



San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT

APR 14 2010

Jeff Curtin
Certainteed Corporation
17775 Avenue 23 1/2
Chowchilla, CA 93610

Re: Notice of Preliminary Decision - Authority to Construct
Project Number: C-1095070

Dear Mr. Curtin:

Enclosed for your review and comment is the District's analysis of Certainteed Corporation's application for an Authority to Construct for routine rebricking of furnace C-261-2, change the furnace from water cooling to air cooling, change the batch charger configuration from blanket style open charger to closed style charger, correct the fuel oil consumption rate on furnace permit C-261-2, and add PM10 and VOC emission limits to permits C-261-2, '3, '4, at 17775 Avenue 23 1/2, Chowchilla, CA.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. Please submit your written comments on this project within the 30-day public comment period which begins on the date of publication of the public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Stanley Tom of Permit Services at (559) 230-5900.

Sincerely,

David Warner
Director of Permit Services

DW:st

Enclosures

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)

1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061
www.valleyair.org

Southern Region

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



San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT

APR 14 2010

Mike Tollstrup, Chief
Project Assessment Branch
Stationary Source Division
California Air Resources Board
PO Box 2815
Sacramento, CA 95812-2815

Re: Notice of Preliminary Decision - Authority to Construct
Project Number: C-1095070

Dear Mr. Tollstrup:

Enclosed for your review and comment is the District's analysis of Certainteed Corporation's application for an Authority to Construct for routine rebricking of furnace C-261-2, change the furnace from water cooling to air cooling, change the batch charger configuration from blanket style open charger to closed style charger, correct the fuel oil consumption rate on furnace permit C-261-2, and add PM10 and VOC emission limits to permits C-261-2, '3, '4, at 17775 Avenue 23 1/2, Chowchilla, CA.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. Please submit your written comments on this project within the 30-day public comment period which begins on the date of publication of the public notice.

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San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT

APR 14 2010

Gerardo C. Rios (AIR 3)
Chief, Permits Office
Air Division
U.S. E.P.A. - Region IX
75 Hawthorne Street
San Francisco, CA 94105

Re: Notice of Preliminary Decision - Authority to Construct
Project Number: C-1095070

Dear Mr. Rios:

Enclosed for your review and comment is the District's analysis of Certainteed Corporation's application for an Authority to Construct for routine rebricking of furnace C-261-2, change the furnace from water cooling to air cooling, change the batch charger configuration from blanket style open charger to closed style charger, correct the fuel oil consumption rate on furnace permit C-261-2, and add PM10 and VOC emission limits to permits C-261-2, '3, '4, at 17775 Avenue 23 1/2, Chowchilla, CA.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. Please submit your written comments on this project within the 30-day public comment period which begins on the date of publication of the public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Stanley Tom of Permit Services at (559) 230-5900.

Sincerely,

David Warner
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Fresno Bee
Fresno Bee

**NOTICE OF PRELIMINARY DECISION
FOR THE PROPOSED ISSUANCE OF
AN AUTHORITY TO CONSTRUCT**

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Unified Air Pollution Control District solicits public comment on the proposed issuance of Authority to Construct to Certainteed Corporation for routine rebricking of furnace C-261-2, change the furnace from water cooling to air cooling, change the batch charger configuration from blanket style open charger to closed style charger, correct the fuel oil consumption rate on furnace permit C-261-2, and add PM10 and VOC emission limits to permits C-261-2, '3, '4, at 17775 Avenue 23 1/2, Chowchilla, CA.

The analysis of the regulatory basis for this proposed action, Project #C-1095070, is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and the District office at the address below. Written comments on this project must be submitted within 30 days of the publication date of this notice to **DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 1990 EAST GETTYSBURG AVENUE, FRESNO, CA 93726.**

**Authority to Construct
Application Review
Fiberglass Production Facility**

Facility Name: Certainteed Corporation
Mailing Address: 17775 Avenue 23 1/2
Chowchilla, CA 93610
Contact Person: Jeff Curtin
Telephone: (559) 665-4831
Application #: C-261-2-23, '3-11, '4-9
Project #: C-1095070
Complete: January 27, 2010

Date: March 24, 2010
Engineer: Stanley Tom
Lead Engineer: Joven Refuerzo

I. Proposal

Certainteed Corporation (Certainteed) operates a fiberglass insulation manufacturing facility in Chowchilla, CA. The facility has proposed modifications to the existing permit unit C-261-2 (Main Furnace). The applicant proposes to modify existing permit unit C-261-2 (Main Furnace) by performing routine re-bricking of the furnace which is required approximately every 8-10 years, to change the furnace from water cooling to air cooling, and to change the batch charger configuration from blanket style open charger to a closed style charger.

In addition, the following modification will be made on the permit:

- Include PM₁₀ and VOC emission limits as the current permit only lists PM and HC emission limits.
- The fuel oil consumption rate will be corrected to list a value of 570 gal/hr as stated on the facility PSD permit instead of 570 gal/min as listed on the current PTO. This typographical error occurred when the facility was issued it's Title V permit.

As permit units C-261-3 and '4 share the common main stack with permit C-261-2, permit units C-261-3 and '4 will also be modified in this project to add the PM₁₀ and VOC emission limits for the final stack.

Certainteed has received their Title V Permit. This modification can be classified as a Title V minor modification pursuant to Rule 2520, Section 3.29, and can be processed with a Certificate of Conformity (COC). But the facility has not requested that this project be processed in that manner; therefore, Certainteed will be required to submit a Title V minor modification application prior to operating under the revised provisions of the ATCs issued with this project.

II. Applicable Rules

- Rule 2201** New and Modified Stationary Source Review Rule (September 21, 2006)
Rule 2520 Federally Mandated Operating Permits (June 21, 2001)
Rule 4001 New Source Performance Standards (April 14, 1999)
40 CFR 60, Subpart CC – Standards of Performance for Glass Manufacturing Plants
Rule 4002 National Emission Standards for Hazardous Air Pollutants (May 20, 2004)
40 CFR 61 Subpart N – National Emission Standard for Inorganic Arsenic Emissions from Glass Manufacturing Plants
40 CFR 63, Subpart NNN – National Emission Standard for Hazardous Air Pollutants for Wool Fiberglass Manufacturing
Rule 4101 Visible Emissions (February 17, 2005)
Rule 4102 Nuisance (December 17, 1992)
Rule 4201 Particulate Matter – Concentration (December 17, 1992)
Rule 4202 Particulate Matter – Emission Rate (December 17, 1992)
Rule 4301 Fuel Burning Equipment (December 17, 1992)
Rule 4354 Glass Melting Furnaces (October 16, 2008)
Rule 4801 Sulfur Compounds (December 17, 1992)
CH&SC 41700 California Health & Safety Code, Sec 41700, Health Risk Assessment
CH&SC 42301 California Health & Safety Code, Sec 42301.6, School Notice
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

III. Project Location

This facility is located at 17775 Avenue 23 ½ in Chowchilla, CA. The facility is not located within 1,000 feet of any 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

Raw materials, consisting mainly of sand, soda ash, borax, dolomite, limestone, and sodium sulfate, are delivered to the plant and stored for process use. The materials are automatically weighed, mixed, and transferred to the glass melting furnace.

A batch-fed mechanism automatically inserts the mixture into the refractory-type glass melting furnace. The furnace is capable of firing natural gas, fuel oil, or propane. The furnace melts and conditions the batch for further processing. The exhaust gases from the furnace are contacted with a small stream of caustic solution and are then fed to an electrostatic precipitator (ESP) for particulate matter removal.

From the furnace, the glass proceeds to two manufacturing lines -- the C-11 and the C-12 production lines. The C-12 production line produces a blown fiberglass, while the C-11 line produces a matted fiberglass product. The C-12 line does not add organic binding material, but rather fiberizes the glass to produce a material which is bagged and eventually used as a blown

insulating product. The C-11 line is a more standard process involving fiberizing, forming, and thermally setting a binder resin into a glass product. Each line has a forehearth section with gas-fired burners which make temperature and viscosity correction to the molten glass before it enters the fiberizer sections.

Each line has a fiberizing section. In this section, a special alloy spinner rotating at high speed, in conjunction with a high velocity gas flame, attenuates the molten glass into long thin fibers. The air emissions from each fiberizing section proceed to the wet cyclonic scrubbers for particulate/material removal. Then the exhaust further vents to their respective ESPs for additional PM₁₀ control before exhausting to the final stack.

After fiberizing the C-12 line product proceeds to shredding and bagging sections. Ultimately, the C-12 product is packed, stored, and transported to market.

After fiberizing the C-11 product is cooled with a water/resinous material and forced by air to lay on a conveyor in the form of a mat. The mat proceeds to the curing section which consists of a natural gas-fired oven. The oven air emissions are routed through a different ESP before exhausting to the final stack. From the oven, the material is slit and if necessary, faced with an adhesive and paper. The product is chopped into lengths and rolled or packaged as required for transport to market.

The current batch charger is called a "blanket style" charger. In this type of charger, the batch is deposited onto a tray that moves back and forth. As the tray moves, it deposits the batch on top of the molten glass in the "doghouse" area of the furnace. On the return stroke, the tray pushes the batch pile in through an opening in the furnace. This opening allows excess air into the furnace, or exhaust gases out of the furnace depending on the furnace pressure.

In a closed style charger, the batch is deposited on top of the molten glass with a "shoe". The shoe moves up and down to deposit the batch onto the top of the molten glass. In this style of charger, the "shoe" is completely enclosed and the charger is pushed up against the doghouse refractory so that there is no visible opening. Because of this, excess air from the outside of the furnace cannot enter the furnace and exhaust gases from inside the furnace cannot escape.

The facility operates 24 hours per day, 365 days per year.

V. Equipment Listing

Pre-Project Equipment Description:

C-261-2-20 96 MMBTU/HR, 325 METRIC TONS/DAY GLASS MELTING OXY-FUEL FURNACE WITH 12 (8 MMBTU/HR EACH) COMBUSTION TEC. FLAT FLAME BURNERS

C-261-3-7 51.44 MMBTU/HR C-11 PRODUCTION LINE CONSISTING OF FOREHEARTH #1, GLASS FIBERIZER & MAT FORMING, CURING OVEN, MAT COOLING, SLITTING & TRIMMING, FACING, INFRARED DRYER, AND ROLL UP PACKAGING AND CONTROL DEVICES

C-261-4-6 27.44 MMBTU/HR C-12 LINE INCLUDING FOREHEARTH #2; FIBERIZER CONTROLLED BY 3 FISHER-KLOSTERMANN (F-K) CYCLONIC SCRUBBERS; COLLECTION & SHREDDING CONTROLLED BY 2 CERTAINTEED CYCLONES/F-K SCRUBBERS/C-12 WET EP; BAGGING CONTROLLED BY BAGHOUSE #2

Proposed Modification:

C-261-2-23 MODIFICATION OF 96 MMBTU/HR, 325 METRIC TONS/DAY GLASS MELTING OXY-FUEL FURNACE WITH 12 (8 MMBTU/HR EACH) COMBUSTION TEC. FLAT FLAME BURNERS: ROUTINE FURNACE REBUILD, MODIFY FURNACE FROM WATER COOLING TO AIR COOLING, CHANGE BATCH CHARGE CONFIGURATION FROM OPEN TYPE TO CLOSED TYPE, ADD PM₁₀ AND VOC EMISSION RATES

C-261-3-11 MODIFICATION OF 51.44 MMBTU/HR C-11 PRODUCTION LINE CONSISTING OF FOREHEARTH #1, GLASS FIBERIZER & MAT FORMING, CURING OVEN, MAT COOLING, SLITTING & TRIMMING, FACING, INFRARED DRYER, AND ROLL UP PACKAGING AND CONTROL DEVICES: ADD MAIN STACK PM₁₀ AND VOC EMISSION RATES

C-261-4-9 MODIFICATION OF 27.44 MMBTU/HR C-12 LINE INCLUDING FOREHEARTH #2; FIBERIZER CONTROLLED BY 3 FISHER-KLOSTERMANN (F-K) CYCLONIC SCRUBBERS; COLLECTION & SHREDDING CONTROLLED BY 2 CERTAINTEED CYCLONES/F-K SCRUBBERS/C-12 WET EP; BAGGING CONTROLLED BY BAGHOUSE #2: ADD MAIN STACK PM₁₀ AND VOC EMISSION RATES

Post Project Equipment Description:

C-261-2-23 96 MMBTU/HR, 325 METRIC TONS/DAY GLASS MELTING OXY-FUEL FURNACE WITH 12 (8 MMBTU/HR EACH) COMBUSTION TEC. FLAT FLAME BURNERS

C-261-3-11 51.44 MMBTU/HR C-11 PRODUCTION LINE CONSISTING OF FOREHEARTH #1, GLASS FIBERIZER & MAT FORMING, CURING OVEN, MAT COOLING, SLITTING & TRIMMING, FACING, INFRARED DRYER, AND ROLL UP PACKAGING AND CONTROL DEVICES

C-261-4-9 27.44 MMBTU/HR C-12 LINE INCLUDING FOREHEARTH #2; FIBERIZER CONTROLLED BY 3 FISHER-KLOSTERMANN (F-K) CYCLONIC SCRUBBERS; COLLECTION & SHREDDING CONTROLLED BY 2 CERTAINTEED CYCLONES/F-K SCRUBBERS/C-12 WET EP; BAGGING CONTROLLED BY BAGHOUSE #2

VI. Emission Control Technology Evaluation

Operation of the furnace results in emissions of NO_x, SO_x, PM₁₀, CO, and VOC from the combustion of fuels and melting of the glass constituents. The natural gas-fired furnace employs oxygenated fuel to reduce NO_x emissions, as well as a dry electrostatic precipitator (ESP) for PM control and a caustic soda injection system (scrubber) for SO_x control.

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

The oxy-fuel furnace reduces NO_x emissions by minimizing the availability of nitrogen. Nitrogen makes up about 78% of the ambient air. In an uncontrolled furnace, ambient air is introduced into the furnace with the fuel gas for combustion. NO_x emissions are formed by 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 thus reduced. The oxy-fuel furnace is designed, maintained, and operated to minimize the infiltration of the ambient air into the combustion zone.

Operation of the fiberizer lines results in emissions of NO_x, SO_x, PM₁₀, CO, and VOC from the combustion of fuels. Natural gas is utilized in all combustion sources associated with these production lines, which minimizes combustion contaminate emissions as compared to other fuels. PM emissions from Line C-11 are controlled by two wet ESPs (one for the fiberizers and one for the curing oven). PM emissions from Line C-12 are controlled by a third wet ESP.

A baghouse dust collector controls various emission points for both the C-11 and C-12 production lines. The baghouse is expected to have a control efficiency of 99% if properly designed.

VII. General Calculations

A. Assumptions

- Facility operates 8,760 hours per year (per Applicant)
- Natural gas F factor is 8,578 dscf/MMBtu (@ 60 °F)
- Heating value of natural gas is 1,000 Btu/scf. (per District Policy)
- LPG fuel heating value is 94,000 Btu/gal (AP-42 Appendix A, 9/85)
- Grain conversion: 1 pound = 7,000 grains (AP-42-Appendix A-18)

- The glass furnace is fired on natural gas and uses oil and LPG/propane as backup fuels.
- Pre-project diesel backup fuel = 0.05% by weight sulfur
- Post-project diesel backup fuel = 0.0015% by weight sulfur
- The furnace production rate is 325 Metric tons of glass melted per day (approximately 358 tons per day) is proposed. (per PTO)
- The furnace production rate is 118,625 Metric tons of glass melted per year (equivalent to a daily average of 325 MT/day) is proposed. (per PTO)

- As a worst case assumption, all current PM limits will also be taken to be PM₁₀ limits (per applicant).

B. Emission Factors

1. Pre-Project Emission Factors (EF1)

C-261-2-23

The following emission factors apply to the glass furnace:

Pre-Project Emission Factors (EF1) - Furnace		
	EF1	Source
NO _x	4.0 lb/ton	Rule 4354 (Tier II) & Permit Limit
PM	0.25 lb/ton	40 CFR 63, Subpart NNN
CO	1.0 lb/ton	Rule 4354 (Tier II) & Permit Limit
VOC	0.25 lb/ton	Rule 4354 (Tier II) & Permit Limit

The following emission rates apply to the Final Stack:

Pre-Project Final Stack Emission Rates					
	NO _x	SO _x	PM	CO	HC
Mass Emission Rate (Final Stack, lb/hr)	55.9	24.3	22.8	44.7	18.0

C-261-3-11

The following emission factors apply to the 7.34 MMBtu/hr Forehearth, the 8 – 3.8 MMBtu/hr fiberizers, and the 17.5 MMBtu/hr curing oven (with 5 – 3.5 MMBtu/hr burners):

Pre-Project Emission Factors (EF1) - Natural Gas			
	lb/MMscf	lb/MMBtu	Source
NO _x	100	0.1	AP-42 Table 1.4-1
SO _x	--	0.00285	District Policy APR 1720
PM ₁₀	7.6	0.0076	AP-42 Table 1.4-2
CO	84	0.084	AP-42 Table 1.4-1
VOC	5.5	0.0055	AP-42 Table 1.4-2

The following emission factor applies to the baghouse (shared by Permit Unit –4):

Pre-Project Emission Factors (EF1) - Baghouse		
	gr/dscf	Source
PM ₁₀	0.001	Per Applicant

C-261-4-9

The following emission factors apply to the 4.66 MMBtu/hr Forehearth and the 6 – 3.8 MMBtu/hr and the 2 – (new) 4.8 MMBtu/hr fiberizers:

Pre-Project Emission Factors (EF1)			
	lb/MMscf	lb/MMBtu	Source
NO _x	100	0.1	AP-42 Table 1.4-1
SO _x	--	0.00285	District Policy APR 1720
PM ₁₀	7.6	0.0076	AP-42 Table 1.4-2
CO	84	0.084	AP-42 Table 1.4-1
VOC	5.5	0.0055	AP-42 Table 1.4-2

2. Post Project Emission Factors (EF2)

C-261-2-23

The following emission factors apply to the glass furnace:

Post-Project Emission Factors (EF2) - Furnace		
	EF1	Source
NO _x	4.0 lb/ ton	Rule 4354 (Tier II) & Permit Limit
PM	0.25 lb/ ton	40 CFR 63, Subpart NNN
PM ₁₀	0.25 lb/ ton	40 CFR 63, Subpart NNN
CO	1.0 lb/ ton	Rule 4354 (Tier II) & Permit Limit
VOC	0.25 lb/ ton	Rule 4354 (Tier II) & Permit Limit

The following emission rates apply to the Final Stack:

Post-Project Final Stack Emission Rates							
	NO _x	SO _x	PM	PM ₁₀	CO	HC	VOC
Mass Emission Rate (Final Stack, lb/hr)	55.9	24.3	22.8	22.8	44.7	18.0	18.0

C-261-3-11

There are no emission factor changes. Therefore, EF2 = EF1.

C-261-4-9

There are no emission factor changes. Therefore, EF2 = EF1.

C. Calculations

1. Pre-Project Potential to Emit (PE1)

C-261-2-23

The furnace's dry electrostatic precipitator (dry ESP) is subject to an emission limit for PM₁₀: The PM limit for the dry ESP is 8.4 lb PM/hr.

The furnace is also subject to separate emission limits for NO_x, PM₁₀, CO, and VOC, so these are used to calculate PE1 for the furnace only: Emissions can be calculated using the following equation:

$$PE1 = (\text{emission factor}) * (\text{throughput rate}) * (\text{metric ton conversion})$$

$$\begin{aligned} PE1_{NO_x}^1 &= 4.0 \text{ lb/ton} * 325 \text{ MT/day} * 1.1023 \text{ tons/MT} \div 24 \text{ hr/day} = [59.71 \text{ lb NO}_x/\text{hr}] \\ &= 4.0 \text{ lb/ton} * 325 \text{ MT/day} * 1.1023 \text{ tons/MT} = [1,433.0 \text{ lb NO}_x/\text{day}] \\ &= 4.0 \text{ lb/ton} * 118,625 \text{ MT/yr} * 1.1023 \text{ tons/MT} = [523,041 \text{ lb NO}_x/\text{year}] \\ &= 4.0 \text{ lb/ton} * 118,625 \text{ MT/yr} * 1.1023 \text{ tons/MT} \div 4 \text{ qtr/yr} = [130,760 \text{ lb NO}_x/\text{qtr}] \end{aligned}$$

$$\begin{aligned} PE1_{PM} &= 0.25 \text{ lb/ton} * 325 \text{ MT/day} * 1.1023 \text{ tons/MT} \div 24 \text{ hr/day} = 3.73 \text{ lb PM/hr} \\ &= 0.25 \text{ lb/ton} * 325 \text{ MT/day} * 1.1023 \text{ tons/MT} = 89.6 \text{ lb PM/day} \\ &= 0.25 \text{ lb/ton} * 118,625 \text{ MT/yr} * 1.1023 \text{ tons/MT} = 32,690 \text{ lb PM/year} \\ &= 0.25 \text{ lb/ton} * 118,625 \text{ MT/yr} * 1.1023 \text{ tons/MT} \div 4 \text{ qtr/yr} = 8,173 \text{ lb PM/qtr} \end{aligned}$$

$$\begin{aligned} PE1_{CO} &= 1.0 \text{ lb/ton} * 325 \text{ MT/day} * 1.1023 \text{ tons/MT} \div 24 \text{ hr/day} = 14.93 \text{ lb CO/hr} \\ &= 1.0 \text{ lb/ton} * 325 \text{ MT/day} * 1.1023 \text{ tons/MT} = 358.3 \text{ lb CO/day} \\ &= 1.0 \text{ lb/ton} * 118,625 \text{ MT/yr} * 1.1023 \text{ tons/MT} = 130,762 \text{ lb CO/year} \\ &= 1.0 \text{ lb/ton} * 118,625 \text{ MT/yr} * 1.1023 \text{ tons/MT} \div 4 \text{ qtr/yr} = 32,690 \text{ lb CO/qtr} \end{aligned}$$

$$\begin{aligned} PE1_{HC} &= 0.25 \text{ lb/ton} * 325 \text{ MT/day} * 1.1023 \text{ tons/MT} \div 24 \text{ hr/day} = 3.73 \text{ lb HC/hr} \\ &= 0.25 \text{ lb/ton} * 325 \text{ MT/day} * 1.1023 \text{ tons/MT} = 89.6 \text{ lb HC/day} \\ &= 0.25 \text{ lb/ton} * 118,625 \text{ MT/yr} * 1.1023 \text{ tons/MT} = 32,690 \text{ lb HC/year} \\ &= 0.25 \text{ lb/ton} * 118,625 \text{ MT/yr} * 1.1023 \text{ tons/MT} \div 4 \text{ qtr/yr} = 8,173 \text{ lb HC/qtr} \end{aligned}$$

Emissions from the Final Stack are limited separately for operation on natural gas, fuel oil, and LPG/propane. Natural gas and fuel oil emissions are listed in the permit as hourly emission rates, and have been converted to daily emission rates using an assumption of 24-hours/day operation. Emissions from firing on LPG/propane are listed as daily emission rates.

¹ As discussed below, NO_x emissions are limited to the more stringent final stack emission limits; therefore the calculations are expressed in brackets [###].

PTO C-261-2-20 (Final Stack)					
	Natural Gas		Fuel Oil		Propane/LPG
	Hourly Emissions (lb/hr)	Daily Emissions (lb/day)	Hourly Emissions (lb/hr)	Daily Emissions (lb/day)	Daily Emissions (lb/day)
NO _x	55.9	1,341.6	40	960.0	1,341.6
SO _x	24.3	583.2	54	1,296.0	1,296.0
PM	22.8	547.2	22.8	547.2	547.2
CO	44.7	1,072.8	44.7	1,072.8	1,072.8
HC	18	432.0	18	432.0	432.0

It should be noted that the hourly and daily limits listed above include emissions from three permit units: C-261-2, C-261-3, and C-261-4 (the furnace, Line C-11 and Line C-12, respectively).

Comparing the above calculations with the Final Stack permit limits listed in the table above, the hourly permit limit for NO_x emissions from the Final Stack (55.9 lb/hr) is more stringent than the production-based furnace limit from Rule 4354 (59.71 lb/hr @ 4.0 lb/ton). Therefore, the Final Stack hourly permit limit will be used in determining the NO_x potential to emit for the furnace.

The furnace may be fired on natural gas, fuel oil, or LPG/propane. Fuel oil use is limited to 570 gallons/hr and 5 million gallons/year. As a result, fuel oil could be used 8,760 hours/year. Hourly allowable SO_x emissions from the Final Stack are higher for fuel oil use than for natural gas use, so annual SO_x emissions are calculated assuming 8,760 hours/year of fuel oil use.

$$PE_{1SO_x} = (54 \text{ lb/hr} * 8,760 \text{ hours/yr}) = 473,040 \text{ lb/year}$$

For other pollutants, the emission rate for natural gas firing is either higher than or the same as those for fuel oil and LPG/propane. Therefore, annual emissions of other pollutants are calculated assuming 8,760 hours/year operation using natural gas.

The pre-project Potential to Emit for the Furnace is summarized below:

Pre-Project Potential to Emit (PE1) - Furnace				
	Hourly PE (lb/hr)	Daily PE (lb/day)	Quarterly PE (lb/qtr)	Annual PE (lb/year)
NO _x *	55.9	1,341.6	122,421	489,684
SO _x *	54	1,296.0	118,260	473,040
PM	3.73	89.6	8,173	32,690
CO	14.93	358.3	32,690	130,762
HC	3.73	89.6	8,173	32,690

*NO_x and SO_x furnace PE1 calculated based on Final Stack emission limits.

The pre-project Potential to Emit for the Final Stack is listed below:

Pre-Project Potential to Emit (PE1) - Final Stack				
	Hourly PE (lb/hr)	Daily PE (lb/day)	Quarterly PE (lb/qtr)	Annual PE (lb/year)
NO _x	55.9	1,341.6	122,421	489,684
SO _x	54	1,296.0	118,260	473,040
PM	22.8	547.2	49,932	199,728
CO	44.7	1,072.8	97,893	391,572
HC	18	432.0	39,420	157,680

C-261-3-7

The C-11 production line (North and South wet ESPs) is subject to a separate combined emission limit for PM₁₀: The combined PM limit for the North and South wet ESPs is 11.8 lb PM/hr.

Although this operation is a source of combustion contaminants, there are no other emission limits listed on the permit. However, emissions from natural gas combustion can be estimated using the following equation:

$$PE1 = (\text{emission factor}) * (\text{heat input rate})$$

Units served by the South Wet ESP:

Forehearth #1:

$$\begin{aligned} PE1_{NO_x} &= 0.1 \text{ lb/MMBtu} * 7.34 \text{ MMBtu/hr} = 0.73 \text{ lb NO}_x/\text{hr} \\ &= 0.1 \text{ lb/MMBtu} * 7.34 \text{ MMBtu/hr} * 24 \text{ hr/day} = 17.6 \text{ lb NO}_x/\text{day} \\ &= 0.1 \text{ lb/MMBtu} * 7.34 \text{ MMBtu/hr} * 8,760 \text{ hr/year} = 6,430 \text{ lb NO}_x/\text{year} \\ &= 0.1 \text{ lb/MMBtu} * 7.34 \text{ MMBtu/hr} * 2,190 \text{ hr/qtr} = 1,607 \text{ lb NO}_x/\text{qtr} \end{aligned}$$

$$\begin{aligned} PE1_{SO_x} &= 0.00285 \text{ lb/MMBtu} * 7.34 \text{ MMBtu/hr} = 0.02 \text{ lb SO}_x/\text{hr} \\ &= 0.00285 \text{ lb/MMBtu} * 7.34 \text{ MMBtu/hr} * 24 \text{ hr/day} = 0.5 \text{ lb SO}_x/\text{day} \\ &= 0.00285 \text{ lb/MMBtu} * 7.34 \text{ MMBtu/hr} * 8,760 \text{ hr/year} = 183 \text{ lb SO}_x/\text{year} \\ &= 0.00285 \text{ lb/MMBtu} * 7.34 \text{ MMBtu/hr} * 2,190 \text{ hr/qtr} = 46 \text{ lb SO}_x/\text{qtr} \end{aligned}$$

$$\begin{aligned} PE1_{PM_{10}} &= 0.0076 \text{ lb/MMBtu} * 7.34 \text{ MMBtu/hr} = 0.06 \text{ lb PM}_{10}/\text{hr} \\ &= 0.0076 \text{ lb/MMBtu} * 7.34 \text{ MMBtu/hr} * 24 \text{ hr/day} = 1.3 \text{ lb PM}_{10}/\text{day} \\ &= 0.0076 \text{ lb/MMBtu} * 7.34 \text{ MMBtu/hr} * 8,760 \text{ hr/year} = 489 \text{ lb PM}_{10}/\text{year} \\ &= 0.0076 \text{ lb/MMBtu} * 7.34 \text{ MMBtu/hr} * 2,190 \text{ hr/qtr} = 122 \text{ lb PM}_{10}/\text{qtr} \end{aligned}$$

$$\begin{aligned} PE1_{CO} &= 0.084 \text{ lb/MMBtu} * 7.34 \text{ MMBtu/hr} = 0.62 \text{ lb CO/hr} \\ &= 0.084 \text{ lb/MMBtu} * 7.34 \text{ MMBtu/hr} * 24 \text{ hr/day} = 14.8 \text{ lb CO/day} \\ &= 0.084 \text{ lb/MMBtu} * 7.34 \text{ MMBtu/hr} * 8,760 \text{ hr/year} = 5,401 \text{ lb CO/year} \\ &= 0.084 \text{ lb/MMBtu} * 7.34 \text{ MMBtu/hr} * 2,190 \text{ hr/qtr} = 1,350 \text{ lb CO/qtr} \end{aligned}$$

$$\begin{aligned}
 PE_{1\text{voc}} &= 0.0055 \text{ lb/MMBtu} * 7.34 \text{ MMBtu/hr} = 0.04 \text{ lb VOC/hr} \\
 &= 0.0055 \text{ lb/MMBtu} * 7.34 \text{ MMBtu/hr} * 24 \text{ hr/day} = 1.0 \text{ lb VOC/day} \\
 &= 0.0055 \text{ lb/MMBtu} * 7.34 \text{ MMBtu/hr} * 8,760 \text{ hr/year} = 354 \text{ lb VOC/year} \\
 &= 0.0055 \text{ lb/MMBtu} * 7.34 \text{ MMBtu/hr} * 2,190 \text{ hr/qtr} = 89 \text{ lb VOC/qtr}
 \end{aligned}$$

Pre-Project Potential to Emit (PE1) - Forehearth #1				
	Hourly PE (lb/hr)	Daily PE (lb/day)	Quarterly PE (lb/qtr)	Annual PE (lb/year)
NO _x	0.73	17.6	1,607	6,430
SO _x	0.02	0.5	46	183
PM ₁₀	0.06	1.3	122	489
CO	0.62	14.8	1,350	5,401
VOC	0.04	1.0	89	354

