

Facility Name: **CertainTeed Corporation – Athens Plant**

City: Athens

County: Clarke

AIRS #: 04-13-059-00026

Application #: 15655

Date SIP Application Received: October 1, 2004 (Updated, May 9, 2005)

Date Title V Application Received: October 1, 2004 (Updated May 9, 2005)

Permit No: 3296-059-0026-V-01-2

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Introduction

This narrative is being provided to assist the reader in understanding the content of the referenced SIP permit to construct and draft operating permit amendment. Complex issues and unusual items are explained in simpler terms and/or greater detail than is sometimes possible in the actual permit. This permit is being issued pursuant to: (1) Sections 391-3-1-.03(1) and 391-3-1-.03(10) of the Georgia Rules for Air Quality Control, (2) Part 70 of Chapter I of Title 40 of the Code of Federal Regulations, and (3) Title V of the Clean Air Act Amendments of 1990. The following narrative is designed to accompany the draft permit and is presented in the same general order as the permit. This narrative is intended only as an adjunct for the reviewer and has no legal standing. Any revisions made to the permit in response to comments received during the public comment period and EPA review process will be described in an addendum to this narrative.

I. Facility Description

A. Existing Permits

Table 1 below lists the current Title V permit, and all administrative amendments, minor and significant modifications to that permit, and 502(b)(10) attachments. Comments are listed in Table 2 below.

Table 1: Current Title V Permit and Amendments

Permit/Amendment Number	Date of Issuance	Comments	
		Yes	No
3296-059-0026-V-01-0	January 30, 2003	✓	
3296-059-0026-V-01-1	Construction permit issued 11/12/2004. Operating permit never issued. Will be revoked upon the issuance of 3296-059-0026-V-01-2	✓	

Table 2: Comments on Specific Permits

Permit Number	Comments
3296-059-0026-V-01-0	Original Title V Permit
3296-059-0026-V-01-1	Significant modification authorizing the construction and operation of a bagging machine on the A-23 line

B. Regulatory Status

1. PSD/NSR/RACT

CertainTeed Corporation-Athens is a major source with regards to the New Source Review (NSR) Prevention of Significant Deterioration of Air Quality (PSD) Regulations. The facility is a major source because the potential to emit (PTE) particulate matter and nitrogen oxides is each greater than the PSD major source threshold of 100 tons per year (ton/yr).

Note 1: The facility is currently a major source for NO_x mostly because of the NO_x emitted from the natural gas-fired glass-melting furnace A-2. Upon the shut down of the natural gas-fired glass-melting furnace A-2, the facility-wide potential to emit NO_x will most likely be less than 100 ton/yr. At that point, the facility will be minor for NO_x with respect to the Title V and PSD rules.

Note 2: The manufacture of fiberglass insulation material (glass fiber processing) is one of the 28 named categories whose major source threshold is 100 ton/yr.

The following existing permit conditions contain limits already in the permit to avoid PSD:

- 3.3.7 The Permittee shall not discharge or cause the discharge into the atmosphere from the Gas Melting Furnace (ID No. A-2) any gases which contain particulate matter in excess of 0.5 pound per ton of molten glass pulled from the furnace.

[40 CFR 63.1382(a); 40 CFR 60.292(a)(1); and 391-3-1.03(2)(c), PSD Increment Exceedance Avoidance Subsumed]

3.3.10 The Permittee shall not discharge or cause the discharge into the atmosphere from the A-23 rotary spin fiberglass-manufacturing line any gases which contain particulate matter in excess of the following limits:

- a. 11.0 pounds per ton of molten glass pulled. [40 CFR 60.682]
- b. 15.6 lb/hr. [391-3-1-.03(2)(c), PSD Increment Exceedance Avoidance]

2. Title V Major Source Status by Pollutant

Table 3: Title V Major Source Status

Pollutant	Is the Pollutant Emitted?	If emitted, what is the facility's Title V status for the Pollutant?		
		Major Source Status	Major Source Requesting SM Status	Non-Major Source Status
PM	Yes	✓		
PM ₁₀	Yes	✓		
SO ₂	Yes			✓
VOC	Yes			✓
NO _x	Yes			✓
CO	Yes	✓		
TRS	N/A			
H ₂ S	N/A			
Individual HAP	Yes	✓		
Total HAPs	Yes	✓		

II. Proposed Modification

A. Description of Modification

The proposed modification will result in an increase in the production capacity of the facility. This will be achieved by the removal of the existing natural gas-fired glass melting furnace (A-2); the construction and operation of a new larger-capacity electric-powered glass melting furnace (A-2) and a new bonded fiberglass manufacturing line (A-25); and the modification of an existing non-bonded (loose) fiberglass manufacturing line (A-23) to increase its capacity.

