA Method 5, EPA Method 201, or EPA Method 201A in combination with EPA Method 202 (Condensables), and in accordance with Rule 1081, section 6.0 (12/16/93). An operator choosing EPA Method 5 for filterable PM shall count all PM collected as PM10. [District Rules 1081 and 4354, 6.5; PSD SJ 76-44, X.F.3.d]
- Source testing to measure CO (ppmv) shall be conducted using EPA Method 10 or ARB Method 100, and in accordance with Rule 1081, section 6.0 (12/16/93). [District Rules 1081 and 4354, 6.5; PSD SJ 76-44, X.F.3.e]

- Source testing to measure VOCs (ppmv) shall be conducted using EPA Method 25A, expressed in terms of carbon or other SIP approved Rule 4354 test methods, and in accordance with District Rule 1081, Section 6.0 (12/16/93). [District Rules 1081 and 4354, 6.5]
- Source testing to measure stack gas oxygen shall be conducted using EPA Method 3 or 3A or ARB Method 100. [District Rules 1081 and 4354, 6.5; PSD SJ 76-44, X.F.3]

Section 6.6: Emission Monitoring Systems

Section 6.6.1 states that an approved CEMS must comply with all of the following requirements:

1. Code of Federal Regulations title 40 CFR Part 51;
2. 40 CFR Part 60.7 (Notification and Recordkeeping);
3. 40 CFR Part 60.13 (Monitoring Requirements);
4. 40 CFR Part 60 Appendix B (Performance Specifications);
5. 40 CFR Part 60 Appendix F (Quality Assurance Procedures);
6. and the applicable sections of District Rule 1080 (Stack Monitoring).

The NO_x, CO, and SO_x CEMS are expected to comply with the above requirements.

Section 6.6.2 states that an approved alternate emissions monitoring method must be capable of determining the furnace emissions on an hourly basis and must comply with the following requirements:

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

The proposed VOC and PM₁₀ alternate monitoring schemes will comply with the above requirements.

Section 6.7.1 states that the operator of any glass melting furnace claiming an exemption under Section 4.4 must notify the APCO by telephone at least 24 hours before initiating idling, shutdown, or start-up. The notification must include the date and time for the start of the exempt operation, reason for performing the operation, and an estimated completion date. The following condition will be included on each Authority to Construct permit:

- NO_x, CO, VOC, SO_x and PM₁₀ emission limitations of District Rule 4354 shall not apply during periods of start-up, shutdown, and idling, as defined by Rule 4354, 3.0. Permittee shall notify the District at least 24 hours before initiating idling, shutdown and startup and this notification shall include: date and time of the start of the exempt operation, reason for performing the operation, and an estimated completion date. The permittee shall notify the District by telephone within 24 hours after completion of the operation and shall maintain operating records and/or support documentation necessary to claim exemption. [District Rule 4354]

Section 6.8 of this rule applies to exempt furnaces. The glass furnace in this project is not an exempt furnace. Therefore, the requirements of Section 6.8 are not applicable

Conclusion:

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

District Rule 4801 Sulfur Compounds

Per Section 3.1, a person shall not discharge into the atmosphere sulfur compounds, which would exist as a liquid or gas at standard conditions, exceeding in concentration at the point of discharge: 0.2 % by volume calculated as SO₂ on a dry basis averaged over 15 consecutive minutes:

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

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

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

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

Assumption

The F-Factor for each glass furnace is: 8578 dscf/MMBtu (EPA F-Factor, Natural Gas)

The SO_x emission factor (EF) was determined using the following calculation:

$$\text{SO}_x = 49.58 \text{ lb/hr} \div 212 \text{ MMBtu/hr} = 0.234 \text{ lb/MMBtu}$$

$$0.234 \text{ lb/MMBtu} \times \frac{1 \text{ MMBtu}}{8,578 \text{ scf}_{\text{exhaust}}} \times \frac{1 \text{ lb} \cdot \text{mol}}{64 \text{ lb} \cdot \text{SO}_2} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}} \times \frac{520^\circ\text{R}}{14.7 \text{ psi}} \times 1,000,000 \text{ ppm} = 161.8 \text{ ppmv}$$

Since 161.8 ppmv is ≤ 2000 ppmv, the furnace is expected to comply with Rule 4801.

California Health & Safety Code 42301.6 (School Notice)

This facility is not located within 1,000 feet of a school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

California Environmental Quality Act (CEQA)

The California Environmental Quality Act (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 San Joaquin Valley Unified Air Pollution Control District (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.
- 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.

The District performed an Engineering Evaluation (this document) for the proposed project and determined that all project specific emission unit(s) are exempt from Best Available Control Technology (BACT) requirements. Furthermore, the District has determined that potential emission increases would have a less than significant health impact on sensitive receptors.

Issuance of permits for emissions units not subject to BACT requirements and with health impact less than significant is a matter of ensuring conformity with applicable District rules and regulations and does not require discretionary judgment or deliberation. Thus, the District concludes that this permitting action constitutes a ministerial approval. Section 21080 of the Public Resources Code exempts from the application of CEQA those projects over which a public agency exercises only ministerial approval. Therefore, the District finds that this project is exempt from the provisions of CEQA.

IX. RECOMMENDATION

Compliance with all applicable rules and regulations is expected. Pending a successful COC EPA Noticing period, issue ATC C-598-4-10 subject to the permit conditions on the attached draft ATC in Attachment B.