Fiberizers: (8 units @ 3.8 MMBtu/hr each)

$$\begin{aligned}
 PE_{1\text{NO}_x} &= 0.1 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} = 0.38 \text{ lb NO}_x\text{/hr} \\
 &= 0.1 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} * 24 \text{ hr/day} = 9.1 \text{ lb NO}_x\text{/day} \\
 &= 0.1 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} * 8,760 \text{ hr/year} = 3,329 \text{ lb NO}_x\text{/year} \\
 &= 0.1 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} * 2,190 \text{ hr/qtr} = 832 \text{ lb NO}_x\text{/qtr}
 \end{aligned}$$

$$\begin{aligned}
 PE_{1\text{SO}_x} &= 0.00285 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} = 0.01 \text{ lb SO}_x\text{/hr} \\
 &= 0.00285 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} * 24 \text{ hr/day} = 0.3 \text{ lb SO}_x\text{/day} \\
 &= 0.00285 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} * 8,760 \text{ hr/year} = 95 \text{ lb SO}_x\text{/year} \\
 &= 0.00285 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} * 2,190 \text{ hr/qtr} = 24 \text{ lb SO}_x\text{/qtr}
 \end{aligned}$$

$$\begin{aligned}
 PE_{1\text{PM}_{10}} &= 0.0076 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} = 0.03 \text{ lb PM}_{10}\text{/hr} \\
 &= 0.0076 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} * 24 \text{ hr/day} = 0.7 \text{ lb PM}_{10}\text{/day} \\
 &= 0.0076 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} * 8,760 \text{ hr/year} = 253 \text{ lb PM}_{10}\text{/year} \\
 &= 0.0076 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} * 2,190 \text{ hr/qtr} = 63 \text{ lb PM}_{10}\text{/qtr}
 \end{aligned}$$

$$\begin{aligned}
 PE_{1\text{CO}} &= 0.084 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} = 0.32 \text{ lb CO/hr} \\
 &= 0.084 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} * 24 \text{ hr/day} = 7.7 \text{ lb CO/day} \\
 &= 0.084 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} * 8,760 \text{ hr/year} = 2,796 \text{ lb CO/year} \\
 &= 0.084 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} * 2,190 \text{ hr/qtr} = 699 \text{ lb CO/qtr}
 \end{aligned}$$

$$\begin{aligned}
 PE_{1\text{voc}} &= 0.0055 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} = 0.02 \text{ lb VOC/hr} \\
 &= 0.0055 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} * 24 \text{ hr/day} = 0.5 \text{ lb VOC/day} \\
 &= 0.0055 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} * 8,760 \text{ hr/year} = 183 \text{ lb VOC/year} \\
 &= 0.0055 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} * 2,190 \text{ hr/qtr} = 46 \text{ lb VOC/qtr}
 \end{aligned}$$

Pre-Project Potential to Emit (PE1) - Each Fiberizer				
	Hourly PE (lb/hr)	Daily PE (lb/day)	Quarterly PE (lb/qtr)	Annual PE (lb/year)
NO _x	0.38	9.1	832	3,329
SO _x	0.01	0.3	24	95
PM ₁₀	0.03	0.7	63	253
CO	0.32	7.7	699	2,796
VOC	0.02	0.5	46	183

Unit served by the North Wet ESP:

Curing Oven:

PE1_{NOx} = 0.1 lb/MMBtu * 17.5 MMBtu/hr = 1.75 lb NO_x/hr
 = 0.1 lb/MMBtu * 17.5 MMBtu/hr * 24 hr/day = 42.0 lb NO_x/day
 = 0.1 lb/MMBtu * 17.5 MMBtu/hr * 8,760 hr/year = 15,330 lb NO_x/year
 = 0.1 lb/MMBtu * 17.5 MMBtu/hr * 2,190 hr/qtr = 3,833 lb NO_x/qtr

PE1_{SOx} = 0.00285 lb/MMBtu * 17.5 MMBtu/hr = 0.05 lb SO_x/hr
 = 0.00285 lb/MMBtu * 17.5 MMBtu/hr * 24 hr/day = 1.2 lb SO_x/day
 = 0.00285 lb/MMBtu * 17.5 MMBtu/hr * 8,760 hr/year = 437 lb SO_x/year
 = 0.00285 lb/MMBtu * 17.5 MMBtu/hr * 2,190 hr/qtr = 109 lb SO_x/qtr

PE1_{PM10} = 0.0076 lb/MMBtu * 17.5 MMBtu/hr = 0.13 lb PM₁₀/hr
 = 0.0076 lb/MMBtu * 17.5 MMBtu/hr * 24 hr/day = 3.2 lb PM₁₀/day
 = 0.0076 lb/MMBtu * 17.5 MMBtu/hr * 8,760 hr/year = 1,165 lb PM₁₀/year
 = 0.0076 lb/MMBtu * 17.5 MMBtu/hr * 2,190 hr/qtr = 291 lb PM₁₀/qtr

PE1_{CO} = 0.084 lb/MMBtu * 17.5 MMBtu/hr = 1.47 lb CO/hr
 = 0.084 lb/MMBtu * 17.5 MMBtu/hr * 24 hr/day = 35.3 lb CO/day
 = 0.084 lb/MMBtu * 17.5 MMBtu/hr * 8,760 hr/year = 12,877 lb CO/year
 = 0.084 lb/MMBtu * 17.5 MMBtu/hr * 2,190 hr/qtr = 3,219 lb CO/qtr

PE1_{VOC} = 0.0055 lb/MMBtu * 17.5 MMBtu/hr = 0.10 lb VOC/hr
 = 0.0055 lb/MMBtu * 17.5 MMBtu/hr * 24 hr/day = 2.3 lb VOC/day
 = 0.0055 lb/MMBtu * 17.5 MMBtu/hr * 8,760 hr/year = 843 lb VOC/year
 = 0.0055 lb/MMBtu * 17.5 MMBtu/hr * 2,190 hr/qtr = 211 lb VOC/qtr

Pre-Project Potential to Emit (PE1) - Curing Oven				
	Hourly PE (lb/hr)	Daily PE (lb/day)	Quarterly PE (lb/qtr)	Annual PE (lb/year)
NO _x	1.75	42.0	3,833	15,330
SO _x	0.5	1.2	109	437
PM ₁₀	0.13	3.2	291	1,165
CO	1.47	35.3	3,219	12,877
VOC	0.10	2.3	211	843

The baghouse located on the C-11 production line (serving the slitting and trimming and dyken roll up operations and shared by permit unit -4's bagging operation) is a source of PM₁₀ emissions only. Emissions can be calculated using the following equation and are summarized in the table below:

$$PE1 = ((\text{grain loading rate}) * (\text{exhaust flow rate})) \div (\text{gr/lb conversion})$$

Units served by the baghouse:

Slitting & Trimming/Dyken Roll up (-3):

$$PE1_{PM10} = (0.001 \text{ gr/dscf} * 34,000 \text{ scf/min}) \div 7,000 \text{ gr/lb} * 60 \text{ min/hr}$$

$$= 0.29 \text{ lb PM}_{10}/\text{hr}$$

$$= (0.001 \text{ gr/dscf} * 34,000 \text{ scf/min}) \div 7,000 \text{ gr/lb} * 60 \text{ min/hr} * 24 \text{ hr/day}$$

$$= 7.0 \text{ lb PM}_{10}/\text{day}$$

$$= (0.001 \text{ gr/dscf} * 34,000 \text{ scf/min}) \div 7,000 \text{ gr/lb} * 60 \text{ min/hr} * 2,190 \text{ hr/qtr}$$

$$= 638 \text{ lb PM}_{10}/\text{qtr}$$

$$= (0.001 \text{ gr/dscf} * 34,000 \text{ scf/min}) \div 7,000 \text{ gr/lb} * 60 \text{ min/hr} * 8,760 \text{ hr/year}$$

$$= 2,553 \text{ lb PM}_{10}/\text{year}$$

Pre-Project Potential to Emit (PE1) - Baghouse				
	Hourly PE (lb/hr)	Daily PE (lb/day)	Quarterly PE (lb/qtr)	Annual PE (lb/year)
PM ₁₀	0.29	7.0	638	2,553

C-261-4-6

The C-12 production line (wet ESP) is subject to an emission limit for PM₁₀: The PM limit for the wet ESP is 4.5 lb PM/hr.

Although this operation is a source of combustion contaminants, there are no other emission limits listed on the permit. However, emissions can be estimated using the following equation:

$$PE1 = (\text{emission factor}) * (\text{heat input rate})$$

Units served by the Wet ESP:

Forehearth #2:

$$PE1_{NOx} = 0.1 \text{ lb/MMBtu} * 4.66 \text{ MMBtu/hr} = 0.47 \text{ lb NO}_x/\text{hr}$$

$$= 0.1 \text{ lb/MMBtu} * 4.66 \text{ MMBtu/hr} * 24 \text{ hr/day} = 11.2 \text{ lb NO}_x/\text{day}$$

$$= 0.1 \text{ lb/MMBtu} * 4.66 \text{ MMBtu/hr} * 8,760 \text{ hr/year} = 4,082 \text{ lb NO}_x/\text{year}$$

$$= 0.1 \text{ lb/MMBtu} * 4.66 \text{ MMBtu/hr} * 2,190 \text{ hr/qtr} = 1,021 \text{ lb NO}_x/\text{qtr}$$

$PE1_{SO_x} = 0.00285 \text{ lb/MMBtu} * 4.66 \text{ MMBtu/hr} = 0.01 \text{ lb SO}_x/\text{hr}$
 $= 0.00285 \text{ lb/MMBtu} * 4.66 \text{ MMBtu/hr} * 24 \text{ hr/day} = 0.3 \text{ lb SO}_x/\text{day}$
 $= 0.00285 \text{ lb/MMBtu} * 4.66 \text{ MMBtu/hr} * 8,760 \text{ hr/year} = 116 \text{ lb SO}_x/\text{year}$
 $= 0.00285 \text{ lb/MMBtu} * 4.66 \text{ MMBtu/hr} * 2,190 \text{ hr/qtr} = 29 \text{ lb SO}_x/\text{qtr}$

$PE1_{PM_{10}} = 0.0076 \text{ lb/MMBtu} * 4.66 \text{ MMBtu/hr} = 0.04 \text{ lb PM}_{10}/\text{hr}$
 $= 0.0076 \text{ lb/MMBtu} * 4.66 \text{ MMBtu/hr} * 24 \text{ hr/day} = 0.8 \text{ lb PM}_{10}/\text{day}$
 $= 0.0076 \text{ lb/MMBtu} * 4.66 \text{ MMBtu/hr} * 8,760 \text{ hr/year} = 310 \text{ lb PM}_{10}/\text{year}$
 $= 0.0076 \text{ lb/MMBtu} * 4.66 \text{ MMBtu/hr} * 2,190 \text{ hr/qtr} = 78 \text{ lb PM}_{10}/\text{qtr}$

$PE1_{CO} = 0.084 \text{ lb/MMBtu} * 4.66 \text{ MMBtu/hr} = 0.39 \text{ lb CO/hr}$
 $= 0.084 \text{ lb/MMBtu} * 4.66 \text{ MMBtu/hr} * 24 \text{ hr/day} = 9.4 \text{ lb CO/day}$
 $= 0.084 \text{ lb/MMBtu} * 4.66 \text{ MMBtu/hr} * 8,760 \text{ hr/year} = 3,429 \text{ lb CO/year}$
 $= 0.084 \text{ lb/MMBtu} * 4.66 \text{ MMBtu/hr} * 2,190 \text{ hr/qtr} = 857 \text{ lb CO/qtr}$

$PE1_{VOC} = 0.0055 \text{ lb/MMBtu} * 4.66 \text{ MMBtu/hr} = 0.03 \text{ lb VOC/hr}$
 $= 0.0055 \text{ lb/MMBtu} * 4.66 \text{ MMBtu/hr} * 24 \text{ hr/day} = 0.6 \text{ lb VOC/day}$
 $= 0.0055 \text{ lb/MMBtu} * 4.66 \text{ MMBtu/hr} * 8,760 \text{ hr/year} = 225 \text{ lb VOC/year}$
 $= 0.0055 \text{ lb/MMBtu} * 4.66 \text{ MMBtu/hr} * 2,190 \text{ hr/qtr} = 56 \text{ lb VOC/qtr}$

Pre-Project Potential to Emit (PE1) - Forehearth #2				
	Hourly PE (lb/hr)	Daily PE (lb/day)	Quarterly PE (lb/qtr)	Annual PE (lb/year)
NO _x	0.47	11.2	1,021	4,082
SO _x	0.01	0.3	29	116
PM ₁₀	0.04	0.8	78	310
CO	0.39	9.4	857	3,429
VOC	0.03	0.6	56	225

Fiberizers: (6 units @ 3.8 MMBtu/hr each)

$PE1_{NO_x} = 0.1 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} = 0.38 \text{ lb NO}_x/\text{hr}$
 $= 0.1 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} * 24 \text{ hr/day} = 9.1 \text{ lb NO}_x/\text{day}$
 $= 0.1 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} * 8,760 \text{ hr/year} = 3,329 \text{ lb NO}_x/\text{year}$
 $= 0.1 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} * 2,190 \text{ hr/qtr} = 832 \text{ lb NO}_x/\text{qtr}$

$PE1_{SO_x} = 0.00285 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} = 0.01 \text{ lb SO}_x/\text{hr}$
 $= 0.00285 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} * 24 \text{ hr/day} = 0.3 \text{ lb SO}_x/\text{day}$
 $= 0.00285 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} * 8,760 \text{ hr/year} = 95 \text{ lb SO}_x/\text{year}$
 $= 0.00285 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} * 2,190 \text{ hr/qtr} = 24 \text{ lb SO}_x/\text{qtr}$

$PE1_{PM_{10}} = 0.0076 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} = 0.03 \text{ lb PM}_{10}/\text{hr}$
 $= 0.0076 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} * 24 \text{ hr/day} = 0.7 \text{ lb PM}_{10}/\text{day}$
 $= 0.0076 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} * 8,760 \text{ hr/year} = 253 \text{ lb PM}_{10}/\text{year}$
 $= 0.0076 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} * 2,190 \text{ hr/qtr} = 63 \text{ lb PM}_{10}/\text{qtr}$

$$\begin{aligned}
 PE_{1CO} &= 0.084 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} = 0.32 \text{ lb CO/hr} \\
 &= 0.084 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} * 24 \text{ hr/day} = 7.7 \text{ lb CO/day} \\
 &= 0.084 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} * 8,760 \text{ hr/year} = 2,796 \text{ lb CO/year} \\
 &= 0.084 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} * 2,190 \text{ hr/qtr} = 699 \text{ lb CO/qtr}
 \end{aligned}$$

$$\begin{aligned}
 PE_{1VOC} &= 0.0055 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} = 0.02 \text{ lb VOC/hr} \\
 &= 0.0055 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} * 24 \text{ hr/day} = 0.5 \text{ lb VOC/day} \\
 &= 0.0055 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} * 8,760 \text{ hr/year} = 183 \text{ lb VOC/year} \\
 &= 0.0055 \text{ lb/MMBtu} * 3.8 \text{ MMBtu/hr} * 2,190 \text{ hr/qtr} = 46 \text{ lb VOC/qtr}
 \end{aligned}$$

Pre-Project Potential to Emit (PE1) - Each Fiberizer				
	Hourly PE (lb/hr)	Daily PE (lb/day)	Quarterly PE (lb/qtr)	Annual PE (lb/year)
NO _x	0.38	9.1	832	3,329
SO _x	0.01	0.3	24	95
PM ₁₀	0.03	0.7	63	253
CO	0.32	7.7	699	2,796
VOC	0.02	0.5	46	183

Unit served by the baghouse:

Bagging Operation (-4):

$$\begin{aligned}
 PE_{1PM_{10}} &= (0.001 \text{ gr/dscf} * 34,000 \text{ scf/min}) \div 7,000 \text{ gr/lb} * 60 \text{ min/hr} \\
 &= 0.29 \text{ lb PM}_{10}\text{/hr} \\
 &= (0.001 \text{ gr/dscf} * 34,000 \text{ scf/min}) \div 7,000 \text{ gr/lb} * 60 \text{ min/hr} * 24 \text{ hr/day} \\
 &= 7.0 \text{ lb PM}_{10}\text{/day} \\
 &= (0.001 \text{ gr/dscf} * 34,000 \text{ scf/min}) \div 7,000 \text{ gr/lb} * 60 \text{ min/hr} * 2,190 \text{ hr/qtr} \\
 &= 638 \text{ lb PM}_{10}\text{/qtr} \\
 &= (0.001 \text{ gr/dscf} * 34,000 \text{ scf/min}) \div 7,000 \text{ gr/lb} * 60 \text{ min/hr} * 8,760 \text{ hr/year} \\
 &= 2,553 \text{ lb PM}_{10}\text{/year}
 \end{aligned}$$

Pre-Project Potential to Emit (PE1) - Baghouse				
	Hourly PE (lb/hr)	Daily PE (lb/day)	Quarterly PE (lb/qtr)	Annual PE (lb/year)
PM ₁₀	0.29	7.0	638	2,553

2. Post Project Potential to Emit (PE2)

C-261-2-23

$$PE2 = (\text{emission factor}) * (\text{throughput rate}) * (\text{metric ton conversion})$$

$$\begin{aligned} PE2_{NOx}^2 &= 4.0 \text{ lb/ton} * 325 \text{ MT/day} * 1.1023 \text{ tons/MT} \div 24 \text{ hr/day} = [59.71 \text{ lb NO}_x\text{/hr}] \\ &= 4.0 \text{ lb/ton} * 325 \text{ MT/day} * 1.1023 \text{ tons/MT} = [1,433.0 \text{ lb NO}_x\text{/day}] \\ &= 4.0 \text{ lb/ton} * 118,625 \text{ MT/yr} * 1.1023 \text{ tons/MT} = [523,041 \text{ lb NO}_x\text{/year}] \\ &= 4.0 \text{ lb/ton} * 118,625 \text{ MT/yr} * 1.1023 \text{ tons/MT} \div 4 \text{ qtr/yr} = [130,760 \text{ lb NO}_x\text{/qtr}] \end{aligned}$$

$$\begin{aligned} PE2_{PM} &= 0.25 \text{ lb/ton} * 325 \text{ MT/day} * 1.1023 \text{ tons/MT} \div 24 \text{ hr/day} = 3.73 \text{ lb PM/hr} \\ &= 0.25 \text{ lb/ton} * 325 \text{ MT/day} * 1.1023 \text{ tons/MT} = 89.6 \text{ lb PM/day} \\ &= 0.25 \text{ lb/ton} * 118,625 \text{ MT/yr} * 1.1023 \text{ tons/MT} = 32,690 \text{ lb PM/year} \\ &= 0.25 \text{ lb/ton} * 118,625 \text{ MT/yr} * 1.1023 \text{ tons/MT} \div 4 \text{ qtr/yr} = 8,173 \text{ lb PM/qtr} \end{aligned}$$

$$\begin{aligned} PE2_{PM10} &= 0.25 \text{ lb/ton} * 325 \text{ MT/day} * 1.1023 \text{ tons/MT} \div 24 \text{ hr/day} = 3.73 \text{ lb PM}_{10}\text{/hr} \\ &= 0.25 \text{ lb/ton} * 325 \text{ MT/day} * 1.1023 \text{ tons/MT} = 89.6 \text{ lb PM}_{10}\text{/day} \\ &= 0.25 \text{ lb/ton} * 118,625 \text{ MT/yr} * 1.1023 \text{ tons/MT} = 32,690 \text{ lb PM}_{10}\text{/year} \\ &= 0.25 \text{ lb/ton} * 118,625 \text{ MT/yr} * 1.1023 \text{ tons/MT} \div 4 \text{ qtr/yr} = 8,173 \text{ lb PM}_{10}\text{/qtr} \end{aligned}$$

$$\begin{aligned} PE2_{CO} &= 1.0 \text{ lb/ton} * 325 \text{ MT/day} * 1.1023 \text{ tons/MT} \div 24 \text{ hr/day} = 14.93 \text{ lb CO/hr} \\ &= 1.0 \text{ lb/ton} * 325 \text{ MT/day} * 1.1023 \text{ tons/MT} = 358.3 \text{ lb CO/day} \\ &= 1.0 \text{ lb/ton} * 118,625 \text{ MT/yr} * 1.1023 \text{ tons/MT} = 130,762 \text{ lb CO/year} \\ &= 1.0 \text{ lb/ton} * 118,625 \text{ MT/yr} * 1.1023 \text{ tons/MT} \div 4 \text{ qtr/yr} = 32,690 \text{ lb CO/qtr} \end{aligned}$$

$$\begin{aligned} PE2_{VOC} &= 0.25 \text{ lb/ton} * 325 \text{ MT/day} * 1.1023 \text{ tons/MT} \div 24 \text{ hr/day} = 3.73 \text{ lb VOC/hr} \\ &= 0.25 \text{ lb/ton} * 325 \text{ MT/day} * 1.1023 \text{ tons/MT} = 89.6 \text{ lb VOC/day} \\ &= 0.25 \text{ lb/ton} * 118,625 \text{ MT/yr} * 1.1023 \text{ tons/MT} = 32,690 \text{ lb VOC/year} \\ &= 0.25 \text{ lb/ton} * 118,625 \text{ MT/yr} * 1.1023 \text{ tons/MT} \div 4 \text{ qtr/yr} = 8,173 \text{ lb VOC/qtr} \end{aligned}$$

The current natural gas SOx limit is 24.3 lb/hr and the current fuel oil SOx limit is 54.0 lb/hr. The State of California now requires the use of very low sulfur diesel fuel (15 ppmv sulfur). As shown below, natural gas (1.0 gr-S/100scf) has a higher sulfur content than very low sulfur diesel (15 ppmw sulfur).

Natural Gas

$$1.0 \text{ gr-S/100 scf} * \text{scf/1000 Btu} * \text{lb/7000 gr} * 2 \text{ lb-SO}_x\text{/lb-S} * 1E6 = 0.00286 \text{ lb-SO}_x\text{/MMBtu}$$

Very-Low Sulfur Diesel

$$15 \text{ ppmw-S} * 7.1 \text{ lb/gal} * \text{gal/137,000 Btu} * 2 \text{ lb-SO}_x\text{/lb-S} = 0.00155 \text{ lb-SO}_x\text{/MMBtu}$$

Therefore, as a conservative estimate, the fuel oil SOx value will be set equal to the natural gas SOx value of 24.3 lb/hr.

² As discussed below, NO_x emissions are limited to the more stringent final stack emission limits; therefore the calculations are expressed in brackets [###].

ATC C-261-2-23 (Final Stack)					
	Natural Gas		Fuel Oil		Propane/LPG
	Hourly Emissions (lb/hr)	Daily Emissions (lb/day)	Hourly Emissions (lb/hr)	Daily Emissions (lb/day)	Daily Emissions (lb/day)
NO _x	55.9	1,341.6	40	960.0	1,341.6
SO _x	24.3	583.2	24.3	583.2	1,296.0
PM	22.8	547.2	22.8	547.2	547.2
PM ₁₀	22.8	547.2	22.8	547.2	547.2
CO	44.7	1,072.8	44.7	1,072.8	1,072.8
HC	18	432.0	18	432.0	432.0
VOC	18	432.0	18	432.0	432.0

It should be noted that the hourly and daily limits listed above include emissions from three permit units: C-261-2, C-261-3, and C-261-4 (the furnace, Line C-11 and Line C-12, respectively).

The post-project Potential to Emit for the Furnace is summarized below:

Post-Project Potential to Emit (PE2) - Furnace				
	Hourly PE (lb/hr)	Daily PE (lb/day)	Quarterly PE (lb/qtr)	Annual PE (lb/year)
NO _x *	55.9	1,341.6	122,421	489,684
SO _x *	24.3	1,296.0	54,301	217,204
PM	3.73	89.6	8,173	32,690
PM ₁₀	3.73	89.6	8,173	32,690
CO	14.93	358.3	32,690	130,762
HC	3.73	89.6	8,173	32,690
VOC	3.73	89.6	8,173	32,690

*NO_x and SO_x furnace PE2 calculated based on Final Stack emission limits.

The post-project Potential to Emit for the Final Stack is listed below:

Post-Project Potential to Emit (PE2) - Final Stack				
	Hourly PE (lb/hr)	Daily PE (lb/day)	Quarterly PE (lb/qtr)	Annual PE (lb/year)
NO _x	55.9	1,341.6	122,421	489,684
SO _x	24.3	1,296.0	54,301	217,204
PM ₁₀ *	22.8	547.2	49,932	199,728
CO	44.7	1,072.8	97,893	391,572
HC	18	432.0	39,420	157,680
VOC	18	432.0	39,420	157,680

C-261-3-11

There are no emission changes in this project. Therefore, PE2 = PE1.

C-261-4-9

There are no emission changes in this project. Therefore, PE2 = PE1.

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

Pursuant to Section 4.9 of District Rule 2201, the Pre-Project Stationary Source Potential to Emit (SSPE1) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

The Pre-Project Stationary Source Potential to Emit (SSPE1) is summarized below.

Pre-Project Stationary Source Potential to Emit [SSPE1] (lb/year)					
Permit	NO _x	SO _x	PM ₁₀	CO	VOC
C-261-1-6	0	0	959	0	0
C-261-2-20	489,684	473,040	199,728	391,572	157,680
C-261-3-7					
C-261-4-6					
C-261-27-4	5,518	365	392	1,189	447
C-261-28-4	5,518	365	392	1,189	447
C-261-29-3	775	51	55	167	63
C-261-30-2	1,128	75	80	243	91
C-261-31-2	1,128	75	80	243	91
Pre-Project SSPE (SSPE1)	503,751	473,971	201,686	394,603	158,819

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

Pursuant to Section 4.10 of District Rule 2201, the Post Project Stationary Source Potential to Emit (SSPE2) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site. The Post Project Stationary Source Potential to Emit (SSPE2) is summarized below:

Post-Project Stationary Source Potential to Emit [SSPE2] (lb/year)					
Permit	NO _x	SO _x	PM ₁₀	CO	VOC
C-261-1-6	0	0	959	0	0
C-261-2-23	489,684	217,204	199,728	391,572	157,680
C-261-3-11					
C-261-4-9					

C-261-27-4	5,518	365	392	1,189	447
C-261-28-4	5,518	365	392	1,189	447
C-261-29-3	775	51	55	167	63
C-261-30-2	1,128	75	80	243	91
C-261-31-2	1,128	75	80	243	91
Post-Project SSPE (SSPE2)	503,751	218,135	201,686	394,603	158,819

5. Major Source Determination

Pursuant to Section 3.24 of District Rule 2201, a Major Source is a stationary source with post-project emissions or a Post Project Stationary Source Potential to Emit (SSPE2), equal to or exceeding one or more of the following threshold values. However, Section 3.24.2 states, "for the purposes of determining major source status, the SSPE2 shall not include the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site."

Major Source Determination (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
Pre-Project SSPE (SSPE1)	503,751	473,971	201,686	394,603	158,819
Post Project SSPE (SSPE2)	503,751	218,135	201,686	394,603	158,819
Major Source Threshold	50,000	140,000	140,000	200,000	50,000
Major Source?	Yes	Yes	Yes	Yes	Yes

The source is an existing Major Source for NO_x, SO_x, PM₁₀, CO and VOC and will remain a Major Source for these pollutants.

6. Baseline Emissions (BE)

BE = Pre-project Potential to Emit for:

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

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to Rule 2201, Section 3.22.

Clean Emissions Unit, Located at a Major Source

Pursuant to Rule 2201, Section 3.12, a Clean Emissions Unit is defined as an emissions unit that is "equipped with an emissions control technology with a minimum control efficiency of at least 95% or is equipped with emission control technology that meets the requirements for achieved-in-practice BACT as accepted by the APCO during the five years immediately prior to the submission of the complete application.

C-261-2-23

The furnace in this project currently meets achieved-in-practice BACT (BACT Guideline 1.5.1) during the five years immediately prior to the submission of the complete application. Therefore, the furnace in this project is a Clean Emissions Unit and Baseline Emissions (BE) are equal to the Pre-Project Potential to Emit (PE1).

C-261-3-11

As shown in Attachment H and I in project C-1043510, the emission units in this permit meets Achieved in Practice BACT during the five years immediately prior to the submission of the complete application or is equipped with an emissions control technology with a minimum control efficiency of at least 95%. Therefore, the emission units in this project are Clean Emission Units and Baseline Emissions (BE) are equal to the Pre-Project Potential to Emit (PE1).

C-261-4-9

As shown in Attachment H and I in project C-1043510, the emission units in this permit meets Achieved in Practice BACT during the five years immediately prior to the submission of the complete application or is equipped with an emissions control technology with a minimum control efficiency of at least 95%. Therefore, the emission units in this project are Clean Emission Units and Baseline Emissions (BE) are equal to the Pre-Project Potential to Emit (PE1).

7. Major Modification

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

As discussed in Section VII.C.5 above, the facility is an existing Major Source for all pollutants; however, the project by itself would need to be a significant increase in order to trigger a Major Modification.

HAE

The HAE values for this project as provided by the applicant are shown below. There were two source tests performed in 2009 for the main stack. The worst case emission factor for each pollutant was used in the below calculations.

Month	Year	Production (MT)
November 1 – December 31	2007	17,607
January 1 – December 31	2008	91,580
January 1 – October 31	2009	67,834
Total		177,021

Year	Emission Factors (lb/MT)				Emissions (lb)			
	NO _x	SO _x	PM10	VOC	NO _x	SO _x	PM10	VOC
Nov – Dec, 2007	2.64	0.0326	0.94	0.049	46,482	574	16,551	863
Jan – Dec, 2008	2.29	0.084	1.338	0.038	209,718	7,693	122,534	3,480
Jan – Oct, 2009	2.95	0.077	1.02	1.24	200,110	5,223	69,191	88,457
Nov 07 – Oct 09 Total					456,311	13,490	208,275	88,457
Annual Average (HAE)					228,156	6,745	104,138	44,228

Major Modification Thresholds (Existing Major Source)			
Pollutant	Project PE2 – HAE (lb/year)	Threshold (lb/year)	Major Modification?
NO _x	489,684 – 228,156 = 261,528	50,000	Yes
SO _x	217,204 – 6,745 = 210,459	80,000	Yes
PM10	199,728 – 104,138 = 95,590	30,000	Yes
VOC	157,680 – 44,228 = 113,452	50,000	Yes

Therefore, the project does constitute a Major Modification.

8. Federal Major Modification

District Rule 2201, Section 3.17 states that major modifications are also federal major modifications, unless they qualify for either a “Less-Than-Significant Emissions Increase” exclusion or a “Plantwide Applicability Limit” (PAL) exclusion.

A Less-Than-Significant Emissions Increase exclusion is for an emissions increase for the project, or a Net Emissions Increase for the project (as defined in 40 CFR 51.165 (a)(2)(ii)(B) through (D), and (F)), that is not significant for a given regulated NSR pollutant, and therefore is not a federal major modification for that pollutant.

- To determine the post-project projected actual emissions from existing units, the provisions of 40 CFR 51.165 (a)(1)(xxviii) shall be used.
- To determine the pre-project baseline actual emissions, the provisions of 40 CFR 51.165 (a)(1)(xxxv)(A) through (D) shall be used.
- If the project is determined not to be a federal major modification pursuant to the provisions of 40 CFR 51.165 (a)(2)(ii)(B), but there is a reasonable possibility that the project may result in a significant emissions increase, the owner or operator shall comply with all of the provisions of 40 CFR 51.165 (a)(6) and (a)(7).
- Emissions increases calculated pursuant to this section are significant if they exceed the significance thresholds specified in the table below.

Significant Threshold (lb/year)	
Pollutant	Threshold (lb/year)
VOC	50,000
NO _x	50,000
PM ₁₀	30,000
SO _x	80,000

The Net Emissions Increases (NEI) for purposes of determination of a “Less-Than-Significant Emissions Increase” exclusion will be calculated below to determine if this project qualifies for such an exclusion.

The “hybrid test” specified in 40 CFR(a)(2)(ii)(F) requires that the NEI determination be based on the sum of the individual NEI determinations for existing emissions units (NEI_E) and new emissions units (NEI_N) pursuant to 40 CFR(a)(2)(ii)(C) and (D) respectively. In addition, pursuant to 40 CFR (a)(1)(vi)(A)(2), creditable contemporaneous emissions increases (NEI_C) must also be included in the determination of the NEI. Therefore,

$$NEI = NEI_E + NEI_N + NEI_C$$

Net Emission Increase for Existing Units (NEI_E)

Per 40 CFR 51.165 (a)(1)(xxviii) and 40 CFR 51.165 (a)(2)(ii)(C) for all existing units,

$$NEI_E = PAE - BAE$$

where,

BAE = Baseline Actual Emissions which are the actual emissions created by the project during the baseline period. The BAE are calculated pursuant to 40 CFR 51.165 (a)(1)(xxxv)(A) through (D). The following are the historical actual emissions as calculated in Section VII.C.7.

