



OCT 25 2013

Ray Yee
PPG Industries
3333 S. Peach Avenue
Fresno, CA 93725

**Re: Proposed Authority to Construct / Certificate of Conformity (Minor Mod)
District Facility # C-948
Project # 1122924**

Dear Mr. Yee:

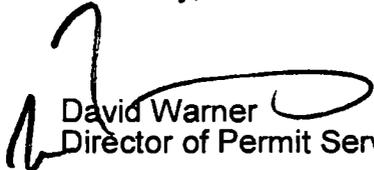
Enclosed for your review is the District's analysis of your application for Authority to Construct (ATC) for the facility identified above. You have requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. The facility is proposing to modify their 206 MMBtu/hr float glass furnace by lowering the NO_x emission limits and incorporating CO, VOC and PM₁₀ monitoring requirements for District Rule 4354 compliance.

After addressing any EPA comments made during the 45-day comment period, the ATC will be issued to the facility 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: Dustin Brown, Permit Services

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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

Central Region (Main Office)
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OCT 25 2013

Gerardo C. Rios, Chief
Permits Office
Air Division
U.S. EPA - Region IX
75 Hawthorne St
San Francisco, CA 94105

**Re: Proposed Authority to Construct / Certificate of Conformity (Minor Mod)
District Facility # C-948
Project # 1122924**

Dear Mr. Rios:

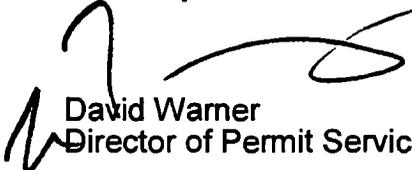
Enclosed for your review is the District's engineering evaluation of an application for Authority to Construct (ATC) for PPG Industries, located at 3333 S. Peach Avenue in Fresno, CA, which has been issued a Title V permit. PPG Industries is requesting that a Certificate of Conformity, with the procedural requirements of 40 CFR Part 70, be issued with this project. The facility is proposing to modify their 206 MMBtu/hr float glass furnace by lowering the NO_x emission limits and incorporating CO, VOC and PM₁₀ monitoring requirements for District Rule 4354 compliance.

Enclosed is the engineering evaluation of this application, a copy of the current Title V permit, and proposed ATC # C-948-11-16 with Certificate of Conformity. After demonstrating compliance with the ATC, the conditions will be incorporated into the facility's Title V permit through an administrative amendment.

Please submit your written comments on this project within the 45-day comment period that begins on the date you receive this letter. 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
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San Joaquin Valley Air Pollution Control District
Authority to Construct
Application Review
Modification of Glass Furnace for Rule 4354 Compliance

Facility Name:	PPG Industries	Date:	October 22, 2013
Mailing Address:	3333 S. Peach Avenue Fresno, CA 93725	Engineer:	Dustin Brown
Contact Person:	Ray Yee	Lead Engineer:	Joven Refuerzo
Telephone:	(559) 485-4660		
Email Address:	yee@ppg.com		
Application #(s):	C-948-11-16		
Project #:	1122924		
Deemed Complete:	October 1, 2012		

I. PROPOSAL

PPG Industries requests an Authority to Construct (ATC) for modifications to their 206 MMBtu/hr oxy fuel fired float glass furnace for District Rule 4354 compliance. The modifications are as follows:

- Lower worst case NO_x emission limits from the Rule 4354 Tier 2 limits of 9.0 lb/ton, based on a 24 hour block average and 7.0 lb/ton, based on a rolling 30 day average to the Tier 3 limits of 5.5 lb/ton, based on a 24 hour block average and 5.0 lb/ton, based on a rolling 30 day average. There will be no physical modifications to this unit as it has demonstrated in previous source tests that it is capable of meeting the proposed NO_x emission limits;
- Install a new analyzer in the existing Continuous Emission Monitoring System (CEMS) and add carbon monoxide (CO) as a pollutant measured by CEMS;
- Incorporate VOC alternate monitoring requirements based on glass furnace melter crown temperature; and
- Incorporate PM₁₀ alternate monitoring requirements based on electrostatic precipitator average total power (secondary voltage and secondary current).

In addition, under project C-1040033, the District established and incorporated Lowest Achievable Emission Rate (LAER) requirements for NO_x emissions for PPG Industries' glass furnace permit. Under that project, LAER for NO_x was determined to be equivalent to 5.5 lb/ton, based on a 24 hour block average and 5.0 lb/ton, based on a rolling 30 day average (equivalent to the current Tier 3 NO_x limits specified in Rule 4354). However, the LAER determination allowed the facility to have higher NO_x emission rates of 9.0 lb/ton, based on a 24 hour block average, and 7.0 lb/ton based on a rolling 30 day average, only when Niter (sodium nitrate) additive was used for certain types of glass production. Since PPG Industries will now be required to meet the Tier 3 NO_x limits in Rule 4354 during all types of operation and for all types of glass produced, and those NO_x limits were previously determined to satisfy LAER, the higher NO_x emissions limits previously allowed when the facility uses Niter additive are no longer applicable. Therefore, all references to the use of Niter and the associated higher NO_x emission limits will be removed as a part of this project.

PPG Industries 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. PPG 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

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).

III. PROJECT LOCATION

The facility is located at 3333 S. Peach Avenue in Fresno, 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.

IV. PROCESS DESCRIPTION

PPG Industries, Inc. Works #15 plant produces architectural flat glass using a float glass process. Other than lower the NO_x emission limits and incorporating CO, VOC and PM₁₀ monitoring requirements for their glass furnace, PPG Industries, Inc. proposes no other changes to the existing glass manufacturing process with this project.

The equipment will be assumed to operate 24 hr/day, 7 day/week, and 365 day/yr.

V. EQUIPMENT LISTING

Pre-Project Equipment Description:

C-948-11-13: 208⁽¹⁾ MMBTU/HR OXY-FUEL FIRED FLOAT GLASS FURNACE, FIRING ON NATURAL GAS WITH #2 FUEL OIL AS STANDBY, VENTED THROUGH A UNITED MCGILL COOLING TOWER AND UNITED MCGILL MODEL 3-500 ELECTROSTATIC PRECIPITATOR USING SO₂ AS A LUBRICANT FOR THE GLASS

ATC Equipment Description:

C-948-11-16: MODIFICATION OF 208 MMBTU/HR OXY-FUEL FIRED FLOAT GLASS FURNACE, FIRING ON NATURAL GAS WITH #2 FUEL OIL AS STANDBY, VENTED THROUGH A UNITED MCGILL COOLING TOWER AND UNITED MCGILL MODEL 3-500 ELECTROSTATIC PRECIPITATOR USING SO₂ AS A LUBRICANT FOR THE GLASS: LOWER NO_x EMISSION LIMITS AND INCORPORATE CO, VOC AND PM₁₀ MONITORING REQUIREMENTS FOR RULE 4354 COMPLIANCE

⁽¹⁾ Based on comments provided by PPG on 2/22/13, the current permit references the glass furnace with a maximum heat input rating of 206 MMBtu/hr, however, the glass furnace actually has a maximum heat input rating of 208 MMBtu/hr. The emission rates from the glass furnace are rated in lb/hr or lb/ton. Changing the heat input rating of the burner will have no impact on the current emission limits. Therefore, the District will go ahead and make this correction as a part of this project.

Post Project Equipment Description:

C-948-11-16: 208 MMBTU/HR OXY-FUEL FIRED FLOAT GLASS FURNACE, FIRING ON NATURAL GAS WITH #2 FUEL OIL AS STANDBY, VENTED THROUGH A UNITED MCGILL COOLING TOWER AND UNITED MCGILL MODEL 3-500 ELECTROSTATIC PRECIPITATOR USING SO₂ AS A LUBRICANT FOR THE GLASS

VI. EMISSION CONTROL TECHNOLOGY EVALUATION

PPG Industries, Inc. Works #15 plant in Fresno manufactures flat glass using a float glass process. The float glass manufacturing process can be broken down into five main stages: 1) Batching of raw materials (silica sand, lime, soda ash, calcium oxide, soda, magnesium, and recycled glass), 2) Melting of raw materials in the furnace, 3) Drawing the molten glass onto the tin bath, 4) Cooling the molten glass in the annealing lehr, and 5) Quality checks, automatic cutting, and storage. This project affects the melting of raw materials in the float glass furnace only (stage 2).