B. Emissions Change

Table 4: Emissions Change Due to Modification

Pollutant	Is the Pollutant Emitted?	Net Actual Emissions Increase (Decrease) (tpy)	Net Potential Emissions Increase (Decrease) (tpy)
PM	Yes	58.34	335.43
PM ₁₀	Yes	53.18	277.25
SO ₂	Yes	0.05	1.04
VOC	Yes	3.42	80.19
NO _x	Yes	30.94	53.96
CO	Yes	33.76	258.72
TRS			
H ₂ S			
Individual HAP	Yes	28.91	28.91
Total HAPs	Yes	60.31	60.31

C. PSD/NSR Applicability

This modification is classified as a major modification for PSD because the net increase in the emission rate, defined as the future potential emission rate, less the average actual emission rate for the two preceding years, for PM, PM₁₀, CO, and VOC, is each greater than the respective significant emission rate for each pollutant. (See the preliminary determination associated with this modification)

This facility is located in an area designated “attainment” for all pollutants. Therefore, the NSR non-attainment area rules do not apply.

III. Facility Wide Requirements

- A. Emission and Operating Caps: None.
- B. Applicable Rules and Regulations
Rules and Regulations Assessment – Not applicable.
Emission and Operating Standards – Not applicable.
- C. Compliance Status – See Section VII.F.
- D. Operational Flexibility – See Section VII.A.
- E. Permit Conditions – None.

IV. Regulated Equipment Requirements

A. Brief Process Description

See Section II.A.

B. Equipment List for the Process

Emission Units		Applicable Requirements/Standards	Air Pollution Control Devices	
ID No.	Description		ID No.	Description
A-1 (Existing)	Electric Melting Furnace	40 CFR 63, Subpart A 40 CFR 63, Subpart NNN GA Rule 391-3-1-.02(2)(b) GA Rule 391-3-1-.02(2)(e) GA Rule 391-3-1-.02(2)(g) GA Rule 391-3-1-.03(2)(c), PSD Increment Exceedance Avoidance PM Limit	E1	Baghouse
A-2 (Existing and New)	Existing: Gas-fired Melting Furnace New: Electric Melting Furnace	40 CFR 52.21, PSD/BACT 40 CFR 60, Subpart A 40 CFR 60, Subpart CC 40 CFR 63, Subpart A 40 CFR 63, Subpart NNN GA Rule 391-3-1-.02(2)(b) GA Rule 391-3-1-.02(2)(e) GA Rule 391-3-1-.02(2)(g)	E6/E24	Existing: Dry Plate Electrostatic Precipitator New: Baghouse
A-11 (Existing)	Forming, Curing, and Cooling Line	40 CFR 63, Subpart A 40 CFR 63, Subpart NNN GA Rule 391-3-1-.02(2)(b) GA Rule 391-3-1-.02(2)(oo) GA Rule 391-3-1-.02(2)(g) GA Rule 391-3-1-.03(2)(c), PSD Increment Exceedance Avoidance PM Limit	E2 E3 E4 E8	Venturi Scrubber Venturi Scrubber Venturi Scrubber Wet-walled Cyclones (5)
A-12 (Existing)	Forming Line	GA Rule 391-3-1-.02(2)(b) GA Rule 391-3-1-.02(2)(oo) GA Rule 391-3-1-.02(2)(g) GA Rule 391-3-1-.03(2)(c), PSD Increment Exceedance Avoidance PM Limit	E5	Wet-walled Cyclones (3)
A-23 (Existing and Modified)	Forming	40 CFR 52.21, PSD/BACT 40 CFR 60, Subpart A 40 CFR 60, Subpart PPP GA Rule 391-3-1-.02(2)(b) GA Rule 391-3-1-.02(2)(oo) GA Rule 391-3-1-.02(2)(g) GA Rule 391-3-1-.03(2)(c), PSD Increment Exceedance Avoidance PM Limit	E7	Wet-walled Cyclones
TRM2 (Existing and Modified)	A-23 Packaging Operation	40 CFR 52.21, PSD/BACT GA Rule 391-3-1-.02(2)(b) GA Rule 391-3-1-.02(2)(e)	E7	Wet-walled Cyclones
A-25	Forming, Curing, and Cooling Line	40 CFR 52.21, PSD/BACT 40 CFR 60, Subpart A 40 CFR 60, Subpart PPP 40 CFR 63, Subpart A 40 CFR 63, Subpart NNN GA Rule 391-3-1-.02(2)(b) GA Rule 391-3-1-.02(2)(oo) GA Rule 391-3-1-.02(2)(g) GA Rule 391-3-1-.03(2)(c)	E20 E21	Wet-walled Cyclones Wet Electrostatic Precipitator

Emission Units		Applicable Requirements/Standards	Air Pollution Control Devices	
ID No.	Description		ID No.	Description
TRM3 (New)	A-25 Slitting and Cutting	40 CFR 52.21, PSD/BACT GA Rule 391-3-1-.02(2)(b) GA Rule 391-3-1-.02(2)(e)	E23	Baghouse
TRM1 (Existing)	A-11 Trimming and A-12 Packaging Operations	GA Rule 391-3-1-.02(2)(b) GA Rule 391-3-1-.02(2)(oo)	E30	Baghouse
MTHD (Modified)	Material Handling Operations	40 CFR 52.21, PSD/BACT GA Rule 391-3-1-.02(2)(b) GA Rule 391-3-1-.02(2)(e) GA Rule 391-3-1-.02(2)(n)	N/A	N/A
	Plant Roads	GA Rule 391-3-1-.02(2)(n)	N/A	N/A

