

*West Virginia Department of Environmental Protection  
Division of Air Quality*

*Joe Manchin, III  
Governor*

*Randy C. Huffman  
Cabinet Secretary*

# Permit to Operate



*Pursuant to  
**Title V**  
of the Clean Air Act*

*Issued to:*  
**Guardian Industries**  
**Guardian Fiberglass Inc., Inwood, WV**  
**R30-00300012-2008**

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*John A. Benedict  
Director*

*Issued: October 1, 2008 • Effective: October 15, 2008  
Expiration: October 1, 2013 • Renewal Application Due: April 1, 2013*

Permit Number: **R30-00300012-2008**

Permittee: **Guardian Fiberglass Inc.**

Facility Name: **Inwood Plant**

Mailing Address: **4812 Tabler Station Road, Inwood, West Virginia 25428**

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*This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§ 22-5-1 et seq.) and 45CSR30 — Requirements for Operating Permits. The permittee identified at the above-referenced facility is authorized to operate the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.*

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|                          |   |
|--------------------------|---|
| Facility Location:       | Inwood, Berkeley County, West Virginia            |
| Mailing Address:         | 4812 Tabler Station Road, Inwood, WV 25428        |
| Telephone Number:        | (304) 267-6085                                    |
| Type of Business Entity: | Corporation                                       |
| Facility Description:    | Manufacturing of Wool Fiberglass Insulation       |
| SIC Codes:               | 3296 Primary; None Secondary; None Tertiary       |
| UTM Coordinates:         | 756.55 km Easting • 4365.50 km Northing • Zone 17 |
| Permit Writer:           | Denton McDerment                                  |

*Any person whose interest may be affected, including, but not necessarily limited to, the applicant and any person who participated in the public comment process, by a permit issued, modified or denied by the Secretary may appeal such action of the Secretary to the Air Quality Board pursuant to article one [§§ 22B-1-1 et seq.], Chapter 22B of the Code of West Virginia. West Virginia Code §22-5-14.*

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*Issuance of this Title V Operating Permit does not supersede or invalidate any existing permits under 45CSR13, 14 or 19, although all applicable requirements from such permits governing the facility's operation and compliance have been incorporated into the Title V Operating Permit.*

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## 1.0. Emission Units and Active R13, R14, and R19 Permits