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

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

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

VII. GENERAL CALCULATIONS

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 maximum daily process rate for this operation is 650 U.S. short tons per day (current permit limit)

B. Emission Factors

Pre-Project Emission Factors (EF1):

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

Pre Project Emission Factors			
Pollutant	EF (24 hr block avg)	EF (30 day rolling avg)	EF (lb/hr)
NO _x	9.0 lb/ton	7.0 lb/ton	N/A
CO	0.9 lb/ton	N/A	21.13
VOC	0.1 lb/ton	N/A	1.51
PM ₁₀	0.7 lb/ton	N/A	18.80
SO _x (glass furnace)	1.7 lb/ton	1.2 lb/ton	16.25 _{natural gas} 49.9 _{fuel oil #2}
SO _x (surface passivation process)	N/A	N/A	10.0

Post-Project Emission Factors (EF2):

As discussed in the proposal section above, PPG Industries is proposing to lower their permitted NO_x emission factors in accordance with the Tier 3 NO_x emission limits specified in Rule 4354. Emission factors for all other pollutants will not be changed as a part of this project.

Post Project Emission Factors			
Pollutant	EF (24 hr block avg)	EF (30 day rolling avg)	EF (lb/hr)
NO _x	5.5 lb/ton	5.0 lb/ton	N/A
CO	0.9 lb/ton	N/A	21.13
VOC	0.1 lb/ton	N/A	1.51
PM ₁₀	0.7 lb/ton	N/A	18.80
SO _x (glass furnace)	1.7 lb/ton	1.2 lb/ton	16.25 natural gas 49.9 fuel oil #2
SO _x (surface passivation process)	N/A	N/A	10.0

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 24 hour block average emission factor listed above and the maximum glass produced throughput limit listed on the permit.

$$\begin{aligned} PE_{NO_x} &= (9.0 \text{ lb/ton}) \times (650 \text{ ton/day}) \\ &= 5,850.0 \text{ lb-NO}_x/\text{day} \end{aligned}$$

CO:

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

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

VOC:

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

$$\begin{aligned} PE_{\text{VOC}} &= (1.51 \text{ lb/hr}) \times (24 \text{ hr/day}) \\ &= 36.2 \text{ lb-VOC/day} \end{aligned}$$

PM₁₀:

As shown above, PM₁₀ emissions are limited in lb/ton and lb/hr. The worst case PM₁₀ emissions can be determined from the lb/ton emission factor (0.7 lb/ton x 650 ton/day = 455.0 lb/day). However, the pound per hour emission rate listed on the permit is more stringent of an emission limit as the glass furnace cannot exceed that hourly emission rate during any hour throughout the day. Therefore, the worst case pre-project daily emissions for PM₁₀ will be calculated using the hourly emission rate listed above and the maximum operating schedule during any given day.

$$\begin{aligned} PE_{\text{PM}_{10}} &= (18.8 \text{ lb/hr}) \times (24 \text{ hr/day}) \\ &= 451.2 \text{ lb-PM}_{10}/\text{day} \end{aligned}$$

SO_x:

As shown above, SO_x emissions from the glass furnace are limited in lb/ton and lb/hr. The worst case SO_x emissions can be determined from the lb/hr emission rate while firing on fuel oil #2 (49.9 lb/ton x 24 hr/day = 1,197.6 lb/day). However, the pound per ton emission factor listed on the permit is more stringent of an emission limit as the glass furnace cannot exceed that lb/ton emission factor during all firing techniques, including using fuel oil #2 as a backup fuel. Therefore, the worst case pre-project daily emissions for SO_x will be calculated using the 24 hour block average emission factor listed above and the maximum glass produced throughput limit listed on the permit. In addition, the SO_x emissions from the surface passivation process will also be included in the overall total SO_x emissions from this permit unit.

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

Annual PE (APE1)NO_x:

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

$$\begin{aligned} PE_{NO_x} &= (7.0 \text{ lb/ton}) \times (650 \text{ ton/day}) \times (365 \text{ days/year}) \\ &= 1,660,750 \text{ lb-NO}_x/\text{year} \end{aligned}$$

CO:

As shown above, CO emissions are limited in lb/ton and lb/hr. The worst case CO emissions can be determined from the lb/ton emission factor (0.9 lb/ton x 650 ton/day x 365 days/year = 213,525 lb/year). However, the pound per hour emission rate listed on the permit is more stringent of an emission limit as the glass furnace cannot exceed the hourly emission rate during any hour throughout the year. Therefore, the worst case pre-project annual emissions for CO will be calculated using the hourly emission rate listed above and the maximum operating schedule during any given year.

$$\begin{aligned} PE_{CO} &= (21.13 \text{ lb/hr}) \times (8,760 \text{ hr/year}) \\ &= 185,099 \text{ lb-CO/year} \end{aligned}$$

VOC:

As shown above, VOC emissions are limited in lb/ton and lb/hr. The worst case VOC emissions can be determined from the lb/ton emission factor (0.1 lb/ton x 650 ton/day x 365 days/year = 23,725 lb/year). However, the pound per hour emission rate listed on the permit is more stringent of an emission limit as the glass furnace cannot exceed that hourly emission rate during any hour throughout the year. Therefore, the worst case pre-project annual emissions for VOC will be calculated using the hourly emission rate listed above and the maximum operating schedule during any given year.

$$\begin{aligned} PE_{VOC} &= (1.51 \text{ lb/hr}) \times (8,760 \text{ hr/day}) \\ &= 13,228 \text{ lb-VOC/year} \end{aligned}$$

PM₁₀:

As shown above, PM₁₀ emissions are limited in lb/ton and lb/hr. The worst case PM₁₀ emissions can be determined from the lb/ton emission factor (0.7 lb/ton x 650 ton/day x 365 days/year = 166,075 lb/year). However, the pound per hour emission rate listed on the permit is more stringent of an emission limit as the glass furnace cannot exceed that hourly emission rate during any hour throughout the year. Therefore, the worst case pre-project annual emissions for PM₁₀ will be calculated using the hourly emission rate listed above and the maximum operating schedule during any given year.

$$PE_{PM10} = (18.8 \text{ lb/hr}) \times (8,760 \text{ hr/day})$$

$$= 164,688 \text{ lb-PM}_{10}/\text{year}$$

SO_x:

As shown above, SO_x emissions from the glass furnace are limited in lb/ton and lb/hr. The worst case SO_x emissions can be determined from the lb/hr emission rate while firing on fuel oil #2 (49.9 lb/ton x 8,760 hr/year = 437,124 lb/year). However, the pound per ton emission factor listed on the permit is more stringent of an emission limit as the glass furnace cannot exceed that lb/ton emission factor during all firing techniques, including when using fuel oil #2 as a backup fuel. Therefore, the worst case pre-project annual emissions for SO_x will be calculated using the 30 day rolling average emission factor listed above and the maximum glass produced throughput limit listed on the permit. In addition, the SO_x emissions from the surface passivation process will also be included in the overall total SO_x emissions from this permit unit.

$$PE_{SOx} = [(1.2 \text{ lb/ton}) \times (650 \text{ ton/day}) \times 365 \text{ days/year}] + [(10.0 \text{ lb/hr}) \times (8,760 \text{ hr/day})]$$

$$= 372,300 \text{ lb-SO}_x/\text{day}$$

PE1 Summary		
Pollutant	Daily PE (lb/day)	Annual PE (lb/year)
NO _x	5,850.0	1,660,750
CO	507.1	185,099
VOC	36.2	13,228
PM ₁₀	451.2	164,688
SO _x	1,345.0	372,300

2. Post-Project Potential to Emit (PE2)

As discussed above, PPG Industries is only proposing to modify the NO_x emission factors/rates along with this project. Therefore, there will be no changes to the 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.