X. BILLING INFORMATION

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
C-598-4-10	3020-02-H	212 MMBtu/hr furnace	\$1,030

ATTACHMENTS

- Attachment A: Existing Permit to Operate C-598-4-9*
Attachment B: Draft Authority to Construct C-598-4-10

Attachment A

Current Permit to Operate C-598-4-9

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: C-598-4-9

EXPIRATION DATE: 01/31/2016

EQUIPMENT DESCRIPTION:

212.0 MMBTU/HR FLOAT GLASS MANUFACTURING LINE THAT INCLUDES: A REGENERATIVE GLASS MELTING FURNACE CONTROLLED BY A HIGH TEMPERATURE SCRUBBER (C/U1), AN ELECTROSTATIC PRECIPITATOR (C/U2), AND A SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM WITH AMMONIA INJECTION (C/U3), TIN FLOAT BATH, ANNEALING LEHR, AND A CONTINUOUS EMISSIONS MONITOR (CEMS)

PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
2. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with 40 CFR 60.8(e) and EPA test methods and shall be equipped with safe permanent provisions to sample stack gases. 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; PSD SJ 76-44, X.F.4] Federally Enforceable Through Title V Permit
3. The applicant shall install, maintain, and operate a continuous emissions monitoring system (CEMS) to measure stack gas NO_x, SO_x, CO and O₂ concentration and stack gas volumetric flow rate and shall meet the performance specification requirements in 40 CFR, Part 60, Appendix B, Performance Specifications 2 and 3 or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. The CEM systems shall also be operated, maintained, and calibrated pursuant to the requirements of 40 CFR 60.7(c) and 40 CFR 60.13. [District Rules 1080, 6.5 and 6.6, 2201, and 4354, 5.9 and 6.6; 40 CFR Part 64; PSD SJ 76-44, X.C.1 and X.C.2] Federally Enforceable Through Title V Permit
4. The applicant shall install, maintain, and operate a continuous opacity monitor (COM) and shall meet the performance specification requirements in 40 CFR, Part 60, Appendix B, or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rules 1080, 6.7 and 2201 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
5. 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, Procedure 1. [District Rules 1080 and 4354, 6.6; 40 CFR Part 64; PSD SJ 76-44, X.C.2 and X.C.5] Federally Enforceable Through Title V Permit
6. The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
7. 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 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
8. Permittee shall comply with all requirements of Section 5.5 of District Rule 4354 (5/19/11) during startup. Startup exemption time shall not exceed 208 days, beginning from the time of primary combustion system activation. [District Rule 4354, 5.5; PSD SJ 76-44, X.E.4] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

9. During startup, the stoichiometric ratio of the primary furnace combustion system shall not exceed 5% oxygen as calculated from the actual fuel and oxidant flow measurements for combustion in the furnace. [District Rule 4354, 5.5] Federally Enforceable Through Title V Permit
10. The emission control systems (ECS), C/Us 1, 2, and 3 shall be in operation at all times during normal operations, and whenever technologically feasible including during startup, idling and shutdown conditions. [District Rule 4354, 5.5, 5.6, 5.7; PSD SJ 76-44, X.E.7] Federally Enforceable Through Title V Permit
11. The furnace shall be in compliance with all applicable requirements of District Rule 4354 (5/19/11) by the end of startup. [District Rule 4354, 7.0] Federally Enforceable Through Title V Permit
12. Furnace shutdown shall not exceed 20 days, measured from the time furnace operations drop below the idle threshold specified in Section 3.9 of District Rule 4354 (2/21/02) to when all emissions from the furnace cease. [District Rule 4354, 5.6] Federally Enforceable Through Title V Permit
13. NO_x, SO_x, and PM₁₀ emissions during idling shall not exceed the emissions limits as calculated using the following equation: NO_x, SO_x, and PM₁₀ (lb/day) = (Applicable Emission limit (in lbs/ton)) x (Furnace permitted production capacity (in tons/day)). CO and VOC emissions during idling shall not exceed the emissions limits as calculated using the following equation: CO and VOC (lb/day) = (Applicable Emission limit (in lb/MMBtu)) x (Furnace Maximum Heat Input (in MMBtu/hr) x (24 hrs/day)). [District Rule 4354, 5.7; PSD SJ 76-44, X.E.2] Federally Enforceable Through Title V Permit
14. All emissions from the furnace shall be ducted to the high temperature (dry) scrubber (C/U1), the electrostatic precipitator (C/U2), and the selective catalytic reduction (SCR) system (C/U3), prior to exhausting into the atmosphere. [District Rule 2201; PSD SJ 76-44, X.B.2] Federally Enforceable Through Title V Permit
15. The facility shall not use commercial arsenic as a raw material in the production process. [40 CFR 61, Subpart N] Federally Enforceable Through Title V Permit
16. The furnace shall be fired exclusively on PUC quality natural gas or LPG as a backup fuel. [District Rule 2201; PSD SJ 76-44, X.I.1] Federally Enforceable Through Title V Permit
17. The glass pull rate shall not exceed 700 tons per day. [District Rules 2201 and 4354, 6.1; PSD SJ 76-44, X.D.1] Federally Enforceable Through Title V Permit
18. Start-up is defined as the period of time, after initial construction or a furnace rebuild, during which a glass melting furnace is heated to operating temperature by the primary furnace combustion system and instrumentation are brought to stabilization. Shutdown is defined as the period of time during which a glass melting furnace is purposely allowed to cool from operating temperature and molten glass is removed from the tank for the purpose of a furnace rebuild. Idling is defined as the operation of the furnace at less than 25 percent of the permitted production capacity or fuel use capacity as stated on the Permit to Operate. [District Rule 4354, 3.0; PSD SJ 76-44, X.E.4, X.E.5, and X.E.6] Federally Enforceable Through Title V Permit
19. NO_x emissions from the glass melting furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 107.92 lb/hr or 3.70 lb/ton of glass pulled, based on a block 24-hour average; or 3.25 lb/ton of glass pulled, based on a rolling 30-day average. [District Rules 2201 and 4354, 5.1; PSD SJ 76-44, X.D.2] Federally Enforceable Through Title V Permit
20. SO_x emissions from the glass melting furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 49.58 lb/hr or 1.7 lb/ton of glass pulled, based on a block 24-hour average; or 1.2 lb/ton of glass pulled, based on a rolling 30-day average. [District Rules 2201 and 4354, 5.3; PSD SJ 76-44, X.D.3] Federally Enforceable Through Title V Permit
21. PM₁₀ emissions from the glass melting furnace, except during periods of start-up, shutdown, and idling, shall not exceed either of the following limits: 20.42 lb/hr or 0.7 lb/ton of glass pulled. [District Rules 2201, 4202, and 4354, 5.4; PSD SJ 76-44, X.D.4] Federally Enforceable Through Title V Permit
22. CO emissions from the glass melting furnace, except during periods of start-up, shutdown, and idling, shall not exceed either of the following limits: 22.05 lb/hr or 101 ppmv @ 8% O₂ (equivalent to 0.104 lb/MMBtu), based on a 3-hour rolling average. [District Rules 2201 and 4354, 5.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