### 1.1 Emission Units

| Emission Unit ID                                    | Emission Point ID | Emission Unit Description                       | Year Installed | Design Capacity | Control Device |
|---|-------------------|---|----------------|-----------------|----------------|
| <b>RAW MATERIAL HANDLING OPERATIONS (Group 001)</b> |                   |   |                |                 |                |
| ES1A  | FP11              | Raw Material Storage Bin for Sand               | 07/25/1998     | 178.35 Tons     | CD1A           |
| CD1A  | FP11              | Whirl-Air Flow Bin Vent DC                      | 07/25/1998     | 585 acfm        | None           |
|   |                   | Model: 195-42                                   |                |                 |                |
| ES1B  | FP11              | Raw Material Storage Bin for Borax              | 07/25/1998     | 137.45 tons     | CD1B           |
| CD1B  | FP11              | Whirl-Air Flow Bin Vent DC                      | 07/25/1998     | 585 acfm        | None           |
|   |                   | Model: 195-42                                   |                |                 |                |
| ES1C  | FP11              | Raw Material Storage Bin for Borax              | 07/25/1998     | 137.45 tons     | CD1B           |
| ES1D  | FP11              | Raw Material Storage Bin for Soda Ash           | 07/25/1998     | 137.45 tons     | CD1D           |
| CD1D  | FP11              | Whirl-Air Flow Bin Vent DC                      | 07/25/1998     | 585 acfm        | None           |
|   |                   | Model: 195-42                                   |                |                 |                |
| ES1E  | FP11              | Raw Material Storage Bin for Soda Ash           | 07/25/1998     | 137.45 tons     | CD1D           |
| ES1F  | FP11              | Raw Material Storage Bin for Aplite             | 07/25/1998     | 137.45 tons     | CD1F           |
| ES1J  | FP11              | Raw Material Storage Bin for Cullet             | 07/25/1998     | 137.45 tons     | CD1F           |
| CD1F  | FP11              | Whirl-Air Flow Bin Vent DC                      | 07/25/1998     | 585 acfm        | None           |
|   |                   | Model: 195-42                                   |                |                 |                |
| ES1G  | FP11              | Raw Material Storage Bin for Lime               | 07/25/1998     | 109.5 tons      | CD1G           |
| CD1G  | FP11              | Whirl-Air Flow Bin Vent DC 2                    | 07/25/1998     | 585 acfm        | None           |
|   |                   | Model: 195-42                                   |                |                 |                |
| ES1H  | FP11              | Raw Material Storage Bin for Cullet             | 07/25/1998     | 108.50 Tons     | CD1I           |
| ES1I  | FP11              | Raw Material Storage Bin for Cullet             | 07/25/1998     | 108.50 Tons     | CD1I           |
| CD1I  | FP11              | Whirl-Air Flow Bin Vent DC                      | 07/25/1998     | 585 acfm        | None           |
|   |                   | Model: 195-42                                   |                |                 |                |
| ES1K  | FP11              | Raw Material Storage Bin for Baghouse Dust      | 07/25/1998     | 75.00 tons      | CD1K           |
| CD1K  | FP11              | Whirl-Air Flow Bin Vent DC                      | 07/25/1998     | 165 acfm        | None           |
|   |                   | Model: 55-30                                    |                |                 |                |
| ES12A   | FP11              | Batch Mixer Receiving Bin for 1st and 2nd Line  | 07/25/1998     | 8,000 lbs.      | CD12A          |
| CD12A   | FP11              | Whirl-Air Flow Bin Vent DC                      | 07/25/1998     | 1,035 acfm      | None           |
|   |                   | Model: 345-56                                   |                |                 |                |
| ES22A   | FP11              | Batch Mixer Receiving Bin for 2nd Line          | 2004           | 8,000 lbs.      | CD22A          |
| CD22A   | FP11              | IAC Bin-Vent                                    | 07/25/1998     | 2,917 acfm      | None           |
|   |                   | Model: 96TB-FRIP                                |                |                 |                |
| ES12B   | FP11              | Mixed Batch Storage backup day bin for 1st Line | 07/25/1998     | 21.72 tons      | CD12D          |
| CD12D   | FP11              | Whirl-Air Flow Bin Vent DC                      | 07/25/1998     | 390 acfm        | None           |
|   |                   | Model: 130-42                                   |                |                 |                |
| ES22B   | FP11              | Mixed Batch Storage Day Bin for 2nd Line        | 2004           | 6,675 tons      | CD22C          |
| CD22C   | FP11              | IAC Bin-Vent                                    | 07/25/1998     | 2,917 acfm      | None           |
|   |                   | Model: 96TB-FRIP                                |                |                 |                |
| ES22Bb  | FP11              | Mixed Batch Storage Backup Day Bin for 2nd Line | 2004           | 42 tons         | CD22C          |