Daily PE (PE2):

NO_x:

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

$$PE_{NOx} = (5.5 \text{ lb/ton}) \times (650 \text{ ton/day})$$

$$= 3,575.0 \text{ lb-NO}_x/\text{day}$$

Annual PE (APE2)

NO_x:

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

$$PE_{NO_x} = (5.0 \text{ lb/ton}) \times (650 \text{ ton/day}) \times (365 \text{ days/year})$$

$$= 1,186,250 \text{ lb-NO}_x/\text{year}$$

PE2 Summary		
Pollutant	Daily PE (lb/day)	Annual PE (lb/year)
NO _x	3,575.0	1,186,250
CO	507.1	185,099
VOC	36.2	13,228
PM ₁₀	451.2	164,688
SO _x	1,345.0	372,300

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:

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

QNEC			
Pollutant	PE2 (lb/yr)	PE1 (lb/yr)	QNEC (lb/qtr)
NO _x	1,186,250	1,660,750	-118,625
CO	185,099	185,099	0
VOC	13,228	13,228	0
PM ₁₀	164,688	164,688	0
SO _x	372,300	372,300	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.

PPG 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.

PPG Industries is proposing to modify their 206 MMBtu/hr float glass furnace by lowering the NO_x emission limits in accordance with the Tier 3 requirements of Rule 4354 and to add CO, VOC and PM₁₀ monitoring requirements in accordance with the requirements of Rule 4354. As discussed above, previous annual source tests show that PPG is already capable of meeting the Tier 3 NO_x limits in Rule 4354 without any additional changes or modifications to the equipment at the facility. 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, PPG 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, PPG Industries is proposing to lower the NO_x emissions from their glass furnace in accordance with the Tier 3 requirements of Rule 4354 and to incorporate CO, VOC, and PM₁₀ monitoring requirements in accordance with the requirements specified in Section 5.9 of Rule 4354. Recent source test data shows that PPG Industries' glass furnace has been in compliance with the Tier 3 NO_x limits in Rule 4354 each year since 2006. In addition, the facility is proposing to add monitoring requirements to the permit for CO, VOC and PM₁₀ emissions. The monitoring requirements will be based on equipment that the facility already has installed and is utilizing currently.

Therefore, the proposed changes at this glass 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.

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

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

PPG 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. The current permit for the glass furnaces contain a permit shield from the requirements of Subpart CC and this permit shield will remain on the new ATC's.

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. PPG's furnace is currently prohibited from using arsenic as a raw material by a permit condition and this permit condition will remain on the glass furnace permit; therefore, Subpart N requirements will not be applicable to these furnaces. The following condition assures 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.

PPG Industries has indicated that they have never used arsenic, cadmium, chromium, lead, manganese or nickel. Therefore, subpart SSSSSS is not applicable to PPG at this time. Should PPG 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 Ringlemann 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

$$\text{Process Weight} = ((650 \text{ tons/day}) \div (24 \text{ hr/day}))$$
$$P = 27.08 \text{ ton/hr}$$

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

The applicant has proposed an emission rate of 18.96 lb/hr (455.0 lb PM₁₀/day 24 hr). Therefore, compliance with this rule is expected under regular operating conditions.

$$E_{\text{max}} = 27.75 \text{ lb/hr}$$
$$E_{\text{actual}} = 18.96 \text{ lb/hr}$$

Since the proposed PM emission rate of 18.96 lb/hr is less than the allowable maximum emission rate of 27.75 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 PPG 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. PPG Industries operates a 206 MMBtu/hr glass melting furnace under permit C-948-11. Therefore, the requirements of this rule are applicable to that glass melting furnace.

Section 4.4 specifies that the emission limits in Section 5.1 Table 1 shall not apply during periods of startup, shutdown, or idling, provided the operator complies with the applicable requirements of Sections 5.5, 5.6, 5.7, and 6.7. Section 6.7 specifies that the operator of any glass melting furnace claiming an exemption under Section 4.4 shall notify the APCO by telephone at least 24 hours before initiating idling, shutdown, or start-up. The notification shall include: date and time of the start of the exempt operation, reason for performing the operation, and an estimated completion date. The operator shall notify the APCO by telephone within 24 hours after completion of the start-up, shutdown, or idling. The operator claiming exemption under Section 4.3 shall maintain all operating records/support documentation necessary to support claim of exemption. Therefore, the following condition will be listed on the ATC to assure compliance:

- NO_x, CO, and VOC 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 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	5.5 ^A	3.7 ^A
	7.0 ^B	5.0 ^B	3.2 ^B
Flat Glass Enhanced Option	9.2 ^A	5.5 ^A	3.4 ^A
	7.0 ^B	5.0 ^B	2.9 ^B
Flat Glass Early Enhanced Option	9.2 ^A	Not available	3.4 ^A
	7.0 ^B		2.9 ^B

^A Block 24-hour average

^B Rolling 30-day average

PPG 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 conditions will be included on the ATC to assure continued compliance:

- Oxides of nitrogen (NO_x) shall not exceed 5.5 lb NO_x/ton, based on a 24-hour block average, as defined by Rule 4354. [District Rules 2201 and 4354]
- Oxides of nitrogen (NO_x) shall not exceed 5.0 lb NO_x/ton, based on a 30-day rolling average, as defined by Rule 4354. [District Rules 2201 and 4354]

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

PPG operates an oxy-fuel fired glass furnace and complies with the emission limits specified in Table 2 above. The following conditions will assure continued compliance:

- Carbon monoxide (CO) emissions shall not exceed 21.13 pounds per hour nor 0.9 pounds per ton (as defined by Rule 4354), based on a three-hour average. [District Rules 2201 and 4354]
- Volatile Organic Compounds (VOC) emissions shall not exceed 1.51 pounds per hour nor 0.1 pounds per ton of glass pulled (as defined by Rule 4354), based on a three-hour average. [District Rules 2201 and 4354]

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

PPG operates an oxy-fuel fired glass furnace and complies with the SO_x emission limits specified in Table 3 above. The following condition will assure continued compliance:

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

Section 5.4 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

PPG operates an oxy-fuel fired glass furnace and complies with the PM₁₀ emission limits specified in Table 4 above. The following condition will assure continued compliance:

- Particulate Matter emissions (as PM₁₀) shall not exceed 0.70 pounds per ton glass pulled on a block 24-hour average from the glass melting furnace. [District Rule 4354]

Sections 5.5, 5.6 and 5.7 specify requirements for startup, shutdown and idling. The current permit for this unit does not contain any startup, shutdown or idling requirements. In addition, PPG Industries has not requested to add any startup, shutdown or idling requirements as a part of this project. Therefore, the requirements of these sections are not applicable conditions assuring compliance will not be included on the new ATC issued as a part of this project.

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. PPG currently operates their glass furnace with a NO_x CEMS. PPG Industries is proposing to add a new analyzer to their existing CEMS that will measure CO emissions. The following conditions will assure continued compliance with the NO_x and CO monitoring requirements of this section:

- The continuous emission monitor system (CEMS) shall be properly installed in the electrostatic precipitator stack and operated in accordance with the manufacturer's specifications. [District Rules 2201 and 4354]
- The CEMS and data acquisition system shall monitor for NO_x, CO, SO_x, and opacity. [District Rules 2201 and 4354]

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. PPG Industries has proposed an alternate monitoring scheme for VOC emissions. PPG is proposing to monitor the furnace melter crown temperature. The proposed monitoring scheme is very similar to the monitoring scheme that was approved for Owens Brockway under project N-1082218. The details of the proposed VOC monitoring scheme are included in Attachment B of this document. 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 day. [District Rule 4354]
- The furnace melter crown temperature shall be maintained at or above 1,800 °F. If the measured furnace temperature is less than 1,800 °F, the permittee shall conduct a certified VOC source test within 60 days to re-establish the minimum temperature limit. In lieu of conducting a certified VOC source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the furnace temperature to or above the minimum temperature limit), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4354]
- The permittee shall keep records of the date and time of the furnace melter crown temperature readings and the furnace melter crown temperature measured during the most recent source test that demonstrated ongoing compliance with the VOC emission limit. [District Rule 4354]

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 5.9.2 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.