BAE	
Pollutant	(lb/year)
NO _x	228,156
SO _x	6,745
PM	104,138
HC	44,228

PAE = Projected Actual Emissions which are the post-project projected actual emissions of the existing units in this project pursuant to 40 CFR 51.165 (a)(1)(xxviii). The following is the post project potential to emit as calculated in Section VII.C.2.

Projected Maximum Annual Emissions	
Pollutant	(lb/year)
NO _x	489,684
SO _x	217,204
PM	199,728
VOC	157,680

Per 40 CFR 51.165 (a)(1)(xxviii)(B)(3), the portion of the existing units' emissions following the project that an existing unit *could have accommodated* during the baseline period shall be excluded from the PAE in calculating any emissions increase. This project does not increase the capacity or rating of any unit. Therefore, the project maximum annual emissions is equal to the emissions that could have been accommodated during the baseline period.

$$\text{PAE} = \text{Projected Maximum Annual Emissions} - \text{Emissions following the project that an existing unit could have accommodated during the baseline period}$$

Since,

$$\text{Projected Maximum Annual Emissions} = \text{Emissions following the project that an existing unit could have accommodated during the baseline period}$$

$$\text{PAE} = 0$$

NEI_E is thus calculated as follows:

$$\text{NEI}_E = \text{PAE} - \text{BAE} = 0 - \text{BAE}$$

$$\text{NEI}_E = 0 \text{ for all existing emissions units}$$

Net Emission Increase for New Units (NEI_N)

There are no new emission units in this project.

$$\text{NEI}_N = 0$$

Creditable Contemporaneous Emissions Increase (NEI_C)

There are no credible contemporaneous emission increases associated with this project.

$$\text{NEI}_C = 0$$

The NEI for this project is thus calculated as follows:

$$NEI = NEI_E + NEI_N + NEI_C$$

$$NEI = 0 + 0 + 0 = 0$$

The NEI for this project will be less than the federal Major Modification thresholds. Therefore, this project does qualify for a "Less-Than-Significant Emissions Increase" exclusion and is thus determined not to be a Federal Major Modification.

9. Quarterly Net Emissions Change (QNEC)

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

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis for the following*:

- a) Any new emissions unit with a potential to emit exceeding two pounds per day,
- b) The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
- c) Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIPE exceeding two pounds per day, and/or
- d) Any new or modified emissions unit, in a stationary source project, which results in a Major Modification.

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

a. New Emissions units with PE > 2 lb/day

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

b. Relocation of emissions with PE > 2 lb/day

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

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

For modified emissions units, the AIPE can be calculated as follows:

$$\text{AIPE} = \text{PE2} - \text{HAPE}$$

Where,

AIPE = Adjusted Increase in Permitted Emissions, (lb/day)

PE2 = Post-Project Potential to Emit, (lb/day)

HAPE = Historically Adjusted Potential to Emit, (lb/day)

$$\text{HAPE} = \text{PE1} \times (\text{EF2}/\text{EF1})$$

Where,

PE1 = The emissions unit's Potential to Emit prior to modification or relocation, (lb/day)

EF2 = The emissions unit's permitted emission factor for the pollutant after modification or relocation. If EF2 is greater than EF1 then EF2/EF1 shall be set to 1

EF1 = The emissions unit's permitted emission factor for the pollutant before the modification or relocation

$$\text{AIPE} = \text{PE2} - (\text{PE1} \times (\text{EF2} / \text{EF1}))$$

There are no emission factor changes in this project. Therefore, EF2 / EF1 = 1.

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$$\begin{aligned}\text{AIPE}_{\text{NOx}} &= 1,341.6 - (1,341.6 * (1)) \\ &= 1,341.6 - 1,341.6 * 1 \\ &= 0.0 \text{ lb-NOx/day}\end{aligned}$$

$$\begin{aligned}\text{AIPE}_{\text{SOx}} &= 1,296.0 - (1,296.0 * (1)) \\ &= 1,296.0 - 1,296.0 * 1 \\ &= 0.0 \text{ lb-SOx/day}\end{aligned}$$

$$\begin{aligned}\text{AIPE}_{\text{PM10}} &= 547.2 - (547.2 * (1)) \\ &= 547.2 - 547.2 * 1 \\ &= 0.0 \text{ lb-PM10/day}\end{aligned}$$

$$\begin{aligned}\text{AIPE}_{\text{CO}} &= 1,072.8 - (1,072.8 * (1)) \\ &= 1,072.8 - 1,072.8 * 1 \\ &= 0.0 \text{ lb-CO/day}\end{aligned}$$

$$\begin{aligned}\text{AIPE}_{\text{VOC}} &= 432.0 - (432.0 * (1)) \\ &= 432.0 - 432.0 * 1 \\ &= 0.0 \text{ lb-VOC/day}\end{aligned}$$

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Fiberizer

$$\begin{aligned} \text{AIPE}_{\text{NOx}} &= 9.1 - (9.1 * (1)) \\ &= 9.1 - 9.1 * 1 \\ &= 0.0 \text{ lb-NOx/day} \end{aligned}$$

$$\begin{aligned} \text{AIPE}_{\text{SOx}} &= 0.3 - (0.3 * (1)) \\ &= 0.3 - 0.3 * 1 \\ &= 0.0 \text{ lb-SOx/day} \end{aligned}$$

$$\begin{aligned} \text{AIPE}_{\text{PM10}} &= 0.7 - (0.7 * (1)) \\ &= 0.7 - 0.7 * 1 \\ &= 0.0 \text{ lb-PM10/day} \end{aligned}$$

$$\begin{aligned} \text{AIPE}_{\text{CO}} &= 7.7 - (7.7 * (1)) \\ &= 7.7 - 7.7 * 1 \\ &= 0.0 \text{ lb-CO/day} \end{aligned}$$

$$\begin{aligned} \text{AIPE}_{\text{VOC}} &= 0.5 - (0.5 * (1)) \\ &= 0.5 - 0.5 * 1 \\ &= 0.0 \text{ lb-VOC/day} \end{aligned}$$

Curing Oven

$$\begin{aligned} \text{AIPE}_{\text{NOx}} &= 42.0 - (42.0 * (1)) \\ &= 42.0 - 42.0 * 1 \\ &= 0.0 \text{ lb-NOx/day} \end{aligned}$$

$$\begin{aligned} \text{AIPE}_{\text{SOx}} &= 1.2 - (1.2 * (1)) \\ &= 1.2 - 1.2 * 1 \\ &= 0.0 \text{ lb-SOx/day} \end{aligned}$$

$$\begin{aligned} \text{AIPE}_{\text{PM10}} &= 3.2 - (3.2 * (1)) \\ &= 3.2 - 3.2 * 1 \\ &= 0.0 \text{ lb-PM10/day} \end{aligned}$$

$$\begin{aligned} \text{AIPE}_{\text{CO}} &= 35.3 - (35.3 * (1)) \\ &= 35.3 - 35.3 * 1 \\ &= 0.0 \text{ lb-CO/day} \end{aligned}$$

$$\begin{aligned} \text{AIPE}_{\text{VOC}} &= 2.3 - (2.3 * (1)) \\ &= 2.3 - 2.3 * 1 \\ &= 0.0 \text{ lb-VOC/day} \end{aligned}$$

Baghouse

$$\begin{aligned} \text{AIPE}_{\text{PM}_{10}} &= 7.0 - (7.0 * (1)) \\ &= 7.0 - 7.0 * 1 \\ &= 0.0 \text{ lb-PM}_{10}/\text{day} \end{aligned}$$

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Forehearth

$$\begin{aligned} \text{AIPE}_{\text{NO}_x} &= 11.2 - (11.2 * (1)) \\ &= 11.2 - 11.2 * 1 \\ &= 0.0 \text{ lb-NO}_x/\text{day} \end{aligned}$$

$$\begin{aligned} \text{AIPE}_{\text{SO}_x} &= 0.3 - (0.3 * (1)) \\ &= 0.3 - 0.3 * 1 \\ &= 0.0 \text{ lb-SO}_x/\text{day} \end{aligned}$$

$$\begin{aligned} \text{AIPE}_{\text{PM}_{10}} &= 0.8 - (0.8 * (1)) \\ &= 0.8 - 0.8 * 1 \\ &= 0.0 \text{ lb-PM}_{10}/\text{day} \end{aligned}$$

$$\begin{aligned} \text{AIPE}_{\text{CO}} &= 9.4 - (9.4 * (1)) \\ &= 9.4 - 9.4 * 1 \\ &= 0.0 \text{ lb-CO}/\text{day} \end{aligned}$$

$$\begin{aligned} \text{AIPE}_{\text{VOC}} &= 0.6 - (0.6 * (1)) \\ &= 0.6 - 0.6 * 1 \\ &= 0.0 \text{ lb-VOC}/\text{day} \end{aligned}$$

Fiberizer

$$\begin{aligned} \text{AIPE}_{\text{NO}_x} &= 9.1 - (9.1 * (1)) \\ &= 9.1 - 9.1 * 1 \\ &= 0.0 \text{ lb-NO}_x/\text{day} \end{aligned}$$

$$\begin{aligned} \text{AIPE}_{\text{SO}_x} &= 0.3 - (0.3 * (1)) \\ &= 0.3 - 0.3 * 1 \\ &= 0.0 \text{ lb-SO}_x/\text{day} \end{aligned}$$

$$\begin{aligned} \text{AIPE}_{\text{PM}_{10}} &= 0.7 - (0.7 * (1)) \\ &= 0.7 - 0.7 * 1 \\ &= 0.0 \text{ lb-PM}_{10}/\text{day} \end{aligned}$$

$$\begin{aligned} \text{AIPE}_{\text{CO}} &= 7.7 - (7.7 * (1)) \\ &= 7.7 - 7.7 * 1 \\ &= 0.0 \text{ lb-CO}/\text{day} \end{aligned}$$

$$\begin{aligned} \text{AIPE}_{\text{VOC}} &= 0.5 - (0.5 * (1)) \\ &= 0.5 - 0.5 * 1 \\ &= 0.0 \text{ lb-VOC/day} \end{aligned}$$

Baghouse

$$\begin{aligned} \text{AIPE}_{\text{PM}_{10}} &= 7.0 - (7.0 * (1)) \\ &= 7.0 - 7.0 * 1 \\ &= 0.0 \text{ lb-PM}_{10}\text{/day} \end{aligned}$$

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

d. Major Modification

As discussed in Section VII.C.7 above, this project does constitute a Major Modification; therefore BACT is triggered.

2. BACT Guideline

C-261-2-23

District BACT Guideline 1.5.1 applies to the fiberglass production furnace and is included in Attachment C.

C-261-3-11:

District BACT Guideline 1.5.7 applies to the forehearth and is included in Attachment C.

District BACT Guideline included in Attachment C which applies to the fiberizer was approved in finalized project C-1043510.

C-261-4-9:

District BACT Guideline 1.5.7 applies to the forehearth and is included in Attachment C.

District BACT Guideline included in Attachment C which applies to the fiberizer was approved in finalized project C-1043510.

3. Top-Down BACT Analysis

Per Permit Services Policies and Procedures for BACT, a Top-Down BACT analysis must be prepared as part of the application review for each application subject to BACT requirements pursuant to the District's NSR Rule 2201.

C-261-2-23

Pursuant to the attached Top-Down BACT analysis (See Attachment C for NO_x, SO_x, PM₁₀, CO, and VOC), BACT has been satisfied with the following requirements:

NO_x: Natural gas fired Oxy-fuel furnace and use of cullet >15% annually

SO_x: Scrubber (caustic soda injection system), natural gas firing with low-sulfur backup fuel oil (<0.05% sulfur by weight), and use of cullet >15% annually

PM₁₀: Electrostatic Precipitator in series with a Scrubber

CO: Natural gas fired Oxy-fuel furnace and use of cullet >15% annually

VOC: Natural gas firing and use of cullet >15% annually

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NO_x: Natural gas-fired with good combustion practices.

SO_x: Natural gas-fired with good combustion practices.

CO: Natural gas-fired with good combustion practices.

VOC: Natural gas-fired with good combustion practices.

C-261-4-9

NO_x: Natural gas-fired with good combustion practices.

SO_x: Natural gas-fired with good combustion practices.

CO: Natural gas-fired with good combustion practices.

VOC: Natural gas-fired with good combustion practices.

B. Offsets

1. Offset Applicability

Pursuant to Section 4.5.3, offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the Post Project Stationary Source Potential to Emit (SSPE2) equals to or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

The following table compares the post-project facility-wide annual emissions in order to determine if offsets will be required for this project.

Offset Applicability (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
Post Project SSPE (SSPE2)	503,751	218,135	201,686	394,603	158,819
Offset Threshold	20,000	54,750	29,200	200,000	20,000
Offsets Triggered?	Yes	Yes	Yes	Yes	Yes

2. Quantity of Offsets Required

Per Sections 4.7.1 and 4.7.3 of Rule 2201, the quantity of offsets in pounds per year for each pollutant is calculated as follows for sources with an SSPE1 greater than the offset threshold levels before implementing the project being evaluated.

$$\text{Offsets Required (lb/year)} = (\sum[\text{PE2} - \text{BE}] + \text{ICCE}) \times \text{DOR, for all new or modified emissions units in the project}$$

where:

PE2 = Post-project Potential to Emit (lb/year)

BE = Baseline Emissions (lb/year)

ICCE = Increase in Cargo Carrier Emissions (lb/year)

DOR = Distance Offset Ratio, determined pursuant to Rule 2201, Section 4.8

BE = Pre-project Potential to Emit for:

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

otherwise,

BE = Historic Actual Emissions (HAE)

There are no increases in cargo carrier emissions; therefore offsets can be determined as follows:

$$\text{Offsets Required (lb/year)} = ([\text{PE2} - \text{BE}]_{\text{C-261-2}} + [\text{PE2} - \text{BE}]_{\text{C-261-3}} + [\text{PE2} - \text{BE}]_{\text{C-261-4}} + \text{ICCE}) \times \text{DOR}$$

NO_x

$$\text{PE2}_{\text{C-261-2}} (\text{NO}_x) = 489,684 \text{ lb/year}$$

$$\text{BE}_{\text{C-261-2}} (\text{NO}_x) = 489,684 \text{ lb/year}$$

$$\text{PE2}_{\text{C-261-3}} (\text{NO}_x) = 6,430 + 3,329 \times 8 + 15,330 = 48,392 \text{ lb/year}$$

$$\text{BE}_{\text{C-261-3}} (\text{NO}_x) = 48,392 \text{ lb/year}$$

$$\text{PE2}_{\text{C-261-4}} (\text{NO}_x) = 4,082 + 3,329 \times 6 = 24,056 \text{ lb/year}$$

$$\text{BE}_{\text{C-261-4}} (\text{NO}_x) = 24,056 \text{ lb/year}$$

$$\text{ICCE} = 0 \text{ lb/year}$$

$$\begin{aligned}\text{Offsets Required (lb/year)} &= ([489,684 - 489,684] + [48,392 - 48,392] + [24,056 - 24,056] + 0) \\ &\quad \times \text{DOR} \\ &= 0 \text{ lb NOx/year}\end{aligned}$$

SOx

$$\begin{aligned}\text{PE2}_{\text{C-261-2}} (\text{SOx}) &= 217,204 \text{ lb/year} \\ \text{BE}_{\text{C-261-2}} (\text{SOx}) &= 473,040 \text{ lb/year} \\ \text{PE2}_{\text{C-261-3}} (\text{SOx}) &= 183 + 95 \times 8 + 437 = 1,380 \text{ lb/year} \\ \text{BE}_{\text{C-261-3}} (\text{SOx}) &= 1,380 \text{ lb/year} \\ \text{PE2}_{\text{C-261-4}} (\text{SOx}) &= 116 + 95 \times 6 = 686 \text{ lb/year} \\ \text{BE}_{\text{C-261-4}} (\text{SOx}) &= 686 \text{ lb/year} \\ \text{ICCE} &= 0 \text{ lb/year}\end{aligned}$$

$$\begin{aligned}\text{Offsets Required (lb/year)} &= ([217,204 - 473,080] + [1,380 - 1,380] + [686 - 686] + 0) \times \text{DOR} \\ &= 0 \text{ lb SOx/year}\end{aligned}$$

PM10

$$\begin{aligned}\text{PE2}_{\text{C-261-2}} (\text{PM10}) &= 199,728 \text{ lb/year} \\ \text{BE}_{\text{C-261-2}} (\text{PM10}) &= 199,728 \text{ lb/year} \\ \text{PE2}_{\text{C-261-3}} (\text{PM10}) &= 489 + 253 \times 8 + 1,165 + 2,553 = 6,231 \text{ lb/year} \\ \text{BE}_{\text{C-261-3}} (\text{PM10}) &= 6,231 \text{ lb/year} \\ \text{PE2}_{\text{C-261-4}} (\text{PM10}) &= 310 + 253 \times 6 = 1,828 \text{ lb/year} \\ \text{BE}_{\text{C-261-4}} (\text{PM10}) &= 1,828 \text{ lb/year} \\ \text{ICCE} &= 0 \text{ lb/year}\end{aligned}$$

$$\begin{aligned}\text{Offsets Required (lb/year)} &= ([199,728 - 199,728] + [6,231 - 6,231] + [1,828 - 1,828] + 0) \\ &\quad \times \text{DOR} \\ &= 0 \text{ lb PM10/year}\end{aligned}$$

CO

$$\begin{aligned}\text{PE2}_{\text{C-261-2}} (\text{CO}) &= 391,572 \text{ lb/year} \\ \text{BE}_{\text{C-261-2}} (\text{CO}) &= 391,572 \text{ lb/year} \\ \text{PE2}_{\text{C-261-3}} (\text{CO}) &= 5,401 + 2,796 \times 8 + 12,877 = 40,646 \text{ lb/year} \\ \text{BE}_{\text{C-261-3}} (\text{CO}) &= 40,646 \text{ lb/year} \\ \text{PE2}_{\text{C-261-4}} (\text{CO}) &= 3,429 + 2,796 \times 6 = 20,205 \text{ lb/year} \\ \text{BE}_{\text{C-261-4}} (\text{CO}) &= 20,205 \text{ lb/year} \\ \text{ICCE} &= 0 \text{ lb/year}\end{aligned}$$

$$\begin{aligned}\text{Offsets Required (lb/year)} &= ([391,572 - 391,572] + [40,646 - 40,646] + [20,205 - 20,205] + 0) \\ &\quad \times \text{DOR} \\ &= 0 \text{ lb CO/year}\end{aligned}$$

VOC

PE _{2C-261-2} (VOC)	= 157,680 lb/year
BE _{C-261-2} (VOC)	= 157,680 lb/year
PE _{2C-261-3} (VOC)	= 354 + 183 x 8 + 843 = 2,661 lb/year
BE _{C-261-3} (VOC)	= 2,661 lb/year
PE _{2C-261-4} (VOC)	= 225 + 183 x 6 = 1,323 lb/year
BE _{C-261-4} (VOC)	= 1,323 lb/year
ICCE	= 0 lb/year

$$\begin{aligned} \text{Offsets Required (lb/year)} &= ([157,680 - 157,680] + [2,661 - 2,661] + [1,323 - 1,323] + 0) \\ &\quad \times \text{DOR} \\ &= 0 \text{ lb VOC/year} \end{aligned}$$

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

C. Public Notification

1. Applicability

Public noticing is required for:

- a. Any new Major Source, which is a new facility that is also a Major Source,
- b. Major Modifications,
- c. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
- d. Any project which results in the offset thresholds being surpassed, and/or
- e. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.

a. New Major Source

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

b. Major Modification

As demonstrated in VII.C.7, this project does constitute a Major Modification; therefore, public noticing for Major Modification purposes is required.

c. PE > 100 lb/day

Applications which include a new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. As seen in Section VII.C.2 above, this project does not include a new emissions unit which has daily emissions greater than 100 lb/day for any pollutant, therefore public noticing for PE > 100 lb/day purposes is not required.

d. Offset Threshold

The following table compares the SSPE1 with the SSPE2 in order to determine if any offset thresholds have been surpassed with this project.

Offset Threshold				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO _x	503,751	503,751	20,000 lb/year	No
SO _x	473,971	217,204	54,750 lb/year	No
PM ₁₀	201,686	201,686	29,200 lb/year	No
CO	394,603	394,603	200,000 lb/year	No
VOC	158,819	158,819	20,000 lb/year	No

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

e. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a Stationary Source Increase in Permitted Emissions (SSIPE) of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE is calculated as the Post Project Stationary Source Potential to Emit (SSPE2) minus the Pre-Project Stationary Source Potential to Emit (SSPE1), i.e. $SSIPE = SSPE2 - SSPE1$. The values for SSPE2 and SSPE1 are calculated according to Rule 2201, Sections 4.9 and 4.10, respectively. The SSIPE is compared to the SSIPE Public Notice threshold of 20,000 lb/year in the following table.

Stationary Source Increase in Permitted Emissions [SSIPE] – Public Notice				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	SSIPE	Public Notice Required?
NO _x	503,751	503,751	0	No
SO _x	473,971	217,204	0	No
PM ₁₀	201,686	201,686	0	No
CO	394,603	394,603	0	No
VOC	158,819	158,819	0	No

As demonstrated above, the SSIPEs for all pollutants are less than 20,000 lb/year; therefore public noticing is not required for SSIPE purposes.

2. Public Notice Action

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

D. Daily Emission Limits (DELs)

Daily Emissions Limitations (DELs) and other enforceable conditions are required by Section 3.15 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. Per Sections 3.15.1 and 3.15.2, the DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT.

Proposed Rule 2201 (DEL) Conditions:

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- Dry Electrostatic Precipitator (ESP) outlet emissions shall not exceed 8.4 lbs PM/hr and 8.4 lbs PM₁₀/hr. [District NSR Rule; District Rule 4202; PSD ATC SJ 80-02]
- When the furnace is heated with LPG/propane, final stack emissions shall not exceed 547.2 lb PM/day, 547.2 lb PM₁₀/day, 432.0 lb HC/day, 432.0 lb VOC/day, 1,341.6 lb NOx/day, 1,296.0 lb SOx/day, or 1,072.8 lb CO/day. [District Rule 2201]
- When the furnace is heated with natural gas, final stack emissions shall not exceed 22.8 lb PM/hr, 22.8 lb PM₁₀/hr, 18.0 lb HC/hr, 18.0 lb VOC/hr, 55.9 lb NOx/hr, 24.3 lb SOx/hr, nor 44.7 lb CO/hr. [District NSR Rule; District Rule 4354; District Rule 4202; PSD ATC SJ 80-02]
- When the furnace is heated with fuel oil, final stack emissions shall not exceed 22.8 lb PM/hr, 22.8 lb PM₁₀/hr, 18.0 lb HC/hr, 18.0 lb VOC/hr, 40.0 lb NOx/hr, 54.0 lb SOx/hr, nor 44.7 lb CO/hr. [District NSR Rule; District Rule 4354; District Rule 4202; PSD ATC SJ 80-02]

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- The combined North wet ESP and South wet ESP outlet emissions on C-11 Line shall not exceed 11.8 lbs/hr of PM. [District Rule 4202; PSD ATC SJ 80-02]
- When fired on propane, the total stack emissions, which result from combining the C-1 dry ESP (PTO #C-261-2), C-11 wet ESP and C-12 wet ESP (PTO C-261-4) emissions, shall not exceed 547.2 lb PM/day, 547.2 lb PM₁₀/day, 432.0 lb HC/day, 432.0 lb VOC/day, 1,341.6 lb NOx/day, 1,296.0 lb SOx/day, or 1,072.8 lb CO/day. [District Rule 2201]
- The total stack emissions, which result from combining the C-1 dry ESP (PTO C-261-2), C-11 wet ESP (PTO C-261-3) and C-12 wet ESP emissions, shall not exceed 22.8 lb PM/hr or 22.8 lb PM₁₀/hr. [District NSR Rule; PSD ATC SJ 80-02]

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- The C-12 wet ESP outlet emissions shall not exceed 4.5 lbs PM/hr nor 108 lb PM/day. [District NSR Rule; District Rule 4202; PSD ATC SJ 80-02]
- Natural gas and propane consumption shall not exceed 3.55 million cubic feet per day and 1.295 trillion Btu in any 12 month period. [District NSR Rule; PSD ATC SJ 80-02]

- When fired on propane, the total stack emissions, which result from combining the C-1 dry ESP (PTO #C-261-2), C-11 wet ESP (PTO C-261-3) and C-12 wet ESP emissions, shall not exceed 547.2 lb PM/day, 547.2 lb PM₁₀/day, 432.0 lb HC/day, 432.0 lb VOC/day, 1,341.6 lb NO_x/day, 1,296.0 lb SO_x/day, or 1,072.8 lb CO/day. [District Rule 2201]
- The total stack emissions, which result from combining the C-1 dry ESP (PTO C-261-2), C-11 wet ESP (PTO C-261-3) and C-12 wet ESP emissions, shall not exceed 22.8 lb PM/hr or 22.8 lb PM₁₀/hr. [District NSR Rule; PSD ATC SJ 80-02]

E. Compliance Assurance

The following measures shall be taken to ensure continued compliance with District Rules:

1. Source Testing

The current permit requires source testing for NO_x, CO, and VOC from the Final Stack on an annual basis. In addition, testing for CO and VOC is required on an annual basis, at the dry ESP. Also, testing of PM is required on an annual basis for the Final Stack, the dry ESP, and wet ESP. These requirements will remain in the permit.

2. Monitoring

The Final Stack is already equipped with CEMS for NO_x and opacity. The CEMs must comply with the requirements of 40 Code of Federal Regulations (CFR) Part 51, 40 CFR Parts 60.7 and 60.13, 40 CFR Part 60 Appendix B (Performance Specifications) and Appendix F (Quality Assurance Procedures), and applicable sections of Rule 1080 (Stack Monitoring). No additional monitoring is required.

3. Recordkeeping

Recordkeeping is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201.

The permittee will be required to maintain the following records: an operating log which includes type and quantity of fuel used and daily quantity of glass pulled. All records shall be maintained on the premises for a period of at least five years and shall be made available for District inspection upon request. No additional recordkeeping is required.

4. Reporting

The permittee is required to submit a written report to the APCO for each calendar quarter, within 30 days of the end of the quarter, which will include the following: time intervals, data and magnitude of excess emissions, nature and cause of excess (if known), corrective actions taken and preventive measures adopted, applicable time and date of each period during which the CEM was inoperative (except for zero and span checks), and the nature of system repairs and adjustments. A negative declaration shall be submitted when no excess emissions occurred.

Rule 2520 Federally Mandated Operating Permit

This facility is subject to this Rule, and has received their Title V Operating Permit. Section 3.29 defines a significant permit modification as a “permit amendment that does not qualify as a minor permit modification or administrative amendment.”

Section 3.20.5 states that a minor permit modification is a permit modification that is not a Title I modification. This project is a not Title I modification (Federal Major Modification). As a result, the proposed project constitutes a Minor Modification to the Title V Permit pursuant to Section 3.20.

As discussed above, the facility has not applied for a Certificate of Conformity (COC); therefore, the facility must apply to modify their Title V permit with a minor modification, 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 the Title V minor modification application.

Rule 4001 New Source Performance Standards (NSPS)

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

This subpart addresses standards for PM emissions from wool fiberglass furnaces. The PM standard in this subpart limits PM emissions to 0.25 g/kg (equivalent to 0.5 lb/ton)³ glass produced when firing on gaseous fuel, and 0.325 g/kg of glass produced when firing on other fuels. These standards are subsumed by the PM limit derived from 40 CFR 63 Subpart NNN, requiring that PM emissions must not exceed 0.25 kg/Mg (equivalent to 0.25 g/kg or 0.5 lb/ton) of glass produced regardless of the type of fuel used. Permit conditions will be included to assure compliance with this subpart, as discussed in section 40 CFR Part 63 Subpart NNN below.

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

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

This subpart applies to furnaces that use commercial arsenic as a raw material. The facility does not use commercial arsenic as a raw material; therefore, this rule will not apply to the furnace.

40 CFR 63 Subpart NNN - National Emission Standard for Hazardous Air Pollutants from Wool Fiberglass Manufacturing

40 CFR Part 63 Subpart NNN applies to a wool fiberglass manufacturing facility that is a major source or is located at a facility that is a major source. The requirements of this subpart apply to emissions of hazardous air pollutants (HAPs), as measured according to the methods and procedures in this subpart, emitted from the following new and existing sources at a wool fiberglass manufacturing facility subject to this subpart:

³ $EF_{lb/ton} = 0.25 \text{ g/kg} \div 453.6 \text{ g/lb} * 907.2 \text{ kg/ton} = 0.5 \text{ lb/ton}$

- (1) Each new and existing glass-melting furnace located at a wool fiberglass manufacturing facility;
- (2) Each new and existing rotary spin wool fiberglass manufacturing line producing a bonded wool fiberglass building insulation product; and
- (3) Each new and existing flame attenuation wool fiberglass manufacturing line producing a bonded pipe product and each new flame attenuation wool fiberglass manufacturing line producing a bonded heavy-density product.

CertainTeed has an existing glass-melting furnace (C-261-2) and an existing rotary spin wool fiberglass manufacturing line producing a bonded fiberglass building insulation product (C-11 production line, C-261-3). It should be noted that the C-12 production line (C-261-4) does not produce a "bonded" wool fiberglass building insulation product; therefore, the requirements of this subpart are not applicable to this production line.

§63.1382: Emission Standards

§63.1382(a)(1), emission limits for glass-melting furnaces, states that on and after the date the initial performance test is completed or required to be completed under §63.7 of this part, whichever date is earlier, the owner or operator shall not discharge or cause to be discharged into the atmosphere in excess of 0.25 kilogram (kg) of particulate matter (PM) per megagram (Mg) (0.5 pound [lb] of PM per ton) of glass pulled for each new or existing glass-melting furnace.

Therefore, the following condition will be listed on the permit to ensure compliance:

- The owner or operator shall not discharge or cause to be discharged into the atmosphere in excess of 0.25 kilogram (kg) of filterable particulate matter (PM) per megagram (Mg) (0.5 pound [lb] of PM per ton) of glass pulled for each new or existing glass-melting furnace. [40 CFR 63.1382(a)(1)]

§63.1382(a)(2), emission limits for rotary spin manufacturing lines, states that on and after the date the initial performance test is completed or required to be completed under §63.7 of this part, whichever date is earlier, the owner or operator shall not discharge or cause to be discharged into the atmosphere in excess of:

- (i) 0.6 kg of formaldehyde per megagram (1.2 lb of formaldehyde per ton) of glass pulled for each existing rotary spin manufacturing line; and
- (ii) 0.4 kg of formaldehyde per megagram (0.8 lb of formaldehyde per ton) of glass pulled for each new rotary spin manufacturing line.

This project does not modify the existing rotary spin manufacturing line.

§63.1382(a)(3) applies to new and existing flame attenuating manufacturing lines. As discussed above, this facility does not have any existing flame attenuating manufacturing lines and this project does not propose to install a flame attenuating manufacturing line, therefore the requirements of this section do not apply.

§63.1382(b)(1)(i) and §63.1382(b)(1)(ii) applies to facilities equipped with a bag leak detection system. CertainTeed is not equipped with a bag leak detection system; therefore the requirements of these sections do not apply.

§63.1382(b)(2)(i), §63.1382(b)(2)(ii), and §63.1382(b)(2)(iii) applies to facilities equipped with electrostatic precipitators (ESP). CertainTeed's glass melting furnace is equipped with a dry electrostatic precipitator (DESP); therefore, the requirements of these sections apply to permit unit C-261-2.

§63.1382(b)(2)(i) requires that the owner or operator must initiate corrective action within 1 hour when any 3-hour block average of the monitored electrostatic precipitator (ESP) parameter is outside the limit(s) established during the performance test as specified in §63.1384 and complete corrective actions in a timely manner according to the procedures in the operations, maintenance, and monitoring plan.