| Emission Unit ID  | Emission Point ID | Emission Unit Description  | Year Installed | Design Capacity                                  | Control Device |
|---|-------------------|--|----------------|--|----------------|
| ES12D   | FP11              | Mixed Batch Storage Day Bin for 1st Line   | 07/25/1998     | 39.0 tons  | CD12C          |
| CD12C   | FP11              | Whirl-Air Flow Bin Vent DC<br>Model: 230-56  | 07/25/1998     | 690 acfm   | None           |
| ES12Db  | FP11              | Mixed Batch Storage Silo for 1st Line  | 07/25/1998     | 1.31 tons  | CD12Cb         |
| CD12Cb  | FP11              | Whirl-Air Flow Bin Vent DC<br>Model: 265-42  | 07/25/1998     | 795 acfm   | None           |
| <b>TANKS (Group 001)</b>  |                   |  |                |  |                |
| T3  | FP11              | Resin Storage Tank   | 07/25/1998     | 4,500 gallons                                    | NA             |
| T4  | FP11              | Resin Storage Tank   | 07/25/1998     | 4,500 gallons                                    | NA             |
| T5  | FP11              | Resin Storage Tank   | 07/25/1998     | 4,500 gallons                                    | NA             |
| T6  | FP11              | Resin Storage Tank   | 07/25/1998     | 4,500 gallons                                    | NA             |
| T7A   | FP11              | Dedusting Oil/Wax Emulsion Storage Tank  | 07/25/1998     | 4,787 gallons                                    | NA             |
| T7B   | FP11              | Dedusting Oil/Wax Emulsion Tank  | 07/25/1998     | 4,787 gallons                                    | NA             |
| T8  | FP11              | Ammonia (aqueous) Storage Tank   | 07/25/1998     | 6,000 gallons                                    | NA             |
| M1  | FP11              | Pre-React Mix Tank<br>Tank Type: Fixed Covers, an access hatch with cover, and an opening for the Mixing Impeller Shaft.   | 07/25/1998     | 1,200 gallons                                    | NA             |
| M2  | FP11              | Pre-React Holding Tank<br>Tank Type: Fixed Covers, an access hatch with cover, and an opening for the Mixing Impeller Shaft.   | 07/25/1998     | 1,700 gallons                                    | NA             |
| M3  | FP11              | Pre-React Holding Tank   | 07/25/1998     | 3,200 gallons                                    | NA             |
| M4  | FP11              | Additive Mix Tank  | 07/25/1998     | 150 gallons                                      | NA             |
| M5  | FP11              | Mix Binder Tank  | 07/25/1998     | 1,700 gallons                                    | NA             |
| M6  | FP11              | Pre-React Holding Tank   | 07/25/1998     | 50 gallons                                       | NA             |
| M7  | FP11              | Ammonia (aqueous) Storage Tank   | 07/25/1998     | 50 gallons                                       | NA             |
| M8  | FP11              | Process Water Tank   | 07/25/1998     | 50 gallons                                       | NA             |
| M9  | FP11              | Additive Tank  | 07/25/1998     | 50 gallons                                       | NA             |
| M10   | FP11              | Binder Holding Tank  | 2008           | 1,500 gallons                                    |                |
| FP11  |                   | In-Plant Fugitive Emissions Released   | 07/25/1998     |  | NA             |
| <b>MELTING &amp; REFINING LINE 1 (Group 002) [8,000 lbs/hr or 35,040 TPY Production Rate]</b> |                   |  |                |  |                |
| ES12C   | EP12              | Melter Hood for 1st Line<br>Custom Built by Guardian Fiberglass  | 07/25/1998     | 4.56 TPH of glass batch; 4.0 TPH of melted glass | CD12B & CD12Bb |
| CD12B   | EP12              | Mactiflo Cartridge Dust Collector Filter <sup>2</sup><br>Model: MAC 4 – MTF96<br>Configuration: Closed Pressure<br>Filter Material: Polyester Cartridge Filter<br>Cleaning Method: Pulse Air<br>Captured Efficiency: 99%<br>Filter Area: 28,320 ft | 07/25/1998     | 15,000 acfm                                      | None           |