PPG Industries has proposed a parametric monitoring scheme for PM₁₀ emissions. The facility is proposing to monitor the electrostatic precipitator secondary voltage and current. The proposed monitoring scheme is very similar to the monitoring scheme that was previously approved by the District for Owens Brockway under project N-1082218. The details of the proposed PM₁₀ monitoring scheme are included in Attachment B of this document. The following conditions will assure continued compliance with the PM₁₀ monitoring requirements:

- The permittee shall install, operate, and maintain a monitoring and recording system to accurately measure and record the secondary current and secondary voltage across each field of the electrostatic precipitator at least once per hour. [District Rule 4354 and 40 CFR Part 64]
- The average hourly total power input into the electrostatic precipitator shall be maintained at or above 0.23 kW. The average hourly total power input shall be the sum of the average power inputs to each field of the electrostatic precipitator. The average power inputs to each field shall be calculated by multiplying the average hourly secondary current for that field by the average hourly secondary voltage for that field, both recorded by the continuous monitoring system. [District Rule 4354 and 40 CFR Part 64]

- If the measured total power input into the electrostatic precipitator falls below the acceptable level specified within this permit, the permittee shall conduct a certified source test within 60 days to re-establish the acceptable secondary voltage and/or secondary current range/level. In lieu of conducting a certified PM₁₀ source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the average hourly voltage and/or current input to or above the minimum acceptable levels), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4354 and 40 CFR Part 64]
- The permittee shall keep records of the date and time of the electrostatic precipitator total power input readings and the minimum electrostatic precipitator total power input measured during the source test that demonstrated ongoing compliance with the PM₁₀ emission limit. [District Rule 4354 and 40 CFR Part 64]

Section 5.10 states that during routine maintenance of 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.

The current permit includes provisions allowing for maintenance of the existing add-on controls for 144 hours per year. The following condition was taken from the current permit and will be maintained to assure continued compliance:

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

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

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

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

The applicant is proposing to keep the appropriate records for the applicable items of the items listed above. Therefore, compliance is expected. The following condition will be included on each Authority to Construct permit:

- The permittee shall maintain daily records of total hours of operation, quantity of glass pulled, NO_x and SO_x emission rates in lb/ton of glass pulled (both block 24-Hr & rolling 30-day averages), CO emission rate in lb/ton of glass pulled (rolling 3-hour average) and quantity & type of fuel used. The permittee shall also maintain records of source tests, the acceptable range for each approved key system operating parameter as established by source testing, all instances of maintenance and repair, any malfunction, and records of all periods of idling, startup, or shutdown. [District Rule 4354, 6.3.1]

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 items listed above. The condition listed in Section 6.3.1 above includes the requirement to keep these records.

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. Compliance with this requirement is expected.

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:

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

Section 6.4.2 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 assures continued compliance:

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

Section 6.4.3 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 include this requirement.

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 Rules 2201, 4354, 6.4.4]

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, 6.4.5]

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]

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 shall be conducted using following test methods: (1) Oxides of Nitrogen: EPA Method 7E, EPA Method 19, or ARB Method 100; (2) Carbon Monoxide: EPA Method 10, or ARB Method 100; (3) VOC (ppmv): EPA Method 25A expressed in terms of carbon, or ARB Method 100, EPA Method 18 or ARB method 422 to determine emissions of exempt compounds; (4) Stack Gas Oxygen, Carbon Dioxide, Excess Air, and Dry Molecular Weight: EPA Method 3 or 3A, or ARB Method 100; (5) Oxides of Sulfur: EPA Method 6C, EPA Method 8, or ARB Method 100; (6) Filterable PM10: EPA Method 5, EPA Method 201, or EPA Method 201A. An operator choosing EPA Method 5 shall count all PM collected as PM10; (7) Condensable PM10: EPA Method 202 with the following procedures, (7a) Purge the impinger with dry nitrogen for one hour. The one hour purge with dry nitrogen shall be performed as soon as possible after the final leak check of the system, (7b) Neutralize the inorganic portion to a pH of 7.0. Use the procedure, "Determination of NH₄ Retained in Sample by Titration" described in Method 202 to neutralize sulfuric acid, (7c) Evaporate the last 1 ml of the inorganic fraction by air drying following evaporation of the bulk of the impinger water in a 105 degrees C oven as described in the first sentence of the Method 202 section titled "Inorganic Fraction Weight Determination". [District NSR Rule, Districts Rule 4354 and 2520, and 40 CFR 52.233(g)]

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 exempt. 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:

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

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

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

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

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:

$$\text{SO}_x = (1,437.6 \text{ lb/day} \div 24 \text{ hr/day}) \div 206 \text{ MMBtu/hr} = 0.29 \text{ lb/MMBtu}$$

$$0.29 \text{ lb/MMBtu} \times \frac{1 \text{ MMBtu}}{8,578 \text{ scf}_{\text{exhaust}}} \times \frac{1 \text{ lb} \cdot \text{mol}}{64 \text{ lb} \cdot \text{SO}_2} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}} \times \frac{520^\circ\text{R}}{14.7 \text{ psi}} \times 1,000,000 \text{ ppm} = 200.5 \text{ ppmv}$$

Since 200.5 ppmv is \leq 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-948-11-16 subject to the permit conditions on the attached draft ATC in Attachment C.

X. BILLING INFORMATION

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
C-948-11-16	3020-02-H	206 MMBtu/hr burners	\$1,030

ATTACHMENTS

- Attachment A: Existing Permit to Operate C-948-11-13*
- Attachment B: Rule 4354 Supplemental VOC and PM₁₀ Monitoring Approval*
- Attachment C: Draft Authority to Construct C-948-11-16*

Attachment A

Current Permit to Operate C-948-11-13

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: C-948-11-13

EXPIRATION DATE: 02/29/2016

EQUIPMENT DESCRIPTION:

206 MMBTU/HR OXY-FUEL FIRED FLOAT GLASS FURNACE, FIRING ON NATURAL GAS WITH #2 FUEL OIL AS STANDBY, VENTED THROUGH A UNITED MCGILL COOLING TOWER AND UNITED MCGILL MODEL 3-500 ELECTROSTATIC PRECIPITATOR USING SO2 AS A LUBRICANT FOR THE GLASS

PERMIT UNIT REQUIREMENTS

1. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
2. The furnace and burners shall be operated so as to minimize the NOx emissions to the maximum extent possible without adversely affecting the product quality and furnace integrity. [District NSR Rule] Federally Enforceable Through Title V Permit
3. Material removed from dust collector(s) shall be disposed of in a manner preventing entrainment into the atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
4. The addition of liquid caustic soda to cooling tower water may be allowed to reduce corrosion and solid build-up, and ensure good working conditions for electrostatic precipitator. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Daily glass pull rate for this facility shall not exceed 650 U.S. short tons per day. [District NSR Rule and District Rule 4354, 6.1] Federally Enforceable Through Title V Permit
6. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201, 3.0] Federally Enforceable Through Title V Permit
7. Particulate Matter emissions (as PM10) shall not exceed 18.80 pounds per hour from the electrostatic precipitator. [District NSR Rule] Federally Enforceable Through Title V Permit
8. Particulate Matter emissions (as PM10) shall not exceed 0.70 pounds per ton glass pulled on a block 24-hour average from the glass melting furnace. [District Rule 4354, 5.4] Federally Enforceable Through Title V Permit
9. The glass furnace shall be vented to a dry scrubber/electrostatic precipitator system anytime the furnace is operating. [District NSR Rule] Federally Enforceable Through Title V Permit
10. Oxides of nitrogen (NOx) emissions shall not exceed 5.5 lb NOx/ton plus Niter emissions (lb NOx/ton), based on a 24-hour block average, as defined by Rule 4354. In no case shall total combined NOx emissions exceed 9.0 pounds per ton of glass pulled on a block 24-hour average. [District NSR Rule and District Rule 4354, 5.0] Federally Enforceable Through Title V Permit
11. Niter emissions (lb NOx/ton glass pulled) for the 24-hour block average shall be calculated as follows: (average pounds of Niter used per ton of glass pulled during the 24-hour block)*(0.548). [District NSR Rule and District Rule 4354, 5.0] Federally Enforceable Through Title V Permit
12. Oxides of nitrogen (NOx) emissions shall not exceed 5.0 lb NOx/ton plus Niter emissions (lb NOx/ton), based on a 30-day rolling average, as defined by Rule 4354. In no case shall combined NOx emissions exceed 7.0 lb NOx/ton on a rolling 30-day average. [District NSR Rule and District Rule 4354, 5.0] 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.