23. VOC emissions from the glass melting furnace, except during periods of start-up, shutdown, and idling, shall not exceed either of the following limits: 0.83 lb/hr or 6.6 ppmv VOC @ 8% O₂ (equivalent to 0.0039 lb/MMBtu), based on a 3-hour rolling average. [District Rules 2201 and 4354, 5.2] Federally Enforceable Through Title V Permit
24. CO emissions from the glass melting furnace exhaust shall not exceed 100 tons per year, based on a 12-month rolling average [District Rule 2201 and PSD SJ 76-44 X.D.5] Federally Enforceable Through Title V Permit
25. Ammonia (NH₃) emissions shall not exceed either of the following limits: 1.27 lb/hr or 10 ppmvd @ 8% O₂, based on a 24 hour rolling average. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
26. Each one hour period will commence on the hour. The three hour average will be compiled from the three most recent one-hour periods. The block 24-four hour average will be compiled of 24 one-hour periods, daily, starting from 12:00 AM to 11:59 PM, excluding periods of system calibration. [District Rules 2201 and 4354, 3.3] Federally Enforceable Through Title V Permit
27. Compliance with the ammonia emission limits shall be demonstrated utilizing one of the following procedures: 1) calculate the daily ammonia emissions using the following equation: (ppmvd @ 8% O₂) = ((a - (b x c/1,000,000)) x (1,000,000 / b)) x d, where a = ammonia injection rate (lb/hr) / (17 lb/lb mol), b = dry exhaust flow rate (lb/hr) / (29 lb/lb mol), c = change in measured NO_x concentration ppmvd @ 8% O₂ across the catalyst, and d = correction factor. The correction factor shall be derived annually during compliance testing by comparing the measured and calculated ammonia slip; 2.) Utilize another District-approved calculation method using measured surrogate parameters to determine the daily ammonia emissions in ppmvd @ 8% O₂. If this option is chosen, the permittee shall submit a detailed calculation protocol for District approval at least 60 days prior to commencement of operation; 3.) Alternatively, the permittee may utilize a continuous in-stack ammonia monitor to verify compliance with the ammonia emissions limit. If this option is chosen, the permittee shall submit a monitoring plan for District approval at least 60 days prior to commencement of operation. [District Rule 4102]
28. Source testing to measure the NO_x, SO_x, and PM₁₀ emission rates (lb/hr and lb/ton of glass pulled) shall be conducted annually (within 60 days of the initial performance test anniversary). [District Rules 1081, 2520, and 4354, 6.4; PSD SJ 76-44, X.F.1] Federally Enforceable Through Title V Permit
29. Source testing to measure the CO emission rates (lb/hr and either lb/MMBtu or ppmvd @ 8% O₂) shall be conducted annually (within 60 days of the initial performance test anniversary). [District Rules 1081, 2520, and 4354, 6.4; PSD SJ 76-44, X.F.1] Federally Enforceable Through Title V Permit
30. Source testing to measure the VOC and Ammonia emission rates (lb/hr and either lb/MMBtu or ppmvd @ 8% O₂) shall be conducted annually (within 60 days of the initial performance test anniversary). [District Rules 1081, 2520, and 4354, 6.4] Federally Enforceable Through Title V Permit
31. Source tests shall be conducted at a minimum glass production pull rate equivalent to 90% of the maximum glass production pull rate achieved during the last year, unless otherwise approved by EPA. In no case less than 420 tons glass pulled per day or 127.2 MMBtu/hr. [District Rule 4354, 6.4, 6.5; PSD SJ 76-44, X.F.6] Federally Enforceable Through Title V Permit
32. Upon written request from the Permittee, and adequate justification, EPA may waive a specific annual test and/or allow for testing to be done at less than 90% of maximum glass production pull rate achieved during the last year. [PSD SJ 76-44, X.F.7] Federally Enforceable Through Title V Permit
33. Compliance demonstration (source testing) shall be District witnessed or authorized and samples shall be collected by a certified testing laboratory. Source testing shall be conducted using the test methods and procedures specified in this permit. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081; PSD SJ 76-44, X.F.2 and X.F.5] Federally Enforceable Through Title V Permit
34. Source testing to measure oxides of nitrogen (as NO₂) (ppmv) shall be conducted using EPA Method 7E, or ARB Method 100, or oxides of nitrogen (as NO₂) (heat input basis) shall be conducted using EPA Method 19 and in accordance with Rule 1081, section 6.0 (12/16/93). [District Rules 1081 and 4354, 6.5; PSD SJ 76-44, X.F.3.a and X.F.3.b] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