| <b>Emission Unit ID</b>   | <b>Emission Point ID</b> | <b>Emission Unit Description</b>                                | <b>Year Installed</b> | <b>Design Capacity</b>                           | <b>Control Device</b> |
|---|--------------------------|---|-----------------------|--|-----------------------|
| CD12Bb<br>(Backup)  | EP12                     | Mactiflo Cartridge Dust Collector                               | 07/25/1998            | 10,000 acfm                                      | None                  |
|   |                          | Model: MactFlo 4MTF32 Filter                                    |                       |  |                       |
|   |                          | Configuration: Closed Pressure                                  |                       |  |                       |
|   |                          | Filter Material: Polyester cartridge filter                     |                       |  |                       |
|   |                          | Cleaning Method: Pulse Air                                      |                       |  |                       |
|   |                          | Captured Efficiency: 99%  |                       |  |                       |
| Filter Area: 3,520 ft <sup>2</sup>  |                          |   |                       |  |                       |
| ES12E   | EP12<br>and<br>EP13      | Forehearth for 1st Line   | 07/25/1998            | 8,000 lbs/hr of Molten Glass                     | CD13A & CD13B         |
|   |                          | Natural Gas Fired Brick Holding Process Heater Tank             |                       |  |                       |
|   |                          | Max Heat Input Rate: 5.5 MMBtu/hr                               |                       |  |                       |
|   |                          | Custom Design by Guardian Fiberglass                            |                       |  |                       |
| CD13A   | EP13                     | Water Spray with Dropout Boxes                                  | 07/25/1998            | 40,000 cfm                                       | None                  |
|   |                          | Type: Wet Collecting System                                     |                       |  |                       |
|   |                          | Captured Efficiency: 99%  |                       |  |                       |
| CD13B   | EP12                     | Water Spray with Dropout Boxes                                  | 07/25/1998            | 40,000 cfm                                       | None                  |
|   |                          | Type: Wet Collecting System                                     |                       |  |                       |
|   |                          | Captured Efficiency: 99%  |                       |  |                       |
| <b>MELTING &amp; REFINING LINE 2 (Group 003) [8,000 lbs/hr or 35,040 TPY Production Rate]</b> |                          |   |                       |  |                       |
| ES22C   | EP22                     | Melter Hood for 2nd Line<br>Custom Built by Guardian Fiberglass | 2004                  | 4.56 TPH of glass batch; 4.0 TPH of melted glass | CD22B & CD22Bb        |
| CD22B<br>(duty cycled)  | EP22                     | Mactiflo Cartridge Dust Collector                               | 2004                  | 15,000 acfm                                      | None                  |
|   |                          | Model: MAC 4 – MTF96  |                       |  |                       |
|   |                          | Filter Configuration: Closed Pressure                           |                       |  |                       |
|   |                          | Filter Material: Fabric Filter                                  |                       |  |                       |
|   |                          | Cleaning Method: Pulse Air                                      |                       |  |                       |
|   |                          | Captured Efficiency: 99%  |                       |  |                       |
| Filter Area: 28,320 ft <sup>2</sup>   |                          |   |                       |  |                       |
| CD22Bb<br>(duty cycled)   | EP22                     | Mactiflo Cartridge Dust Collector                               | 2004                  | 15,000 acfm                                      | None                  |
|   |                          | Model: MAC 4 – MTF96  |                       |  |                       |
|   |                          | Filter Configuration: Closed Pressure                           |                       |  |                       |
|   |                          | Filter Material: Fabric Filter                                  |                       |  |                       |
|   |                          | Cleaning Method: Pulse Air                                      |                       |  |                       |
|   |                          | Captured Efficiency: 99%  |                       |  |                       |
| Filter Area: 28,320 ft <sup>2</sup>   |                          |   |                       |  |                       |
| ES22E   | EP23                     | Forehearth for 2nd Line   | 2004                  | 8,000 lbs/hr of Molten Glass                     | CD23A, CD23B, CD23C   |
|   |                          | Natural Gas Fired Brick Holding Process Heater Tank             |                       |  |                       |
|   |                          | Max Heat Input Rate: 6.0 MMBtu/hr                               |                       |  |                       |
|   |                          | Custom Design by Guardian Fiberglass                            |                       |  |                       |