§63.1382(b)(2)(ii) requires that the owner or operator must implement a QIP consistent with the compliance assurance monitoring provisions of 40 CFR part 64 subpart D when the monitored ESP parameter is outside the limit(s) established during the performance test as specified in §63.1384 for more than 5 percent of the total operating time in a 6-month block reporting period.

§63.1382(b)(2)(iii) requires that the owner or operator must operate the ESP such that the monitored ESP parameter is not outside the limit(s) established during the performance test as specified in §63.1384 for more than 10 percent of the total operating time in a 6-month block reporting period.

Therefore, the following conditions will be listed on the permit to ensure compliance:

- The owner or operator must initiate corrective action within 1 hour when any 3-hour block average of the monitored dry electrostatic precipitator (DESP) parameter is outside the limit(s) established during the performance test as specified in §63.1384 and complete corrective actions in a timely manner according to the procedures in the operations, maintenance, and monitoring plan. [40 CFR 63.1382(b)(2)(i)]
- The owner or operator must implement a QIP consistent with the compliance assurance monitoring provisions of 40 CFR part 64 subpart D when the monitored DESP parameter is outside the limit(s) established during the performance test as specified in §63.1384 for more than 5 percent of the total operating time in a 6-month block reporting period. [40 CFR 63.1382(b)(2)(ii)]
- The owner or operator must operate the DESP such that the monitored DESP parameter is not outside the limit(s) established during the performance test as specified in §63.1384 for more than 10 percent of the total operating time in a 6-month block reporting period. [40 CFR 63.1382(b)(2)(iii)]

§63.1382(b)(3)(i), §63.1382(b)(3)(ii), and §63.1382(b)(3)(iii) applies to cold top electric furnaces. CertainTeed does not operate a cold top electric furnace; therefore the requirements of these sections do not apply.

§63.1382(b)(4)(i), §63.1382(b)(4)(ii), and §63.1382(b)(4)(iii) applies to glass-melting furnaces, which uses no add-on controls and which is not a cold top electric furnace. CertainTeed utilizes add on controls for the glass-melting furnace; therefore the requirements of these sections do not apply.

§63.1382(b)(5)(i), §63.1382(b)(5)(ii), and §63.1382(b)(5)(iii) applies to glass-melting furnaces equipped with continuous glass pull rate monitors, or daily glass pull rate for glass melting furnaces not so equipped. CertainTeed's glass melting furnace and the C-11 and C-12 production lines are equipped with continuous glass pull rate monitors; therefore the requirements of these sections applies to the furnace and the C-11 and C-12 production lines.

§63.1382(b)(5)(i) requires that the owner or operator must initiate corrective action within 1 hour when the average glass pull rate of any 4-hour block period for glass melting furnaces equipped with continuous glass pull rate monitors, or daily glass pull rate for glass melting furnaces not so equipped, exceeds the average glass pull rate established during the performance test as specified in §63.1384, by greater than 20 percent and complete corrective actions in a timely manner according to the procedures in the operations, maintenance, and monitoring plan.

§63.1382(b)(5)(ii) requires that the owner or operator must implement a QIP consistent with the compliance assurance monitoring provisions of 40 CFR part 64, subpart D when the glass pull rate exceeds, by more than 20 percent, the average glass pull rate established during the performance test as specified in §63.1384 for more than 5 percent of the total operating time in a 6-month block reporting period.

§63.1382(b)(5)(iii) requires that the owner or operator must operate each glass-melting furnace such that the glass pull rate does not exceed, by more than 20 percent, the average glass pull rate established during the performance test as specified in §63.1384 for more than 10 percent of the total operating time in a 6-month block reporting period.

Therefore, the following conditions will be listed on the permit to ensure compliance:

- The owner or operator must initiate corrective action within 1 hour when the average glass pull rate of any 4-hour block period for glass melting furnaces equipped with continuous glass pull rate monitors, or daily glass pull rate for glass melting furnaces not so equipped, exceeds the average glass pull rate established during the performance test as specified in §63.1384, by greater than 20 percent and complete corrective actions in a timely manner according to the procedures in the operations, maintenance, and monitoring plan. [40 CFR 63.1382(b)(5)(i)]
- The owner or operator must implement a QIP consistent with the compliance assurance monitoring provisions of 40 CFR part 64, subpart D when the glass pull rate exceeds, by more than 20 percent, the average glass pull rate established during the performance test as specified in §63.1384 for more than 5 percent of the total operating time in a 6-month block reporting period. [40 CFR 63.1382(b)(5)(ii)]
- The owner or operator must operate each glass-melting furnace such that the glass pull rate does not exceed, by more than 20 percent, the average glass pull rate established during the performance test as specified in §63.1384 for more than 10 percent of the total operating time in a 6-month block reporting period. [40 CFR 63.1382(b)(5)(iii)] Y

§63.1382(b)(6) applies to incinerators used to control formaldehyde emissions from the forming or curing operations. CertainTeed does not utilize incinerators to control formaldehyde emissions; therefore the requirements of this section do not apply.

§63.1382(b)(7)(i), §63.1382(b)(7)(ii), and §63.1382(b)(7)(iii) applies to wet scrubbing control devices. CertainTeed does not utilize wet scrubbers as control devices in their operation; therefore the requirements of these sections do not apply.

§63.1382(b)(8)(i), §63.1382(b)(8)(ii), and §63.1382(b)(8)(iii) applies to fiberglass manufacturing lines using formaldehyde. This project does not modify the existing fiberglass manufacturing line.

§63.1382(b)(9) applies to fiberglass manufacturing lines using a resin in the formulation of a binder. This project does not modify the existing fiberglass manufacturing line.

§63.1382(b)(10) applies to fiberglass manufacturing lines using a binder. This project does not modify the existing fiberglass manufacturing line.

§63.1383: Monitoring Requirements

§63.1383(a) states that the owner or operator of each wool fiberglass manufacturing facility must prepare for each glass-melting furnace, rotary spin manufacturing line, and flame attenuation manufacturing line subject to the provisions of this subpart, a written operations, maintenance, and monitoring plan. The plan must be submitted to the Administrator for review and approval as part of the application for a part 70 permit. The plan must include the following information:

- (1) Procedures for the proper operation and maintenance of process modifications and add-on control devices used to meet the emission limits in §63.1382;
- (2) Procedures for the proper operation and maintenance of monitoring devices used to determine compliance, including quarterly calibration and certification of accuracy of each monitoring device according to the manufacturers' instructions; and
- (3) Corrective actions to be taken when process parameters or add-on control device parameters deviate from the limit(s) established during initial performance tests.

As discussed above, CertainTeed has a glass-melting furnace; therefore, the requirements these sections apply. Therefore, the following condition will be listed on the permit to ensure compliance:

- The owner or operator of each wool fiberglass manufacturing facility must prepare for each glass-melting furnace and rotary spin manufacturing line subject to the provisions of this subpart, a written operations, maintenance, and monitoring plan. The plan must be submitted to the Administrator for review and approval as part of the application for a part 70 permit. The plan must include the following information: Procedures for the proper operation and maintenance of process modifications and add-on control devices used to meet the emission limits in §63.1382; Procedures for the proper operation and maintenance of monitoring devices used to determine compliance, including quarterly calibration and certification of accuracy of each monitoring device according to the manufacturers' instructions; and Corrective actions to be taken when process parameters or add-on control device

parameters deviate from the limit(s) established during initial performance tests. [40 CFR 63.1383(a)(1), (a)(2), (a)(3)]

§63.1383(b)(1)(i), §63.1383(b)(1)(ii), §63.1383(b)(1)(iii), §63.1383(b)(1)(iv), §63.1383(b)(1)(v), §63.1383(b)(1)(vi), and §63.1383(b)(1)(vii) applies to glass-melting furnaces where a baghouse is used to control PM emissions. CertainTeed does not utilize a baghouse to control PM emissions from the glass-melting furnace; therefore the requirements of these sections do not apply.

§63.1383(b)(2)(i), §63.1383(b)(2)(ii), §63.1383(b)(2)(iii), §63.1383(b)(2)(iv), §63.1383(b)(2)(v), and §63.1383(b)(2)(vi) applies to facilities equipped with a bag leak detection system. CertainTeed is not equipped with a bag leak detection system; therefore the requirements of these sections do not apply.

§63.1383(c)(1) applies to glass-melting furnaces where an ESP is used to control PM emissions and requires that the owner or operator must monitor the ESP according to the procedures in the operations, maintenance, and monitoring plan. CertainTeed's glass melting furnace is equipped with a dry electrostatic precipitator (DESP); therefore, the facility will be required to monitor the ESP according to the procedures in the operations, maintenance, and monitoring plan.

§63.1383(c)(2) also requires that the operations, maintenance, and monitoring plan for the ESP must contain the following information:

- (i) The ESP operating parameter(s), such as secondary voltage of each electrical field, to be monitored and the minimum and/or maximum value(s) that will be used to identify any operational problems;
- (ii) A schedule for monitoring the ESP operating parameter(s);
- (iii) Recordkeeping procedures, consistent with the recordkeeping requirements of §63.1386, to show that the ESP operating parameter(s) is within the limit(s) established during the performance test; and
- (iv) Procedures for the proper operation and maintenance of the ESP.

Therefore, the following condition will be listed on the permit to ensure compliance:

- The owner or operator must monitor the DESP according to the procedures in the operations, maintenance, and monitoring plan. The operations, maintenance, and monitoring plan for the ESP must contain the following information: The DESP operating parameter(s), such as secondary voltage of each electrical field, to be monitored and the minimum and/or maximum value(s) that will be used to identify any operational problems; A schedule for monitoring the DESP operating parameter(s); Recordkeeping procedures, consistent with the recordkeeping requirements of §63.1386, to show that the DESP operating parameter(s) is within the limit(s) established during the performance test; and Procedures for the proper operation and maintenance of the DESP. [40 CFR 63.1383(c)(1), (c)(2)(i), (c)(2)(ii), (c)(2)(iii), (c)(2)(iv)]

§63.1383(d) applies to cold top electric furnaces that do not use any add-on controls for PM emissions. CertainTeed does not operate a cold top electric furnace; therefore the requirements of this section do not apply.

§63.1383(e)(1), §63.1383(e)(2)(i), §63.1383(e)(2)(ii), §63.1383(e)(2)(iii), and §63.1383(e)(2)(iv) applies to glass-melting furnaces, which uses no add-on controls for PM emissions. CertainTeed utilizes add on controls for PM emissions for the glass-melting furnace; therefore the requirements of these sections do not apply.

§63.1383(f)(1) applies to existing glass melting furnaces. CertainTeed's glass melting furnace is an existing furnace; therefore, the requirements of this section apply to permit unit C-261-2.

§63.1383(f)(1) requires that the owner or operator of an existing glass-melting furnace equipped with continuous glass pull rate monitors must monitor and record the glass pull rate on an hourly basis. For glass-melting furnaces that are not equipped with continuous glass pull rate monitors, the glass pull rate must be monitored and recorded once per day.

Therefore, the following condition will be listed on the permit to ensure compliance:

- The owner or operator of an existing glass-melting furnace equipped with continuous glass pull rate monitors must monitor and record the glass pull rate on an hourly basis. For glass-melting furnaces that are not equipped with continuous glass pull rate monitors, the glass pull rate must be monitored and recorded once per day. [40 CFR 63.1383(f)(1)]

§63.1383(f)(2) applies to new glass melting furnaces. CertainTeed's glass melting furnace is an existing furnace and this project does not include the installation of a new furnace; therefore, the requirements of this section do not apply.

§63.1383(g)(1), §63.1383(g)(2)(i), §63.1383(g)(2)(ii), §63.1383(g)(2)(iii), §63.1383(g)(2)(iv), §63.1383(g)(2)(v), §63.1383(g)(2)(vi), §63.1383(g)(2)(vii), §63.1383(g)(2)(viii), §63.1383(g)(2)(ix), §63.1383(g)(2)(x), and §63.1383(g)(2)(xi) applies to incinerators used to control formaldehyde emissions from the forming or curing operations. CertainTeed does not utilize incinerators to control formaldehyde emissions; therefore the requirements of these sections do not apply.

§63.1383(h) applies to wet scrubbing control devices. CertainTeed does not utilize wet scrubbers as control devices in their operation; therefore the requirements of this section do not apply.

§63.1383(i)(1) applies to fiberglass manufacturing lines that use process modifications to control formaldehyde emissions and requires that the owner or operator must establish a correlation between formaldehyde emissions and process parameter(s) to be monitored. This project does not modify the fiberglass manufacturing line.

§63.1383(j) applies to fiberglass manufacturing lines using a resin in the formulation of a binder. This project does not modify the fiberglass manufacturing line.

§63.1383(k) applies to fiberglass manufacturing lines using a binder. This project does not modify the fiberglass manufacturing line.

§63.1383(l) requires that the owner or operator must monitor and record at least once every 8 hours, the product LOI and product density of each bonded wool fiberglass product manufactured. This project does not modify the fiberglass manufacturing line.

§63.1383(m) requires that for all control device and process operating parameters measured during the initial performance tests, the owners or operators of glass-melting furnaces, rotary spin manufacturing lines or flame attenuation manufacturing lines subject to this subpart may change the limits established during the initial performance tests if additional performance testing is conducted to verify that, at the new control device or process parameter levels, they comply with the applicable emission limits in §63.1382. The owner or operator shall conduct all additional performance tests according to the procedures in this part 63, subpart A and in §63.1384.

Therefore, the following condition will be listed on the permit to ensure compliance:

- For all control device and process operating parameters measured during the initial performance tests, the owners or operators of glass-melting furnaces and rotary spin manufacturing lines subject to this subpart may change the limits established during the initial performance tests if additional performance testing is conducted to verify that, at the new control device or process parameter levels, they comply with the applicable emission limits in §63.1382. The owner or operator shall conduct all additional performance tests according to the procedures in this part 63, subpart A and in §63.1384. [40 CFR 63.1383(m)]

§63.1384: Performance Test Requirements

§63.1384(a) states that the owner or operator subject to the provisions of this subpart shall conduct a performance test to demonstrate compliance with the applicable emission limits in §63.1382. Compliance is demonstrated when the emission rate of the pollutant is equal to or less than each of the applicable emission limits in §63.1382. The owner or operator shall conduct the performance test according to the procedures in 40 CFR part 63, subpart A and in this section.

As discussed above, CertainTeed has a glass-melting furnace subject to emission limits in §63.1382; therefore, the requirements this section applies.

§63.1384(a)(1) requires that all monitoring systems and equipment must be installed, operational, and calibrated prior to the performance test.

§63.1384(a)(2) requires that unless a different frequency is specified in this section, the owner or operator must monitor and record process and/or add-on control device parameters at least every 15 minutes during the performance tests. The arithmetic average for each parameter must be calculated using all of the recorded measurements for the parameter.

§63.1384(a)(4) requires that the owner or operator shall conduct a performance test for each existing and new glass-melting furnace.

CertainTeed has an existing glass-melting furnace; therefore, the requirements these sections apply. Therefore, the following condition will be listed on the permit to ensure compliance:

- The owner or operator shall conduct a performance test for each existing and new glass-melting furnace. All monitoring systems and equipment must be installed, operational, and calibrated prior to the performance test. Unless a different frequency is specified in this section, the owner or operator must monitor and record process and/or add-on control device parameters at least every 15 minutes during the performance tests. The arithmetic average for each parameter must be calculated using all of the recorded measurements for the parameter. [40 CFR 63.1384(a)(1), (a)(2), (a)(4)]

§63.1384(a)(3) requires that during each performance test, the owner or operator must monitor and record the glass pull rate for each glass-melting furnace and, if different, the glass pull rate for each rotary spin manufacturing line and flame attenuation manufacturing line. Record the glass pull rate every 15 minutes during any performance test required by this subpart and determine the arithmetic average of the recorded measurements for each test run and calculate the average of the three test runs.

CertainTeed has a glass-melting furnace and a rotary spin manufacturing line with a different glass pull rate; therefore, the requirements these sections apply. Therefore, the following condition will be listed on the permit to ensure compliance:

- During each performance test, the owner or operator must monitor and record the glass pull rate for each glass-melting furnace and, if different, the glass pull rate for the C-11 rotary spin manufacturing line. Record the glass pull rate every 15 minutes during any performance test required by this subpart and determine the arithmetic average of the recorded measurements for each test run and calculate the average of the three test runs. [40 CFR 63.1384(a)(3)]

§63.1384(a)(5) requires that during the performance test, the owner or operator of a glass-melting furnace controlled by an ESP shall monitor and record the ESP parameter level(s), as specified in the operations, maintenance, and monitoring plan, and establish the minimum and/or maximum value(s) that will be used to demonstrate compliance after the initial performance test.

CertainTeed has a glass-melting furnace controlled by an ESP; therefore, the requirements these sections apply. Therefore, the following condition will be listed on the permit to ensure compliance:

- During the performance test, the owner or operator of a glass-melting furnace controlled by a DESP shall monitor and record the DESP parameter level(s), as specified in the operations, maintenance, and monitoring plan, and establish the minimum and/or maximum value(s) that will be used to demonstrate compliance after the initial performance test. [40 CFR 63.1384(a)(5)]

§63.1384(a)(6) applies to cold top electric furnaces. CertainTeed does not operate a cold top electric furnace; therefore the requirements of this section do not apply.

§63.1384(a)(7) applies to glass-melting furnaces (other than a cold top electric furnace) that is not equipped with add-on control device for PM emissions. CertainTeed utilizes add on control

devices for PM emissions for the glass-melting furnace; therefore the requirements of this section do not apply.

§63.1384(a)(8) requires that the owner or operator must conduct a performance test for each rotary spin manufacturing line, subject to this subpart, while producing the building insulation with the highest LOI expected to be produced on that line; and for each flame attenuation manufacturing line, subject to this subpart, while producing the heavy-density product or pipe product with the highest LOI expected to be produced on the affected line. This project does not modify the rotary spin manufacturing line.

§63.1384(a)(9) requires that the owner or operator of each rotary spin manufacturing line and flame attenuation manufacturing line regulated by this subpart must conduct performance tests using the resin with the highest free-formaldehyde content. During the performance test of each rotary spin manufacturing line and flame attenuation manufacturing line regulated by this subpart, the owner or operator shall monitor and record the free-formaldehyde content of the resin, the binder formulation used, and the product LOI and density. This project does not modify the rotary spin manufacturing line.

§63.1384(a)(10) requires that during the performance test, the owner or operator of a rotary spin manufacturing line or flame attenuation manufacturing line who plans to use process modifications to comply with the emission limits in §63.1382 must monitor and record the process parameter level(s), as specified in the operations, maintenance, and monitoring plan, which will be used to demonstrate compliance after the initial performance test. This project does not modify the rotary spin manufacturing line.

§63.1384(a)(11) applies to the owner or operator of a rotary spin manufacturing line or flame attenuation manufacturing line who plans to use a wet scrubbing control device to comply with the emission limits in §63.1382. This project does not modify the rotary spin manufacturing line.

§63.1384(a)(12) applies to the owner or operator of a rotary spin manufacturing line or flame attenuation manufacturing line equipped with an incinerator. This project does not modify the rotary spin manufacturing line.

§63.1384(a)(10) requires that unless disapproved by the Administrator, an owner or operator of a rotary spin or flame attenuation manufacturing line regulated by this subpart may conduct short-term experimental production runs using binder formulations or other process modifications where the process parameter values would be outside those established during performance tests without first conducting performance tests. Such runs must not exceed 1 week in duration unless the Administrator approves a longer period. The owner or operator must notify the Administrator and postmark or deliver the notification at least 15 days prior to commencement of the short-term experimental production runs. The Administrator must inform the owner or operator of a decision to disapprove or must request additional information prior to the date of the short-term experimental production runs. Notification of intent to perform an experimental short-term production run shall include the following information:

- (i) The purpose of the experimental production run;
- (ii) The affected line;
- (iii) How the established process parameters will deviate from previously approved levels;
- (iv) The duration of the experimental production run;

- (v) The date and time of the experimental production run; and
- (vi) A description of any emission testing to be performed during the experimental production run.

This project does not modify the rotary spin manufacturing line.

§63.1384(b) requires that to determine compliance with the PM emission limit for glass-melting furnaces, use the following equation:

$$E = \frac{C \times Q \times K_1}{P}$$

Where:

- E = Emission rate of PM, kg/Mg (lb/ton) of glass pulled;
- C = Concentration of PM, g/dscm (gr/dscf);
- Q = Volumetric flow rate of exhaust gases, dscm/h (dscf/h);
- K1 = Conversion factor, 1 kg/1,000 g (1 lb/7,000 gr); and
- P = Average glass pull rate, Mg/h (tons/h).

Therefore, the following condition will be listed on the permit to ensure compliance:

- To determine compliance with the PM emission limit for glass-melting furnaces, use the following equation: $E = (C \times Q \times K_1)/P$, where: E = Emission rate of PM, kg/Mg (lb/ton) of glass pulled; C = Concentration of PM, g/dscm (gr/dscf); Q = Volumetric flow rate of exhaust gases, dscm/h (dscf/h); K1 = Conversion factor, 1 kg/1,000 g (1 lb/7,000 gr); and P = Average glass pull rate, Mg/h (tons/h). [40 CFR 63.1384(b)]

§63.1384(c) requires that to determine compliance with the emission limit for formaldehyde for rotary spin manufacturing lines and flame attenuation forming processes, use the following equation:

$$E = \frac{C \times MW \times Q \times K_1 \times K_2}{K_3 \times P \times 10^6}$$

Where:

- E = Emission rate of formaldehyde, kg/Mg (lb/ton) of glass pulled;
- C = Measured volume fraction of formaldehyde, ppm;
- MW = Molecular weight of formaldehyde, 30.03 g/g-mol;
- Q = Volumetric flow rate of exhaust gases, dscm/h (dscf/h);
- K₁ = Conversion factor, 1 kg/1,000 g (1 lb/453.6 g);
- K₂ = Conversion factor, 1,000 L/m³ (28.3 L/ft³);
- K₃ = Conversion factor, 24.45 L/g-mol; and
- P = Average glass pull rate, Mg/h (tons/h).

This project does not modify the rotary spin manufacturing line.

§63.1386: Notification, Recordkeeping, and Reporting Requirements

§63.1386(a) states that as required by §63.9(b) through (h) of this part, the owner or operator shall submit the following written initial notifications to the Administrator:

- (1) Notification for an area source that subsequently increases its emissions such that the source is a major source subject to the standard;
- (2) Notification that a source is subject to the standard, where the initial startup is before June 14, 2002.
- (3) Notification that a source is subject to the standard, where the source is new or has been reconstructed, the initial startup is after June 14, 2002, and for which an application for approval of construction or reconstruction is not required;
- (4) Notification of intention to construct a new major source or reconstruct a major source; of the date construction or reconstruction commenced; of the anticipated date of startup; of the actual date of startup, where the initial startup of a new or reconstructed source occurs after June 14, 2002, and for which an application for approval or construction or reconstruction is required (See §63.9(b)(4) and (5) of this part);
- (5) Notification of special compliance obligations;
- (6) Notification of performance test; and
- (7) Notification of compliance status.

§63.1386(a)(1), §63.1386(a)(2), and §63.1386(a)(3) would not apply to CertainTeed since the facility is already a major source subject to the standard, initial start-up was before June 14, 2002, and this facility is not being reconstructed; therefore, the requirements these sections do not apply. However, the requirements of the remaining sections do apply. Therefore, the following condition will be listed on the permit to ensure compliance:

- The owner or operator shall submit the following written initial notifications to the Administrator: (1) Notification of intention to construct a new major source or reconstruct a major source; of the date construction or reconstruction commenced; of the anticipated date of startup; of the actual date of startup, where the initial startup of a new or reconstructed source occurs after June 14, 2002, and for which an application for approval or construction or reconstruction is required (See §63.9(b)(4) and (5) of this part); (2) Notification of special compliance obligations; (3) Notification of performance test; and (4) Notification of compliance status. [40 CFR 63.1386(a)(4), (a)(5), (a)(6), (a)(7)]

§63.1386(b) states that as required by §63.10(d)(2) of the general provisions, the owner or operator shall report the results of the initial performance test as part of the notification of compliance status required in paragraph (a)(7) of this section.

Therefore, the following condition will be listed on the permit to ensure compliance:

- The owner or operator shall report the results of the initial performance test as part of the notification of compliance status. [40 CFR 63.1386(b)]

§63.1386(c)(1) states that the owner or operator shall develop and implement a written plan as described in §63.6(e)(3) of this part that contains specific procedures to be followed for operating the source and maintaining the source during periods of startup, shutdown, and

malfunction and a program of corrective action for malfunctioning process modifications and control systems used to comply with the standard. In addition to the information required in §63.6(e)(3), the plan shall include:

- (i) Procedures to determine and record the cause of the malfunction and the time the malfunction began and ended;
- (ii) Corrective actions to be taken in the event of a malfunction of a control device or process modification, including procedures for recording the actions taken to correct the malfunction or minimize emissions; and
- (iii) A maintenance schedule for each control device and process modification that is consistent with the manufacturer's instructions and recommendations for routine and long-term maintenance.

§63.1386(c)(2) states that the owner or operator shall also keep records of each event as required by §63.10(b) of this part and record and report if an action taken during a startup, shutdown, or malfunction is not consistent with the procedures in the plan as described in §63.10(e)(3)(iv) of this part.

Therefore, the following condition will be listed on the permit to ensure compliance:

- The owner or operator shall develop and implement a written plan as described in §63.6(e)(3) of this part that contains specific procedures to be followed for operating the source and maintaining the source during periods of startup, shutdown, and malfunction and a program of corrective action for malfunctioning process modifications and control systems used to comply with the standard. In addition to the information required in §63.6(e)(3), the plan shall include: (i) Procedures to determine and record the cause of the malfunction and the time the malfunction began and ended; (ii) Corrective actions to be taken in the event of a malfunction of a control device or process modification, including procedures for recording the actions taken to correct the malfunction or minimize emissions; and (iii) A maintenance schedule for each control device and process modification that is consistent with the manufacturer's instructions and recommendations for routine and long-term maintenance. The owner or operator shall also keep records of each event as required by §63.10(b) of this part and record and report if an action taken during a startup, shutdown, or malfunction is not consistent with the procedures in the plan as described in §63.10(e)(3)(iv) of this part. [40 CFR 63.1386(c)(1)(i), (c)(1)(ii), (c)(1)(iii), (c)(2)]

§63.1386(d)(1) states that as required by §63.10(b) of this part, the owner or operator shall maintain files of all information (including all reports and notifications) required by the general provisions and this subpart:

- (i) The owner or operator must retain each record for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The most recent 2 years of records must be retained at the facility. The remaining 3 years of records may be retained off site;
- (ii) The owner or operator may retain records on microfilm, on a computer, on computer disks, on magnetic tape, or on microfiche; and
- (iii) The owner or operator may report required information on paper or on a labeled computer disk using commonly available and EPA-compatible computer software.

§63.1386(d)(1)(ii) and §63.1386(d)(1)(iii) does not apply to CertainTeed since the facility has not requested to record or submit their information in that manner. Therefore, the following condition will be listed on the permit to ensure compliance:

- The owner or operator must retain each record for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The most recent 2 years of records must be retained at the facility. The remaining 3 years of records may be retained off site. [40 CFR 63.1386(d)(1)(i)]

§63.1386(d)(2) states that in addition to the general records required by §63.10(b)(2) of this part, the owner or operator shall maintain records of the following information:

- (i) Any bag leak detection system alarms, including the date and time of the alarm, when corrective actions were initiated, the cause of the alarm, an explanation of the corrective actions taken, and when the cause of the alarm was corrected;
- (ii) ESP parameter value(s) used to monitor ESP performance, including any period when the value(s) deviated from the established limit(s), the date and time of the deviation, when corrective actions were initiated, the cause of the deviation, an explanation of the corrective actions taken, and when the cause of the deviation was corrected;
- (iii) Air temperature above the molten glass in an uncontrolled cold top electric furnace, including any period when the temperature exceeded 120 °C (250 °F) at a location 46 to 61 centimeters (18 to 24 inches) above the molten glass surface, the date and time of the exceedance, when corrective actions were initiated, the cause of the exceedance, an explanation of the corrective actions taken, and when the cause of the exceedance was corrected;
- (iv) Uncontrolled glass-melting furnace (that is not a cold top electric furnace) parameter value(s) used to monitor furnace performance, including any period when the value(s) exceeded the established limit(s), the date and time of the exceedance, when corrective actions were initiated, the cause of the exceedance, an explanation of the corrective actions taken, and when the cause of the exceedance was corrected;
- (v) The formulation of each binder batch and the LOI and density for each product manufactured on a rotary spin manufacturing line or flame attenuation manufacturing line subject to the provisions of this subpart, and the free formaldehyde content of each resin shipment received and used in the binder formulation;
- (vi) Process parameter level(s) for RS and FA manufacturing lines that use process modifications to comply with the emission limits, including any period when the parameter level(s) deviated from the established limit(s), the date and time of the deviation, when corrective actions were initiated, the cause of the deviation, an explanation of the corrective actions taken, and when the cause of the deviation was corrected;
- (vii) Scrubber pressure drop, scrubbing liquid flow rate, and any chemical additive (including chemical feed rate to the scrubber), including any period when a parameter level(s) deviated from the established limit(s), the date and time of the deviation, when corrective actions were initiated, the cause of the deviation, an explanation of the corrective actions taken, and when the cause of the deviation was corrected;
- (viii) Incinerator operating temperature and results of periodic inspection of incinerator components, including any period when the temperature fell below the established average or the inspection identified problems with the incinerator, the date and time of the problem, when corrective actions were initiated, the cause of the problem, an explanation of the corrective actions taken, and when the cause of the problem was corrected;

(ix) Glass pull rate, including any period when the pull rate exceeded the average pull rate established during the performance test by more than 20 percent, the date and time of the exceedance, when corrective actions were initiated, the cause of the exceedance, an explanation of the corrective actions taken, and when the cause of the exceedance was corrected.

§63.1386(d)(2)(i), §63.1386(d)(2)(iii), §63.1386(d)(2)(iv), §63.1386(d)(2)(vii), and §63.1386(d)(2)(viii) does not apply to CertainTeed since the facility does not operate a bag leak detection system, a cold top electric furnace, an uncontrolled glass-melting furnace, wet scrubbers, or incinerators.

§63.1386(d)(2)(ii) and §63.1386(d)(2)(ix) does apply to the glass-melting furnace. Therefore, the following condition will be listed on the permit to ensure compliance:

- The owner or operator shall maintain records of the following information: DESP parameter value(s) used to monitor DESP performance, including any period when the value(s) deviated from the established limit(s), the date and time of the deviation, when corrective actions were initiated, the cause of the deviation, an explanation of the corrective actions taken, and when the cause of the deviation was corrected; and Glass pull rate, including any period when the pull rate exceeded the average pull rate established during the performance test by more than 20 percent, the date and time of the exceedance, when corrective actions were initiated, the cause of the exceedance, an explanation of the corrective actions taken, and when the cause of the exceedance was corrected. [40 CFR 63.1386(d)(2)(ii), (d)(2)(ix)]

§63.1386(d)(2)(v), §63.1386(d)(2)(vi), and §63.1386(d)(2)(ix) does apply to the rotary spin manufacturing line. This project does not modify the rotary spin manufacturing line.

§63.1386(e) states that as required by §63.10(e)(3)(v) of this part, the owner or operator shall report semiannually if measured emissions are in excess of the applicable standard or a monitored parameter deviates from the levels established during the performance test. The report shall contain the information specified in §63.10(c) of this part as well as the additional records required by the recordkeeping requirements of paragraph (d) of this section. When no deviations have occurred, the owner or operator shall submit a report stating that no excess emissions occurred during the reporting period.