35. The initial performance test conducted after furnace startup shall use the test procedures for a 'high NO₂ emission site,' as specified in San Diego Test Method 100, to measure NO₂ emissions. The source shall be classified as either a 'low' or 'high' NO₂ emission site based on these test results. If the emission source is classified as a: a) 'high NO₂ emission site,' then each subsequent performance test shall use the test procedures for a 'high NO₂ emission site,' as specified in San Diego Test Method 100. b) 'low NO₂ emission site,' then the test procedures for a 'high NO₂ emission site,' as specified in San Diego Test Method 100, shall be performed once every five years to verify the source's classification as a 'low NO₂ emission site.' [PSD SJ 76-44, X.F.3.a and X.F.3.b] Federally Enforceable Through Title V Permit
36. Source testing to measure oxides of sulfur (as SO₂) shall be conducted using EPA Method 8 or EPA Method 6C, and in accordance with Rule 1081, section 6.0 (12/16/93). [District Rules 1081, 4801, and 4354, 6.5; PSD SJ 76-44, X.F.3.c] Federally Enforceable Through Title V Permit
37. Source testing to measure PM₁₀ including condensables, shall be conducted using EPA Method 5, EPA Method 201, or EPA Method 201A in combination with EPA Method 202 (Condensables), and in accordance with Rule 1081, section 6.0 (12/16/93). An operator choosing EPA Method 5 for filterable PM shall count all PM collected as PM₁₀. [District Rules 1081 and 4354, 6.5; PSD SJ 76-44, X.F.3.d] Federally Enforceable Through Title V Permit
38. Source testing to measure CO (ppmv) shall be conducted using EPA Method 10 or ARB Method 100, and in accordance with Rule 1081, section 6.0 (12/16/93). [District Rules 1081 and 4354, 6.5; PSD SJ 76-44, X.F.3.e] Federally Enforceable Through Title V Permit
39. Source testing to measure VOCs (ppmv) shall be conducted using EPA Method 25A, expressed in terms of carbon or other SIP approved Rule 4354 test methods, and in accordance with District Rule 1081, Section 6.0 (12/16/93). [District Rules 1081 and 4354, 6.5] Federally Enforceable Through Title V Permit
40. Source testing to measure stack gas oxygen shall be conducted using EPA Method 3 or 3A or ARB Method 100. [District Rules 1081 and 4354, 6.5; PSD SJ 76-44, X.F.3] Federally Enforceable Through Title V Permit
41. Source testing to measure ammonia shall be conducted using BAAQMD ST-1B. [District Rule 1081] Federally Enforceable Through Title V Permit
42. 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
43. Results of the CEM system shall be averaged over a three hour period, using consecutive 15-minute sampling periods in accordance with all applicable requirements of CFR 60.13, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2 and 40 CFR 60.13; PSD SJ 76-44, X.C.4] Federally Enforceable Through Title V Permit
44. Cylinder Gas Audits of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and compliance source testing are 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 and 40 CFR 60 Appendix F; PSD SJ 76-44, X.F.8] Federally Enforceable Through Title V Permit
45. Any violation of an emission standard, as shown by the stack-monitoring system, shall be reported to the APCO within 96 hours of detection. [District Rule 1080, 9.0; PSD SJ 76-44, X.G.5] Federally Enforceable Through Title V Permit
46. Any breakdown in the continuous emission monitors shall be reported as soon as reasonably possible, but no later than eight hours after detection, unless the owner or operator demonstrates to the APCO's satisfaction that a longer reporting period was necessary, and shall initiate repairs. The Owner/operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [District Rule 1080, 10.0] Federally Enforceable Through Title V Permit
47. Permittee shall maintain CEMS records that contain the following: the occurrence and duration of any or malfunction, performance testing, evaluations, calibrations, checks, adjustments, maintenance, duration of any periods during which a continuous monitoring system or monitoring device is inoperative, and emission measurements. [District Rule 1080, 8.0; 40 CFR Part 64; PSD SJ 76-44, X.G.1] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

48. Permittee shall submit a written report to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions; nature and cause of excess (averaging period used for data reporting shall correspond to the averaging period for each respective emission standard); corrective actions taken and preventive measures adopted; applicable time and date of each period during a CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred or when the CEMS has not been inoperative, repaired, or adjusted. [District Rule 1080, 8.0; 40 CFR Part 64; PSD SJ 76-44, X.G.2] Federally Enforceable Through Title V Permit
49. Permittee shall establish parameters for primary and secondary voltage and current, which provides a reasonable assurance of ongoing compliance with emission limitations stated in this permit. The initial parameters shall be established using at least 6 months of historical operating data and manufacturer/supplier recommendations. These parameters shall be reviewed annually and revised if necessary based on PM10 source test result data, historical operating data and manufacturer/supplier recommendations. [40 CFR Part 64; PSD SJ 76-44, X.G.9] Federally Enforceable Through Title V Permit
50. During each day of operation, the permittee shall record electrostatic precipitator voltage and current readings and compare the readings with the acceptable range of current and voltage levels established. Upon detecting any excursion from the acceptable range of current or voltage readings, the permittee shall investigate the excursion and take corrective action to minimize excessive emissions and prevent recurrence of the excursion as expeditiously as practicable [40 CFR Part 64; PSD SJ 76-44, X.G.10] Federally Enforceable Through Title V Permit
51. Permittee shall maintain daily records of the total hours of operation, type and quantity of fuel used, and the quantity of glass pulled. The permittee shall also maintain records of all source tests, operating parameters established during source testing, all maintenance and repair performed, any periods of malfunction, and all periods of startup, idling, and shutdown. This information shall be made available on site during normal business hours from Monday through Friday, and submitted to the APCO upon request. [District Rules 1070 and 4354, 6.3; PSD SJ 76-44, X.E.3, X.G.7, and X.I.2] Federally Enforceable Through Title V Permit
52. Permittee shall maintain daily records of NOx and SOx emission rates in lb/ton of glass pulled to demonstrate compliance with the NOx and SOx emission limits. [District Rules 1070, 2201, and 4354, 6.3; PSD SJ 76-44, X.G.8] Federally Enforceable Through Title V Permit
53. Permittee shall maintain records of NOx and SOx emission rates in lb/ton of glass pulled on a "30-day rolling average" to demonstrate compliance with the NOx and SOx emission limits. [District Rules 1070, 2201, and 4354, 6.3] Federally Enforceable Through Title V Permit
54. Permittee shall maintain records of the CO emission rates in ppmvd referenced at 8% O2 on a "3-hour rolling average" to demonstrate compliance with the CO emission limits. [District Rules 1070 and 4354, 6.3] Federally Enforceable Through Title V Permit
55. Permittee shall maintain records of the PM10 emission rate in lb/ton of glass pulled on a "block 24-hour average" to demonstrate compliance with the PM10 emission limit. [District Rules 1070 and 4354, 6.3] Federally Enforceable Through Title V Permit
56. Permittee shall maintain records of the VOC emissions using an approved parametric monitoring arrangement, and shall record the operating values of the key system operating parameters at the approved recording frequency. [District Rules 1070 and 4354, 6.3] Federally Enforceable Through Title V Permit
57. Permittee shall maintain records of of the following items: 1) source tests and source test results, 2) the acceptable range each approved key system operating parameter, as established during source test, 3) maintenance and repair, and 4) malfunctions. [District Rule 4534, 6.3] Federally Enforceable Through Title V Permit
58. Records shall be maintained and shall contain: the occurrence and duration of any malfunction, performance testing, calibrations, checks, adjustments, or any periods during which the CEM is inoperative; and the CEM emission measurements. [District Rules 1080, 7.3 and 4354, 6.3; 40 CFR Part 64; PSD SJ 76-44, X.G.1] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