| <b>Emission Unit ID</b>                        | <b>Emission Point ID</b> | <b>Emission Unit Description</b>  | <b>Year Installed</b> | <b>Design Capacity</b> | <b>Control Device</b> |
|--|--------------------------|---|-----------------------|------------------------|-----------------------|
| CD23A  | EP23                     | Water Venturi Scrubbers   | 2004                  | 40,000 cfm             | None                  |
|  |                          | Manufacturer: Fisher-Klosterman, Inc                                      |                       |                        |                       |
|  |                          | Model: MS-850H  |                       |                        |                       |
|  |                          | Captured Efficiency: 85 %   |                       |                        |                       |
| CD23B  | EP23                     | Water Venturi Scrubbers   | 2004                  | 40,000 cfm             | None                  |
|  |                          | Manufacturer: Fisher-Klosterman, Inc                                      |                       |                        |                       |
|  |                          | Model: MS-850H  |                       |                        |                       |
|  |                          | Captured Efficiency: 85 %   |                       |                        |                       |
| CD23C<br>(non-resinated)                       | EP23                     | Water Venturi Scrubbers   | 2004                  | 20,000 cfm             | None                  |
|  |                          | Manufacturer: Fisher-Klosterman, Inc.                                     |                       |                        |                       |
|  |                          | Model: MS-650H  |                       |                        |                       |
|  |                          | Captured Efficiency: 85 %   |                       |                        |                       |
| <b>FORMING &amp; COLLECTING 1 (Group 004)</b>  |                          |   |                       |                        |                       |
| ES13A  | EP13                     | Fiber Forming Units with Advanced Water-Jet Rings Forming Process Heater  | 07/25/1998            | 8,000 lbs/hr           | CD13A & CD13B         |
|  |                          | Natural Gas Fired   |                       |                        |                       |
|  |                          | Max Heat Input Rate: 8.40 MMBtu/hr  |                       |                        |                       |
|  |                          | Custom Design by Guardian Fiberglass                                      |                       |                        |                       |
| ES13B  | EP13                     | Vacuum Chamber for 1st Line   | 07/25/1998            | 8,000 lbs/hr           | CD13A & CD13B         |
|  |                          | Custom Design by Guardian Fiberglass                                      |                       |                        |                       |
| ES13C  | EP13                     | Collection Plenum for 1st Line  | 07/25/1998            | 8,000 lbs/hr           | CD13A & CD13B         |
|  |                          | Custom Design by Guardian Fiberglass                                      |                       |                        |                       |
| <b>FORMING &amp; COLLECTING 2 (Group 005)</b>  |                          |   |                       |                        |                       |
| ES23A  | EP23                     | Fiber Forming Units with Advanced Water-Jet Rings Forming Process Heaters | 2004                  | 8,000 lbs/hr           | CD23A, CD23B, CD23C   |
|  |                          | Natural Gas Fired   |                       |                        |                       |
|  |                          | Max Heat Input Rate: 9.60 MMBtu/hr  |                       |                        |                       |
|  |                          | Custom Design by Guardian Fiberglass                                      |                       |                        |                       |
| ES23B  | EP23                     | Vacuum Chamber for 2nd Line   | 2004                  | 8,000 lbs/hr           | CD23A, CD23B, CD23C   |
|  |                          | Custom Design by Guardian Fiberglass                                      |                       |                        |                       |
| ES23C  | EP23                     | Collection Plenum for 2nd Line  | 2004                  | 8,000 lbs/hr           | CD23A, CD23B, CD23C   |
|  |                          | Custom Design by Guardian Fiberglass                                      |                       |                        |                       |
| <b>CURING &amp; COOLING LINE 1 (Group 006)</b> |                          |   |                       |                        |                       |
| ES14A  | EP14                     | 3 Zone Curing Oven for 1st Line   | 07/25/1998            | 8,000 lbs/hr           | CD14A                 |
|  |                          | Manufacturer: B&M Steel of New Castle Indiana                             |                       |                        |                       |
|  |                          | Natural Gas Fired   |                       |                        |                       |
|  |                          | Max Heat Input Rate: 18.0 MMBtu/hr  |                       |                        |                       |