13. Niter emissions (lb NO_x/ton glass pulled) for the 30-day rolling average shall be calculated as follows: (average pounds of Niter used per ton of glass pulled during the 30-day rolling period)*(0.548). [District NSR Rule and District Rule 4354, 5.0] Federally Enforceable Through Title V Permit
14. SO_x emissions from the dry scrubber/electrostatic precipitator system shall not exceed 16.25 pounds per hour based on a 24-hour rolling average when firing the furnace on natural gas, nor 49.9 pounds per hour based on a 24-hour rolling average when firing the furnace on standby fuel oil #2. [District NSR Rule] Federally Enforceable Through Title V Permit
15. Oxides of sulfur (SO_x) emissions shall not exceed 1.7 lb SO_x/ton, based on a 24-hour block average, as defined by Rule 4354. In no case shall SO_x emissions exceed 1.2 lb SO_x/ton on a rolling 30-day average. [District Rule 4354, 5.3] Federally Enforceable Through Title V Permit
16. Sulfur compound emissions shall not exceed 2000 ppmv as SO₂. [District Rule 4801, 3.0] Federally Enforceable Through Title V Permit
17. SO_x emissions from the surface passivation process shall not exceed 10 pounds per hour. [District NSR Rule] Federally Enforceable Through Title V Permit
18. Volatile Organic Compounds (VOC) emissions shall not exceed 1.51 pounds per hour nor 0.1 pounds per ton of glass pulled (as defined by Rule 4354), based on a three-hour average. [District NSR Rule and District Rule 4354, 5.0] Federally Enforceable Through Title V Permit
19. Carbon monoxide (CO) emissions shall not exceed 21.13 pounds per hour nor 0.9 pounds per ton (as defined by Rule 4354), based on a three-hour average. [District NSR Rule and District Rule 4354, 5.0] Federally Enforceable Through Title V Permit
20. 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, 4.4, 6.7] Federally Enforceable Through Title V Permit
21. NO_x, CO, VOC, SO_x and PM₁₀ emission limitations of District Rule 4354 shall not apply during periods of routine maintenance of an add-on emission control system as long as the routine maintenance does not exceed 144 hours total per calendar year for all add-on controls and the routine maintenance is conducted in a manner consistent with good air pollution control practices for minimizing emissions. [District Rule 4354, 5.10] Federally Enforceable Through Title V Permit
22. Annual performance testing shall be conducted for VOC (ppmv), CO (ppmv), PM₁₀, SO_x (ppmv and lb/hr limits from the electrostatic precipitator), and NO_x (lb NO_x/tons of glass pulled calculated according to Rule 4354, 8.1) emissions at least once every calendar year. To qualify as an annual performance test, the test date shall be at least 6 months after, and not more than 18 months after the initial and the previous annual performance test. [District Rules 1070 & 4354, 6.4] Federally Enforceable Through Title V Permit
23. Performance testing shall be conducted using following test methods: EPA Method 201A in combination with EPA Method 202 for PM₁₀; EPA Method 25A (expressed in terms of carbon) for VOCs; EPA Method 10 or CARB Method 100 for CO; EPA Method 8 or CARB Method 100 for SO_x; EPA Method 7E or CARB Method 100 for NO_x; and EPA Method 2 for stack gas velocity or volumetric flow rate. [District Rule 4354, 6.5.1, and District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
24. The District must be notified 30 days prior to any performance testing, and a test plan shall be submitted for District approval 15 days prior to such testing. [District Rule 1081, 7.1] Federally Enforceable Through Title V Permit
25. Performance testing shall be witnessed or authorized by District personnel. Test results must be submitted to the District within 60 days of performance testing. [District Rule 1081, 7.2, 7.3] 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.

26. Performance testing for hourly emission rates for NO_x, SO_x, CO, and VOC shall be conducted using the arithmetic mean of the test runs as outlined in District Rule 1081-"Source Sampling" section 6.0. [District Rule 1081, 6.0] Federally Enforceable Through Title V Permit
27. Performance test results shall be representative of operations equal to or greater than 60% of the permitted production capacity or fuel use capacity. [District Rule 4354, 6.4.2] Federally Enforceable Through Title V Permit
28. The continuous emission monitor system (CEMS) shall be properly installed in the electrostatic precipitator stack and operated in accordance with the manufacturer's specifications. [District NSR Rule] Federally Enforceable Through Title V Permit
29. The CEMS and data acquisition system shall monitor for NO_x, SO_x, and opacity. [District NSR Rule] Federally Enforceable Through Title V Permit
30. The CEMS and data acquisition system shall monitor for CO and VOC. In lieu of installing and operating a CEMS for CO or VOC or both, the operator may obtain approval of the APCO and EPA for specific key system operating parameters, monitoring frequency and recording frequency used by the operator to monitor CO and or VOC emissions. [District Rule 4354, 5.9.2] Federally Enforceable Through Title V Permit
31. The continuous emissions monitoring system shall meet the performance specification requirements in 40 CFR Parts 60.7 and 60.13, 40 CFR Part 60 Appendix B (Performance Specifications) and Appendix F (Quality Assurance Procedures), Appendix B; and 40 CFR 51, Appendix P, or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rule 4354, 6.6.1 and District Rule 1080, 6.5] Federally Enforceable Through Title V Permit
32. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit
33. Records of continuous emissions monitoring system shall be maintained and shall contain: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, maintenance of CEMs, and emission measurements. [District Rule 1080, 7.3] Federally Enforceable Through Title V Permit
34. Permittee shall submit a CEMs written report for each calendar quarter to the District. The report is due on the 30th day following the end of the calendar quarter. Quarterly report shall include: time intervals, data and magnitude of excess emissions, nature and cause of excess (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard; applicable time and date of each period during which the CFM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 1080, 8.0 and District Rule 2520, 9.6.1] Federally Enforceable Through Title V Permit
35. Any emissions in excess of the limits imposed by conditions in this permit, as measured by the continuous emissions monitoring system constitutes a violation of District Rules and Regulations and shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0] Federally Enforceable Through Title V Permit
36. Operator shall notify the District no later than eight hours after the detection of a breakdown of the CEM. The operator shall inform the District 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
37. Records of performance tests and operating parameters established during initial performance test, maintenance, repair, malfunction, idling, shutdown, and start-up shall be retained on the premises for a period of five years, and shall be made available for District or EPA inspection upon request. [District Rule 4354, 6.3.1] 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.