59. All records required by this permit shall be maintained, retained on-site for a period of at least five years and shall be made readily available for District inspection upon request. [District Rules 1070, 2201, and 4354, 6.3; PSD SJ 76-44, X.G.6] Federally Enforceable Through Title V Permit
60. The EPA shall be notified by facsimile or electronic mail transmission within two (2) working days following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner, which results in an increase in emissions above any allowable emission limit stated in the PSD permit. In addition, the EPA shall be notified in writing within fifteen (15) days of any such failure. The notification shall include a description of the malfunctioning equipment or abnormal operation, the date of the initial malfunction, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed in the PSD permit, and the methods utilized to mitigate emissions and restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violation of this permit or of any law or regulation that such malfunction may cause, except as provided for in Section IV.B of the PSD permit. [PSD SJ 76-44, IV.A, IV.B, and IV.C] Federally Enforceable Through Title V Permit

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

Attachment B

Draft Authority to Construct C-598-4-10

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: C-598-4-10

LEGAL OWNER OR OPERATOR: GUARDIAN INDUSTRIES CORP
MAILING ADDRESS: 11535 E MOUNTAIN VIEW AVE
KINGSBURG, CA 93631-9211

LOCATION: 11535 E MOUNTAIN VIEW AVE
KINGSBURG, CA 93631

EQUIPMENT DESCRIPTION:

MODIFICATION OF 212.0 MMBTU/HR FLOAT GLASS MANUFACTURING LINE THAT INCLUDES: A REGENERATIVE GLASS MELTING FURNACE CONTROLLED BY A HIGH TEMPERATURE SCRUBBER (C/U1), AN ELECTROSTATIC PRECIPITATOR (C/U2), AND A SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM WITH AMMONIA INJECTION (C/U3), TIN FLOAT BATH, ANNEALING LEHR, AND A CONTINUOUS EMISSIONS MONITOR (CEMS): INCORPORATE ROUTINE MAINTENANCE OF ADD-ON EMISSION CONTROL SYSTEM REQUIREMENTS FROM DISTRICT RULE 4354

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
4. Permittee shall comply with all requirements of Section 5.5 of District Rule 4354 (5/19/11) during startup. Startup exemption time shall not exceed 208 days, beginning from the time of primary combustion system activation. [District Rule 4354, 5.5; PSD SJ 76-44, X.E.4] Federally Enforceable Through Title V Permit
5. During startup, the stoichiometric ratio of the primary furnace combustion system shall not exceed 5% oxygen as calculated from the actual fuel and oxidant flow measurements for combustion in the furnace. [District Rule 4354, 5.5] Federally Enforceable Through Title V Permit

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YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

C-598-4-10 : Sep 10 2013 9:38AM - BROWND : Joint Inspection NOT Required

6. The emission control systems (ECS), C/Us 1, 2, and 3 shall be in operation at all times during normal operations, and whenever technologically feasible including during startup, idling and shutdown conditions. [District Rule 4354, 5.5, 5.6, 5.7; PSD SJ 76-44, X.E.7] Federally Enforceable Through Title V Permit
7. The furnace shall be in compliance with all applicable requirements of District Rule 4354 (5/19/11) by the end of startup. [District Rule 4354, 7.0] Federally Enforceable Through Title V Permit
8. Furnace shutdown shall not exceed 20 days, measured from the time furnace operations drop below the idle threshold specified in Section 3.9 of District Rule 4354 (2/21/02) to when all emissions from the furnace cease. [District Rule 4354, 5.6] Federally Enforceable Through Title V Permit
9. NO_x, SO_x, and PM₁₀ emissions during idling shall not exceed the emissions limits as calculated using the following equation: NO_x, SO_x, and PM₁₀ (lb/day) = (Applicable Emission limit (in lbs/ton)) x (Furnace permitted production capacity (in tons/day)). CO and VOC emissions during idling shall not exceed the emissions limits as calculated using the following equation: CO and VOC (lb/day) = (Applicable Emission limit (in lb/MMBtu)) x (Furnace Maximum Heat Input (in MMBtu/hr) x (24 hrs/day)). [District Rule 4354, 5.7; PSD SJ 76-44, X.E.2] Federally Enforceable Through Title V Permit
10. Except as specified elsewhere in this permit, all emissions from the furnace shall be ducted to the high temperature (dry) scrubber (C/U1), the electrostatic precipitator (C/U2), and the selective catalytic reduction (SCR) system (C/U3), prior to exhausting into the atmosphere. [District Rule 2201; PSD SJ 76-44, X.B.2] Federally Enforceable Through Title V Permit
11. NO_x, CO, VOC, SO_x and PM₁₀ emission limitations shall not apply during periods of routine maintenance of an add-on emission control system(s) as long as the routine maintenance does not exceed 144 hours total per calendar year for all add-on controls and the routine maintenance is conducted in a manner consistent with good air pollution control practices for minimizing emissions. [District Rule 4354, 5.10] Federally Enforceable Through Title V Permit
12. The facility shall not use commercial arsenic as a raw material in the production process. [40 CFR 61, Subpart N] Federally Enforceable Through Title V Permit
13. The furnace shall be fired exclusively on PUC quality natural gas or LPG as a backup fuel. [District Rule 2201; PSD SJ 76-44, X.I.1] Federally Enforceable Through Title V Permit
14. The glass pull rate shall not exceed 700 tons per day. [District Rules 2201 and 4354, 6.1; PSD SJ 76-44, X.D.1] Federally Enforceable Through Title V Permit
15. Start-up is defined as the period of time, after initial construction or a furnace rebuild, during which a glass melting furnace is heated to operating temperature by the primary furnace combustion system and instrumentation are brought to stabilization. Shutdown is defined as the period of time during which a glass melting furnace is purposely allowed to cool from operating temperature and molten glass is removed from the tank for the purpose of a furnace rebuild. Idling is defined as the operation of the furnace at less than 25 percent of the permitted production capacity or fuel use capacity as stated on the Permit to Operate. [District Rule 4354, 3.0; PSD SJ 76-44, X.E.4, X.E.5, and X.E.6] Federally Enforceable Through Title V Permit
16. NO_x emissions from the glass melting furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 107.92 lb/hr or 3.70 lb/ton of glass pulled, based on a block 24-hour average; or 3.25 lb/ton of glass pulled, based on a rolling 30-day average. [District Rules 2201 and 4354, 5.1; PSD SJ 76-44, X.D.2] Federally Enforceable Through Title V Permit
17. SO_x emissions from the glass melting furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 49.58 lb/hr or 1.7 lb/ton of glass pulled, based on a block 24-hour average; or 1.2 lb/ton of glass pulled, based on a rolling 30-day average. [District Rules 2201 and 4354, 5.3; PSD SJ 76-44, X.D.3] Federally Enforceable Through Title V Permit
18. PM₁₀ emissions from the glass melting furnace, except during periods of start-up, shutdown, and idling, shall not exceed either of the following limits: 20.42 lb/hr or 0.7 lb/ton of glass pulled. [District Rules 2201, 4202, and 4354, 5.4; PSD SJ 76-44, X.D.4] Federally Enforceable Through Title V Permit
19. CO emissions from the glass melting furnace, except during periods of start-up, shutdown, and idling, shall not exceed either of the following limits: 22.05 lb/hr or 1.01 ppmv @ 8% O₂ (equivalent to 0.104 lb/MMBtu), based on a 3-hour rolling average. [District Rules 2201 and 4354, 5.2] Federally Enforceable Through Title V Permit