| Emission Unit ID  | Emission Point ID | Emission Unit Description  | Year Installed | Design Capacity                             | Control Device |
|---|-------------------|--|----------------|---|----------------|
| CD14A   | EP14              | Thermal Oxidizer   | 07/25/1998     | 2.628 MMft <sup>3</sup> / hr<br>at 150.0 °F | None           |
|   |                   | Manufacturer: United McGill Corp.  |                |   |                |
|   |                   | Model No.: 2-151C306   |                |   |                |
|   |                   | Captured Efficiency: 95% for VOC   |                |   |                |
| ES14B   | EP14              | Cooling Table for 1st Line   | 07/25/1998     | 8,000 lbs/hr                                | CD14A          |
| <b>CURING &amp; COOLING LINE 2 (Group 007)</b>              |                   |  |                |   |                |
| ES24A   | EP24              | 3 Zone Curing Oven for 1st Line<br>Manufacturer: B&M Steel of New Castle<br>Indiana<br>Natural Gas Fired<br>Max Heat Input Rate: 18.0 MMBtu/hr | 2004           | 8,000 lbs/hr                                | CD24A          |
| CD24A   | EP24              | McGill AirClean RTO Thermal Oxidizer<br>Manufacturer: McGill AirClean<br>Model No.: MCT 30.0<br>Captured Efficiency: 95 % for VOC              | 2004           | 1.785 MMft <sup>3</sup> / hr<br>at 250.0 °F | None           |
| ES24B   | EP24              | Cooling Table for 2nd Line   | 2004           | 8,000 lbs/hr                                | CD24B          |
| CD24B   | EP24              | Venturi Scrubber   | 2004           | 20,000 cfm                                  | None           |
|   |                   | Manufacturer: Fisher-Klosterman, Inc.  |                |   |                |
|   |                   | Model: MS-650H   |                |   |                |
|   |                   | Captured Efficiency: 85 %<br>Scrubbing Liquid: Water   |                |   |                |
| <b>FACING SIZING &amp; PACKAGING FOR LINE 1 (Group 008)</b> |                   |  |                |   |                |
| ES15A   | FP15              | Hot Roll – Facing Application  | 07/25/1998     | 50-400°F @ 180<br>GPM                       | None           |
|   |                   | Manufacturer: Budzar   |                |   |                |
|   |                   | Model No.: 10T-180180-G0L  |                |   |                |
|   |                   | Type: Electric Hot Oil Heater  |                |   |                |
| ES15Aa  | FP15              | Infrared Radiation – Facing Application  | 2004           | 50-400°F @ 200<br>amps                      | CD15A          |
|   |                   | Manufacturer: Solaronics IRT   |                |   |                |
|   |                   | Model No. IRT-MiniFlex   |                |   |                |
|   |                   | Type: Electric   |                |   |                |
| ES15B   | FP15              | Slitter Saw  | 07/25/1998     | NA  | CD15A          |
|   |                   | Manufacturer: Guardian Fiberglass  |                |   |                |
|   |                   | Model No.: NA  |                |   |                |
|   |                   | Type: NA   |                |   |                |
| CD15A   | FP15              | Wet Collection System (Dynamic Separator)  | 07/25/1998     | 20,000 cfm                                  | None           |
|   |                   | Manufacturer: Quentin Keeney   |                |   |                |
|   |                   | Type: Air Tumber   |                |   |                |
|   |                   | Model No.: 35-W-C<br>Captured Efficiency: 80 %   |                |   |                |
| ES15C   | FP15              | Edge Trimmer and Dicers (or Cubes)   | 07/25/1998     | NA  | CD15A          |
|   |                   | Manufacturer: Guardian Fiberglass  |                |   |                |
|   |                   | Model No.: NA  |                |   |                |
|   |                   | Type: NA   |                |   |                |
| ES15D   | FP15              | Choppers   | 07/25/1998     | NA  | CD15A          |
|   |                   | Manufacturer: United Tool  |                |   |                |
|   |                   | Model No.: UX-431  |                |   |                |
|   |                   | Type: NA   |                |   |                |