C. Equipment & Rule Applicability

Electric Melting Furnace (A-2)

The new electric melting furnace with identification number A-2 will be replacing an old gas-fired glass-melting furnace, also with identification number A-2. The new electric furnace has a larger capacity to melt raw batch materials when compared to the gas-fired glass-melting furnace it is replacing. The new A-2 melting furnace is a “cold top” because it operates with a temperature of 250 °F or less as measured at a location 18 to 24 inches above the molten glass surface. Electric melting furnaces are particularly suited for wool glass fiber production because of the electrical properties of the molten glass. The new A-2 melting furnace will be capable of using natural gas or propane as back-up energy source to melt the raw materials.

The new A-2 melting furnace is subject to 40 CFR 63.1382(a)(1), which limits particulate matter (PM) emissions to less than or equal to 0.5 pound per ton of molten glass pulled. The new A-2 melting furnace is also subject to Georgia Rule 391-3-1-.02(2)(e) "Particulate Emissions from Manufacturing Processes". The following equation is used to calculate the allowable rate of emission for process input weight rates up to and including 30 tons per hour:

$$E = 4.1 P^{0.67}$$

For process input weight rates above 30 tons per hour, the following equation is used to calculate the allowable rate of emission:

$$E = 55 P^{0.11} - 40$$

Where:

E = Emission rate in pounds per hour

P = Process input weight rate in tons per hour

The new A-2 melting furnace is also subject to Georgia Rule 391-3-1-.02(2)(b) "Visible Emissions ". Rule (b) limits visible emissions to less than 40 percent opacity. The PM emitted from the new A-2 melting furnace will be controlled by Baghouse E24. The BACT for PM has been set at 0.45 lb/ton of molten glass pulled (see the Preliminary Determination) which is protective of the 0.5 lb/ton of molten glass pulled limit of 40 CFR 63.1382(a)(1) and the Rule (e) limit. Compliance with the PM limits of 40 CFR 63.1382(a)(1) and Rule (e) will be determined by the performance test required by 40 CFR 63.7 and 40 CFR 63.1384. Compliance with Rule (b) is likely, with a properly

maintained baghouse and the PM bag leak detection system¹ required by 40 CFR 63.1383(b)(1).

The new A-2 melting furnace is also subject to Georgia Rule 391-3-1-.02(2)(g). This rule limits the fuel sulfur content to 2.5 percent. Because the new A-2 melting furnace burns only gas and propane as a back-up fuel, the sulfur content is much less than 2.5 percent with no controls.

Forming, Curing, and Cooling Line (A-25)

The A-25 manufacturing line will receive its molten glass from the new A-2 melting furnace. It consists of natural gas-fired fiber forming devices (spinners), one natural gas-fired curing oven, and a cooling section where the cured fiberglass mat is cooled. The fibers are formed when centrifugal forces cause molten glass to flow through small orifices in the side wall of a rotating cylinder, breaking the ensuing continuous glass fibers into discrete lengths by high velocity air flow, and spraying the fibers with a chemical binder consisting of a phenol-formaldehyde resin, water, urea, lignin, silane, and ammonia. After the spinners are process/recovery water-walled cyclones where water droplets are removed.

The new A-25 manufacturing line is subject to 40 CFR 63.1382(a)(2)(ii) which limits formaldehyde emissions to 0.8 pounds or less per ton of molten glass pulled through the line. The new A-25 manufacturing line is also subject to 40 CFR 60.682 which limits the PM emitted to 11.0 pounds or less per ton of molten glass pulled through the line. The line is also subject to Georgia Rule 391-3-1-.02(2)(oo) "Fiberglass Insulation Manufacturing Plants". This Rule limits particulate matter emissions to 0.04 grains per dry standard cubic foot of flue gas.

The A-25 manufacturing line is also subject to Georgia Rule 391-3-1-.02(2)(b) "Visible Emissions ". Rule (b) limits visible emissions to less than 40 percent opacity. The PM will be controlled by wet walled cyclones and wet precipitators in series. BACT for PM has been set at 3.63 pounds per ton of molten glass pulled (see the preliminary determination) which is protective of Georgia Rule (oo) and the 11.0 pounds PM per ton of molten glass pulled limit dictated by 40 CFR 60.682. Compliance with Rule (b) is assured with properly maintained wet walled cyclones and wet precipitator.

¹ There are two types of bag leak detection instruments: the triboelectric and the induction sensing instrument types. The principle of operation of these instruments is based on electrical charge transfer and light scattering.