Therefore, the following condition will be listed on the permit to ensure compliance:

- The owner or operator shall report semiannually if measured emissions are in excess of the applicable standard or a monitored parameter deviates from the levels established during the performance test. The report shall contain the information specified in §63.10(c) of this part as well as the additional records required by the recordkeeping requirements of paragraph (d) of this section. When no deviations have occurred, the owner or operator shall submit a report stating that no excess emissions occurred during the reporting period. [40 CFR 63.1386(e)]

Therefore, continued compliance with the requirements of this rule is expected.

Rule 4101 Visible Emissions

Rule 4101 states 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 as dark as, or darker than, Ringelmann 1 or 20% opacity.

The final stack (furnace/C-11/C-12 production line) is not subject to Rule 4101 since it is specifically exempted under Section 4.9 of Rule 4101. Section 4.9 states that the provision of this rule do not apply to wet plumes where the presence of uncombined water is the only reason for the failure of an emission to meet the limitations of this rule. The wet ESP control devices on the C-11 and C-12 production lines, which vent to the final stack, release a wet plume of uncombined water, making it difficult to determine demonstrate compliance with this rule.

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.

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.

As demonstrated above, there are no increases in emissions associated with this project, therefore a health risk assessment is not necessary and no further risk analysis is required.

Rule 4201 Particulate Matter Concentration

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

Particulate matter (PM) emissions from the final stack, the C-1 Dry ESP, the C-11 North and South Wet ESPs, and the C-12 Wet ESP are not expected to exceed 0.1 gr/dscf, and annual testing for PM emissions is required by the Title V permit. Continued compliance is expected.

Rule 4202 Particulate Matter Emission Rate

This rule limits the allowable PM emission rate based on the equipment process weight rate. Section 3.1 defines the process weight as “the total weight of all materials introduced into any specific process, which process may cause any discharge into the atmosphere”.

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

$$E = 3.59 P^{0.62} \text{ (when, } P = \text{ process weight rate } \leq 30 \text{ tons/hr)}$$
$$E = 17.31 P^{0.16} \text{ (when, } P = \text{ process weight rate } > 30 \text{ tons/hr)}$$

C-261-2-23

The post-project process weight rate of the furnace is 14.9 tons per hour (equivalent to 325 MT/day).

$$\begin{aligned} \text{Rule 4202 emission limit} &= 3.59 * P^{0.62} \text{ (where } P \text{ less than } 30 \text{ tons/hr)} \\ &= 3.59 * (14.9)^{0.62} \\ &= 19.18 \text{ lb/hr} \end{aligned}$$

The furnace has a Post Project Potential to Emit (PE2) of 8.4 lb/hr and annual source testing for PM is required by the Title V permit.

C-261-3-11

The post-project process weight rate of the is 11.9 tons per hour (equivalent to 260 MT/day).

$$\begin{aligned} \text{Rule 4202 emission limit} &= 3.59 * P^{0.62} \text{ (where } P \text{ less than } 30 \text{ tons/hr)} \\ &= 3.59 * (11.9)^{0.62} \\ &= 16.7 \text{ lb/hr} \end{aligned}$$

The furnace has a Post Project Potential to Emit (PE2) of 11.8 lb/hr and annual source testing for PM is required by the Title V permit.

C-261-4-9

The post-project process weight rate of the is 11.9 tons per hour (equivalent to 260 MT/day).

$$\begin{aligned} \text{Rule 4202 emission limit} &= 3.59 * P^{0.62} \text{ (where } P \text{ less than } 30 \text{ tons/hr)} \\ &= 3.59 * (11.9)^{0.62} \\ &= 16.7 \text{ lb/hr} \end{aligned}$$

The furnace has a Post Project Potential to Emit (PE2) of 4.5 lb/hr and annual source testing for PM is required by the Title V permit.

Therefore, the PM emissions are within allowable limits and compliance with the rule is expected.

Rule 4301 Fuel Burning Equipment

This rule applies to units that consume fuel to produce heat or power through indirect heat transfer. As the glass furnace uses direct heat transfer, this unit is not considered to be fuel burning equipment per section 3.1, and this rule does not apply.

Rule 4354 Glass Melting Furnaces

Section 5.1 identifies NO_x emission limits for glass melting furnaces. The furnace (C-261-2) is subject to the Tier II emission limits of Section 5.1. The Tier II limits for fiberglass furnaces (employing oxygen assisted combustion) are:

NO_x: 4.0 lb/ton of glass pulled on a block 24-hour average

The following condition on permit C-261-2 will ensure compliance.

- During any day when nitrate is used in the furnace, final stack emissions shall not exceed 4.0 lb-NO_x/ton of glass pulled on a block 24-hour average. During any day when nitrate is not used in the furnace, final stack emissions shall not exceed 1.45 lb-NO_x/ton of glass pulled on a block 24-hour average. These emission limits shall not apply during periods of startup, shutdown, or idling, provided the facility complies with the requirements of Rule 4354, Sections 5.2, 5.3, 5.4, 5.5, 5.6, and 6.7. [District NSR Rule and 4354]

Section 5.2 identifies CO and VOC emission limits for glass melting furnaces. The limits for fiberglass furnaces (employing oxygen assisted combustion) are:

CO: 1.0 lb/ton of glass pulled on a rolling 3-hour average

VOC: 0.25 lb/ton of glass pulled on a rolling 3-hour average

The following condition on permit C-261-2 will ensure compliance.

- Emissions from the glass melting furnace shall not exceed any of the emission limits of District Rule 4354, as follows: 4.0 lb NO_x/short ton of glass pulled on a block 24-hour average, 1.0 lb CO/ short ton of glass pulled as averaged over a three hour period, or 0.25 lb VOC/short ton of glass pulled as averaged over a three hour period. These emission limits shall not apply during periods of startup, shutdown, or idling, provided the facility complies with the requirements of Rule 4354, Sections 5.5, 5.6, 5.7, and 6.7. [District Rule 4354, 5.1, 5.2]

Section 5.3 identifies SO_x emission limits for glass melting furnaces. Effective through December 31, 2010, in order to limit SO_x emissions, all glass melting furnaces subject to Table 1 NO_x emission limits shall fire on PUC-quality natural gas, commercial propane, or LPG on and after March 31, 2008. Liquid fuel may be used as backup fuel or standby fuel provided the liquid fuel contains no more than 15 ppm of sulfur and the furnace exhaust is controlled by a SO_x emission control system with control system efficiency of 50% or greater. If a furnace meets the applicable Table 3 SO_x limit while firing on backup fuel or standby fuel, the 50% SO_x emission control system efficiency requirement shall not apply. Liquid fuel is used as a backup fuel for the furnace in this project. The liquid fuel contains no more than 15 ppm of sulfur and the furnace exhaust is controlled by a caustic soda injection scrubber. A properly operated and maintained caustic scrubber would have a control system efficiency of 50% or greater.

- The sulfur content of fuel oil shall not exceed 0.0015% by weight. [District NSR Rule; District Rule 4354, Madera County Rule 404]

- Both the caustic soda injection system (scrubber) and the dry electrostatic precipitator shall be functioning as air pollution abatement devices whenever the glass melting furnace is in operation. [District NSR Rule; PSD ATC SJ 80-02]

Section 5.4 identifies PM₁₀ emission limits for glass melting furnaces. Compliance with this section is required on and after January 1, 2011. The facility shall be in compliance with this section on and after January 1, 2011.

Section 5.5 requires the facility to notify the APCO in writing to request a startup exemption from the emission limits specified in Section 5.1. Startup time shall not exceed 105 days for a fiberglass furnace (measured from when the primary furnace combustion system fires) using oxy-fuel, which is considered "innovative" as specified in Section 5.2.1.2.1 of Rule 4354. During startup, the stoichiometric ratio of the primary furnace combustion system shall not exceed 5% oxygen as calculated from the actual fuel and oxidant flow measurements for combustion in the furnace. This section also requires the emission control system to be in operation as soon as technologically feasible during startup to minimize emissions.

The following condition was added to the permit on ATC C-261-2-18 and converted to PTO as C-261-2-19 and will ensure compliance.

- Permittee shall comply with Section 5.5 during startup. Startup exemption time shall not exceed 40 days, starting from the time of primary combustion system activation. [District Rule 4354]

Section 5.6 limits the period of furnace shutdown to 20 days, measured from when the furnace operation drops below the idle threshold specified in Section 3.9 of Rule 4354. The emission control system shall be in operation whenever technologically feasible during shutdown to minimize emissions.

The following condition on permit C-261-2 will ensure compliance.

- Furnace shutdown shall not exceed 20 days, measured from the time furnace operations drop below the idle thresholds specified in Section 3.17 of District Rule 4354 to when all emissions from the furnace cease. [District Rule 4354]

Section 5.7 requires the emission control system to be in operation whenever technologically feasible during idling to minimize emissions. Permit conditions will be included to limit NO_x, CO and VOC emissions during idling to allowable levels as specified in Rule 4354.

The following condition on permit C-261-2 will ensure compliance.

- The emission control systems (ECS) shall be in operation whenever technologically feasible during startup, idling and shutdown conditions. [District Rule 4354]

Section 5.8 states any source testing result, CEMS, or alternate emission monitoring method averaged value exceeding the applicable emission limits in Section 5.1, Section 5.2, Section 5.3, or Section 5.4 shall constitute a violation of the rule.

The following condition on permit C-261-2 will ensure compliance.

- Any source testing result, CEMS, or alternate emission monitoring method averaged value exceeding the applicable emission limits in Section 5.1, Section 5.2, Section 5.3, or Section 5.4 shall constitute a violation of the rule. [District Rule 4354]

Section 5.9.1 requires that the furnace be equipped with a NO_x Continuous Emissions Monitoring System (CEMS) approved by the District and meeting the requirements of Section 6.6. This furnace is equipped with a NO_x CEMS; therefore the unit already meets the requirements of this section.

The following condition on permit C-261-2 will ensure compliance.

- CertainTeed Corporation shall maintain and operate the following continuous emissions monitoring systems (CEMS) in the final stack: (1) a CEMS to measure stack gas NO_x concentrations; (2) a CEMS to measure stack gas volumetric flow rates [District NSR Rule; PSD ATC SJ 80-02]

Section 5.9.2 describes the monitoring requirements for CO and VOC. Effective on and after January 1, 2009, the furnace shall be equipped with a CO and VOC Continuous Emissions Monitoring System (CEMS). In lieu of installing a CO and VOC CEMS, the operator may propose key system operating parameter(s) and frequency of monitoring and recording. The alternate monitoring shall meet the requirements of Section 6.6.2. The operator shall obtain approval from the APCO and EPA for the specific key system operating parameter(s), monitoring frequency, and recording frequency. Acceptable range(s) for key system operating parameter(s) shall be demonstrated through source test.

The facility has proposed to continuously monitor the oxygen/fuel ratio to satisfy the monitoring requirements of Section 5.9.2 for CO and VOC. The facility has proposed an operating range greater than 1.7 to 1. Excursions below this value will trigger an inspection, corrective action, and reporting requirement. Measurements will be performed as the fuel and oxygen are injected into the furnace combustion zone. The oxygen/fuel ratio will be monitored continuously and logged on an hourly basis. Attachment D contains the facility's parametric monitoring proposal.

The following conditions on permit C-261-2 will ensure compliance.

- The owner or operator shall install, certify, maintain, operate and quality-assure a Continuous Parametric Monitoring System which continuously measures and records the furnace oxygen/fuel ratio. [District Rules 1080 and 4354]
- The continuous parametric monitors specified in these permit conditions shall be installed, calibrated and operational prior to the next furnace source test. After the next furnace source test, the detection range of the Continuous Parametric Monitoring System shall be adjusted as necessary to accurately measure the resulting range of furnace oxygen/fuel ratio. [District Rule 2201]
- The furnace oxygen/fuel ratio shall be greater than 1.7 to 1. [District Rule 2201]
- Normal range for the furnace oxygen/fuel ratio shall be re-established during each source test required by this permit. [District Rule 2201]

- Results of the Continuous Parametric Monitoring System system shall be logged in one hour intervals for furnace oxygen/fuel ratio. [District Rule 1080]

Section 5.9.3 describes the monitoring requirements for SOx. Compliance with this section is required on and after January 1, 2011. The facility shall be in compliance with this section on and after January 1, 2011.

Section 5.9.4 describes the monitoring requirements for PM10. Compliance with this section is required on and after January 1, 2011. The facility shall be in compliance with this section on and after January 1, 2011.

Section 6.1 requires on and after October 1, 2009, each glass melting furnace's PTO shall include the furnace's permitted glass production capacity in units of tons of glass pulled per day as a permit condition. The current PTO contains a permit condition limiting the furnace's glass production capacity.

The following condition on permit C-261-2 will ensure compliance.

- The glass melting furnace shall produce no more than 325 metric tons/day nor 118,625 metric tons/year. A permanent record of daily production shall be maintained and shall be available for inspection by the District, EPA or CARB. [District NSR Rule; District Rule 4354; PSD ATC SJ 80-02]

Section 6.2 requires the operator to maintain records for a period of five years, make them available on site during normal business hours, and submit them to the APCO, ARB, or EPA upon request. Section 6.2.1.1 requires daily records of the total hours of operation, type and quantity of fuel used in each furnace, and/or the quantity of glass pulled from each furnace whichever matches the permit condition in the furnace's PTO. Section 6.2.1.2 requires daily records of NOx emission rate in lb/ton of glass pulled. Section 6.2.1.3 requires records of source tests and operating parameters established during initial source test, maintenance and repair, malfunction, and idling, start-up and shutdown. Section 6.2.2.1 requires daily records of CO emission rate in units matching Table 2 if CEMS is used for CO monitoring. Section 6.2.2.2 requires daily records of VOC emission rate in units matching Table 2, if CEMS is used for VOC monitoring. Section 6.2.2.3 requires daily records for CO or VOC or both monitored using an approved parametric monitoring arrangement, operating values of the key system operating parameters. Section 6.2.3 requires the operator shall retain the records specified in Sections 6.2.1 and 6.2.2 for a period of five years, make them available on site during normal business hours to the APCO, ARB, or EPA, and submit them to the APCO, ARB, or EPA upon request.

The following condition on permit C-261-2 will ensure compliance.

- Operator shall maintain daily records of the total hours of operation, type and quantity of fuel used in the furnace, the quantity of glass pulled from the furnace, NOx emission rate in lb/short ton of glass pulled. Operator shall maintain records of source tests and operating parameters established during initial source test, maintenance and repair, malfunction, and idling, start-up and shutdown. [District Rule 4354]

Section 6.3 describes the operation records that need to be maintained. Compliance with this section is required on and after January 1, 2011. The facility shall be in compliance with this section on and after January 1, 2011.

Section 6.4 states that, "each glass melting furnace or a furnace battery shall 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 condition on permit C-261-2 will ensure compliance.

- Source tests shall be performed at least on an annual basis and at such other times as may be specified by the District or EPA. Tests shall comply with the procedures in 40 CFR (Part 60.8) for PM, NO_x, SO_x, and VOC. [District Rule 2520, 9.4.2; and Rule 4354, 6.4; PSD ATC SJ 80-02]

Section 6.5 requires that the facility demonstrate compliance annually with the applicable emission limits using the test methods listed below.

- 6.5.1 NO_x emission rate (Heat input basis) - USEPA Method 19
- 6.5.2 Oxides of nitrogen - USEPA Method 7E or CARB Method 100
- 6.5.3 CO (ppmv) - USEPA Method 10 or CARB Method 100
- 6.5.4 VOC (ppmv) – USEPA Method 25A expressed in terms of carbon
- 6.5.5 Stack gas oxygen, carbon dioxide, excess air, and dry molecular weight - USEPA Method 3 or 3A or CARB Method 100
- 6.5.6 Stack gas velocity and volumetric flow rate - USEPA Method 2
- 6.5.7 SO_x emission control system efficiency – EPA Method 2, EPA Method 6 or 8
- 6.5.8 Sulfur content of liquid fuel – ASTM D 6428-99 or ASTM D 5453-99
- 6.5.9.1 Filterable PM₁₀ – EPA Method 5, 201, or 201A or EPA Method 5
- 6.5.9.2 Condensable PM₁₀ – EPA Method 202

The following conditions on permit C-261-2 will ensure compliance.

- Sulfur content of the fuel oil shall be determined by ASTM Method D-129, D-1552 or the most current method promulgated by ASTM. Other methods may be used if approved by EPA, Region 9 (Attention: A-3-3). [PSD ATC SJ 80-02; Madera County Rule 404]
- PM shall be sampled according to the modified version of EPA's Method 5 which includes the impinger catch. [District NSR Rule; District Rule 4202; District Rule 2520, 9.4.2; PSD ATC SJ 80-02; and 40 CFR 60 Subpart CC]
- Effective at the end of the startup period, emissions from the glass melting furnace shall not exceed the emission limits of District Rule 4354, as follows: 4.0 lb NO_x/short ton of glass pulled on a block 24-hour average, 1.0 lb CO/short ton of glass pulled as averaged over a three hour period in accordance with the applicable test methods in Section 6.5.1, 6.5.2 of District Rule 4354, and 0.25 lb VOC/short ton of glass pulled as averaged over a three hour period in accordance with the applicable test methods in Section 6.5.3 of District Rule 4354. [District Rule 4354]

Section 6.6 requires an approved CEMS comply with the requirements of 40 Code of Federal Regulations (CFR) Part 51, 40 CFR Parts 60.7 and 60.13, 40 CFR Part 60 Appendix B (Performance Specifications) and Appendix F (Quality Assurance Procedures), and applicable sections of Rule 1080 (Stack Monitoring).

The following condition on permit C-261-2 will ensure compliance.

- The applicant shall maintain and operate CEM to measure stack gas NO_x concentration (per 40 CFR 60.13 and 40 CFR, Appendix B, Performance Spec. 2; and 40 CFR 60 Appendix F) and stack gas volumetric flow rate (per 40 CFR Part 52, Appendix E). [District NSR Rule; PSD ATC SJ 80-02]

Rule 4801 Sulfur Compounds

This rule limits the sulfur compound emissions, as SO₂, to 2,000 ppmv. As the furnace is fired on natural gas (with low-sulfur fuel oil or LPG/propane as back-up fuels), continued compliance is expected.

California Health & Safety Code 42301.6 (School Notice)

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

California Environmental Quality Act (CEQA)

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 the activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the District determined that the activity will not have a significant effect on the environment. The District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15031 (Existing Facilities), and finds that the project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Issue Authorities to Construct C-261-2-23, '3-11, '4-9 subject to the permit conditions on the attached draft Authorities to Construct in Attachment E.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
C-261-2-23	3020-02-H	96 MMBtu/hr	\$1030.00
C-261-3-11	3020-02-H	51.44 MMBtu/hr	\$1030.00
C-261-4-9	3020-02-H	27.44 MMBtu/hr	\$1030.00

Attachments

- A. Current PTOs
- B. Quarterly Net Emissions Change (QNEC)
- C. BACT Guidelines and Top Down BACT Analyses
- D. Parametric CO and VOC Monitoring Proposal
- E. Draft ATCs

Attachment A
Current Permits to Operate (PTOs)

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: C-261-2-20

EXPIRATION DATE: 05/31/2008

EQUIPMENT DESCRIPTION:

96 MMBTU/HR, 325 METRIC TONS/DAY GLASS MELTING OXY-FUEL FURNACE WITH 12 (8 MMBTU/HR EACH)
COMBUSTION TEC. FLAT FLAME BURNERS

PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
2. The glass melting furnace shall produce no more than 325 metric tons/day nor 118,625 metric tons/year. A permanent record of daily production shall be maintained and shall be available for inspection by the District, EPA or CARB. [District NSR Rule; District Rule 4354; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
3. With approval from EPA, CertainTeed Corporation may choose to conduct performance tests at production and firing rates less than maximum design capacity and may choose to test only the fuel expected to be used in the next 12-month time period, provided that actual plant production does not exceed the tested rate and provided that only the fuel for which tests have been performed is used. The emission rate for NOx established by the first test at the specific production rate (less than maximum plant capacity) shall become the applicable emission limit for NOx at the production rate tested, as in condition IX.B of PSD permit SJ 80-02. A fuel switch or an increase in production levels beyond the maximum tested rate for any product line requires approval by EPA prior to such production increases or fuel switch and may require additional performance testing. [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
4. EPA shall be notified by letter 30 days prior to the fuel switch or production increase in order to make a determination of whether additional performance testing is required. In the case of an emergency fuel switch, EPA shall be notified by letter postmarked within 15 days of the fuel switch. [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
5. The sulfur content of fuel oil shall not exceed 0.05% by weight. [District NSR Rule; Madera County Rule 404] Federally Enforceable Through Title V Permit
6. The rate of fuel oil consumption shall not exceed 570 gal/min nor 5,000,000 gal/year. [District NSR Rule] Federally Enforceable Through Title V Permit
7. Sulfur content of the fuel oil shall be determined by ASTM Method D-129, D-1552 or the most current method promulgated by ASTM. Other methods may be used if approved by EPA, Region 9 (Attention: A-3-3). [PSD ATC SJ 80-02; Madera County Rule 404] Federally Enforceable Through Title V Permit
8. Certification of the sulfur content of each fuel oil delivery by the supplier will be acceptable; the analytical method used to determine sulfur content must be one of those cited. [PSD ATC SJ 80-02; Madera County Rule 404] Federally Enforceable Through Title V Permit
9. All natural gas used by the facility shall be PUC regulated. [District NSR Rule; PSD ATC SJ 80-02; Madera County Rule 404] Federally Enforceable Through Title V Permit
10. A permanent record of daily production shall be maintained and shall be available for inspection by the District, EPA or CARB. [District NSR Rule; PSD ATC SJ 80-02] 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.

11. Source tests shall be performed while operating at design capacity. To determine worst case emissions, the tests shall be performed while firing on natural gas, and separately while firing 0.05% sulfur backup fuel oil. With prior EPA and District approval, source testing may be performed as otherwise provided. [District NSR Rule; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
12. Source tests shall be performed at least on an annual basis, but not more than once every 18 months or sooner than every 6 months and at such other times as may be specified by the District or EPA. Tests shall comply with the procedures in 40 CFR (Part 60.8) for PM, NO_x, SO_x, and VOC. [District Rule 2520, 9.4.2; and Rule 4354, 6.3; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
13. PM shall be sampled according to the modified version of EPA's Method 5 which includes the impinger catch. [District NSR Rule; District Rule 4202; District Rule 2520, 9.4.2; PSD ATC SJ 80-02; and 40 CFR 60 Subpart CC] Federally Enforceable Through Title V Permit
14. Source tests for PM shall be performed at the outlet of the dry ESP, the outlet of the three wet ESP's and the final stack. The source tests for NO_x, SO_x, and VOC shall be performed at the final stack. [District NSR Rule; District Rule 4202; and Rule 2520, 9.4.2; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
15. The District and EPA (Attention: Air-5) shall be notified in writing 30 days in advance of the scheduled tests dates to allow time for the development of an approvable source test plan and to arrange for an observer to be present at the test. [District Rule 1081; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
16. The results of each source test shall be submitted to the District and EPA, Region 9 (Attention: Air-5) within 60 days after the test. [District Rule 1081; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
17. The outlets of the dry ESP and the final stack shall be so fitted as to permit performance of tests for pollutants (per 40 CFR 60, Appendix A) using portable equipment in a manner as approved by the EPA, CARB and the District. [District Rule 1081] Federally Enforceable Through Title V Permit
18. The applicant shall maintain and operate CEM to measure stack gas NO_x concentration (per 40 CFR 60.13 and 40 CFR, Appendix B, Performance Spec. 2; and 40 CFR 60 Appendix F) and stack gas volumetric flow rate (per 40 CFR Part 52, Appendix E). [District NSR Rule; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
19. The applicant shall maintain and operate an opacity CEMS in the final stack to continuously measure the opacity of stack emissions. The opacity CEMS shall meet EPA specs. (40 CFR 60.13; and 40 CFR 60, Appendix B, Performance Specification 1) [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
20. CertainTeed Corporation shall submit to EPA (Attention: Air-5) a written report of all excess emissions for each calendar quarter. The report shall include the conditions specified in EPA Permit Special Conditions IX.J.4. [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
21. CertainTeed shall continuously operate and maintain the caustic soda injection system for the pretreatment of the glass furnace gas stream upstream of the dry ESP. [District NSR Rule; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
22. Both the caustic soda injection system (scrubber) and the dry electrostatic precipitator shall be functioning as air pollution abatement devices whenever the glass melting furnace is in operation. [District NSR Rule; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
23. Dry Electrostatic Precipitator (ESP) outlet emissions shall not exceed 8.4 lbs PM/hr. [District NSR Rule; District Rule 4202; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
24. When the furnace is heated with LPG/propane, final stack emissions shall not exceed 547.2 lb PM/day, 432.0 lb HC/day, 1,341.6 lb NO_x/day, 1,296.0 lb SO_x/day, or 1,072.8 lb CO/day. [District Rule 2201] Federally Enforceable Through Title V Permit
25. When the furnace is heated with natural gas, final stack emissions shall not exceed 22.8 lb PM/hr, 18.0 lb HC/hr, 55.9 lb NO_x/hr, 24.3 lb SO_x/hr, nor 44.7 lb CO/hr. [District NSR Rule; District Rule 4354; District Rule 4202; PSD ATC SJ 80-02] 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. When the furnace is heated with fuel oil, final stack emissions shall not exceed 22.8 lb PM/hr, 18.0 lb HC/hr, 40.0 lb NO_x/hr, 54.0 lb SO_x/hr, nor 44.7 lb CO/hr. [District NSR Rule; District Rule 4354; District Rule 4202; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
27. Natural gas and propane consumption shall not exceed 3.55 million cubic feet per day and 1.295 trillion Btu in any 12 month period. [District NSR Rule; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
28. CertainTeed Corporation shall maintain and operate the following continuous emissions monitoring systems (CEMS) in the final stack: (1) a CEMS to measure stack gas NO_x concentrations; (2) a CEMS to measure stack gas volumetric flow rates [District NSR Rule; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
29. The NO_x CEMS shall meet EPA monitoring performance specifications (40 CFR 60.13, 40 CFR 60, Appendix B, Performance Specification 2; and 40 CFR 60, Appendix F). [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
30. The volumetric flow rate CEMS shall meet EPA monitoring performance specifications (40 CFR 52, Appendix E). [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
31. In the quarterly excess emission reports, CertainTeed Corporation shall report all dates and times when process gases are vented to the bypass stack, CertainTeed Corporation shall also report the reason for each instance of venting to the bypass stack. [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
32. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: District Rules 4201 (12/17/92) and 4202 (12/17/92); and Madera County Rule 404. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
33. A record of each fuel consumption shall be maintained, kept onsite for at least five years and made available for inspection by EPA, CARB and the District upon request. [District 2520, 9.4.2] Federally Enforceable Through Title V Permit
34. Source shall be in compliance with all requirements of District Rule 4354 (2/21/02) by the end of startup as prescribed in Section 7.1, Table 2 of District Rule 4354 (2/21/02). [District Rule 4354] Federally Enforceable Through Title V Permit
35. Furnace shutdown shall not exceed 20 days, measured from the time furnace operations drop below the idle thresholds specified in Section 3.9 of District Rule 4354 to when all emissions from the furnace cease. [District Rule 4354] Federally Enforceable Through Title V Permit
36. NO_x, CO and VOC emissions during idling shall not exceed the emissions limits as calculated in Section 5.4.2 of District Rule 4354 (2/21/02). [District Rule 4354] Federally Enforceable Through Title V Permit
37. Permittee shall comply with Section 5.2.1 during startup. Startup exemption time shall not exceed 40 days, starting from the time of primary combustion system activation. [District Rule 4354] Federally Enforceable Through Title V Permit
38. Effective at the end of the startup period, emissions from the glass melting furnace shall not exceed the Tier 2 emission limits of District Rule 4354, Section 5.1 (2/21/02) as follows: 4.0 lb NO_x/ton of glass pulled on a block 24-hour average, 1.0 lb CO/ton of glass pulled as averaged over a three hour period in accordance with the applicable test methods in Section 6.5.1 of District Rule 4354, Section 5.5.1 (2/21/02) and 0.25 lb VOC/ton of glass pulled as averaged over a three hour period in accordance with the applicable test methods in Section 6.5.1 of District Rule 4354, Section 5.5.1 (2/21/02). [District Rule 4354] Federally Enforceable Through Title V Permit
39. The emission control systems (ECS) shall be in operation whenever technologically feasible during startup, idling and shutdown conditions. [District Rule 4354] Federally Enforceable Through Title V Permit
40. During startup, the stoichiometric ratio of the primary furnace combustion system shall not exceed 5% oxygen as calculated from the actual fuel and oxidant flow measurements for combustion in the furnace. [District Rule 4354] Federally Enforceable Through Title V Permit

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

41. Source tests shall be performed at least on an annual basis and at such other times as may be specified by the District or EPA. Tests shall comply with the procedures in 40 CFR (Part 60.8) for PM, NO_x, SO_x, and VOC. [District Rule 2520, 9.4.2; and Rule 4354, 6.3; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
42. In the quarterly excess emission reports, CertainTeed shall report all dates and times when process gases are vented to the bypass stack and shall also report the reason for each instance of venting to the bypass stack. [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
43. Excess emissions indicated by the CEM system shall be considered violations of the applicable emissions limits for the purposes of this permit. [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
44. The owner or operator shall not discharge or cause to be discharged into the atmosphere in excess of 0.25 kilogram (kg) of filterable particulate matter (PM) per megagram (Mg) (0.5 pound [lb] of PM per ton) of glass pulled for each new or existing glass-melting furnace. [40 CFR 63, Subpart NNN and 40 CFR 60, Subpart CC] Federally Enforceable Through Title V Permit
45. The owner or operator must initiate corrective action within 1 hour when any 3-hour block average of the monitored dry electrostatic precipitator (DESP) parameter is outside the limit(s) established during the performance test as specified in §63.1384 and complete corrective actions in a timely manner according to the procedures in the operations, maintenance, and monitoring plan. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
46. The owner or operator must implement a QIP consistent with the compliance assurance monitoring provisions of 40 CFR part 64 subpart D when the monitored DESP parameter is outside the limit(s) established during the performance test as specified in §63.1384 for more than 5 percent of the total operating time in a 6-month block reporting period. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
47. The owner or operator must operate the DESP such that the monitored DESP parameter is not outside the limit(s) established during the performance test as specified in §63.1384 for more than 10 percent of the total operating time in a 6-month block reporting period. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
48. The owner or operator must initiate corrective action within 1 hour when the average glass pull rate of any 4-hour block period for glass melting furnaces equipped with continuous glass pull rate monitors, or daily glass pull rate for glass melting furnaces not so equipped, exceeds the average glass pull rate established during the performance test as specified in §63.1384, by greater than 20 percent and complete corrective actions in a timely manner according to the procedures in the operations, maintenance, and monitoring plan. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
49. The owner or operator must implement a QIP consistent with the compliance assurance monitoring provisions of 40 CFR part 64, subpart D when the glass pull rate exceeds, by more than 20 percent, the average glass pull rate established during the performance test as specified in §63.1384 for more than 5 percent of the total operating time in a 6-month block reporting period. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
50. The owner or operator must operate each glass-melting furnace such that the glass pull rate does not exceed, by more than 20 percent, the average glass pull rate established during the performance test as specified in §63.1384 for more than 10 percent of the total operating time in a 6-month block reporting period. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
51. The owner or operator of each wool fiberglass manufacturing facility must prepare for each glass-melting furnace, rotary spin manufacturing line a written operations, maintenance, and monitoring plan. The plan must be submitted to the Administrator for review and approval as part of the application for a part 70 permit. The plan must include the following information: Procedures for the proper operation and maintenance of process modifications and add-on control devices used to meet the emission limits in §63.1382; Procedures for the proper operation and maintenance of monitoring devices used to determine compliance, including quarterly calibration and certification of accuracy of each monitoring device according to the manufacturers's instructions; and Corrective actions to be taken when process parameters or add-on control device parameters deviate from the limit(s) established during initial performance tests. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit

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52. The owner or operator must monitor the DESP according to the procedures in the operations, maintenance, and monitoring plan. The operations, maintenance, and monitoring plan for the ESP must contain the following information: The ESP operating parameter(s), such as secondary voltage of each electrical field, to be monitored and the minimum and/or maximum value(s) that will be used to identify any operational problems; A schedule for monitoring the ESP operating parameter(s); Recordkeeping procedures, consistent with the recordkeeping requirements of §63.1386, to show that the ESP operating parameter(s) is within the limit(s) established during the performance test; and Procedures for the proper operation and maintenance of the ESP. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
53. The owner or operator of an existing glass-melting furnace equipped with continuous glass pull rate monitors must monitor and record the glass pull rate on an hourly basis. For glass-melting furnaces that are not equipped with continuous glass pull rate monitors, the glass pull rate must be monitored and recorded once per day. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
54. The owner or operator must monitor the established parameter(s) according to the procedures in the operations, maintenance, and monitoring plan. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
55. The owner or operator must include as part of their operations, maintenance, and monitoring plan the following information: Procedures for the proper operation and maintenance of the process; Process parameter(s) to be monitored to demonstrate compliance with the applicable emission limits in §63.1382; Correlation(s) between process parameter(s) to be monitored and formaldehyde emissions; A schedule for monitoring the process parameter(s); and Recordkeeping procedures, consistent with the recordkeeping requirements of §63.1386, to show that the process parameter value(s) established during the performance test is not exceeded. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
56. For all control device and process operating parameters measured during the initial performance tests, the owners or operators of glass-melting furnaces subject to this subpart may change the limits established during the initial performance tests if additional performance testing is conducted to verify that, at the new control device or process parameter levels, they comply with the applicable emission limits in §63.1382. The owner or operator shall conduct all additional performance tests according to the procedures in this part 63, subpart A and in §63.1384. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
57. The owner or operator shall conduct a performance test for each existing and new glass-melting furnace. All monitoring systems and equipment must be installed, operational, and calibrated prior to the performance test. Unless a different frequency is specified in this section, the owner or operator must monitor and record process and/or add-on control device parameters at least every 15 minutes during the performance tests. The arithmetic average for each parameter must be calculated using all of the recorded measurements for the parameter. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
58. During each performance test, the owner or operator must monitor and record the glass pull rate for each glass-melting furnace and, if different, the glass pull rate for each rotary spin manufacturing line and flame attenuation manufacturing line. Record the glass pull rate every 15 minutes during any performance test required by this subpart and determine the arithmetic average of the recorded measurements for each test run and calculate the average of the three test runs. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
59. During the performance test, the owner or operator of a glass-melting furnace controlled by an DESP shall monitor and record the DESP parameter level(s), as specified in the operations, maintenance, and monitoring plan, and establish the minimum and/or maximum value(s) that will be used to demonstrate compliance after the initial performance test. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
60. To determine compliance with the PM emission limit for glass-melting furnaces, use the following equation: $E = (C \times Q \times K1)/P$, where: E = Emission rate of PM, kg/Mg (lb/ton) of glass pulled; C = Concentration of PM, g/dscm (gr/dscf); Q = Volumetric flow rate of exhaust gases, dscm/h (dscf/h); K1 = Conversion factor, 1 kg/1,000 g (1 lb/7,000 gr); and P = Average glass pull rate, Mg/h (tons/h). [40 CFR 63, Subpart NNN and 40 CFR 60, Subpart CC] Federally Enforceable Through Title V Permit

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61. The owner or operator shall submit the following written initial notifications to the Administrator:(1) Notification of intention to construct a new major source or reconstruct a major source; of the date construction or reconstruction commenced; of the anticipated date of startup; of the actual date of startup, where the initial startup of a new or reconstructed source occurs after June 14, 2002, and for which an application for approval or construction or reconstruction is required (See §63.9(b)(4) and (5) of this part);(2) Notification of special compliance obligations;(3) Notification of performance test; and (4) Notification of compliance status. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
62. The owner or operator shall report the results of the initial performance test as part of the notification of compliance status. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
63. The owner or operator shall develop and implement a written plan as described in §63.6(e)(3) of this part that contains specific procedures to be followed for operating the source and maintaining the source during periods of startup, shutdown, and malfunction and a program of corrective action for malfunctioning process modifications and control systems used to comply with the standard. In addition to the information required in §63.6(e)(3), the plan shall include:(i) Procedures to determine and record the cause of the malfunction and the time the malfunction began and ended;(ii) Corrective actions to be taken in the event of a malfunction of a control device or process modification, including procedures for recording the actions taken to correct the malfunction or minimize emissions; and(iii) A maintenance schedule for each control device and process modification that is consistent with the manufacturer's instructions and recommendations for routine and long-term maintenance. The owner or operator shall also keep records of each event as required by §63.10(b) of this part and record and report if an action taken during a startup, shutdown, or malfunction is not consistent with the procedures in the plan as described in §63.10(e)(3)(iv) of this part. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
64. The owner or operator must retain each record for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The most recent 2 years of records must be retained at the facility. The remaining 3 years of records may be retained off site. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
65. The owner or operator shall maintain records of the following information: DESP parameter value(s) used to monitor DESP performance, including any period when the value(s) deviated from the established limit(s), the date and time of the deviation, when corrective actions were initiated, the cause of the deviation, an explanation of the corrective actions taken, and when the cause of the deviation was corrected; and Glass pull rate, including any period when the pull rate exceeded the average pull rate established during the performance test by more than 20 percent, the date and time of the exceedance, when corrective actions were initiated, the cause of the exceedance, an explanation of the corrective actions taken, and when the cause of the exceedance was corrected. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
66. The owner or operator shall report semiannually if measured emissions are in excess of the applicable standard or a monitored parameter deviates from the levels established during the performance test. The report shall contain the information specified in §63.10(c) of this part as well as the additional records required by the recordkeeping requirements of paragraph (d) of this section. When no deviations have occurred, the owner or operator shall submit a report stating that no excess emissions occurred during the reporting period. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit

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San Joaquin Valley Air Pollution Control District

PERMIT UNIT: C-261-3-7

EXPIRATION DATE: 05/31/2008

EQUIPMENT DESCRIPTION:

MODIFICATION OF 51.44 MMBTU/HR C-11 PRODUCTION LINE CONSISTING OF FOREHEARTH #1, GLASS FIBERIZER & MAT FORMING, CURING OVEN, MAT COOLING, SLITTING & TRIMMING, FACING, INFRARED DRYER, AND ROLL UP PACKAGING AND CONTROL DEVICES

PERMIT UNIT REQUIREMENTS

1. Fiberglass production on the C-11 Line shall not exceed 260 metric tons per day and 94,900 metric tons per year. A permanent record of daily production shall be maintained and shall be available for inspection by the District, EPA and CARB. [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
2. With approval from EPA, CertainTeed Corporation may choose to conduct performance tests at production and firing rates less than maximum design capacity and may choose to test only the fuel expected to be used in the next 12-month time period, provided that actual plant production does not exceed the tested rate and provided that only the fuel for which tests have been performed is used. The emission rate for NOx established by the first test at the specific production rate (less than maximum plant capacity) shall become the applicable emission limit for NOx at the production rate tested, as in condition IX.B of PSD permit SJ 80-02. A fuel switch or an increase in production levels beyond the maximum tested rate for any product line requires approval by EPA prior to such production increases or fuel switch and may require additional performance testing. [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
3. EPA shall be notified by letter 30 days prior to a production increase in order to make a determination of whether additional performance testing is required. [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
4. Only PUC regulated natural gas shall be used. [PSD ATC SJ 80-02; Madera County Rule 404] Federally Enforceable Through Title V Permit
5. A permanent record of daily production shall be maintained and shall be available for inspection by EPA, CARB and the District. [District Rule 2520, 9.4.2; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
6. Source tests shall be performed at least on an annual basis and at such other times as may be specified by the District or EPA. Tests shall comply with the procedures in 40 CFR (Part 60.8) for PM, NOx, SOx, and VOC. [District Rule 2520, 9.4.2; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
7. PM shall be sampled according to the modified version of EPA's Method 5 which includes the impinger catch. [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
8. The source tests for PM shall be performed at the outlet of the two wet ESP's and the final stack. The source tests for NOx, SOx, and VOC shall be performed at the final stack. [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
9. The District and EPA (Attention: Air-5) shall be notified in writing 30 days in advance of the scheduled tests dates to allow time for the development of an approvable source test plan and to arrange for an observer to be present at the test. [District Rule 1081; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
10. The result of each source test shall be submitted to the District and EPA, Region 9 (Attention: Air-5) within 60 days after the test. [District Rule 1081; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit

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11. CertainTeed shall continuously operate and maintain the wet cyclonic scrubbers for the pretreatment of the gas stream upstream of the south wet ESP. [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
12. Both the cyclonic scrubbers and the South wet ESP shall be functioning as air pollution abatement devices whenever there is glass production on the C-11 Line. [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
13. The North wet ESP shall be functioning as air pollutant abatement device whenever there is glass production on the C-11 Line. [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
14. The combined North wet ESP and South wet ESP outlet emissions on C-11 Line shall not exceed 11.8 lbs/hr of PM. [District Rule 4202; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
15. Natural gas and propane consumption shall not exceed 3.55 million cubic feet per day and 1.295 trillion Btu in any 12 month period. [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
16. When fired on propane, the total stack emissions, which result from combining the C-1 dry ESP (PTO #C-261-2), C-11 wet ESP and C-12 wet ESP (PTO C-261-4) emissions, shall not exceed 547.2 lb PM/day, 432.0 lb HC/day, 1,341.6 lb NOx/day, 1,296.0 lb SOx/day, or 1,072.8 lb CO/day. [District Rule 2201]
17. The total stack emissions, which result from combining the C-1 dry ESP (PTO C-261-2), C-11 wet ESP (PTO C-261-3) and C-12 wet ESP emissions, shall not exceed 22.8 lb PM/hr. [District NSR Rule; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
18. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: District Rules 4201 (12/17/92) and 4202 (12/17/92); and Madera County Rule 404. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
19. The owner or operator shall not discharge or cause to be discharged into the atmosphere in excess of 0.6 kg of formaldehyde per megagram (1.2 lb of formaldehyde per ton) of glass pulled for each existing rotary spin manufacturing line. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
20. The owner or operator must initiate corrective action within 1 hour when the average glass pull rate of any 4-hour block period for glass melting furnaces equipped with continuous glass pull rate monitors, or daily glass pull rate for glass melting furnaces not so equipped, exceeds the average glass pull rate established during the performance test as specified in §63.1384, by greater than 20 percent and complete corrective actions in a timely manner according to the procedures in the operations, maintenance, and monitoring plan. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
21. The owner or operator must implement a QIP consistent with the compliance assurance monitoring provisions of 40 CFR part 64, subpart D when the glass pull rate exceeds, by more than 20 percent, the average glass pull rate established during the performance test as specified in §63.1384 for more than 5 percent of the total operating time in a 6-month block reporting period. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
22. The owner or operator must operate each glass-melting furnace such that the glass pull rate does not exceed, by more than 20 percent, the average glass pull rate established during the performance test as specified in §63.1384 for more than 10 percent of the total operating time in a 6-month block reporting period. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
23. The owner or operator must initiate corrective action within 1 hour when the monitored process parameter level(s) is outside the limit(s) established during the performance test as specified in §63.1384 for the process modification(s) used to control formaldehyde emissions and complete corrective actions in a timely manner according to the procedures in the operations, maintenance, and monitoring plan. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
24. The owner or operator must implement a QIP consistent with the compliance assurance monitoring provisions of 40 CFR part 64, subpart D when the process parameter(s) is outside the limit(s) established during the performance test as specified in §63.1384 for more than 5 percent of the total operating time in a 6-month block reporting period. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit

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25. The owner or operator must operate the process modifications such that the monitored process parameter(s) is not outside the limit(s) established during the performance test as specified in §63.1384 for more than 10 percent of the total operating time in a 6-month block reporting period. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
26. The owner or operator must use a resin in the formulation of binder such that the free-formaldehyde content of the resin used does not exceed the free-formaldehyde range contained in the specification for the resin used during the performance test as specified in §63.1384. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
27. The owner or operator must use a binder formulation that does not vary from the specification and operating range established and used during the performance test as specified in §63.1384. For the purposes of this standard, adding or increasing the quantity of urea and/or lignin in the binder formulation does not constitute a change in the binder formulation. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
28. The owner or operator of each wool fiberglass manufacturing facility must prepare for each glass-melting furnace and rotary spin manufacturing line subject to the provisions of this subpart, a written operations, maintenance, and monitoring plan. The plan must be submitted to the Administrator for review and approval as part of the application for a part 70 permit. The plan must include the following information: Procedures for the proper operation and maintenance of process modifications and add-on control devices used to meet the emission limits in §63.1382; Procedures for the proper operation and maintenance of monitoring devices used to determine compliance, including quarterly calibration and certification of accuracy of each monitoring device according to the manufacturers' instructions; and Corrective actions to be taken when process parameters or add-on control device parameters deviate from the limit(s) established during initial performance tests. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
29. The owner or operator of an existing glass-melting furnace equipped with continuous glass pull rate monitors must monitor and record the glass pull rate on an hourly basis. For glass-melting furnaces that are not equipped with continuous glass pull rate monitors, the glass pull rate must be monitored and recorded once per day. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
30. The owner or operator who uses process modifications to control formaldehyde emissions must establish a correlation between formaldehyde emissions and a process parameter(s) to be monitored. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
31. The owner or operator must monitor the established parameter(s) according to the procedures in the operations, maintenance, and monitoring plan. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
32. The owner or operator must include as part of their operations, maintenance, and monitoring plan the following information: Procedures for the proper operation and maintenance of the process; Process parameter(s) to be monitored to demonstrate compliance with the applicable emission limits in §63.1382; Correlation(s) between process parameter(s) to be monitored and formaldehyde emissions; A schedule for monitoring the process parameter(s); and Recordkeeping procedures, consistent with the recordkeeping requirements of §63.1386, to show that the process parameter value(s) established during the performance test is not exceeded. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
33. The owner or operator must monitor and record the free-formaldehyde content of each resin shipment received and used in the formulation of binder. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
34. The owner or operator must monitor and record the formulation of each batch of binder used. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
35. The owner or operator must monitor and record at least once every 8 hours, the product LOI and product density of each bonded wool fiberglass product manufactured. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit

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36. For all control device and process operating parameters measured during the initial performance tests, the owners or operators of glass-melting furnaces and rotary spin manufacturing lines subject to this subpart may change the limits established during the initial performance tests if additional performance testing is conducted to verify that, at the new control device or process parameter levels, they comply with the applicable emission limits in §63.1382. The owner or operator shall conduct all additional performance tests according to the procedures in this part 63, subpart A and in §63.1384. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
37. During each performance test, the owner or operator must monitor and record the glass pull rate for each glass-melting furnace and, if different, the glass pull rate for the C-11 rotary spin manufacturing line. Record the glass pull rate every 15 minutes during any performance test required by this subpart and determine the arithmetic average of the recorded measurements for each test run and calculate the average of the three test runs. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
38. The owner or operator must conduct a performance test for the C-11 rotary spin manufacturing line, subject to this subpart, while producing the building insulation with the highest LOI expected to be produced on that line. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
39. The owner or operator of each rotary spin manufacturing line regulated by this subpart must conduct performance tests using the resin with the highest free-formaldehyde content. During the performance test of each rotary spin manufacturing line regulated by this subpart, the owner or operator shall monitor and record the free-formaldehyde content of the resin, the binder formulation used, and the product LOI and density. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
40. During the performance test, the owner or operator of a rotary spin manufacturing line who plans to use process modifications to comply with the emission limits in §63.1382 must monitor and record the process parameter level(s), as specified in the operations, maintenance, and monitoring plan, which will be used to demonstrate compliance after the initial performance test. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
41. Unless disapproved by the Administrator, an owner or operator of a rotary spin or flame attenuation manufacturing line regulated by this subpart may conduct short-term experimental production runs using binder formulations or other process modifications where the process parameter values would be outside those established during performance tests without first conducting performance tests. Such runs must not exceed 1 week in duration unless the Administrator approves a longer period. The owner or operator must notify the Administrator and postmark or deliver the notification at least 15 days prior to commencement of the short-term experimental production runs. The Administrator must inform the owner or operator of a decision to disapprove or must request additional information prior to the date of the short-term experimental production runs. Notification of intent to perform an experimental short-term production run shall include the following information:(i) The purpose of the experimental production run;(ii) The affected line;(iii) How the established process parameters will deviate from previously approved levels;(iv) The duration of the experimental production run;(v) The date and time of the experimental production run; and(vi) A description of any emission testing to be performed during the experimental production run. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
42. To determine compliance with the emission limit for formaldehyde for rotary spin manufacturing lines, use the following equation: $E = (C \times MW \times Q \times K1 \times K2) / (K3 \times P \times 10^6)$, where: E = Emission rate of formaldehyde, kg/Mg (lb/ton) of glass pulled; C = Measured volume fraction of formaldehyde, ppm; MW = Molecular weight of formaldehyde, 30.03 g/g-mol; Q = Volumetric flow rate of exhaust gases, dscm/h (dscf/h); K1 = Conversion factor, 1 kg/1,000 g (1 lb/453.6 g); K2 = Conversion factor, 1,000 L/m³ (28.3 L/ft³); K3 = Conversion factor, 24.45 L/g-mol; and P = Average glass pull rate, Mg/h (tons/h). [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
43. The owner or operator shall submit the following written initial notifications to the Administrator:(1) Notification of intention to construct a new major source or reconstruct a major source; of the date construction or reconstruction commenced; of the anticipated date of startup; of the actual date of startup, where the initial startup of a new or reconstructed source occurs after June 14, 2002, and for which an application for approval or construction or reconstruction is required (See §63.9(b)(4) and (5) of this part);(2) Notification of special compliance obligations;(3) Notification of performance test; and (4) Notification of compliance status. [40 CFR 63, Subpart NNN] 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.

44. The owner or operator shall report the results of the initial performance test as part of the notification of compliance status. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
45. The owner or operator shall develop and implement a written plan as described in §63.6(e)(3) of this part that contains specific procedures to be followed for operating the source and maintaining the source during periods of startup, shutdown, and malfunction and a program of corrective action for malfunctioning process modifications and control systems used to comply with the standard. In addition to the information required in §63.6(e)(3), the plan shall include:(i) Procedures to determine and record the cause of the malfunction and the time the malfunction began and ended;(ii) Corrective actions to be taken in the event of a malfunction of a control device or process modification, including procedures for recording the actions taken to correct the malfunction or minimize emissions; and(iii) A maintenance schedule for each control device and process modification that is consistent with the manufacturer's instructions and recommendations for routine and long-term maintenance. The owner or operator shall also keep records of each event as required by §63.10(b) of this part and record and report if an action taken during a startup, shutdown, or malfunction is not consistent with the procedures in the plan as described in §63.10(e)(3)(iv) of this part. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
46. The owner or operator must retain each record for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The most recent 2 years of records must be retained at the facility. The remaining 3 years of records may be retained off site. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
47. The owner or operator shall maintain records of the following information: the formulation of each binder batch and the LOI and density for each product manufactured on a rotary spin manufacturing line or flame attenuation manufacturing line subject to the provisions of this subpart, and the free formaldehyde content of each resin shipment received and used in the binder formulation; Process parameter level(s) for RS and FA manufacturing lines that use process modifications to comply with the emission limits, including any period when the parameter level(s) deviated from the established limit(s), the date and time of the deviation, when corrective actions were initiated, the cause of the deviation, an explanation of the corrective actions taken, and when the cause of the deviation was corrected; and Glass pull rate, including any period when the pull rate exceeded the average pull rate established during the performance test by more than 20 percent, the date and time of the exceedance, when corrective actions were initiated, the cause of the exceedance, an explanation of the corrective actions taken, and when the cause of the exceedance was corrected. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
48. The owner or operator shall report semiannually if measured emissions are in excess of the applicable standard or a monitored parameter deviates from the levels established during the performance test. The report shall contain the information specified in §63.10(c) of this part as well as the additional records required by the recordkeeping requirements of paragraph (d) of this section. When no deviations have occurred, the owner or operator shall submit a report stating that no excess emissions occurred during the reporting period. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: C-261-4-6

EXPIRATION DATE: 05/31/2008

EQUIPMENT DESCRIPTION:

27.44 MMBTU/HR C-12 LINE INCLUDING FOREHEARTH #2; FIBERIZER CONTROLLED BY 3 FISHER-KLOSTERMANN (F-K) CYCLONIC SCRUBBERS; COLLECTION & SHREDDING CONTROLLED BY 2 CERTAINTeed CYCLONES/F-K SCRUBBERS/C-12 WET EP; BAGGING CONTROLLED BY BAGHOUSE #2

PERMIT UNIT REQUIREMENTS

1. Fiberglass production on the C-12 Line shall not exceed 260 metric tons per day and 94,900 metric tons per year. A permanent record of daily production shall be maintained and shall be available for inspection by the District, EPA and CARB. [District NSR Rule; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
2. With approval from EPA, CertainTeed Corporation may choose to conduct performance tests at production and firing rates less than maximum design capacity and may choose to test only the fuel expected to be used in the next 12-month time period, provided that actual plant production does not exceed the tested rate and provided that only the fuel for which tests have been performed is used. The emission rate for NO_x established by the first test at the specific production rate (less than maximum plant capacity) shall become the applicable emission limit for NO_x at the production rate tested, as in condition IX.B of PSD permit SJ 80-02. A fuel switch or an increase in production levels beyond the maximum tested rate for any product line requires approval by EPA prior to such production increases or fuel switch and may require additional performance testing. [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
3. EPA shall be notified by letter 30 days prior to a production increase in order to make a determination of whether additional performance testing is required. [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
4. Only PUC regulated natural gas shall be used. [PSD ATC SJ 80-02; Madera County Rule 404] Federally Enforceable Through Title V Permit
5. A permanent record of daily production shall be maintained and shall be available for inspection by EPA, CARB and the District. [District Rule 2520, 9.4.2; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
6. Source tests shall be performed at least on an annual basis and at such other times as may be specified by the District or EPA. Tests shall comply with the procedures in 40 CFR (Part 60.8) for PM, NO_x, SO_x, and VOC. [District NSR Rule; District Rule 4354, 6.3; District Rule 2520, 9.4.2; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
7. PM shall be sampled according to the modified version of EPA's Method 5 which includes the impinger catch. [District NSR Rule; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
8. The source tests for PM shall be performed at the outlet of the wet ESP and the final stack. The source tests for NO_x, SO_x, and VOC shall be performed at the final stack. [District NSR Rule; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
9. The District and EPA (Attention: Air-5) shall be notified in writing 30 days in advance of the scheduled tests dates to allow time for the development of an approvable source test plan and to arrange for an observer to be present at the test. [District Rule 1081; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
10. The result of each source test shall be submitted to the District and EPA, Region 9 (Attention: Air-5) within 60 days after the test. [District Rule 1081; PSD ATC SJ 80-02] 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.

11. The outlet of the wet ESP and the final stack shall be so fitted as to permit performance of tests for pollutants (per 40 CFR 60, Appendix A) using portable equipment in a manner as approved by the EPA, CARB and the District. [District Rule 1081; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
12. CertainTeed shall continuously operate and maintain the wet cyclonic scrubbers for the pretreatment of the gas stream upstream of the C-12 wet ESP. [District NSR Rule; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
13. Both the cyclonic scrubbers and the C-12 wet ESP shall be functioning as air pollution abatement devices whenever there is glass production on the C-12 Line. [District NSR Rule; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
14. Baghouse #2 shall be functioning as air pollutant abatement device whenever there is glass production on the C-12 Line. [District NSR Rule; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
15. The C-12 wet ESP outlet emissions shall not exceed 4.5 lbs PM/hr nor 108 lb PM/day. [District NSR Rule; District Rule 4202; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
16. Natural gas and propane consumption shall not exceed 3.55 million cubic feet per day and 1.295 trillion Btu in any 12 month period. [District NSR Rule; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
17. When fired on propane, the total stack emissions, which result from combining the C-1 dry ESP (PTO #C-261-2), C-11 wet ESP (PTO C-261-3) and C-12 wet ESP emissions, shall not exceed 547.2 lb PM/day, 432.0 lb HC/day, 1,341.6 lb NOx/day, 1,296.0 lb SOx/day, or 1,072.8 lb CO/day. [District Rule 2201]
18. The total stack emissions, which result from combining the C-1 dry ESP (PTO C-261-2), C-11 wet ESP (PTO C-261-3) and C-12 wet ESP emissions, shall not exceed 22.8 lb PM/hr. [District NSR Rule; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
19. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: District Rules 4201 (12/17/92) and 4202 (12/17/92); and Madera County Rule 404. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
20. Particulate matter emissions shall not exceed 2.6 lb/hour, until EPA approves modification to PSD ATC SJ 80-02 to increase the maximum emission rate. Upon EPA approval, particulate matter emissions shall not exceed 4.5 lb/hour. [PSD ATC 80-02] Federally Enforceable Through Title V Permit
21. The owner or operator must initiate corrective action within 1 hour when the average glass pull rate of any 4-hour block period for glass melting furnaces equipped with continuous glass pull rate monitors, or daily glass pull rate for glass melting furnaces not so equipped, exceeds the average glass pull rate established during the performance test as specified in §63.1384, by greater than 20 percent and complete corrective actions in a timely manner according to the procedures in the operations, maintenance, and monitoring plan. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
22. The owner or operator must implement a QIP consistent with the compliance assurance monitoring provisions of 40 CFR part 64, subpart D when the glass pull rate exceeds, by more than 20 percent, the average glass pull rate established during the performance test as specified in §63.1384 for more than 5 percent of the total operating time in a 6-month block reporting period. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
23. The owner or operator must operate each glass-melting furnace such that the glass pull rate does not exceed, by more than 20 percent, the average glass pull rate established during the performance test as specified in §63.1384 for more than 10 percent of the total operating time in a 6-month block reporting period. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit

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

Attachment B
Quarterly Net Emissions Change (QNEC)

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

QNEC = PE2 - BE, where:

- QNEC = Quarterly Net Emissions Change for each emissions unit, lb/qtr.
- PE2 = Post Project Potential to Emit for each emissions unit, lb/qtr.
- BE = Baseline Emissions (per Rule 2201) for each emissions unit, lb/qtr.

Using the values in Sections VII.C.2 and VII.C.6 in the evaluation above, quarterly PE2 and quarterly BE can be calculated as follows:

$$\begin{aligned}
 PE2_{\text{quarterly}} &= PE2_{\text{annual}} \div 4 \text{ quarters/year} \\
 &= 489,684 \text{ lb/year} \div 4 \text{ qtr/year} \\
 &= 122,421 \text{ lb NOx/qtr}
 \end{aligned}$$

$$\begin{aligned}
 BE_{\text{quarterly}} &= BE_{\text{annual}} \div 4 \text{ quarters/year} \\
 &= 489,684 \text{ lb/year} \div 4 \text{ qtr/year} \\
 &= 122,421 \text{ lb NOx/qtr}
 \end{aligned}$$

C-261-2-23: Quarterly NEC [QNEC]			
	PE2 (lb/qtr)	BE (lb/qtr)	NEC (lb/qtr)
NO _x	122,421	122,421	0
SO _x	54,301	54,301	0
PM ₁₀	8,173	8,173	0
CO	32,690	32,690	0
VOC	8,173	8,173	0

C-261-3-11: Quarterly NEC [QNEC]			
	PE2 (lb/qtr)	BE (lb/qtr)	NEC (lb/qtr)
NO _x	12,098	12,098	0
SO _x	345	345	0
PM ₁₀	1,558	1,558	0
CO	10,162	10,162	0
VOC	665	665	0

C-261-4-9: Quarterly NEC [QNEC]			
	PE2 (lb/qtr)	BE (lb/qtr)	NEC (lb/qtr)
NO _x	6,013	6,013	0
SO _x	173	173	0
PM ₁₀	457	457	0
CO	5,051	5,051	0
VOC	332	332	0

Attachment C
BACT Guidelines and Top Down BACT Analyses

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**Best Available Control Technology (BACT) Guideline 1.5.1
Last Update: 8/17/2006**

Fiberglass Production Furnace and Manufacturing Line, Natural Gas-Fired

Pollutant	Achieved in Practice or in the SIP	Technologically Feasible	Alternate Basic Equipment
CO	Natural gas firing and use of cullet > 30% annual average; 1.0 lb-CO/ton		
NOx	1.45 lb/ton with no nitrate, 4.0 lb/ton with nitrate (Oxy-fuel natural gas or equivalent) at final stack (including manufacturing line except forehearths)		electric furnace with cullet > 30% annual average
PM10	Electrostatic Precipitator in series with Scrubber (98% CE); 0.25 lb-PM10/ton		
SOx	Scrubber, natural gas firing with low sulfur backup fuel oil (< 0.0015% sulfur by weight), and use of cullet > 30% annual average		electric furnace with cullet > 30% annual average
VOC	Natural gas firing and use of cullet (scrap glass) > 30% annual average; 0.25 lb-VOC/ton		electric furnace with cullet > 30% annual average

BACT is the most stringent control technique for the emissions unit and class of source. Control techniques that are not achieved in practice or contained in a state implementation plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is required for all determinations that are not achieved in practice or contained in an EPA approved State Implementation Plan.

This is a Summary Page for this Class of Source - Permit Specific BACT Determinations on Details Page.

Top-Down Best Available Control Technology (BACT) Analysis

C-261-2-23

a. NOx Top-Down BACT Analysis

Step 1 - Identify All Possible Control Technologies

Achieved in Practice

1.45 lb/ton with no nitrate, 4.0 lb/ton with nitrate (Oxy-fuel natural gas or equivalent)

Cullet use > 30% (annual average)

Step 2 - Eliminate Technologically Infeasible Options

There are no technologically infeasible options.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

Rank	Control Technology	Achieved in Practice
1	Electric Furnace with cullet > 30% annual average	N
2	1.45 lb/ton with no nitrate, 4.0 lb/ton with nitrate (Oxy-fuel natural gas or equivalent) at final stack (including manufacturing lines except forehearths) Cullet use > 30% annual average	Y

Step 4 - Cost Effectiveness Analysis

According to the District's BACT Policy (APR 1305), alternate basic equipment shall not be required for modifications to existing equipment with a valid District Permit to Operate. Since the project is a modification to the permitted glass melting furnace, the alternate basic equipment option of an electric furnace with cullet > 30% annual average is not applicable and will not be required for this project.

Pursuant to District Policy APR 1305, an analysis to determine the cost effectiveness of technologically feasible BACT is required for the project proposal.

The highest ranked control identified in Step 3 above for NOx emissions is proposed, therefore, a cost effectiveness analysis is not required for NOx.

Step 5 - Select BACT

NO_x: 1.45 lb/ton with no nitrate, 4.0 lb/ton with nitrate (Oxy-fuel natural gas or equivalent) at final stack (including manufacturing lines except forehearths) and cullet use > 30% annual average is selected as BACT.

b. SOx Top-Down BACT Analysis

Step 1 - Identify All Possible Control Technologies

Alternate Basic Equipment

Electric Furnace with cullet > 30% annual average

Achieved in Practice

Scrubber, natural gas firing with very low sulfur backup fuel oil (< 0.0015% sulfur by weight), and use of cullet > 30% annual average

Step 2 - Eliminate Technologically Infeasible Options

There are no technologically infeasible options.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

Rank	Control Technology	Achieved in Practice
1	Electric Furnace with cullet > 30% annual average	N
2	Scrubber, natural gas firing with very low sulfur backup fuel oil (< 0.0015% sulfur by weight), and use of cullet > 30% annual average	Y

Step 4 - Cost Effectiveness Analysis

According to the District's BACT Policy (APR 1305), alternate basic equipment shall not be required for modifications to existing equipment with a valid District Permit to Operate. Since the project is a modification to the permitted glass melting furnace, the alternate basic equipment option of an electric furnace with cullet > 30% annual average is not applicable and will not be required for this project.