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20. VOC emissions from the glass melting furnace, except during periods of start-up, shutdown, and idling, shall not exceed either of the following limits: 0.83 lb/hr or 6.6 ppmv VOC @ 8% O₂ (equivalent to 0.0039 lb/MMBtu), based on a 3-hour rolling average. [District Rules 2201 and 4354, 5.2] Federally Enforceable Through Title V Permit
21. CO emissions from the glass melting furnace exhaust shall not exceed 100 tons per year, based on a 12-month rolling average [District Rule 2201 and PSD SJ 76-44 X.D.5] Federally Enforceable Through Title V Permit
22. Ammonia (NH₃) emissions shall not exceed either of the following limits: 1.27 lb/hr or 10 ppmvd @ 8% O₂, based on a 24 hour rolling average. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
23. Each one hour period will commence on the hour. The three hour average will be compiled from the three most recent one-hour periods. The block 24-hour average will be compiled of 24 one-hour periods, daily, starting from 12:00 AM to 11:59 PM, excluding periods of system calibration. [District Rules 2201 and 4354, 3.3] Federally Enforceable Through Title V Permit
24. Compliance with the ammonia emission limits shall be demonstrated utilizing one of the following procedures: 1) calculate the daily ammonia emissions using the following equation: $(\text{ppmvd @ 8\% O}_2) = ((a - (b \times c / 1,000,000)) \times (1,000,000 / b)) \times d$, where a = ammonia injection rate (lb/hr) / (17 lb/lb mol), b = dry exhaust flow rate (lb/hr) / (29 lb/lb mol), c = change in measured NO_x concentration ppmvd @ 8% O₂ across the catalyst, and d = correction factor. The correction factor shall be derived annually during compliance testing by comparing the measured and calculated ammonia slip; 2.) Utilize another District-approved calculation method using measured surrogate parameters to determine the daily ammonia emissions in ppmvd @ 8% O₂. If this option is chosen, the permittee shall submit a detailed calculation protocol for District approval at least 60 days prior to commencement of operation; 3.) Alternatively, the permittee may utilize a continuous in-stack ammonia monitor to verify compliance with the ammonia emissions limit. If this option is chosen, the permittee shall submit a monitoring plan for District approval at least 60 days prior to commencement of operation. [District Rule 4102]
25. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with 40 CFR 60.8(e) and EPA test methods and shall be equipped with safe permanent provisions to sample stack gases. 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; PSD SJ 76-44, X.F.4] Federally Enforceable Through Title V Permit
26. Source testing to measure the NO_x, SO_x, and PM₁₀ emission rates (lb/hr and lb/ton of glass pulled) shall be conducted annually (within 60 days of the initial performance test anniversary). [District Rules 1081, 2520, and 4354, 6.4; PSD SJ 76-44, X.F.1] Federally Enforceable Through Title V Permit
27. Source testing to measure the CO emission rates (lb/hr and either lb/MMBtu or ppmvd @ 8% O₂) shall be conducted annually (within 60 days of the initial performance test anniversary). [District Rules 1081, 2520, and 4354, 6.4; PSD SJ 76-44, X.F.1] Federally Enforceable Through Title V Permit
28. Source testing to measure the VOC and Ammonia emission rates (lb/hr and either lb/MMBtu or ppmvd @ 8% O₂) shall be conducted annually (within 60 days of the initial performance test anniversary). [District Rules 1081, 2520, and 4354, 6.4] Federally Enforceable Through Title V Permit
29. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
30. For source testing purposes, arithmetic average of three 30-consecutive-minute test runs shall be used to determine compliance with NO_x, CO, VOC, and SO_x emission limits. [District Rule 4354, 6.4] Federally Enforceable Through Title V Permit
31. For source testing purposes, arithmetic average of three 60-consecutive-minute test runs shall be used to determine compliance with PM₁₀ emission limits. [District Rule 4354, 6.4] Federally Enforceable Through Title V Permit
32. During source testing, for a given pollutant, if two of the three runs individually demonstrate emissions above the applicable limit, the test cannot be used to demonstrate compliance for the furnace, even if the averaged emissions of all three test runs is less than the applicable limit. [District Rule 4354, 6.4] Federally Enforceable Through Title V Permit