38. Daily records of total hours of operation, quantity of glass pulled, NOx and SOx emission rates in lb/ton of glass pulled (both block 24-Hr & rolling 30-day averages), CO and VOC emission rate in lb/ton of glass pulled (rolling 3-hour average) and quantity & type of fuel used shall be retained on the premises for a period of five years and shall be made available for District or EPA inspection upon request. [District Rule 4354, 6.3.1] Federally Enforceable Through Title V Permit
39. Records of SOx usage (lb/hr) in the surface passivation process shall be maintained for a period of at least five years and shall be made available for District or EPA inspection upon request. [District Rule 1070 & 2520, 9.4.2] Federally Enforceable Through Title V Permit
40. Records of Niter usage (block 24-hour average of pounds of Niter per ton of glass pulled and rolling 30-day average of pounds of Niter per ton of glass pulled) shall be maintained for a period of at least five years and shall be made available for District or EPA inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
41. Records of electrostatic precipitator total kilovoltage shall be maintained on an 1-hour average and an 24-hour average. [District Rule 4354, 6.3.2] Federally Enforceable Through Title V Permit
42. The facility shall not use commercial arsenic as a raw material in the production process. [40CFR61, Subpart N] Federally Enforceable Through Title V Permit
43. The length of time allowed for a start-up shall be determined by the APCO and EPA on a case-by-case basis, in accordance with District Rule 4354 (amended 09/16/2010). [District Rule 4354, 5.5.4] Federally Enforceable Through Title V Permit
44. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 (amended 12/17/92) using the equation $E=3.59 \times P^{0.62}$ if P is less than or equal to 30 tons per hour, or $E=17.37 \times P^{0.16}$ if P is greater than 30 tons per hour. [District Rule 4202] Federally Enforceable Through Title V Permit
45. Permittee shall submit an Authority to Construct application for compliance with enhanced option NOx limits by June 1, 2016, and be in full compliance with enhanced option NOx limits by January 1, 2018. [District Rule 4354, 7.2.1] Federally Enforceable Through Title V Permit
46. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4201, Fresno County Rule 404, District Rule 4202, Fresno County Rule 405, District Rule 4801, and Fresno County Rule 406. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
47. The requirements of District Rule 4301, 40 CFR 60, Subpart CC & 40 CFR 61, Subpart N were determined to be not applicable to this unit. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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

Attachment B

Rule 4354 Supplemental VOC and PM₁₀ Monitoring Approval

San Joaquin Valley Unified Air Pollution Control District

Alternate Monitoring Proposal for Rule 4354

Monitoring VOC with Furnace Temperature and Monitoring PM₁₀ with Electrostatic Precipitator Specific Power

Facility Name: PPG Industries, Inc.
Contact Person: Ray Yee
Contact Telephone: (559) 485-4660
Application #'s: C-948-11-16
Project #: 1122924

1. Background:

Section 5.9.2.2 requires that the operator of a unit subject to a Table 2 VOC limit monitor VOC with a CEMS. Section 5.9.2.3 states that in lieu of a CEMS, key operating parameters that are indicative of compliance with the applicable Table 2 limit may be monitored and recorded.

Section 5.9.4 states that PM₁₀ emission monitoring requirements shall be in effect on or after January 1, 2011.

Prior to implementing alternative monitoring procedures, prior District approval is required.

2. PROPOSAL:

VOC:

The facility has proposed to periodically monitor furnace temperature to show compliance with the Table 2 VOC limit. The Table 2 VOC limit and the permit limits are both set at 0.1 lb-VOC/ton of glass produced, based on three hour rolling averages (for oxygen assisted or oxy-fuel fired furnaces). This furnace was last source tested on Septmeber 12 and 13 of 2012 and the VOC emissions were shown to be 0.0683 lb/ton of glass produced. The facility operator indicates that the furnace typically operates above 2000 degrees F during normal operation.

Each batch of glass manufactured by the facility includes about the same ingredients in about the same proportions and is heated to the same temperature. Since high temperatures effectively control VOC emissions, it is logical to assume that as long as the furnace is maintained at a high temperature, compliance with the applicable VOC standard will be met. Therefore, the facility's request for the District to deem furnace temperature a key operating parameter is granted.

PM₁₀:

The facility has proposed to monitor the electrostatic precipitator secondary current and secondary voltage to compute an average daily total power input, to show compliance with the PM₁₀ emission limit of District Rule 4354.

Proper operation of the electrostatic precipitator will ensure compliance with the PM₁₀ emission limit of District Rule 4354. To ensure proper operation of the electrostatic precipitator, the facility has proposed to monitor the secondary current and secondary voltage of each electrostatic precipitator. Using the average hourly secondary voltage and secondary current, it is possible to determine the average hourly power input into each electrostatic precipitator. The average hourly power input is significant, as the power input is related to the electrostatic precipitator PM₁₀ control efficiency. The facility's request to deem total power input, secondary voltage, and secondary current as key operating parameters is granted.

3. Temperature Requirement:

PPG Industries has indicated that their glass furnace typically operates with temperatures of greater than 2,600 degrees F. However the facility has not documented the furnace melter crown temperature during any of their annual source tests.

PPG Industries has proposed that their glass furnace be compared to that of a typical thermal oxidizer in how it operates and potentially controls VOC emissions. Incineration, or thermal oxidation, is the process of oxidizing combustible materials by raising the temperature of the material above its auto-ignition point in the presence of oxygen, and maintaining it at a high temperature for sufficient time to complete combustion to carbon dioxide and water. Time, temperature, turbulence (for mixing), and the availability of oxygen all affect the rate and efficiency of the combustion process. These factors provide the basic design parameters for VOC oxidation systems.

Pursuant to information taken from EPA's Air Pollution Control Technology Fact Sheets for Thermal Incinerator's (<http://www.epa.gov/ttn/catc/products.html>), PPG's glass furnace typical operating parameters can be compared to that of a thermal incinerator as follows:

- Residence Time:

EPA specifies that the typical thermal oxidizer residence time is 0.75 seconds (unless specifically destructing halogenated organics which need longer time of 1.0 sec). Adjusting the exhaust to typical furnace operating temperature of 2,700 °F, the flow rate is 51,466 actual cubic feet per minute. The volume of space in the melter portion of the furnace above the glass is approximately 10,956 cubic feet. The residence time can be determined by dividing the volume of space by the air flow rate: $10,956 \text{ scf} / 51,466 \text{ acf/min} = 0.21 \text{ mins} \times 60 \text{ seconds/min} = 12.8 \text{ seconds}$. Therefore, the residence time of the VOC's within the glass furnace is greater than what is typically required for a standard thermal oxidizer.

- Destruction Temperature:

EPA specifies that the thermal destruction of most organic compounds occurs between 590 °C and 650 °C (1,100 °F and 1,200 °F). Most hazardous waste incinerators are operated at 980 °C to 1,200 °C (1,800 °F to 2,200 °F) to ensure nearly complete destruction of the organics in the waste. In addition, District practice for processes served by a thermal incinerator, has been to require a minimum chamber temperature of 1,600 °F. Furthermore, PPG Industries has requested that the minimum furnace melter crown temperature limit specified on their operating permit as a part of this alternate monitoring proposal be set at 1,800 °F. Therefore, the minimum temperature inside the glass furnace should be above the typical operating temperature of a standard thermal oxidizer and should assure sufficient VOC destruction and allow PPG Industries to demonstrate ongoing compliance with the VOC emissions limit required by the operating permit.

- Turbulence/Mixing/Oxygen:

Turbulence refers to proper mixing of the combustion air with the waste gas in the combustion chamber. EPA does not specify exact parameters for a thermal oxidizer. However, the very large volume of oxygen in the glass furnace, heated at much higher temperatures than a standard thermal oxidizer, would lend itself to more turbulence/mixing compared to a thermal oxidizer that is a considerably smaller/cooler structure. Mixing should also not be a concern because unlike a thermal oxidizer, the furnace atmosphere is oxygen (PPG's furnace is fired solely on oxy-fuel) and any VOC would be fully "mixed" with oxygen anywhere in the glass furnace.

EPA also states that the typical gas flow rates for thermal oxidizers are 0.24 to 24 standard cubic meters per second (sm³/sec)(500 to 50,000 standard cubic feet per minute (scfm)). As shown above, the airflow rate for this glass furnace is 51,466 scfm. Therefore, the airflow rate for PPG's glass furnace is within the scope of a standard thermal oxidizer.