For the triboelectric monitoring system, the principle of operation is based on the fact that when two particles come into contact, an electrical charge is transferred between them. As particles in a gas stream collide with a sensor placed in the path of the gas stream, the charge transfer generates a current that can be measured using a triboelectric monitoring instrument.

For the induction monitoring system, the principle of operation is based on electrostatic induction arising from the accumulation of large quantities of electrical charge on the fabric material. This charge generates a current that can be measured using a monitoring instrument.

The new A-25 line will also emit VOC, NO_x, CO, SO₂, HCHO (formaldehyde), C₆H₅OH (phenol), CH₃OH (methanol), and NH₃ (ammonia).

The new A-25 manufacturing line is also subject to Georgia Rule 391-3-1-.02(2)(g). This rule limits the fuel sulfur content to 2.5 percent. Because the line burns primarily natural gas, the sulfur content is much less than 2.5 percent with no controls.

There are no specific state rules limiting the emissions of CO, NO_x, and VOC. The emissions of VOC will be controlled by process modifications including the use of binder formulations that have lower VOC emissions. BACT for VOC has been set at 1.84 pounds per ton of molten glass pulled (see the preliminary determination). The emissions of CO and NO_x will be controlled by maintaining good combustion practices including properly adjusting the burners in the forming section and the curing oven.

Forming Line (A-23)

The A-23 manufacturing line will receive its molten glass from the new A-2 melting furnace. This line produces loose insulation material and does not utilize the phenol formaldehyde resin. As a result this line does not emit any phenol or formaldehyde. This line was restarted in 1996 after a five-year shutdown. The production capacity of this line will be able to increase because the new electric furnace (A-2) has a higher capacity to produce molten glass compared to the old gas fired furnace (A-2).

The A-23 manufacturing line is currently subject to 40 CFR 60.682 and will remain subject to this standard after the increase in the capacity of this line. This standard limits PM emissions to less than or equal to 11.0 pound per ton of molten glass pulled. The A-23 manufacturing line is also subject to Georgia Rule 391-3-1-.02(2)(oo) "Fiberglass Insulation Manufacturing Plants". This Rule limits PM emissions to 0.04 grains per dry standard cubic foot. BACT for PM has been set at 4.72 pounds per ton of molten glass pulled (see the preliminary determination) which is protective of Rule (oo) and the 11.0 pounds PM per ton of molten glass pulled dictated by 40 CFR 60.682.

The A-23 manufacturing line is also subject to Georgia Rule 391-3-1-.02(2)(b) "Visible Emissions ". Rule (b) limits visible emissions to less than 40 percent opacity. The PM emitted is controlled by wet-walled cyclones. Compliance with Rule (b) is assured with a properly maintained cyclone.

The A-23 manufacturing line is also subject to Georgia Rule 391-3-1-.02(2)(g). This rule limits the fuel sulfur content to 2.5 percent. Because the line burns primarily natural gas, the sulfur content is much less than 2.5 percent with no controls.

A-25 Line Slitting and Cutting (TRIM3)

This operation involves the slitting and cutting of the bonded fiberglass mat produced in the A-25 manufacturing line. The PM produced during these operations will be controlled by a baghouse (E23).

TRIM3 is subject to Georgia Rule 391-3-1-.02(2)(oo) "Fiberglass Insulation Manufacturing Plants". This Rule limits PM emissions to 0.04 grains per dry standard cubic foot. Given a flow rate of 30,000 dry standard cubic feet per minute, this would result in an emission rate of 10.3 lb/hr. Compliance with this limit is likely with a well-maintained baghouse. Compliance with Rule (oo) will be verified by a performance test required by this permit.

TRIM3 is also subject to Georgia Rule 391-3-1-.02(2)(b) "Visible Emissions ". Rule (b) limits visible emissions to less than 40 percent opacity. Compliance with Rule (b) is likely.

A-23 Line Packaging Operations (TRIM2)

The first bagging machine was installed in 1988. This bagging machine is schedule to be replaced by a bigger machine to accommodate the expected increase in production. The PM emissions that will be generated by bagging the binder-less blowing wool produced in the A-23 manufacturing line will be controlled by the wet walled cyclones of the A-23 forming line (E7) because the exhaust PM from the bagging is to be ducted through the forming line.

TRIM2 is subject to Georgia Rule 391-3-1-.02(2)(e) "Particulate Emissions from Manufacturing Processes". The following equation is used to calculate the allowable rate of emission for process input weight rates up to and including 30 tons per hour:

$$E = 4.1 P^{0.67}$$

Where:

E = Emission rate in pounds per hour

P = Process input weight rate in tons per hour

The Permittee indicated in the application a binder-less blowing wool loading of 7.35 tons per hour. This results in a Rule (e) allowable PM emission rate of 15.60 lb/hr. Compliance with Rule (e) is likely with a well-maintained baghouse.

TRIM2 is also subject to Georgia Rule 391-3-1-.02(2)(b) "Visible Emissions ". Rule (b) limits visible emissions to less than 40 percent opacity. Compliance with Rule (b) is also likely.