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33. Source tests shall be conducted at a minimum glass production pull rate equivalent to 90% of the maximum glass production pull rate achieved during the last year, unless otherwise approved by EPA. In no case less than 420 tons glass pulled per day or 127.2 MMBtu/hr. [District Rule 4354, 6.4, 6.5; PSD SJ 76-44, X.F.6] Federally Enforceable Through Title V Permit
34. Upon written request from the Permittee, and adequate justification, EPA may waive a specific annual test and/or allow for testing to be done at less than 90% of maximum glass production pull rate achieved during the last year. [PSD SJ 76-44, X.F.7] Federally Enforceable Through Title V Permit
35. Compliance demonstration (source testing) shall be District witnessed or authorized and samples shall be collected by a certified testing laboratory. Source testing shall be conducted using the test methods and procedures specified in this permit. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081; PSD SJ 76-44, X.F.2 and X.F.5] Federally Enforceable Through Title V Permit
36. Source testing to measure oxides of nitrogen (as NO₂) (ppmv) shall be conducted using EPA Method 7E, or ARB Method 100, or oxides of nitrogen (as NO₂) (heat input basis) shall be conducted using EPA Method 19 and in accordance with Rule 1081, section 6.0 (12/16/93). [District Rules 1081 and 4354, 6.5; PSD SJ 76-44, X.F.3.a and X.F.3.b] Federally Enforceable Through Title V Permit
37. The initial performance test conducted after furnace startup shall use the test procedures for a 'high NO₂ emission site,' as specified in San Diego Test Method 100, to measure NO₂ emissions. The source shall be classified as either a 'low' or 'high' NO₂ emission site based on these test results. If the emission source is classified as a: a) 'high NO₂ emission site,' then each subsequent performance test shall use the test procedures for a 'high NO₂ emission site,' as specified in San Diego Test Method 100. b) 'low NO₂ emission site,' then the test procedures for a 'high NO₂ emission site,' as specified in San Diego Test Method 100, shall be performed once every five years to verify the source's classification as a 'low NO₂ emission site. [PSD SJ 76-44, X.F.3.a and X.F.3.b] Federally Enforceable Through Title V Permit
38. Source testing to measure oxides of sulfur (as SO₂) shall be conducted using EPA Method 8 or EPA Method 6C, and in accordance with Rule 1081, section 6.0 (12/16/93). [District Rules 1081, 4801, and 4354, 6.5; PSD SJ 76-44, X.F.3.c] Federally Enforceable Through Title V Permit
39. Source testing to measure PM₁₀ including condensables, shall be conducted using EPA Method 5, EPA Method 201, or EPA Method 201A in combination with EPA Method 202 (Condensables), and in accordance with Rule 1081, section 6.0 (12/16/93). An operator choosing EPA Method 5 for filterable PM shall count all PM collected as PM₁₀. [District Rules 1081 and 4354, 6.5; PSD SJ 76-44, X.F.3.d] Federally Enforceable Through Title V Permit
40. Source testing to measure CO (ppmv) shall be conducted using EPA Method 10 or ARB Method 100, and in accordance with Rule 1081, section 6.0 (12/16/93). [District Rules 1081 and 4354, 6.5; PSD SJ 76-44, X.F.3.e] Federally Enforceable Through Title V Permit
41. Source testing to measure VOCs (ppmv) shall be conducted using EPA Method 25A, expressed in terms of carbon or other SIP approved Rule 4354 test methods, and in accordance with District Rule 1081, Section 6.0 (12/16/93). [District Rules 1081 and 4354, 6.5] Federally Enforceable Through Title V Permit
42. Source testing to measure stack gas oxygen shall be conducted using EPA Method 3 or 3A or ARB Method 100. [District Rules 1081 and 4354, 6.5; PSD SJ 76-44, X.F.3] Federally Enforceable Through Title V Permit
43. Source testing to measure ammonia shall be conducted using BAAQMD ST-1B. [District Rule 1081] Federally Enforceable Through Title V Permit
44. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
45. The applicant shall install, maintain, and operate a continuous emissions monitoring system (CEMS) to measure stack gas NO_x, SO_x, CO and O₂ concentration and stack gas volumetric flow rate and shall meet the performance specification requirements in 40 CFR, Part 60, Appendix B, Performance Specifications 2 and 3 or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. The CEM systems shall also be operated, maintained, and calibrated pursuant to the requirements of 40 CFR 60.7(c) and 40 CFR 60.13. [District Rules 1080, 6.5 and 6.6, 2201, and 4354, 5.9 and 6.6; 40 CFR Part 64; PSD SJ 76-44, X.C.1 and X.C.2] Federally Enforceable Through Title V Permit

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46. The applicant shall install, maintain, and operate a continuous opacity monitor (COM) and shall meet the performance specification requirements in 40 CFR, Part 60, Appendix B, or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rules 1080, 6.7 and 2201 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
47. 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, Procedure 1. [District Rules 1080 and 4354, 6.6; 40 CFR Part 64; PSD SJ 76-44, X.C.2 and X.C.5] Federally Enforceable Through Title V Permit
48. Results of the CEM system shall be averaged over a three hour period, using consecutive 15-minute sampling periods in accordance with all applicable requirements of CFR 60.13, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2 and 40 CFR 60.13; PSD SJ 76-44, X.C.4] Federally Enforceable Through Title V Permit
49. Cylinder Gas Audits of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and compliance source testing are 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 and 40 CFR 60 Appendix F; PSD SJ 76-44, X.F.8] Federally Enforceable Through Title V Permit
50. {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
51. Any violation of an emission standard, as shown by the stack-monitoring system, shall be reported to the APCO within 96 hours of detection. [District Rule 1080, 9.0; PSD SJ 76-44, X.G.5] Federally Enforceable Through Title V Permit
52. Any breakdown in the continuous emission monitors shall be reported as soon as reasonably possible, but no later than eight hours after detection, unless the owner or operator demonstrates to the APCO's satisfaction that a longer reporting period was necessary, and shall initiate repairs. The Owner/operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [District Rule 1080, 10.0] Federally Enforceable Through Title V Permit
53. 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 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
54. 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 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
55. Permittee shall maintain CEMS records that contain the following: the occurrence and duration of any or malfunction, performance testing, evaluations, calibrations, checks, adjustments, maintenance, duration of any periods during which a continuous monitoring system or monitoring device is inoperative, and emission measurements. [District Rule 1080, 8.0; 40 CFR Part 64; PSD SJ 76-44, X.G.1] Federally Enforceable Through Title V Permit
56. Permittee shall submit a written report to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions; nature and cause of excess (averaging period used for data reporting shall correspond to the averaging period for each respective emission standard); corrective actions taken and preventive measures adopted; applicable time and date of each period during a CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred or when the CEMS has not been inoperative, repaired, or adjusted. [District Rule 1080, 8.0; 40 CFR Part 64; PSD SJ 76-44, X.G.2] Federally Enforceable Through Title V Permit
57. The permittee shall install, operate, and maintain a monitoring and recording system to accurately measure and record the furnace temperature at least once per hour. [District Rule 4354] Federally Enforceable Through Title V Permit