Based on the information described above, the District will accept PPG's argument that the glass furnace environment will act very similar to that of a thermal oxidizer and should destroy VOC emissions with a similar efficiency. Therefore, the minimum temperature requirement for the glass furnace melter crown will be set at 1,800 °F.

Section 5.9.2.4 states that acceptable range(s) for key system operating parameter(s) to be monitored shall be demonstrated through source testing. The District has numerous permitted facilities that are served by a thermal oxidizer and have source tested to demonstrate ongoing compliance with their applicable VOC emission limits. In addition, PPG has requested to build in a factor of safety to the minimum temperature requirement over what a standard thermal oxidizer would be required to operate at. Therefore, initial source testing to verify compliance with the 1800 °F temperature limit that will be included on the permit will not be required as a part of this project. PPG will be required to document the furnace melter crown temperature during each annual source test to document ongoing compliance with the minimum temperature limit.

4. Temperature Monitoring Frequency:

The facility has proposed to monitor the furnace temperature at least once per day. Since this glass furnace is subject to the VOC monitoring requirements of Rule 4354 and is not subject to the compliance assurance monitoring requirements of 40 CFR Part 64, this frequency is sufficient.

5. Total Power Input Requirement

During the 2009 source test of PPG's glass furnace, minimum average power levels were established during that test that resulted in compliance with the PM₁₀ emission limit required by the permit. Those results are summarized in the table below.

Start Time	End Time	PM₁₀ (lb/ton)	All kV	All mA	All kW
9/17/09 9:00	9/17/09 11:04	0.67	45.48	18.59	0.33
9/17/09 11:30	9/17/09 13:35	0.66	46.05	12.80	0.23
9/17/09 13:45	9/17/09 15:51	0.73	45.30	11.24	0.20

As shown in the table above, the minimum total average power requirement that demonstrated compliance with the 0.70 lb-PM₁₀/ton of glass produced required for this glass furnace is 0.23 kW. Therefore, this value will be included as the minimum average total power requirement for this glass furnace.

6. Total Power Input Monitoring Frequency

The facility has proposed to monitor the electrostatic precipitator secondary voltage and current continuously. The secondary voltage and current values will be used to determine the average total power of the electrostatic precipitator at least once per hour. Since the glass furnace is subject to the alternate monitoring requirements of Rule 4354 and the compliance assurance monitoring requirements of 40 CFR Part 64 (pre-control PM₁₀ emissions greater than the major source threshold for PM₁₀ emissions), the hourly average total power frequency is sufficient.

7. Recommended Permit Conditions:

VOC:

1. 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 day. [District Rule 4354]

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

PM₁₀:

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

Attachment C

Draft Authority to Construct C-948-11-16

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: C-948-11-16

LEGAL OWNER OR OPERATOR: PPG INDUSTRIES
MAILING ADDRESS: 3333 S PEACH AVE
FRESNO, CA 93725

LOCATION: 3333 S PEACH AVE
FRESNO, CA 93725

EQUIPMENT DESCRIPTION:

MODIFICATION OF 208 MMBTU/HR OXY-FUEL FIRED FLOAT GLASS FURNACE, FIRING ON NATURAL GAS WITH #2 FUEL OIL AS STANDBY, VENTED THROUGH A UNITED MCGILL COOLING TOWER AND UNITED MCGILL MODEL 3-500 ELECTROSTATIC PRECIPITATOR USING SO₂ AS A LUBRICANT FOR THE GLASS: LOWER NOX EMISSION LIMITS AND INCORPORATE CO, VOC AND PM₁₀ MONITORING REQUIREMENTS FOR RULE 4354 COMPLIANCE

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. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
5. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 (amended 12/17/92) using the equation $E=3.59 \times P^{0.62}$ if P is less than or equal to 30 tons per hour, or $E=17.37 \times P^{0.16}$ if P is greater than 30 tons per hour. [District Rule 4202] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director, APCO

DAVID WARNER, Director of Permit Services

C-948-11-16 Oct 23 2013 9 18AM - BROWND Joint Inspection NOT Required

6. The furnace and burners shall be operated so as to minimize the NOx emissions to the maximum extent possible without adversely affecting the product quality and furnace integrity. [District Rule 2201] Federally Enforceable Through Title V Permit
7. The glass furnace shall be vented to a dry scrubber/electrostatic precipitator system anytime the furnace is operating. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Material removed from dust collector(s) shall be disposed of in a manner preventing entrainment into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
9. The addition of liquid caustic soda to cooling tower water may be allowed to reduce corrosion and solid build-up, and ensure good working conditions for electrostatic precipitator. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Daily glass pull rate for this facility shall not exceed 650 U.S. short tons per day. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
11. Particulate Matter emissions (as PM10) shall not exceed 18.80 pounds per hour from the electrostatic precipitator. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Particulate Matter emissions (as PM10) shall not exceed 0.70 pounds per ton glass pulled on a block 24-hour average from the glass melting furnace. [District Rule 4354] Federally Enforceable Through Title V Permit
13. Oxides of nitrogen (NOx) emissions shall not exceed 5.5 lb NOx/ton, based on a 24-hour block average, as defined by Rule 4354. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
14. Oxides of nitrogen (NOx) emissions shall not exceed 5.0 lb NOx/ton, based on a 30-day rolling average, as defined by Rule 4354. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
15. SOx emissions from the dry scrubber/electrostatic precipitator system shall not exceed 16.25 pounds per hour based on a 24-hour rolling average when firing the furnace on natural gas, nor 49.9 pounds per hour based on a 24-hour rolling average when firing the furnace on standby fuel oil #2. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Oxides of sulfur (SOx) emissions shall not exceed 1.7 lb SOx/ton, based on a 24-hour block average, as defined by Rule 4354. In no case shall SOx emissions exceed 1.2 lb SOx/ton on a rolling 30-day average. [District Rule 4354] Federally Enforceable Through Title V Permit
17. Sulfur compound emissions shall not exceed 2000 ppmv as SO2. [District Rule 4801] Federally Enforceable Through Title V Permit
18. SOx emissions from the surface passivation process shall not exceed 10 pounds per hour. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Volatile Organic Compounds (VOC) emissions shall not exceed 1.51 pounds per hour nor 0.1 pounds per ton of glass pulled (as defined by Rule 4354), based on a rolling three-hour average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
20. Carbon monoxide (CO) emissions shall not exceed 21.13 pounds per hour nor 0.9 pounds per ton (as defined by Rule 4354), based on a rolling three-hour average. [District Rules 2201 and 4354] Federally Enforceable Through Title V Permit
21. NOx, CO, VOC, SOx 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] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