Raw Materials Handling (MTHD)

Raw material handling consists of raw material unloading, conveying, storage, and mixing. The raw material processed will increase after this modification. This operation is subject to GA Rules (b), (e), and (n). There are several bin vent filters used to control PM emissions from raw

material handling. Compliance with the GA Rules (b) and (e) is likely with a properly maintained bin vent filter.

- D. Compliance Status: The facility is in compliance.
- E. Operational Flexibility: None requested.
- F. Permit Conditions

Condition 3.2.1 is modified. The modified condition requires the initiation of corrective action within 1 hour of an alarm from either the E1 or E24 bag leak detection system and the completion of that corrective action in a timely manner. The condition also requires the implementation of a quality improvement plan when any bag leak detection system alarm is sounded for more than 5 percent of the total operating time in a 6-month block reporting period in accordance with 40 CFR Subpart NNN.

Conditions 3.2.2 through 3.2.4 will be revoked upon the shutdown of the gas-fired glass-melting furnace (A-2).

Conditions 3.2.5 through 3.2.12 are modified by eliminating the reference to Condition 4.2.1 of Permit No. 3296-059-0026-V-01-0 because the performance test required by Condition 4.2.1 has been conducted. Also, changes were made in the wording of these conditions, by referencing §63.7 and §63.1384 rather than Condition 4.2.1, to make them more general and reduce the chance that these conditions would need revision in future amendments. This change was also made to Conditions 4.2.2, 4.2.3, 4.2.4, 4.2.5, 4.2.8, 4.2.9, 5.2.12, and 5.2.13.

Condition 3.2.13 is revoked upon the shutdown of the gas-fired glass-melting furnace because nitrogen oxides will not be emitted from the new electric-fired glass-melting furnace (A-2).

New Condition 3.2.14 requires the Permittee to initiate corrective action within 1 hour when the monitored process parameter level is outside the limit established during the performance test for formaldehyde, for the A-25 line. This is in accordance with 40 CFR Subpart NNN.

New Condition 3.2.15 requires the Permittee to implement a Quality Improvement Plan (QIP) when a process parameter affecting formaldehyde emissions, for the A-25 line, is outside the limit 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.

New Condition 3.2.16 requires the Permittee to minimize formaldehyde emissions, for the A-25 line, such that the monitored process parameter(s) are 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.

Condition 3.2.17 requires the permanent shutdown of the gas-fired glass-melting furnace (A-2) upon the start-up of the new electric-fired glass-melting furnace (A-2). This condition lists the permit conditions that will be revoked upon the shutdown of the gas-fired glass-melting furnace.

Condition 3.3.1 is an updated version of the condition requiring the Permittee to comply with all applicable provisions of 40 CFR 63-National Emission Standards for Hazardous Air Pollutants Subpart A-General Provisions.

Condition 3.3.2 is the new version of the condition requiring the Permittee to comply with all applicable provisions of 40 CFR 63, Subpart NNN - National Emission Standards for Hazardous Air Pollutants for Wool Fiberglass Manufacturing. This ensures that the Permittee knows that the plant is subject to all applicable portions of 40 CFR 63, Subpart NNN, even if one has been unintentionally omitted from the permit.

Condition 3.3.4 is revoked upon the shutdown of the gas-fired glass-melting furnace (A-2) because 40 CFR 60, Subpart CC does not apply to electric melters.

Condition 3.3.7 is revoked upon the shutdown of the gas-fired glass-melting furnace.

Condition 3.3.11 is changed by requiring the Permittee to comply with the more stringent 0.8 pound formaldehyde emitted per ton of molten glass pulled vis-à-vis the Subpart NNN requirement of 1.2 pound formaldehyde emitted which is the standard for existing manufacturing lines. The company requested that it be subjected to the more stringent standard in its updated application, as a way of signaling to the public, that it is serious about minimizing formaldehyde emissions in particular and all emissions in general.

New Condition 3.3.12 requires the Permittee not to discharge into the atmosphere from the new electric-fired glass-melting furnace any gases which contain particulate matter in excess of 0.45 pound per ton of molten glass pulled from the furnace. This limit represents the “Best Available Control Technology” per the PSD rules.

New Condition 3.3.13 requires the Permittee not to discharge into the atmosphere from the modified A-23 rotary spin fiberglass manufacturing line any gases which contain particulate matter in excess of 4.72 pounds per ton of molten glass pulled from the line. This limit represents the “Best Available Control Technology” per the PSD rules. This limit also satisfies the requirement of 40 CFR 60.682, which is subsumed because the PSD limit is more restrictive.

New Condition 3.3.14 requires the Permittee not to discharge into the atmosphere from the modified A-23 rotary spin fiberglass manufacturing line any gases which contain carbon monoxide in excess of 3.34 pounds per ton of molten glass pulled from the line. This limit represents the “Best Available Control Technology” per the PSD rules.