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58. The furnace temperature shall be maintained at or above 1,800 °F. If the measured furnace temperature is less than 1,800 °F, the permittee shall conduct a certified VOC source test within 60 days to re-establish the minimum temperature limit. In lieu of conducting a certified VOC source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the furnace temperature to or above the minimum temperature limit), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4354] Federally Enforceable Through Title V Permit
59. The permittee shall keep records of the date and time of the furnace temperature readings and the furnace melter crown temperature measured during the most recent source test that demonstrated ongoing compliance with the VOC emission limit. [District Rule 4354] Federally Enforceable Through Title V Permit
60. Permittee shall establish parameters for primary and secondary voltage and current, which provides a reasonable assurance of ongoing compliance with emission limitations stated in this permit. The initial parameters shall be established using at least 6 months of historical operating data and manufacturer/supplier recommendations. These parameters shall be reviewed annually and revised if necessary based on PM10 source test result data, historical operating data and manufacturer/supplier recommendations. [40 CFR Part 64; PSD SJ 76-44, X.G.9] Federally Enforceable Through Title V Permit
61. During each day of operation, the permittee shall record electrostatic precipitator voltage and current readings and compare the readings with the acceptable range of current and voltage levels established. Upon detecting any excursion from the acceptable range of current or voltage readings, the permittee shall investigate the excursion and take corrective action to minimize excessive emissions and prevent recurrence of the excursion as expeditiously as practicable [40 CFR Part 64; PSD SJ 76-44, X.G.10] Federally Enforceable Through Title V Permit
62. Permittee shall maintain daily records of the total hours of operation, type and quantity of fuel used, and the quantity of glass pulled. The permittee shall also maintain records of all source tests, operating parameters established during source testing, all maintenance and repair performed, any periods of malfunction, and all periods of startup, idling, and shutdown. This information shall be made available on site during normal business hours from Monday through Friday, and submitted to the APCO upon request. [District Rules 1070 and 4354, 6.3; PSD SJ 76-44, X.E.3, X.G.7, and X.I.2] Federally Enforceable Through Title V Permit
63. Permittee shall maintain daily records of NO_x and SO_x emission rates in lb/ton of glass pulled to demonstrate compliance with the NO_x and SO_x emission limits. [District Rules 1070, 2201, and 4354, 6.3; PSD SJ 76-44, X.G.8] Federally Enforceable Through Title V Permit
64. Permittee shall maintain records of NO_x and SO_x emission rates in lb/ton of glass pulled on a "30-day rolling average" to demonstrate compliance with the NO_x and SO_x emission limits. [District Rules 1070, 2201, and 4354, 6.3] Federally Enforceable Through Title V Permit
65. Permittee shall maintain records of the CO emission rates in ppmvd referenced at 8% O₂ on a "3-hour rolling average" to demonstrate compliance with the CO emission limits. [District Rules 1070 and 4354, 6.3] Federally Enforceable Through Title V Permit
66. Permittee shall maintain records of the PM₁₀ emission rate in lb/ton of glass pulled on a "block 24-hour average" to demonstrate compliance with the PM₁₀ emission limit. [District Rules 1070 and 4354, 6.3] Federally Enforceable Through Title V Permit
67. Permittee shall maintain records of the VOC emissions using an approved parametric monitoring arrangement, and shall record the operating values of the key system operating parameters at the approved recording frequency. [District Rules 1070 and 4354, 6.3] Federally Enforceable Through Title V Permit
68. Permittee shall maintain records of the following items: 1) source tests and source test results; 2) the acceptable range each approved key system operating parameter, as established during source test; 3) glass furnace maintenance and repair; 4) date, time and duration of any add-on control device routine maintenance; and 5) malfunctions. [District Rule 4354, 6.3] Federally Enforceable Through Title V Permit

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69. Records shall be maintained and shall contain: the occurrence and duration of any malfunction, performance testing, calibrations, checks, adjustments, or any periods during which the CEM is inoperative; and the CEM emission measurements. [District Rules 1080, 7.3 and 4354, 6.3; 40 CFR Part 64; PSD SJ 76-44, X.G.1] Federally Enforceable Through Title V Permit
70. All records required by this permit shall be maintained, retained on-site for a period of at least five years and shall be made readily available for District inspection upon request. [District Rules 1070, 2201, and 4354, 6.3; PSD SJ 76-44, X.G.6] Federally Enforceable Through Title V Permit
71. The EPA shall be notified by facsimile or electronic mail transmission within two (2) working days following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner, which results in an increase in emissions above any allowable emission limit stated in the PSD permit. In addition, the EPA shall be notified in writing within fifteen (15) days of any such failure. The notification shall include a description of the malfunctioning equipment or abnormal operation, the date of the initial malfunction, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed in the PSD permit, and the methods utilized to mitigate emissions and restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violation of this permit or of any law or regulation that such malfunction may cause, except as provided for in Section IV.B of the PSD permit. [PSD SJ 76-44, IV.A, IV.B, and IV.C] Federally Enforceable Through Title V Permit

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