Pursuant to District Policy APR 1305, an analysis to determine the cost effectiveness of technologically feasible BACT is required for the project proposal.

The highest ranked control identified in Step 3 above for SOx emissions is proposed, therefore, a cost effectiveness analysis is not required for SOx.

Step 5 - Select BACT

SOx: Scrubber, natural gas firing with very low sulfur backup fuel oil (< 0.0015% sulfur by weight), and use of cullet > 30% annual average is selected as BACT.

c. PM10 Top-Down BACT Analysis

Step 1 - Identify All Possible Control Technologies

Achieved in Practice

Electrostatic Precipitator in series with Scrubber (98% CE)

0.5 lb-PM/ton or 0.25 lb-PM10/ton assuming 50% PM10 in PM (current permit limit based on 40 CFR 63 Subpart NNN)

Step 2 - Eliminate Technologically Infeasible Options

There are no technologically infeasible options.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

Rank	Control Technology	Achieved in Practice
1	Electrostatic Precipitator in series with Scrubber (98% CE) 0.25 lb-PM10/ton	Y

Step 4 - Cost Effectiveness Analysis

Pursuant to District Policy APR 1305, an analysis to determine the cost effectiveness of alternate basic equipment and technologically feasible BACT is required for the project proposal.

The highest ranked control identified in Step 3 above for PM10 emissions is proposed, therefore, a cost effectiveness analysis is not required for PM10.

Step 5 - Select BACT

PM10: Electrostatic Precipitator in series with Scrubber (98% CE) and 0.25 lb-PM10/ton is selected as BACT.

d. CO Top-Down BACT Analysis

Step 1 - Identify All Possible Control Technologies

Natural gas oxy-furnace
(Current control employed by facility)

1.0 lb/ton of glass pulled
(Rule 4354 for fiberglass furnaces with oxygen assisted combustion)

Step 2 - Eliminate Technologically Infeasible Options

There are no technologically infeasible options.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

According to the District's BACT Policy (APR 1305), alternate basic equipment shall not be required for modifications to existing equipment with a valid District Permit to Operate. Since the project is a modification to the permitted glass melting furnace, the alternate basic equipment option of an electric furnace with cullet > 30% annual average is not applicable and will not be required for this project.

Rank	Control Technology	Achieved in Practice
1	Natural gas oxy furnace with > 30% cullet annual average; 1.0 lb/ton of glass pulled	Y

Step 4 - Cost Effectiveness Analysis

Pursuant to District Policy APR 1305, an analysis to determine the cost effectiveness of alternate basic equipment and technologically feasible BACT is required for the project proposal.

The applicant is proposing the use of natural gas or propane as the fuel for the oxy-furnace with cullet usage > 30% annual average. This is the highest ranking technologically feasible option, therefore a cost effective analysis will not be necessary.

Step 5 - Select BACT

CO: Natural gas oxy-furnace with > 30% cullet annual average and 1.0 lb-CO/ton is selected as BACT.

e. VOC Top-Down BACT Analysis

Step 1 - Identify All Possible Control Technologies

VOC minimum cullet requirements are updated to conform with the minimum state of California requirements of > 30% annual average.

Alternate Basic Equipment

Electric Furnace with cullet > 30% annual average

Achieved in Practice

0.25 lb-VOC/ton (current permit limit based on Rule 4354)

Natural gas firing and use of cullet (scrap glass) > 30% annual average

Step 2 - Eliminate Technologically Infeasible Options

There are no technologically infeasible options.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

Rank	Control Technology	Achieved in Practice
1	Electric Furnace with cullet > 30% annual average	N
2	Natural gas firing and use of cullet (scrap glass) > 30% annual average 0.25 lb-VOC/ton	Y

Step 4 - Cost Effectiveness Analysis

According to the District's BACT Policy (APR 1305), alternate basic equipment shall not be required for modifications to existing equipment with a valid District Permit to Operate. Since the project is a modification to the permitted glass melting furnace, the alternate basic equipment option of an electric furnace with cullet > 30% annual average is not applicable and will not be required for this project.

Pursuant to District Policy APR 1305, an analysis to determine the cost effectiveness of technologically feasible BACT is required for the project proposal.

The highest ranked control identified in Step 3 above for VOC emissions is proposed, therefore, a cost effectiveness analysis is not required for VOC.

Step 5 - Select BACT

VOC: Natural gas firing and use of cullet (scrap glass) > 30% annual average and 0.25 lb-VOC/ton is selected as BACT.

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**Best Available Control Technology (BACT) Guideline 1.5.7
Last Update: 8/17/2006**

Glass Furnace Forehearth

Pollutant	Achieved in Practice or in the SIP	Technologically Feasible	Alternate Basic Equipment
NOx	natural gas/propane-fired and good combustion practices		electric forehearth
SOx	natural gas/propane-fired and good combustion practices		electric forehearth
VOC	natural gas/propane-fired and good combustion practices		electric forehearth

BACT is the most stringent control technique for the emissions unit and class of source. Control techniques that are not achieved in practice or contained in a state implementation plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is required for all determinations that are not achieved in practice or contained in an EPA approved State Implementation Plan.

This is a Summary Page for this Class of Source - Permit Specific BACT Determinations on Details Page.

Proposed Pages for the BACT Clearinghouse
San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline X.X.X*
 Last Update: May 3, 2005

Emissions Unit: Glass Fiberizer (Spinner)

Pollutant	Achieved in Practice or contained in SIP	Technologically Feasible	Alternate Basic Equipment
VOC	Natural gas/propane-fired and good combustion practices		
SO _x	Natural gas/propane-fired and good combustion practices		
NO _x	Natural gas/propane-fired and good combustion practices		
CO	Natural gas/propane-fired and good combustion practices		

***This is a Summary Page for this Class of Source - Permit Specific BACT Determinations on Next Page(s)**

DRAFT

X.X.X

C-261-3-11

a. NO_x Top-Down BACT Analysis

Step 1 - Identify All Possible Control Technologies

General control for NO_x emissions include the following options:

1. Natural gas or propane fuel with good combustion practices.

Step 2 - Eliminate Technologically Infeasible Options

The above listed options are considered to be technologically feasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1. Natural gas or propane fuel with good combustion practices.

Step 4 - Cost Effectiveness Analysis

The applicant is proposing the use of natural gas or propane as the fuel. This is the highest ranking technologically feasible option, therefore a cost effective analysis will not be necessary.

Step 5 - Select BACT

BACT for this class and category of source is determined to be the use of natural gas or propane as the fuel with good combustion practices. CertainTeed has proposed to use natural gas or propane as the fuel with good combustion practices; therefore, BACT for NO_x is satisfied.

b. SO_x Top-Down BACT Analysis

Step 1 - Identify All Possible Control Technologies

General control for SO_x emissions include the following options:

1. Natural gas or propane fuel with good combustion practices.

Step 2 - Eliminate Technologically Infeasible Options

The above listed options are considered to be technologically feasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1. Natural gas or propane fuel with good combustion practices.

Step 4 - Cost Effectiveness Analysis

The applicant is proposing the use of natural gas or propane as the fuel. This is the highest ranking technologically feasible option, therefore a cost effective analysis will not be necessary.

Step 5 - Select BACT

BACT for this class and category of source is determined to be the use of natural gas or propane as the fuel with good combustion practices. CertainTeed has proposed to use natural gas or propane as the fuel with good combustion practices; therefore, BACT for SO_x is satisfied.

c. CO Top-Down BACT Analysis

Step 1 - Identify All Possible Control Technologies

1. Natural gas or propane fuel with good combustion practices.

Step 2 - Eliminate Technologically Infeasible Options

The above listed options are considered to be technologically feasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1. Natural gas or propane fuel with good combustion practices.

Step 4 - Cost Effectiveness Analysis

The applicant is proposing the use of natural gas or propane as the fuel. This is the highest ranking technologically feasible option, therefore a cost effective analysis will not be necessary.

Step 5 - Select BACT

BACT for this class and category of source is determined to be the use of natural gas or propane as the fuel with good combustion practices. CertainTeed has proposed to use natural gas or propane as the fuel with good combustion practices; therefore, BACT for CO is satisfied.

d. VOC Top-Down BACT Analysis

Step 1 - Identify All Possible Control Technologies

1. Natural gas or propane fuel with good combustion practices.

Step 2 - Eliminate Technologically Infeasible Options

The above listed options are considered to be technologically feasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1. Natural gas or propane fuel with good combustion practices.

Step 4 - Cost Effectiveness Analysis

The applicant is proposing the use of natural gas or propane as the fuel. This is the highest ranking technologically feasible option, therefore a cost effective analysis will not be necessary.

Step 5 - Select BACT

BACT for this class and category of source is determined to be the use of natural gas or propane as the fuel with good combustion practices. CertainTeed has proposed to use natural gas or propane as the fuel with good combustion practices; therefore, BACT for VOC is satisfied.

C-261-4-9

a. NO_x Top-Down BACT Analysis

Step 1 - Identify All Possible Control Technologies

1. Electric Forehearth (Alternate Basic Equipment)
2. Natural gas or propane fuel with good combustion practices.

Step 2 - Eliminate Technologically Infeasible Options

The above listed options are considered to be technologically feasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1. Electric Forehearth (Alternate Basic Equipment)
2. Natural gas or propane fuel with good combustion practices.

Step 4 - Cost Effectiveness Analysis

According to the District's BACT Policy (APR 1305), alternate basic equipment shall not be required for modifications to existing equipment with a valid District Permit to Operate. Since the project is a modification, the alternate basic equipment option of an electric forehearth is not applicable and will not be required for this project.

The applicant is proposing the use of natural gas or propane as the fuel. This is the highest ranking technologically feasible option, therefore a cost effective analysis will not be necessary.

Step 5 - Select BACT

BACT for this class and category of source is determined to be the use of natural gas or propane as the fuel with good combustion practices. CertainTeed has proposed to use natural gas or propane as the fuel with good combustion practices; therefore, BACT for NO_x is satisfied.

b. SO_x Top-Down BACT Analysis

Step 1 - Identify All Possible Control Technologies

1. Electric Forehearth (Alternate Basic Equipment)
2. Natural gas or propane fuel with good combustion practices.

Step 2 - Eliminate Technologically Infeasible Options

The above listed options are considered to be technologically feasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1. Electric Forehearth (Alternate Basic Equipment)
2. Natural gas or propane fuel with good combustion practices.

Step 4 - Cost Effectiveness Analysis

According to the District's BACT Policy (APR 1305), alternate basic equipment shall not be required for modifications to existing equipment with a valid District Permit to Operate. Since the project is a modification, the alternate basic equipment option of an electric forehearth is not applicable and will not be required for this project.

The applicant is proposing the use of natural gas or propane as the fuel. This is the highest ranking technologically feasible option, therefore a cost effective analysis will not be necessary.

Step 5 - Select BACT

BACT for this class and category of source is determined to be the use of natural gas or propane as the fuel with good combustion practices. CertainTeed has proposed to use natural gas or propane as the fuel with good combustion practices; therefore, BACT for SO_x is satisfied.

c. VOC Top-Down BACT Analysis

Step 1 - Identify All Possible Control Technologies

General control for VOC emissions include the following options:

1. Electric Forehearth (Alternate Basic Equipment)
2. Natural gas or propane fuel with good combustion practices.

Step 2 - Eliminate Technologically Infeasible Options

The above listed options are considered to be technologically feasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1. Electric Forehearth (Alternate Basic Equipment)
2. Natural gas or propane fuel with good combustion practices.

Step 4 - Cost Effectiveness Analysis

According to the District's BACT Policy (APR 1305), alternate basic equipment shall not be required for modifications to existing equipment with a valid District Permit to Operate. Since the project is a modification, the alternate basic equipment option of an electric forehearth is not applicable and will not be required for this project.

The applicant is proposing the use of natural gas or propane as the fuel. This is the highest ranking technologically feasible option, therefore a cost effective analysis will not be necessary.

Step 5 - Select BACT

BACT for this class and category of source is determined to be the use of natural gas or propane as the fuel with good combustion practices. CertainTeed has proposed to use natural gas or propane as the fuel with good combustion practices; therefore, BACT for VOC is satisfied.

Attachment D
Parametric CO and VOC Monitoring Proposal

Insulation Group

Certainteed Corporation
 17775 Avenue 23 1/2
 Chowchilla, CA 93610-9551
 559 665-4831

Certainteed

December 16, 2008

David Warner
 Director of Permit Services
 San Joaquin Valley APCD
 1990 East Gettysburg Avenue
 Fresno, CA 93726-0244

Post-it® Fax Note	7671	Date	# of pages ▶
To	LUPE JAUREGUI	From	JEFF CURTIN
Co./Dept.		Co.	CERTAINTEED
Phone #		Phone #	
Fax #		Fax #	

Gerardo Rios
 Air Division
 USEPA Region 9
 75 Hawthorne Street
 San Francisco, CA 94105

Re: Rule 4354 CO and VOC Monitoring

Dear Messrs. Warner and Rios:

Certainteed Corporation maintains a glass production facility in Chowchilla, California that is subject to Rule 4354 ("Glass Melting Furnaces.") This rule was revised on October 16, 2008. In this latest revision to this rule, the CO and VOC limits were not changed, but new monitoring requirements have been added. Under the revised rule, monitoring of CO and VOC must be performed either using a Continuous Emissions Monitoring System (CEMS) or using parametric monitoring that satisfies the requirements of the rule. Compliance with these new monitoring requirements is required by January 1, 2009.

The Chowchilla plant has one oxy-fuel glass furnace. Certainteed proposes to use parametric monitoring to show compliance with the Rule 4354 CO and VOC limits. The details of the proposed parametric monitoring approach are outlined in Attachment 1 to this letter. Rule 4354 requires that CO and VOC parametric monitoring used for Rule 4354 compliance must be approved by the District and by USEPA. *With this letter, Certainteed requests District and USEPA approval of the attached CO and VOC parametric monitoring methodology for the purpose of complying with Rule 4354.*

We appreciate your consideration. Please contact me at (559) 665-4831 x326 or contact Steve Branoff of ENVIRON at (510) 420-2540 with questions or comments regarding this matter.

Sincerely,



Jeffrey Curtin
 Principal Process Engineer/Environmental

Insulation Group

CertainTeed Corporation
17775 Avenue 23 ½
Chowchilla, CA 93610-9551
559 665-4831



Cc: Carlos Davis - CertainTeed
Steve Branoff - Environ

Insulation Group

CertainTeed Corporation
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Chowchilla, CA 93610-9551
559 665-4831

CertainTeed 

Attachment 1
CertainTeed Corporation
SJVAPCD Rule 4354 Compliance
Proposed CO and VOC Parametric Monitoring

Section 5.9.2 of District Rule 4354 requires that by January 1, 2009, a glass furnace operator subject to the CO and VOC limits in this rule must employ a CEMS or request approval of parametric monitoring. Approval of specific key system operating parameters, monitoring frequency, and recording frequency used for compliance with Rule 4354 CO and VOC limits is required to be obtained from the District and USEPA. Acceptable ranges for key system operating parameters are also required to be demonstrated through a source test.

Section 6.6.2 of this rule requires that an approved CO or VOC parametric monitoring approach must comply with the following requirements:

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

CertainTeed will comply with the applicable portions of 40 CFR 60.13. Several of the provisions of this regulation do not apply since these relate to compliance with Performance Specifications in 40 CFR 60, Appendices B and F. These two appendices currently contain only requirements for continuous emissions monitoring systems. At the time of this submittal, neither of these appendices contains requirements for continuous parametric monitoring systems. CertainTeed will comply with the requirement to have monitoring systems installed and operational prior to performing performance testing, and with the requirements related to data collection and averaging.

The following sections contain the proposed parametric monitoring approach for determining compliance with Rule 4354 CO and VOC limits. This proposal has been prepared consistent with the approach recommended under USEPA guidance for Compliance Assurance Monitoring (CAM) plans prepared pursuant to 40 CFR Part 64.

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Certainteed 

Compliance with 40 CFR 64 (Compliance Assurance Monitoring)

USEPA's Compliance Assurance Monitoring (CAM) rule contains requirements for certain large units subject to the periodic monitoring requirements of the Title V program. CAM applicability is determined on a pollutant-specific basis, and CAM only applies to units that employ an add-on control device for a given pollutant.

The Chowchilla facility is not directly subject to CAM for CO or VOC emissions since no add-on controls are used for these emissions. Since Rule 4354 requires that a proposed parametric monitoring approach for CO or VOCs must comply with CAM, a proposed plan has been prepared consistent with the format outlined in USEPA's *Technical Guidance Document on Compliance Assurance Monitoring* (August 1998).

I. Background

A. Applicable Regulations, Emission Limits, and Monitoring Requirements

Regulation:	SJVAPCD Rule 4354
Emission Limits:	CO: 1.0 lb/ton VOC: 0.25 lb/ton
Existing Monitoring Requirements:	Annual stack testing

B. Control Technology

None

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Certainteed 

II. Proposed Monitoring Approach

<u>A. Indicator</u>	Oxygen/Fuel Ratio
Measurement Approach	The oxygen/fuel ratio will be monitored to ensure that combustion remains within a range that minimizes CO and VOC emissions
<u>B. Indicator Range</u>	An excursion is defined as an oxygen /fuel ratio below 1.7 to 1. Excursions trigger an inspection, corrective action and a reporting requirement
<u>C. Performance Criteria</u>	
Data Representativeness	Measurements are being made as fuel and oxygen are injected into the furnace combustion zone
Verification of Operational Status	NA
QA/QC Practices and Criteria	The oxygen /fuel ratio will be periodically checked for accuracy
Monitoring Frequency	The oxygen /fuel ratio will be monitored continuously and logged on an hourly basis
Data Collection Procedures	The oxygen /fuel ratio data will be collected by a computer control system
Averaging Period	Hourly

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CertainTeed 

III. Justification

A. Rationale for Selection of Performance Indicators

The furnace at the Chowchilla facility typically has very low CO and VOC emissions. Maintaining control over the oxygen/fuel ratio allows the furnace operator to minimize CO and VOC emissions due to incomplete combustion. Both CO and VOC emissions would tend to increase when the furnace is operated in a "fuel rich" mode (i.e., inadequate oxygen is being provided to combust all of the fuel). When the furnace is operated such that the oxygen/fuel ratio is maintained above the specified limit, the furnace will be operating in a "fuel lean" mode. This would allow furnace CO and VOC emissions to be maintained below the limits specified by Rule 4354.

B. Rationale for Selection of Indicator Ranges

The selected indicator range specified is the use of a minimum oxygen/fuel ratio of 1.7 to 1. This ratio will be verified by stack testing to ensure compliance with Rule 4354 limits. When an excursion occurs, corrective action will be initiated, beginning with an evaluation of the occurrence to determine the action required to correct the situation. All excursions will be documented and reported.

Attachment E
Draft Authorities to Construct
(ATCs) Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: C-261-2-23

LEGAL OWNER OR OPERATOR: CERTAINTeed CORPORATION

MAILING ADDRESS: 17775 AVENUE 23 1/2
CHOWCHILLA, CA 93610

LOCATION: 17775 AVENUE 23 1/2
CHOWCHILLA, CA 93610

EQUIPMENT DESCRIPTION:

MODIFICATION OF 96 MMBTU/HR, 325 METRIC TONS/DAY GLASS MELTING OXY-FUEL FURNACE WITH 12 (8 MMBTU/HR EACH) COMBUSTION TEC. FLAT FLAME BURNERS: ROUTINE FURNACE REBUILD, MODIFY FURNACE FROM WATER COOLING TO AIR COOLING, CHANGE BATCH CHARGE CONFIGURATION FROM OPEN TYPE TO CLOSED TYPE, ADD PM10 AND VOC EMISSION RATES

CONDITIONS

1. {1829} The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
3. The glass melting furnace shall produce no more than either of the following limits: 325 metric tons/day or 118,625 metric tons/year. A permanent record of daily production and of daily nitrate addition to the furnace shall be maintained and shall be available for inspection by the District, EPA or CARB. [District NSR Rule; District Rule 4354; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
4. All fiberglass shall contain a minimum of 30% by weight post-consumer cullet on an annual average basis. The facility shall maintain records of the annual amount (in tons) of post-consumer cullet used. [District Rule 2201] 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-261-2-23: Apr 7 2010 2:32PM - TOMS : Joint Inspection NOT Required

5. With approval from EPA, CertainTeed Corporation may choose to conduct performance tests at production and firing rates less than maximum design capacity and may choose to test only the fuel expected to be used in the next 12-month time period, provided that actual plant production does not exceed the tested rate and provided that only the fuel for which tests have been performed is used. The emission rate for NO_x established by the first test at the specific production rate (less than maximum plant capacity) shall become the applicable emission limit for NO_x at the production rate tested, as in condition IX.B of PSD permit SJ 80-02. A fuel switch or an increase in production levels beyond the maximum tested rate for any product line requires approval by EPA prior to such production increases or fuel switch and may require additional performance testing. [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
6. EPA shall be notified by letter 30 days prior to the fuel switch or production increase in order to make a determination of whether additional performance testing is required. In the case of an emergency fuel switch, EPA shall be notified by letter postmarked within 15 days of the fuel switch. [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
7. The sulfur content of fuel oil shall not exceed 0.0015% by weight. [District NSR Rule; District Rule 4354, Madera County Rule 404] Federally Enforceable Through Title V Permit
8. The rate of fuel oil consumption shall not exceed 570 gal/hr nor 5,000,000 gal/year. [District NSR Rule] Federally Enforceable Through Title V Permit
9. Sulfur content of the fuel oil shall be determined by ASTM Method D-129, D-1552 or the most current method promulgated by ASTM. Other methods may be used if approved by EPA, Region 9 (Attention: A-3-3). [PSD ATC SJ 80-02; Madera County Rule 404] Federally Enforceable Through Title V Permit
10. Certification of the sulfur content of each fuel oil delivery by the supplier will be acceptable; the analytical method used to determine sulfur content must be one of those cited. [PSD ATC SJ 80-02; Madera County Rule 404] Federally Enforceable Through Title V Permit
11. All natural gas used by the facility shall be PUC regulated. [District NSR Rule; PSD ATC SJ 80-02; Madera County Rule 404] Federally Enforceable Through Title V Permit
12. A permanent record of daily production shall be maintained and shall be available for inspection by the District, EPA or CARB. [District NSR Rule; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
13. Source tests shall be performed while operating at design capacity. To determine worst case emissions, the tests shall be performed while firing on natural gas, and separately while firing 0.0015% sulfur backup fuel oil. With prior EPA and District approval, source testing may be performed as otherwise provided. [District NSR Rule; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
14. Source tests shall be performed at least on an annual basis, but not more than once every 18 months or sooner than every 6 months and at such other times as may be specified by the District or EPA. Tests shall comply with the procedures in 40 CFR (Part 60.8) for PM, NO_x, SO_x, and VOC. [District Rule 2520, 9.4.2; and Rule 4354, 6.3; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
15. Source testing for NO_x from the final stack shall be performed under normal operating conditions at the time of the test. Testing shall be performed in the presence of nitrate additive if daily records indicate that nitrate is routinely used in the furnace during the period immediately prior to the test. If nitrate use is discontinued by the facility during normal operations, NO_x source testing shall be performed without nitrate additive in the furnace. [District Rule 2201] Federally Enforceable Through Title V Permit
16. PM shall be sampled according to the modified version of EPA's Method 5 which includes the impinger catch. [District NSR Rule; District Rule 4202; District Rule 2520, 9.4.2; PSD ATC SJ 80-02; and 40 CFR 60 Subpart CC] Federally Enforceable Through Title V Permit
17. Source tests for PM shall be performed at the outlet of the dry ESP, the outlet of the three wet ESP's and the final stack. The source tests for NO_x, SO_x, and VOC shall be performed at the final stack. [District NSR Rule; District Rule 4202; and Rule 2520, 9.4.2; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
18. The District and EPA (Attention: Air-5) shall be notified in writing 30 days in advance of the scheduled tests dates to allow time for the development of an approvable source test plan and to arrange for an observer to be present at the test. [District Rule 1081; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

19. The results of each source test shall be submitted to the District and EPA, Region 9 (Attention: Air-5) within 60 days after the test. [District Rule 1081; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
20. The outlets of the dry ESP and the final stack shall be so fitted as to permit performance of tests for pollutants (per 40 CFR 60, Appendix A) using portable equipment in a manner as approved by the EPA, CARB and the District. [District Rule 1081] Federally Enforceable Through Title V Permit
21. The applicant shall maintain and operate CEM to measure stack gas NO_x concentration (per 40 CFR 60.13 and 40 CFR, Appendix B, Performance Spec. 2; and 40 CFR 60 Appendix F) and stack gas volumetric flow rate (per 40 CFR Part 52, Appendix E). [District NSR Rule; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
22. The applicant shall maintain and operate an opacity CEMS in the final stack to continuously measure the opacity of stack emissions. The opacity CEMS shall meet EPA specs. (40 CFR 60.13; and 40 CFR 60, Appendix B, Performance Specification 1) [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
23. The facility shall 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
24. 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
25. Results of continuous emissions monitoring shall be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit
26. {2251} The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit
27. CertainTeed Corporation shall submit to EPA (Attention: Air-5) a written report of all excess emissions for each calendar quarter. The report shall include the conditions specified in EPA Permit Special Conditions IX.J.4. [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
28. CertainTeed shall continuously operate and maintain the caustic soda injection system for the pretreatment of the glass furnace gas stream upstream of the dry ESP. [District NSR Rule; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
29. Both the caustic soda injection system (scrubber) and the dry electrostatic precipitator shall be functioning as air pollution abatement devices whenever the glass melting furnace is in operation. [District NSR Rule; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
30. Dry Electrostatic Precipitator (ESP) outlet emissions shall not exceed 8.4 lbs PM/hr. [District NSR Rule; District Rule 4202; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
31. When the furnace is heated with LPG/propane, final stack emissions shall not exceed 547.2 lb PM/day, 547.2 lb PM₁₀/day, 432.0 lb HC/day, 432.0 lb VOC/day, 1,341.6 lb NO_x/day, 1,296.0 lb SO_x/day, or 1,072.8 lb CO/day. [District Rule 2201] Federally Enforceable Through Title V Permit
32. When the furnace is heated with natural gas, final stack emissions shall not exceed 22.8 lb PM/hr, 22.8 lb PM₁₀/hr, 18.0 lb HC/hr, 18.0 lb VOC/day, 55.9 lb NO_x/hr, 24.3 lb SO_x/hr, nor 44.7 lb CO/hr. [District NSR Rule; District Rule 4354; District Rule 4202; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
33. When the furnace is heated with fuel oil, final stack emissions shall not exceed 22.8 lb PM/hr, 22.8 lb PM₁₀/hr, 18.0 lb HC/hr, 18.0 lb VOC/day, 40.0 lb NO_x/hr, 54.0 lb SO_x/hr, nor 44.7 lb CO/hr. [District NSR Rule; District Rule 4354; District Rule 4202; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

34. During any day when nitrate is used in the furnace, final stack emissions shall not exceed 4.0 lb-NO_x/short ton of glass pulled on a block 24-hour average. During any day when nitrate is not used in the furnace, final stack emissions shall not exceed 1.45 lb-NO_x/short ton of glass pulled on a block 24-hour average. These emission limits shall not apply during periods of startup, shutdown, or idling, provided the facility complies with the requirements of Rule 4354, Sections 5.5, 5.6, 5.7, and 6.7. [District NSR Rule and 4354] Federally Enforceable Through Title V Permit
35. Emissions from the glass melting furnace shall not exceed any of the emission limits of District Rule 4354, as follows: 4.0 lb NO_x/ short ton of glass pulled on a block 24-hour average, 1.0 lb CO/short ton of glass pulled as averaged over a three hour period, or 0.25 lb VOC/short ton of glass pulled as averaged over a three hour period. These emission limits shall not apply during periods of startup, shutdown, or idling, provided the facility complies with the requirements of Rule 4354, Sections 5.5, 5.6, 5.7, and 6.7. [District Rule 4354, 5.1, 5.2] Federally Enforceable Through Title V Permit
36. Source testing to measure NO_x, SO_x, PM, CO, and VOC emissions from this unit shall be conducted while firing on fuel oil when this unit is fired on fuel oil during the previous 12 months from the date of the proposed source test. After demonstrating compliance on two consecutive annual source tests when the unit is fired on fuel oil, the unit shall be tested not less than once every 36 months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emissions limits, the source testing frequency shall revert to at least once every 12 months. [District Rule 2201] Federally Enforceable Through Title V Permit
37. Natural gas and propane consumption shall not exceed 3.55 million cubic feet per day and 1.295 trillion Btu in any 12 month period. [District NSR Rule; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
38. The owner or operator shall install, certify, maintain, operate and quality-assure a Continuous Parametric Monitoring System which continuously measures and records the furnace oxygen/fuel ratio. [District Rules 1080 and 4354] Federally Enforceable Through Title V Permit
39. The continuous parametric monitors specified in these permit conditions shall be installed, calibrated and operational prior to the next furnace source test. After the next furnace source test, the detection range of the Continuous Parametric Monitoring System shall be adjusted as necessary to accurately measure the resulting range of furnace oxygen/fuel ratio. [District Rule 2201] Federally Enforceable Through Title V Permit
40. The furnace oxygen/fuel ratio shall be greater than 1.7 to 1. [District Rule 2201] Federally Enforceable Through Title V Permit
41. Normal range for the furnace oxygen/fuel ratio shall be re-established during each source test required by this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
42. Results of the Continuous Parametric Monitoring System system shall be logged in one hour intervals for furnace oxygen/fuel ratio. [District Rule 1080] Federally Enforceable Through Title V Permit
43. The owner or operator shall submit a written report of furnace oxygen/fuel ratio Continuous Parametric Monitoring System operations for each calendar quarter to the APCO. The report is due on the 30th day following the end of the calendar quarter and shall include the following: Time intervals, data and magnitude of excess oxygen/fuel ratio, nature and the cause of excess (if known), corrective actions taken and preventative measures adopted; Averaging period used for data reporting corresponding to the averaging period specified in the furnace oxygen/fuel ratio test period and used to determine compliance with the furnace oxygen/fuel ratio standard; Applicable time and date of each period during which the Continuous Parametric Monitoring System was inoperative (monitor downtime), except for zero and span checks, and the nature of system repairs and adjustments; A negative declaration when no excess emissions occurred. [District Rule 1080] Federally Enforceable Through Title V Permit
44. CertainTeed Corporation shall maintain and operate the following continuous emissions monitoring systems (CEMS) in the final stack: (1) a CEMS to measure stack gas NO_x concentrations; (2) a CEMS to measure stack gas volumetric flow rates [District NSR Rule; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
45. The NO_x CEMS shall meet EPA monitoring performance specifications (40 CFR 60.13, 40 CFR 60, Appendix B, Performance Specification 2; and 40 CFR 60, Appendix F). [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
46. The volumetric flow rate CEMS shall meet EPA monitoring performance specifications (40 CFR 52, Appendix E). [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