New Condition 3.3.15 requires the Permittee not to discharge into the atmosphere from the A-25 rotary spin fiberglass manufacturing line any gases which contain formaldehyde in excess of 0.8 pound per ton of molten glass pulled from the line. This limit satisfies the requirement of 40 CFR 63.1382(a)(2)(ii) for new bonded fiberglass manufacturing lines.

New Condition 3.3.16 requires the Permittee not to discharge into the atmosphere from the A-25 rotary spin fiberglass manufacturing line any gases which contain particulate matter in excess of 3.63 pounds per ton of molten glass pulled from the line. This limit represents the “Best Available Control Technology” per the PSD rules. This limit also satisfies the requirement of 40 CFR 60.682, which is subsumed because the PSD limit is more restrictive.

New Condition 3.3.17 requires the Permittee not to discharge into the atmosphere from the A-25 rotary spin fiberglass manufacturing line any gases which contain carbon monoxide in excess of 3.90 pounds per ton of molten glass pulled from the line. This limit represents the “Best Available Control Technology” per the PSD rules.

New Condition 3.3.18 requires the Permittee not to discharge into the atmosphere from the A-25 rotary spin fiberglass manufacturing line, any gases which contain volatile organic compounds in excess of 1.84 pounds per ton of molten glass pulled from the line. This limit represents the “Best Available Control Technology” per the PSD rules.

New Condition 3.3.19 requires the Permittee not to discharge into the atmosphere from the A-25 slitting and cutting operations (TRM3) any gases, which contain particulate matter in excess of 0.04 grain per dry standard cubic foot of flue gas. This limit represents the “Best Available Control Technology” per the PSD rules.

Pursuant to §52.21(r)(2), new Condition 3.3.20 requires the Permittee to commence construction of the first phase of this modification within 18 months of the date of receipt of this permit. Similarly, the Permittee is required to commence construction of the second phase within 18 months of the projected start of construction of the second phase. *Note that no dates have been specified in this condition because the Permittee has not finalized the dates of commencement of the two phases.*

New Condition 3.3.21 requires the Permittee to submit a written notification to the Division within 30 days of the commencement of construction of each phase of this permit modification.

Condition 3.4.6 has been modified. New A-25 slitting and cutting operations have been added to A-11 trimming and are required to meet the Georgia Rule (oo) limitation. The identifier “TRIM1” has been changed to “TRM1” for consistency.

Condition 3.4.7 is revoked upon the shut-down of the gas-fired glass-melting furnace.

Condition No. 3.4.8 has been modified. The A-25 manufacturing line and the A-25 slitting and cutting are required to meet the Rule (b) opacity limit. Also, ID numbers “TRIM1”, “TRIM2”, and “MAT-HAN” have been changed to “TRM1”, “TRM2”, and “MTHD”, respectively for consistency.

Condition 3.4.9 has been modified. In addition to the plant roads, the raw material handling operation is required to comply with the 20 percent opacity limit of Rule (n).

Condition No. 3.4.11 has been modified. The A-25 manufacturing line is required to meet the Rule (g) sulfur limit.

V. Testing Requirements (with Associated Record Keeping and Reporting)

A. General Testing Requirements

Condition 4.1.3e has been renumbered. Condition No. 4.1.3e.ii is modified to require testing for particulate matter on the A-25 manufacturing line, in addition to unit A-23, be performed using Method 5E.

Condition 4.1.3e.iii is modified to require that testing for particulate matter on the A-11 and A-12 manufacturing lines can be performed using Method 5E as well as Method 5T.

New conditions stating the test methods for determining carbon monoxide and volatile organic compounds have been added in Conditions 4.1.3 k and l.

New Condition 4.1.3m, stating the test method for determining the total solids content of the water entering the wet precipitator, has been added.

B. Specific Testing Requirements

Condition 4.2.1 is modified by requiring the Permittee to conduct a performance test on the A-2 furnace within 180 days of the start up of the new A-23 bagging machine vis-à-vis within 180 days after the issuance required by Permit Amendment No. 3296-059-0026-V-01-1. This is reasonable and gives the Permittee more flexibility.

[Note: This condition is necessary because CertainTeed may install the A-23 bagging machine to increase production while still firing natural gas in the A-2 furnace and before the replacement of the gas-fired furnace A-2 with the much bigger electric-fired furnace A-2. If so, the A-23 forming line will be debottlenecked with the installation of a bigger bagging machine. This machine may or may not be in operation before the replacement of the A-2 gas-fired furnace. Because CertainTeed would be increasing production before the shutdown of the gas-fired furnace, it is required to demonstrate compliance with the 0.5 lb/ton PM limit of Subpart NNN upon that increase. Condition 3.3.7 and other conditions associated with gas-fired furnace A-2 will be revoked, once electric-fired furnace A-2 replaces gas-fired furnace A-2.]

Condition 4.2.4 is modified by rewording the language to “the associated rotary spin manufacturing line(s)” instead of the reference to “rotary spin manufacturing line A-11.” That allows the condition to include Line A-25.