22. NO_x, CO, VOC, SO_x and PM₁₀ emission limitations of District Rule 4354 shall not apply during periods of routine maintenance of an add-on emission control system as long as the routine maintenance does not exceed 144 hours total per calendar year for all add-on controls and the routine maintenance is conducted in a manner consistent with good air pollution control practices for minimizing emissions. [District Rule 4354] Federally Enforceable Through Title V Permit
23. Annual source testing shall be conducted for VOC (lb/ton of glass pulled and lb/hr); CO (lb/ton of glass pulled and lb/hr); PM₁₀ (lb/ton of glass pulled and lb/hr); SO_x (lb/ton of glass pulled and lb/hr); and NO_x (lb/ton of glass pulled) emissions at least once every calendar year. To qualify as an annual performance test, the test date shall be at least 6 months after, and not more than 18 months after the initial and the previous annual performance test. [District Rules 1070, 1081 and 4354] Federally Enforceable Through Title V Permit
24. 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
25. Source testing shall be conducted using following test methods: (1) Oxides of Nitrogen: EPA Method 7E, EPA Method 19, or ARB Method 100; (2) Carbon Monoxide: EPA Method 10, or ARB Method 100; (3) VOC (ppmv): EPA Method 25A expressed in terms of carbon, or ARB Method 100, EPA Method 18 or ARB method 422 to determine emissions of exempt compounds; (4) Stack Gas Oxygen, Carbon Dioxide, Excess Air, and Dry Molecular Weight: EPA Method 3 or 3A, or ARB Method 100; (5) Oxides of Sulfur: EPA Method 6C, EPA Method 8, or ARB Method 100; (6) Filterable PM₁₀: EPA Method 5, EPA Method 201, or EPA Method 201A. An operator choosing EPA Method 5 shall count all PM collected as PM₁₀; (7) Condensable PM₁₀: EPA Method 202 with the following procedures, (7a) Purge the impinger with dry nitrogen for one hour. The one hour purge with dry nitrogen shall be performed as soon as possible after the final leak check of the system, (7b) Neutralize the inorganic portion to a pH of 7.0. Use the procedure, "Determination of NH₄ Retained in Sample by Titration" described in Method 202 to neutralize sulfuric acid, (7c) Evaporate the last 1 ml of the inorganic fraction by air drying following evaporation of the bulk of the impinger water in a 105 degrees C oven as described in the first sentence of the Method 202 section titled "Inorganic Fraction Weight Determination". [District Rule 4354] Federally Enforceable Through Title V Permit
26. Furnace conditions during source testing shall be representative of normal operations, with a glass production rate equal to or greater than 60 percent of the permitted glass production capacity. The source test may be conducted at a glass production rate lower than 60 percent of the permitted glass production capacity, provided that the permittee demonstrates that the proposed alternative glass production rate is representative of normal operations and the proposed alternative glass production rate is approved by the APCO in writing. [District Rule 4354] Federally Enforceable Through Title V Permit
27. For source testing purposes, the arithmetic average of three 30-consecutive-minute test runs shall be used to determine compliance with NO_x, CO, VOC, and SO_x emission limits. [District Rule 4354] Federally Enforceable Through Title V Permit
28. For source testing purposes, the arithmetic average of three 60-consecutive-minute test runs shall be used to determine compliance with PM₁₀ emission limits. [District Rule 4354] Federally Enforceable Through Title V Permit
29. During source testing, for a given pollutant, if two of the three runs individually demonstrate emissions above the applicable limit, the test cannot be used to demonstrate compliance for the furnace, even if the averaged emissions of all three test runs is less than the applicable limit. [District Rule 4354] Federally Enforceable Through Title V Permit
30. Source testing shall be witnessed or authorized by District personnel. Test results must be submitted to the District within 60 days of performance testing. [District Rule 1081] Federally Enforceable Through Title V Permit
31. The continuous emission monitor system (CEMS) shall be properly installed in the electrostatic precipitator stack and operated in accordance with the manufacturer's specifications. [District Rule 2201] Federally Enforceable Through Title V Permit
32. The CEMS and data acquisition system shall monitor for NO_x, CO, SO_x, and opacity. [District Rule 2201] Federally Enforceable Through Title V Permit

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33. The CEMS shall meet the performance specification requirements in 40 CFR Parts 60.7 and 60.13, 40 CFR Part 60 Appendix B (Performance Specifications) and Appendix F (Quality Assurance Procedures); and 40 CFR 51, Appendix P, or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rules 1080 and 4354] Federally Enforceable Through Title V Permit
34. Results of CEMS must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080] Federally Enforceable Through Title V Permit
35. Records of CEMS shall be maintained and shall contain: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, maintenance of CEMs, and emission measurements. [District Rule 1080] Federally Enforceable Through Title V Permit
36. Permittee shall submit a CEMS written report for each calendar quarter to the District. The report is due on the 30th day following the end of the calendar quarter. Quarterly report shall include: time intervals, data and magnitude of excess emissions, nature and cause of excess (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard; applicable time and date of each period during which the CFM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rules 1080 and 2520] Federally Enforceable Through Title V Permit
37. Any emissions in excess of the limits imposed by conditions in this permit, as measured by the CEMS constitutes a violation of District Rules and Regulations and shall be reported by the operator to the APCO within 96 hours. [District Rule 1080] Federally Enforceable Through Title V Permit
38. Operator shall notify the District no later than eight hours after the detection of a breakdown of the CEMS. The operator shall inform the District of the intent to shut down the CEMS at least 24 hours prior to the event. [District Rule 1080] Federally Enforceable Through Title V Permit
39. The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080] Federally Enforceable Through Title V Permit
40. Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternative method. [District Rule 1080] Federally Enforceable Through Title V Permit
41. 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 day. [District Rule 4354] Federally Enforceable Through Title V Permit
42. The furnace melter crown temperature shall be maintained at or above 1,800 °F. If the measured furnace temperature is less than 1,800 °F, the permittee shall conduct a certified VOC source test within 60 days to re-establish the minimum temperature limit. In lieu of conducting a certified VOC source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the furnace temperature to or above the minimum temperature limit), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4354] Federally Enforceable Through Title V Permit
43. The permittee shall install, operate, and maintain a monitoring and recording system to accurately measure and record the secondary current and secondary voltage across each field of the electrostatic precipitator at least once per hour. [District Rule 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
44. The average hourly total power input into the electrostatic precipitator shall be maintained at or above 0.23 kW. The average hourly total power input shall be the sum of the average power inputs to each field of the electrostatic precipitator. The average power inputs to each field shall be calculated by multiplying the average hourly secondary current for that field by the average hourly secondary voltage for that field, both recorded by the continuous monitoring system. [District Rule 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

45. If the measured average total power input into the electrostatic precipitator falls below the acceptable level specified within this permit, the permittee shall conduct a certified source test within 60 days to re-establish the acceptable secondary voltage and/or secondary current range/level. In lieu of conducting a certified PM10 source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must then correct the violation (return the average hourly voltage and/or current input to or above the minimum acceptable levels), show compliance has been re-established, and resume monitoring procedures. If the deviation is a result of a qualifying breakdown condition pursuant to District Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
46. The permittee shall maintain daily records of total hours of operation, quantity of glass pulled, NOx and SOx emission rates in lb/ton of glass pulled (both block 24-Hr & rolling 30-day averages), CO emission rate in lb/ton of glass pulled (rolling 3-hour average) and quantity & type of fuel used. The permittee shall also maintain records of source tests, the acceptable range for each approved key system operating parameter as established by source testing, all instances of maintenance and repair, any malfunction, and records of all periods of idling, startup, or shutdown. [District Rule 4354] Federally Enforceable Through Title V Permit
47. The permittee shall keep records of the date and time of the furnace melter crown temperature readings and the furnace melter crown temperature measured during the most recent source test that demonstrated ongoing compliance with the VOC emission limit. [District Rule 4354] Federally Enforceable Through Title V Permit
48. The permittee shall keep records of the date and time of the electrostatic precipitator total power input readings and the minimum electrostatic precipitator total power input measured during the source test that demonstrated ongoing compliance with the PM10 emission limit. [District Rule 4354 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
49. The permittee shall maintain records of SOx usage (lb/hr) in the surface passivation process. [District Rule 2201] Federally Enforceable Through Title V Permit
50. The facility shall not use commercial arsenic as a raw material in the production process. [40CFR61, Subpart N] Federally Enforceable Through Title V Permit
51. Permittee shall submit an Authority to Construct application to bring this glass furnace in to compliance with the Tier 4 enhanced NOx emissions limits specified in Rule 4354 by June 1, 2016, and be in full compliance with Tier 4 enhanced NOx emission limits by January 1, 2018. [District Rule 4354] Federally Enforceable Through Title V Permit
52. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4201, Fresno County Rule 404, District Rule 4202, Fresno County Rule 405, District Rule 4801, and Fresno County Rule 406. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
53. The requirements of District Rule 4301, 40 CFR 60, Subpart CC & 40 CFR 61, Subpart N were determined to be not applicable to this unit. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
54. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District, ARB, or EPA inspection upon request. [District Rules 1070 and 4354] Federally Enforceable Through Title V Permit

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