47. In the quarterly excess emission reports, CertainTeed Corporation shall report all dates and times when process gases are vented to the bypass stack, CertainTeed Corporation shall also report the reason for each instance of venting to the bypass stack. [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
48. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: District Rules 4201 (12/17/92) and 4202 (12/17/92); and Madera County Rule 404. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
49. A record of each fuel consumption shall be maintained, kept onsite for at least five years and made available for inspection by EPA, CARB and the District upon request. [District 2520, 9.4.2] Federally Enforceable Through Title V Permit
50. Source shall be in compliance with all requirements of District Rule 4354 by the end of startup as prescribed in Section 7.1 of District Rule 4354. [District Rule 4354] Federally Enforceable Through Title V Permit
51. Furnace shutdown shall not exceed 20 days, measured from the time furnace operations drop below the idle thresholds specified in Section 3.17 of District Rule 4354 to when all emissions from the furnace cease. [District Rule 4354] Federally Enforceable Through Title V Permit
52. NO_x, CO and VOC emissions during idling shall not exceed the emissions limits as calculated in Section 5.7.2 of District Rule 4354. [District Rule 4354] Federally Enforceable Through Title V Permit
53. Any source testing result, CEMS, or alternate emission monitoring method averaged value exceeding the applicable emission limits in Section 5.1, Section 5.2, Section 5.3, or Section 5.4 shall constitute a violation of the rule. [District Rule 4354] Federally Enforceable Through Title V Permit
54. Permittee shall comply with Section 5.5 during startup. Startup exemption time shall not exceed 40 days, starting from the time of primary combustion system activation. [District Rule 4354] Federally Enforceable Through Title V Permit
55. Effective at the end of the startup period, emissions from the glass melting furnace shall not exceed the emission limits of District Rule 4354, as follows: 4.0 lb NO_x/short ton of glass pulled on a block 24-hour average, 1.0 lb CO/short ton of glass pulled as averaged over a three hour period in accordance with the applicable test methods in Section 6.5.1, 6.5.2 of District Rule 4354, and 0.25 lb VOC/short ton of glass pulled as averaged over a three hour period in accordance with the applicable test methods in Section 6.5.3 of District Rule 4354. [District Rule 4354] Federally Enforceable Through Title V Permit
56. The emission control systems (ECS) shall be in operation whenever technologically feasible during startup, idling and shutdown conditions. [District Rule 4354] Federally Enforceable Through Title V Permit
57. During startup, the stoichiometric ratio of the primary furnace combustion system shall not exceed 5% oxygen as calculated from the actual fuel and oxidant flow measurements for combustion in the furnace. [District Rule 4354] Federally Enforceable Through Title V Permit
58. Operator shall maintain daily records of the total hours of operation, type and quantity of fuel used in the furnace, the quantity of glass pulled from the furnace, NO_x emission rate in lb/ton of glass pulled. Operator shall maintain records of source tests and operating parameters established during initial source test, maintenance and repair, malfunction, and idling, start-up and shutdown. [District Rule 4354] Federally Enforceable Through Title V Permit
59. The operator shall retain the records specified in this permit for a period of five years, make them available on site during normal business hours to the APCO, ARB, or EPA, and submit them to the APCO, ARB, or EPA upon request. [District Rule 4354] Federally Enforceable Through Title V Permit
60. Excess emissions indicated by the CEM system shall be considered violations of the applicable emissions limits for the purposes of this permit. [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
61. The owner or operator shall not discharge or cause to be discharged into the atmosphere in excess of 0.25 kilogram (kg) of filterable particulate matter (PM) per megagram (Mg) (0.5 pound [lb] of PM per ton) of glass pulled for each new or existing glass-melting furnace. [40 CFR 63, Subpart NNN and 40 CFR 60, Subpart CC] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

62. The owner or operator must initiate corrective action within 1 hour when any 3-hour block average of the monitored dry electrostatic precipitator (DESP) parameter is outside the limit(s) established during the performance test as specified in §63.1384 and complete corrective actions in a timely manner according to the procedures in the operations, maintenance, and monitoring plan. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
63. The owner or operator must implement a QIP consistent with the compliance assurance monitoring provisions of 40 CFR part 64 subpart D when the monitored DESP parameter is outside the limit(s) established during the performance test as specified in §63.1384 for more than 5 percent of the total operating time in a 6-month block reporting period. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
64. The owner or operator must operate the DESP such that the monitored DESP parameter is not outside the limit(s) established during the performance test as specified in §63.1384 for more than 10 percent of the total operating time in a 6-month block reporting period. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
65. The owner or operator must initiate corrective action within 1 hour when the average glass pull rate of any 4-hour block period for glass melting furnaces equipped with continuous glass pull rate monitors, or daily glass pull rate for glass melting furnaces not so equipped, exceeds the average glass pull rate established during the performance test as specified in §63.1384, by greater than 20 percent and complete corrective actions in a timely manner according to the procedures in the operations, maintenance, and monitoring plan. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
66. The owner or operator must implement a QIP consistent with the compliance assurance monitoring provisions of 40 CFR part 64, subpart D when the glass pull rate exceeds, by more than 20 percent, the average glass pull rate established during the performance test as specified in §63.1384 for more than 5 percent of the total operating time in a 6-month block reporting period. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
67. The owner or operator must operate each glass-melting furnace such that the glass pull rate does not exceed, by more than 20 percent, the average glass pull rate established during the performance test as specified in §63.1384 for more than 10 percent of the total operating time in a 6-month block reporting period. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
68. The owner or operator of each wool fiberglass manufacturing facility must prepare for each glass-melting furnace, rotary spin manufacturing line a written operations, maintenance, and monitoring plan. The plan must be submitted to the Administrator for review and approval as part of the application for a part 70 permit. The plan must include the following information: Procedures for the proper operation and maintenance of process modifications and add-on control devices used to meet the emission limits in §63.1382; Procedures for the proper operation and maintenance of monitoring devices used to determine compliance, including quarterly calibration and certification of accuracy of each monitoring device according to the manufacturers's instructions; and Corrective actions to be taken when process parameters or add-on control device parameters deviate from the limit(s) established during initial performance tests. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
69. The owner or operator must monitor the DESP according to the procedures in the operations, maintenance, and monitoring plan. The operations, maintenance, and monitoring plan for the ESP must contain the following information: The ESP operating parameter(s), such as secondary voltage of each electrical field, to be monitored and the minimum and/or maximum value(s) that will be used to identify any operational problems; A schedule for monitoring the ESP operating parameter(s); Recordkeeping procedures, consistent with the recordkeeping requirements of §63.1386, to show that the ESP operating parameter(s) is within the limit(s) established during the performance test; and Procedures for the proper operation and maintenance of the ESP. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
70. The owner or operator of an existing glass-melting furnace equipped with continuous glass pull rate monitors must monitor and record the glass pull rate on an hourly basis. For glass-melting furnaces that are not equipped with continuous glass pull rate monitors, the glass pull rate must be monitored and recorded once per day. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
71. The owner or operator must monitor the established parameter(s) according to the procedures in the operations, maintenance, and monitoring plan. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit

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72. The owner or operator must include as part of their operations, maintenance, and monitoring plan the following information: Procedures for the proper operation and maintenance of the process; Process parameter(s) to be monitored to demonstrate compliance with the applicable emission limits in §63.1382; Correlation(s) between process parameter(s) to be monitored and formaldehyde emissions; A schedule for monitoring the process parameter(s); and Recordkeeping procedures, consistent with the recordkeeping requirements of §63.1386, to show that the process parameter value(s) established during the performance test is not exceeded. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
73. For all control device and process operating parameters measured during the initial performance tests, the owners or operators of glass-melting furnaces subject to this subpart may change the limits established during the initial performance tests if additional performance testing is conducted to verify that, at the new control device or process parameter levels, they comply with the applicable emission limits in §63.1382. The owner or operator shall conduct all additional performance tests according to the procedures in this part 63, subpart A and in §63.1384. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
74. The owner or operator shall conduct a performance test for each existing and new glass-melting furnace. All monitoring systems and equipment must be installed, operational, and calibrated prior to the performance test. Unless a different frequency is specified in this section, the owner or operator must monitor and record process and/or add-on control device parameters at least every 15 minutes during the performance tests. The arithmetic average for each parameter must be calculated using all of the recorded measurements for the parameter. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
75. During each performance test, the owner or operator must monitor and record the glass pull rate for each glass-melting furnace and, if different, the glass pull rate for each rotary spin manufacturing line and flame attenuation manufacturing line. Record the glass pull rate every 15 minutes during any performance test required by this subpart and determine the arithmetic average of the recorded measurements for each test run and calculate the average of the three test runs. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
76. During the performance test, the owner or operator of a glass-melting furnace controlled by an DESP shall monitor and record the DESP parameter level(s), as specified in the operations, maintenance, and monitoring plan, and establish the minimum and/or maximum value(s) that will be used to demonstrate compliance after the initial performance test. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
77. To determine compliance with the PM emission limit for glass-melting furnaces, use the following equation: $E = (C \times Q \times K1) / P$, where: E = Emission rate of PM, kg/Mg (lb/ton) of glass pulled; C = Concentration of PM, g/dscm (gr/dscf); Q = Volumetric flow rate of exhaust gases, dscm/h (dscf/h); K1 = Conversion factor, 1 kg/1,000 g (1 lb/7,000 gr); and P = Average glass pull rate, Mg/h (tons/h). [40 CFR 63, Subpart NNN and 40 CFR 60, Subpart CC] Federally Enforceable Through Title V Permit
78. The owner or operator shall submit the following written initial notifications to the Administrator: (1) Notification of intention to construct a new major source or reconstruct a major source; of the date construction or reconstruction commenced; of the anticipated date of startup; of the actual date of startup, where the initial startup of a new or reconstructed source occurs after June 14, 2002, and for which an application for approval or construction or reconstruction is required (See §63.9(b)(4) and (5) of this part); (2) Notification of special compliance obligations; (3) Notification of performance test; and (4) Notification of compliance status. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
79. The owner or operator shall report the results of the initial performance test as part of the notification of compliance status. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit

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80. The owner or operator shall develop and implement a written plan as described in §63.6(e)(3) of this part that contains specific procedures to be followed for operating the source and maintaining the source during periods of startup, shutdown, and malfunction and a program of corrective action for malfunctioning process modifications and control systems used to comply with the standard. In addition to the information required in §63.6(e)(3), the plan shall include:(i) Procedures to determine and record the cause of the malfunction and the time the malfunction began and ended;(ii) Corrective actions to be taken in the event of a malfunction of a control device or process modification, including procedures for recording the actions taken to correct the malfunction or minimize emissions; and(iii) A maintenance schedule for each control device and process modification that is consistent with the manufacturer's instructions and recommendations for routine and long-term maintenance. The owner or operator shall also keep records of each event as required by §63.10(b) of this part and record and report if an action taken during a startup, shutdown, or malfunction is not consistent with the procedures in the plan as described in §63.10(e)(3)(iv) of this part. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
81. The owner or operator must retain each record for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The most recent 2 years of records must be retained at the facility. The remaining 3 years of records may be retained off site. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
82. The owner or operator shall maintain records of the following information: DESP parameter value(s) used to monitor DESP performance, including any period when the value(s) deviated from the established limit(s), the date and time of the deviation, when corrective actions were initiated, the cause of the deviation, an explanation of the corrective actions taken, and when the cause of the deviation was corrected; and Glass pull rate, including any period when the pull rate exceeded the average pull rate established during the performance test by more than 20 percent, the date and time of the exceedance, when corrective actions were initiated, the cause of the exceedance, an explanation of the corrective actions taken, and when the cause of the exceedance was corrected. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
83. The owner or operator shall report semiannually if measured emissions are in excess of the applicable standard or a monitored parameter deviates from the levels established during the performance test. The report shall contain the information specified in §63.10(c) of this part as well as the additional records required by the recordkeeping requirements of paragraph (d) of this section. When no deviations have occurred, the owner or operator shall submit a report stating that no excess emissions occurred during the reporting period. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: C-261-3-11

LEGAL OWNER OR OPERATOR: CERTAINTEED CORPORATION

MAILING ADDRESS: 17775 AVENUE 23 1/2
CHOWCHILLA, CA 93610

LOCATION: 17775 AVENUE 23 1/2
CHOWCHILLA, CA 93610

EQUIPMENT DESCRIPTION:

MODIFICATION OF 51.44 MMBTU/HR C-11 PRODUCTION LINE CONSISTING OF FOREHEARTH #1, GLASS FIBERIZER & MAT FORMING, CURING OVEN, MAT COOLING, SLITTING & TRIMMING, FACING, INFRARED DRYER, AND ROLL UP PACKAGING AND CONTROL DEVICES: ADD MAIN STACK PM10 AND VOC EMISSION RATES

CONDITIONS

1. {1829} The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. Fiberglass production on the C-11 Line shall not exceed 260 metric tons per day and 94,900 metric tons per year. A permanent record of daily production shall be maintained and shall be available for inspection by the District, EPA and CARB. [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
3. With approval from EPA, CertainTeed Corporation may choose to conduct performance tests at production and firing rates less than maximum design capacity and may choose to test only the fuel expected to be used in the next 12-month time period, provided that actual plant production does not exceed the tested rate and provided that only the fuel for which tests have been performed is used. The emission rate for NOx established by the first test at the specific production rate (less than maximum plant capacity) shall become the applicable emission limit for NOx at the production rate tested, as in condition IX.B of PSD permit SJ 80-02. A fuel switch or an increase in production levels beyond the maximum tested rate for any product line requires approval by EPA prior to such production increases or fuel switch and may require additional performance testing. [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
4. EPA shall be notified by letter 30 days prior to a production increase in order to make a determination of whether additional performance testing is required. [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit

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

Seyed Sadredin, Executive Director YAPCO

DAVID WARNER, Director of Permit Services

C-261-3-11 - Apr 7 2010 2:32PM -- TOMS - Joint Inspection NOT Required

5. Only PUC regulated natural gas shall be used. [PSD ATC SJ 80-02; Madera County Rule 404] Federally Enforceable Through Title V Permit
6. A permanent record of daily production shall be maintained and shall be available for inspection by EPA, CARB and the District. [District Rule 2520, 9.4.2; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
7. Source tests shall be performed at least on an annual basis and at such other times as may be specified by the District or EPA. Tests shall comply with the procedures in 40 CFR (Part 60.8) for PM, NO_x, SO_x, and VOC. [District Rule 2520, 9.4.2; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
8. PM shall be sampled according to the modified version of EPA's Method 5 which includes the impinger catch. [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
9. The source tests for PM shall be performed at the outlet of the two wet ESP's and the final stack. The source tests for NO_x, SO_x, and VOC shall be performed at the final stack. [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
10. The District and EPA (Attention: Air-5) shall be notified in writing 30 days in advance of the scheduled tests dates to allow time for the development of an approvable source test plan and to arrange for an observer to be present at the test. [District Rule 1081; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
11. The result of each source test shall be submitted to the District and EPA, Region 9 (Attention: Air-5) within 60 days after the test. [District Rule 1081; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
12. CertainTeed shall continuously operate and maintain the wet cyclonic scrubbers for the pretreatment of the gas stream upstream of the south wet ESP. [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
13. Both the cyclonic scrubbers and the South wet ESP shall be functioning as air pollution abatement devices whenever there is glass production on the C-11 Line. [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
14. The North wet ESP shall be functioning as air pollutant abatement device whenever there is glass production on the C-11 Line. [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
15. The combined North wet ESP and South wet ESP outlet emissions on C-11 Line shall not exceed 11.8 lbs/hr of PM. [District Rule 4202; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
16. Natural gas and propane consumption shall not exceed 3.55 million cubic feet per day and 1.295 trillion Btu in any 12 month period. [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
17. When fired on propane, the total stack emissions, which result from combining the C-1 dry ESP (PTO #C-261-2), C-11 wet ESP and C-12 wet ESP (PTO C-261-4) emissions, shall not exceed 547.2 lb PM/day, 547.2 lb PM₁₀/day, 432.0 lb HC/day, 432.0 lb VOC/day, 1,341.6 lb NO_x/day, 1,296.0 lb SO_x/day, or 1,072.8 lb CO/day. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The total stack emissions, which result from combining the C-1 dry ESP (PTO C-261-2), C-11 wet ESP (PTO C-261-3) and C-12 wet ESP emissions, shall not exceed 22.8 lb PM/hr or 22.8 lb PM₁₀/hr. [District NSR Rule; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
19. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: District Rules 4201 (12/17/92) and 4202 (12/17/92); and Madera County Rule 404. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
20. The owner or operator shall not discharge or cause to be discharged into the atmosphere in excess of 0.6 kg of formaldehyde per megagram (1.2 lb of formaldehyde per ton) of glass pulled for each existing rotary spin manufacturing line. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
21. The owner or operator must initiate corrective action within 1 hour when the average glass pull rate of any 4-hour block period for glass melting furnaces equipped with continuous glass pull rate monitors, or daily glass pull rate for glass melting furnaces not so equipped, exceeds the average glass pull rate established during the performance test as specified in §63.1384, by greater than 20 percent and complete corrective actions in a timely manner according to the procedures in the operations, maintenance, and monitoring plan. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit

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22. The owner or operator must implement a QIP consistent with the compliance assurance monitoring provisions of 40 CFR part 64, subpart D when the glass pull rate exceeds, by more than 20 percent, the average glass pull rate established during the performance test as specified in §63.1384 for more than 5 percent of the total operating time in a 6-month block reporting period. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
23. The owner or operator must operate each glass-melting furnace such that the glass pull rate does not exceed, by more than 20 percent, the average glass pull rate established during the performance test as specified in §63.1384 for more than 10 percent of the total operating time in a 6-month block reporting period. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
24. The owner or operator must initiate corrective action within 1 hour when the monitored process parameter level(s) is outside the limit(s) established during the performance test as specified in §63.1384 for the process modification(s) used to control formaldehyde emissions and complete corrective actions in a timely manner according to the procedures in the operations, maintenance, and monitoring plan. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
25. The owner or operator must implement a QIP consistent with the compliance assurance monitoring provisions of 40 CFR part 64, subpart D when the process parameter(s) is outside the limit(s) established during the performance test as specified in §63.1384 for more than 5 percent of the total operating time in a 6-month block reporting period. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
26. The owner or operator must operate the process modifications such that the monitored process parameter(s) is not outside the limit(s) established during the performance test as specified in §63.1384 for more than 10 percent of the total operating time in a 6-month block reporting period. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
27. The owner or operator must use a resin in the formulation of binder such that the free-formaldehyde content of the resin used does not exceed the free-formaldehyde range contained in the specification for the resin used during the performance test as specified in §63.1384. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
28. The owner or operator must use a binder formulation that does not vary from the specification and operating range established and used during the performance test as specified in §63.1384. For the purposes of this standard, adding or increasing the quantity of urea and/or lignin in the binder formulation does not constitute a change in the binder formulation. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
29. The owner or operator of each wool fiberglass manufacturing facility must prepare for each glass-melting furnace and rotary spin manufacturing line subject to the provisions of this subpart, a written operations, maintenance, and monitoring plan. The plan must be submitted to the Administrator for review and approval as part of the application for a part 70 permit. The plan must include the following information: Procedures for the proper operation and maintenance of process modifications and add-on control devices used to meet the emission limits in §63.1382; Procedures for the proper operation and maintenance of monitoring devices used to determine compliance, including quarterly calibration and certification of accuracy of each monitoring device according to the manufacturers' instructions; and Corrective actions to be taken when process parameters or add-on control device parameters deviate from the limit(s) established during initial performance tests. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
30. The owner or operator of an existing glass-melting furnace equipped with continuous glass pull rate monitors must monitor and record the glass pull rate on an hourly basis. For glass-melting furnaces that are not equipped with continuous glass pull rate monitors, the glass pull rate must be monitored and recorded once per day. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
31. The owner or operator who uses process modifications to control formaldehyde emissions must establish a correlation between formaldehyde emissions and a process parameter(s) to be monitored. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
32. The owner or operator must monitor the established parameter(s) according to the procedures in the operations, maintenance, and monitoring plan. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit

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33. The owner or operator must include as part of their operations, maintenance, and monitoring plan the following information: Procedures for the proper operation and maintenance of the process; Process parameter(s) to be monitored to demonstrate compliance with the applicable emission limits in §63.1382; Correlation(s) between process parameter(s) to be monitored and formaldehyde emissions; A schedule for monitoring the process parameter(s); and Recordkeeping procedures, consistent with the recordkeeping requirements of §63.1386, to show that the process parameter value(s) established during the performance test is not exceeded. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
34. The owner or operator must monitor and record the free-formaldehyde content of each resin shipment received and used in the formulation of binder. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
35. The owner or operator must monitor and record the formulation of each batch of binder used. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
36. The owner or operator must monitor and record at least once every 8 hours, the product LOI and product density of each bonded wool fiberglass product manufactured. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
37. For all control device and process operating parameters measured during the initial performance tests, the owners or operators of glass-melting furnaces and rotary spin manufacturing lines subject to this subpart may change the limits established during the initial performance tests if additional performance testing is conducted to verify that, at the new control device or process parameter levels, they comply with the applicable emission limits in §63.1382. The owner or operator shall conduct all additional performance tests according to the procedures in this part 63, subpart A and in §63.1384. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
38. During each performance test, the owner or operator must monitor and record the glass pull rate for each glass-melting furnace and, if different, the glass pull rate for the C-11 rotary spin manufacturing line. Record the glass pull rate every 15 minutes during any performance test required by this subpart and determine the arithmetic average of the recorded measurements for each test run and calculate the average of the three test runs. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
39. The owner or operator must conduct a performance test for the C-11 rotary spin manufacturing line, subject to this subpart, while producing the building insulation with the highest LOI expected to be produced on that line. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
40. The owner or operator of each rotary spin manufacturing line regulated by this subpart must conduct performance tests using the resin with the highest free-formaldehyde content. During the performance test of each rotary spin manufacturing line regulated by this subpart, the owner or operator shall monitor and record the free-formaldehyde content of the resin, the binder formulation used, and the product LOI and density. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
41. During the performance test, the owner or operator of a rotary spin manufacturing line who plans to use process modifications to comply with the emission limits in §63.1382 must monitor and record the process parameter level(s), as specified in the operations, maintenance, and monitoring plan, which will be used to demonstrate compliance after the initial performance test. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
42. Unless disapproved by the Administrator, an owner or operator of a rotary spin or flame attenuation manufacturing line regulated by this subpart may conduct short-term experimental production runs using binder formulations or other process modifications where the process parameter values would be outside those established during performance tests without first conducting performance tests. Such runs must not exceed 1 week in duration unless the Administrator approves a longer period. The owner or operator must notify the Administrator and postmark or deliver the notification at least 15 days prior to commencement of the short-term experimental production runs. The Administrator must inform the owner or operator of a decision to disapprove or must request additional information prior to the date of the short-term experimental production runs. Notification of intent to perform an experimental short-term production run shall include the following information:(i) The purpose of the experimental production run;(ii) The affected line;(iii) How the established process parameters will deviate from previously approved levels;(iv) The duration of the experimental production run;(v) The date and time of the experimental production run; and(vi) A description of any emission testing to be performed during the experimental production run. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit

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43. To determine compliance with the emission limit for formaldehyde for rotary spin manufacturing lines, use the following equation: $E = (C \times MW \times Q \times K1 \times K2) / (K3 \times P \times 10^6)$, where: E = Emission rate of formaldehyde, kg/Mg (lb/ton) of glass pulled; C = Measured volume fraction of formaldehyde, ppm; MW = Molecular weight of formaldehyde, 30.03 g/g-mol; Q = Volumetric flow rate of exhaust gases, dscm/h (dscf/h); K1 = Conversion factor, 1 kg/1,000 g (1 lb/453.6 g); K2 = Conversion factor, 1,000 L/m³ (28.3 L/ft³); K3 = Conversion factor, 24.45 L/g-mol; and P = Average glass pull rate, Mg/h (tons/h). [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
44. The owner or operator shall submit the following written initial notifications to the Administrator: (1) Notification of intention to construct a new major source or reconstruct a major source; of the date construction or reconstruction commenced; of the anticipated date of startup; of the actual date of startup, where the initial startup of a new or reconstructed source occurs after June 14, 2002, and for which an application for approval or construction or reconstruction is required (See §63.9(b)(4) and (5) of this part); (2) Notification of special compliance obligations; (3) Notification of performance test; and (4) Notification of compliance status. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
45. The owner or operator shall report the results of the initial performance test as part of the notification of compliance status. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
46. The owner or operator shall develop and implement a written plan as described in §63.6(e)(3) of this part that contains specific procedures to be followed for operating the source and maintaining the source during periods of startup, shutdown, and malfunction and a program of corrective action for malfunctioning process modifications and control systems used to comply with the standard. In addition to the information required in §63.6(e)(3), the plan shall include: (i) Procedures to determine and record the cause of the malfunction and the time the malfunction began and ended; (ii) Corrective actions to be taken in the event of a malfunction of a control device or process modification, including procedures for recording the actions taken to correct the malfunction or minimize emissions; and (iii) A maintenance schedule for each control device and process modification that is consistent with the manufacturer's instructions and recommendations for routine and long-term maintenance. The owner or operator shall also keep records of each event as required by §63.10(b) of this part and record and report if an action taken during a startup, shutdown, or malfunction is not consistent with the procedures in the plan as described in §63.10(e)(3)(iv) of this part. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
47. The owner or operator must retain each record for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The most recent 2 years of records must be retained at the facility. The remaining 3 years of records may be retained off site. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
48. The owner or operator shall maintain records of the following information: the formulation of each binder batch and the LOI and density for each product manufactured on a rotary spin manufacturing line or flame attenuation manufacturing line subject to the provisions of this subpart, and the free formaldehyde content of each resin shipment received and used in the binder formulation; Process parameter level(s) for RS and FA manufacturing lines that use process modifications to comply with the emission limits, including any period when the parameter level(s) deviated from the established limit(s), the date and time of the deviation, when corrective actions were initiated, the cause of the deviation, an explanation of the corrective actions taken, and when the cause of the deviation was corrected; and Glass pull rate, including any period when the pull rate exceeded the average pull rate established during the performance test by more than 20 percent, the date and time of the exceedance, when corrective actions were initiated, the cause of the exceedance, an explanation of the corrective actions taken, and when the cause of the exceedance was corrected. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
49. The owner or operator shall report semiannually if measured emissions are in excess of the applicable standard or a monitored parameter deviates from the levels established during the performance test. The report shall contain the information specified in §63.10(c) of this part as well as the additional records required by the recordkeeping requirements of paragraph (d) of this section. When no deviations have occurred, the owner or operator shall submit a report stating that no excess emissions occurred during the reporting period. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: C-261-4-9

LEGAL OWNER OR OPERATOR: CERTAINTEED CORPORATION

MAILING ADDRESS: 17775 AVENUE 23 1/2
CHOWCHILLA, CA 93610

LOCATION: 17775 AVENUE 23 1/2
CHOWCHILLA, CA 93610

EQUIPMENT DESCRIPTION:

MODIFICATION OF 27.44 MMBTU/HR C-12 LINE INCLUDING FOREHEARTH #2; FIBERIZER CONTROLLED BY 3 FISHER-KLOSTERMANN (F-K) CYCLONIC SCRUBBERS; COLLECTION & SHREDDING CONTROLLED BY 2 CERTAINTEED CYCLONES/F-K SCRUBBERS/C-12 WET EP; BAGGING CONTROLLED BY BAGHOUSE #2: ADD MAIN STACK PM10 AND VOC EMISSION RATES

CONDITIONS

1. {1829} The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. Fiberglass production on the C-12 Line shall not exceed 260 metric tons per day and 94,900 metric tons per year. A permanent record of daily production shall be maintained and shall be available for inspection by the District, EPA and CARB. [District NSR Rule; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
3. With approval from EPA, CertainTeed Corporation may choose to conduct performance tests at production and firing rates less than maximum design capacity and may choose to test only the fuel expected to be used in the next 12-month time period, provided that actual plant production does not exceed the tested rate and provided that only the fuel for which tests have been performed is used. The emission rate for NOx established by the first test at the specific production rate (less than maximum plant capacity) shall become the applicable emission limit for NOx at the production rate tested, as in condition IX.B of PSD permit SJ 80-02. A fuel switch or an increase in production levels beyond the maximum tested rate for any product line requires approval by EPA prior to such production increases or fuel switch and may require additional performance testing. [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
4. EPA shall be notified by letter 30 days prior to a production increase in order to make a determination of whether additional performance testing is required. [PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit

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

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

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5. Only PUC regulated natural gas shall be used. [PSD ATC SJ 80-02; Madera County Rule 404] Federally Enforceable Through Title V Permit
6. A permanent record of daily production shall be maintained and shall be available for inspection by EPA, CARB and the District. [District Rule 2520, 9.4.2; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
7. Source tests shall be performed at least on an annual basis and at such other times as may be specified by the District or EPA. Tests shall comply with the procedures in 40 CFR (Part 60.8) for PM, NO_x, SO_x, and VOC. [District NSR Rule; District Rule 4354, 6.3; District Rule 2520, 9.4.2; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
8. PM shall be sampled according to the modified version of EPA's Method 5 which includes the impinger catch. [District NSR Rule; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
9. The source tests for PM shall be performed at the outlet of the wet ESP and the final stack. The source tests for NO_x, SO_x, and VOC shall be performed at the final stack. [District NSR Rule; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
10. The District and EPA (Attention: Air-5) shall be notified in writing 30 days in advance of the scheduled tests dates to allow time for the development of an approvable source test plan and to arrange for an observer to be present at the test. [District Rule 1081; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
11. The result of each source test shall be submitted to the District and EPA, Region 9 (Attention: Air-5) within 60 days after the test. [District Rule 1081; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
12. The outlet of the wet ESP and the final stack shall be so fitted as to permit performance of tests for pollutants (per 40 CFR 60, Appendix A) using portable equipment in a manner as approved by the EPA, CARB and the District. [District Rule 1081; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
13. CertainTeed shall continuously operate and maintain the wet cyclonic scrubbers for the pretreatment of the gas stream upstream of the C-12 wet ESP. [District NSR Rule; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
14. Both the cyclonic scrubbers and the C-12 wet ESP shall be functioning as air pollution abatement devices whenever there is glass production on the C-12 Line. [District NSR Rule; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
15. Baghouse #2 shall be functioning as air pollutant abatement device whenever there is glass production on the C-12 Line. [District NSR Rule; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
16. The C-12 wet ESP outlet emissions shall not exceed 4.5 lbs PM/hr nor 108 lb PM/day. [District NSR Rule; District Rule 4202; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
17. Natural gas and propane consumption shall not exceed 3.55 million cubic feet per day and 1.295 trillion Btu in any 12 month period. [District NSR Rule; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
18. When fired on propane, the total stack emissions, which result from combining the C-1 dry ESP (PTO #C-261-2), C-11 wet ESP (PTO C-261-3) and C-12 wet ESP emissions, shall not exceed 547.2 lb PM/day, 547.2 lb PM₁₀/day, 432.0 lb HC/day, 432.0 lb VOC/day, 1,341.6 lb NO_x/day, 1,296.0 lb SO_x/day, or 1,072.8 lb CO/day. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The total stack emissions, which result from combining the C-1 dry ESP (PTO C-261-2), C-11 wet ESP (PTO C-261-3) and C-12 wet ESP emissions, shall not exceed 22.8 lb PM/hr or 22.8 lb PM₁₀/hr. [District NSR Rule; PSD ATC SJ 80-02] Federally Enforceable Through Title V Permit
20. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: District Rules 4201 (12/17/92) and 4202 (12/17/92); and Madera County Rule 404. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
21. Particulate matter emissions shall not exceed 2.6 lb/hour, until EPA approves modification to PSD ATC SJ 80-02 to increase the maximum emission rate. Upon EPA approval, particulate matter emissions shall not exceed 4.5 lb/hour. [PSD ATC 80-02] Federally Enforceable Through Title V Permit

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22. The owner or operator must initiate corrective action within 1 hour when the average glass pull rate of any 4-hour block period for glass melting furnaces equipped with continuous glass pull rate monitors, or daily glass pull rate for glass melting furnaces not so equipped, exceeds the average glass pull rate established during the performance test as specified in §63.1384, by greater than 20 percent and complete corrective actions in a timely manner according to the procedures in the operations, maintenance, and monitoring plan. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
23. The owner or operator must implement a QIP consistent with the compliance assurance monitoring provisions of 40 CFR part 64, subpart D when the glass pull rate exceeds, by more than 20 percent, the average glass pull rate established during the performance test as specified in §63.1384 for more than 5 percent of the total operating time in a 6-month block reporting period. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit
24. The owner or operator must operate each glass-melting furnace such that the glass pull rate does not exceed, by more than 20 percent, the average glass pull rate established during the performance test as specified in §63.1384 for more than 10 percent of the total operating time in a 6-month block reporting period. [40 CFR 63, Subpart NNN] Federally Enforceable Through Title V Permit

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