Condition 4.2.6 is modified to require that new rotary spin manufacturing line A-25, in addition to existing rotary spin manufacturing line A-11, be tested while producing the building insulation material with the highest loss on ignition. The loss on ignition (LOI) is used to monitor the weight percent of binder in wool fiberglass.

Condition 4.2.7 is modified to require that new rotary spin manufacturing line A-25, in addition to existing rotary spin manufacturing line A-11, be tested while using the resin with the highest free-formaldehyde content. The free-formaldehyde content is the percent by weight of formaldehyde in a given sample.

Condition 4.2.8 is modified by removing the phrase “and addition of any chemical to any scrubber, including the chemical feed rate” because no chemical is added to any of the scrubbers on the A-11 manufacturing line.

Condition 4.2.10 is modified to include Condition 3.3.12 in the list of conditions that require that particulate matter compliance be demonstrated by the use of the equation specified in Condition 4.2.10.

Condition 4.2.11 is modified by including Condition 3.3.15, among other conditions, that require that formaldehyde compliance be demonstrated by the use of the equation specified.

Condition 4.2.13 is modified by requiring that the particulate matter compliance test be conducted within 180 days after the installation of the new bagging machine vis-à-vis the 180 days allowed after the issuance of Permit No. 3296-059-0026-V-01-1. This is reasonable and gives the Permittee more flexibility. Note that the reference to A-12 has been removed in this condition because the performance test for A-12 has been conducted.

Condition 4.2.14 is similarly modified by requiring that the NO_x compliance test be conducted within 180 days after the installation of the new bagging machine vis-à-vis 180 days after the issuance of Permit No. 3296-059-0026-V-01-1. This is reasonable and gives the Permittee more flexibility.

New Condition 4.2.15 requires the Permittee to conduct performance testing within 180 days after the start-up of the new electric-fired furnace (A-2), and the new manufacturing line (A-25), to demonstrate compliance with the particulate matter and formaldehyde emission limits in Conditions Nos. 3.3.12 and 3.3.15, respectively.

New Condition 4.2.16 requires the Permittee to conduct performance testing within 180 days after the start-up of the modified forming line (A-23), and the new manufacturing line (A-25), to demonstrate compliance with the particulate matter limits in Conditions Nos. 3.3.13 and 3.3.16, respectively.

New Condition 4.2.17 requires the Permittee to conduct performance testing within 180 days after the start-up of the modified forming line (A-23), and the new manufacturing line (A-25), to demonstrate compliance with the carbon monoxide and volatile organic compounds limits in Conditions Nos. 3.3.14, 3.3.17, and 3.3.18, respectively.

New Condition 4.2.18 requires the Permittee to conduct performance testing within 180 days after the start-up of the modified forming line (A-23) and the new manufacturing line (A-25) to demonstrate compliance with the particulate matter limits in Conditions Nos. 3.3.19 and 3.3.20, respectively.

New Condition 4.2.19 requires the Permittee to use the indicated equation to determine compliance with the particulate matter emission limits of Conditions Nos. 3.3.13 and 3.3.16 for the modified A-23 forming line and the new A-25 manufacturing line, respectively.

New Condition 4.2.20 requires the Permittee to determine the line speed, trimmed mat width, and mat gram weight of produced fiberglass for each performance test run of the modified A-23

forming line and the new A-25 manufacturing line. These are required to determine the glass pull rate.

New Condition 4.2.21 requires the Permittee to record, at 30-minute intervals during the 2-hour performance test of the wet ESP, and at least once every 4 hours thereafter, the primary and secondary amperes and voltage and the inlet water flow rate. Also, the Permittee is required to record the total residue content of the water entering the wet ESP once during the performance test and once per day thereafter. This condition is to establish the parameter ranges for the wet ESP that will be monitored subsequently to show compliance with the PM limit in Condition 3.3.16.

VI. Monitoring Requirements (with Associated Record Keeping and Reporting)**B. Specific Monitoring Requirements**

Condition 5.2.1 is modified to require a bag leak detection system for fabric filter E24 in addition to one already required for fabric filter E1.

Condition 5.2.2 is modified to remove any reference to the chemical feed rate. This is because no chemicals are added to the scrubbing liquid for these scrubbers.

Condition 5.2.5 is modified to require a daily check for visible emissions of new baghouse E23, in addition to existing baghouse E30. This check provides an early warning of a possibly malfunctioning baghouse. Note that this condition does not include baghouse E24, which is required to have a bag leak detection system per Subpart NNN.

Condition 5.2.6 is modified to require monitoring devices for the measurement of pressure drop across new baghouses E23 and E24 in addition to existing baghouses E1 and E30. The monitoring of the baghouses assures that each baghouse is working properly.

Condition 5.2.10 is modified to require a preventive maintenance program (PMP) for bin vents B1-B19 and B21-B25 to satisfy the requirement that the source be operated in a manner consistent with good air pollution control practice for minimizing emissions. It had previously only required the development of a PMP for Baghouse E-30.

Condition 5.2.12 is modified to require an operations, maintenance, and monitoring plan (OMMP) for rotary spin manufacturing line A-25, in addition to furnaces A-1 and A-2, and line A-11, as per the requirements of 40 CFR 63, Subpart NNN.

Condition 5.2.13 is modified by adding references to Conditions 3.3.12 and 3.3.15, in addition to Conditions 3.3.6, 3.3.7, and 3.3.11. The Permittee is instructed that the parameter ranges established during the performance test can be changed, provided that a new performance test shows that the Permittee complies with the applicable emission limits specified in Conditions 3.3.6, 3.3.7, 3.3.11, 3.3.12, and 3.3.15.

New Condition 5.2.14 requires the development and implementation of a preventive maintenance program (PMP) for baghouse E23 to satisfy the requirement that the source be operated in a manner consistent with good air pollution control practice for minimizing emissions.

New Condition 5.2.15 requires the Permittee to continuously monitor the primary and secondary current and voltage in each electrical field of the wet ESP and the inlet water flow rate to the wet ESP. In addition, the Permittee is required to daily determine the total solids content of the water entering the wet ESP. These requirements are necessary to assure that the wet ESP is operating properly.

New Condition 5.2.16 indicates that the particulate matter emitted from manufacturing lines A-23 and A-25 is subject to the continuous assurance monitoring (CAM) requirements of 40 CFR

64. These lines are large pollutant specific emission units (PSEU) for particulate matter and are required to meet the CAM requirements upon the commencement of operation.

New Condition 5.2.17 requires that the particulate matter monitoring equipment for the wet walled cyclone control, which is the equipment on the modified A-23 line, comply with the CAM performance criteria stipulated therein.

Similarly, new Condition 5.2.18 requires that the particulate matter monitoring equipment for the wet ESP on the new manufacturing line A-25 comply with the CAM performance criteria stipulated therein.

VII. Other Record Keeping and Reporting Requirements

Note: To ease reading, all the subparagraphs of Condition 6.1.7 of Permit 3296-0059-0026-V-01-0, including those subparagraphs that have not been changed, have been included in this section of the permit amendment.

Condition 6.1.7b.v is modified to define as an exceedance any failure to initiate corrective action within 1 hour of an alarm from the existing E1 or the new E24 baghouse leak detection system. In accordance with Subpart NNN, both existing baghouse E1 and the new E24 baghouse are required to have a bag leak detection system.

Condition 6.1.7b.vi is modified by deleting the phrase “and chemical feed rate” because no chemical is added to the venturi scrubbers.

New Condition 6.1.7b.xii is added. This condition defines as an exceedance, during any 4-hour block period, any monitoring data that are less than 70 percent of the lowest value or greater than 130 percent of the highest value of each operating parameter of the wet ESP recorded during the most recent performance test. This is in accordance with 40 CFR 60, Subpart PPP.

New Condition 6.1.7b.xiii is added. This condition defines as an exceedance, any measurement of the total residue (total solids) content of the inlet water to the wet electrostatic precipitator that is less than 70 percent of the lowest value or greater than 130 percent of the highest value of the total solids measured during the most recent performance test. This is in accordance with 40 CFR 60, Subpart PPP.

Condition 6.1.7ci is modified by defining as an excursion any visible emissions that occur for two consecutive occasions from Baghouse E23 or E30.

Condition 6.2.3 is modified by requiring that, in addition to the A-11 manufacturing line, the new A-25 manufacturing line maintain records of the formulation of each binder batch, LOI, density, and the free formaldehyde content of each resin shipment received and used in the binder formulation.

Condition 6.2.4 is revoked because no chemical is added to the venturi scrubbers.

Condition 6.2.6 will be revoked upon the shutdown of the gas-fired glass-melting furnace (A-2).

Condition 6.2.9 replaces old Condition 5.3.1 of Permit 3296-0059-0026-V-01-0, which is being revoked. This is in line with the new Title V permit template. New Condition 6.2.9 is modified by deleting the condition number “5.2.10” and adding the condition numbers “5.2.14, 5.2.15, and 4.2.21” for accuracy.

VIII. Specific Requirements

Discuss any of the following specific requirements as they apply to the modification.

- A. Operational Flexibility: None applicable.
- B. Alternative Requirements: None applicable.
- C. Insignificant Activities: None added.
- D. Temporary Sources: None.
- E. Short-Term Activities: None.
- F. Compliance Schedule/Progress Reports: None.
- G. Emissions Trading: None.
- H. Acid Rain Requirements: None.
- I. Prevention of Accidental Releases; None.
- J. Stratospheric Ozone Protection Requirements: None.
- K. Pollution Prevention: None.
- L. Specific Conditions: None.

Note: Old Conditions 8.5.3 and 8.14.1 have been replaced by the versions from the new Title V template. Old Condition 8.23.1 has been replaced and is now Condition 8.26.1. New Conditions 8.23.1, 8.24.1 through 8.24.4 and 8.25.1 have been added, in line with the new Title V template.