| <b>Emission Unit ID</b>                                     | <b>Emission Point ID</b> | <b>Emission Unit Description</b>                     | <b>Year Installed</b> | <b>Design Capacity</b>  | <b>Control Device</b> |
|---|--------------------------|--|-----------------------|-------------------------|-----------------------|
| ES15E   | FP15                     | Roll Up  | 07/25/1998            | NA                      | CD15A                 |
|   |                          | Manufacturer: Kaibel & Sieber                        |                       |                         |                       |
|   |                          | Model No.: WM87-3000                                 |                       |                         |                       |
|   |                          | Type: NA   |                       |                         |                       |
| ES15F   | FP15                     | Batt Folder  | 07/25/1998            | NA                      | CD15A                 |
|   |                          | Manufacturer: Guardian Fiberglass                    |                       |                         |                       |
|   |                          | Model No.: NA  |                       |                         |                       |
|   |                          | Type: NA   |                       |                         |                       |
| ES15G   | FP15                     | Batt Packers   | 07/25/1998            | NA                      | CD15A                 |
|   |                          | Manufacturer: Guardian Fiberglass                    |                       |                         |                       |
|   |                          | Model No.: NA  |                       |                         |                       |
|   |                          | Type: NA   |                       |                         |                       |
| ES15H   | FP15                     | Dicers or Cubers                                     | 07/25/1998            | NA                      | CD15A                 |
|   |                          | Manufacturer: Guardian Fiberglass                    |                       |                         |                       |
|   |                          | Model No.: NA  |                       |                         |                       |
|   |                          | Type: NA:  |                       |                         |                       |
| ES15I   | FP15                     | Blowing Wool Bagger                                  | 07/25/1998            | NA                      | CD15A                 |
|   |                          | Manufacturer: Guardian Fiberglass                    |                       |                         |                       |
|   |                          | Model No.: NA  |                       |                         |                       |
|   |                          | Type: NA   |                       |                         |                       |
| ES15J   | FP15                     | Ring Wrapper   | 07/25/1998            | NA                      | CD15A                 |
|   |                          | Manufacturer: Samuel Strapping Systems               |                       |                         |                       |
|   |                          | Model No. SOA750                                     |                       |                         |                       |
|   |                          | Type: NA   |                       |                         |                       |
| <b>FACING SIZING &amp; PACKAGING FOR LINE 2 (Group 008)</b> |                          |  |                       |                         |                       |
| ES25A   | FP15                     | Infrared Radiation – Facing Application              | 2004                  | 50-400 °F @<br>200 amps | None                  |
|   |                          | Manufacturer: Solartronics IRT                       |                       |                         |                       |
|   |                          | Model No.: IRT-MiniFlex                              |                       |                         |                       |
|   |                          | Type: Electric                                       |                       |                         |                       |
| ES25B   | FP15                     | Slitter Saw  | 2004                  | NA                      | CD25A                 |
|   |                          | Manufacturer: Guardian Fiberglass                    |                       |                         |                       |
|   |                          | Model No.: NA  |                       |                         |                       |
|   |                          | Type: NA   |                       |                         |                       |
| CD25A   |                          | Water Venturi Scrubbers                              | 2004                  | 20,000 cfm              | None                  |
|   |                          | Manufacturer: Fisher-Klosterman, Inc.                |                       |                         |                       |
|   |                          | Model: MS-650H                                       |                       |                         |                       |
|   |                          | Captured Efficiency: 85 %<br>Scrubbing Liquid: Water |                       |                         |                       |
| ES25C   | FP15                     | EdgeTrimmer and Dicers (or Cubes)                    | 2004                  | NA                      | CD25A                 |
|   |                          | Manufacturer: Guardian Fiberglass                    |                       |                         |                       |
|   |                          | Model No.: NA  |                       |                         |                       |
|   |                          | Type: NA   |                       |                         |                       |
| ES25D   | FP15                     | Choppers   | 2004                  | NA                      | CD25A                 |
|   |                          | Manufacturer: United Tool                            |                       |                         |                       |
|   |                          | Model No.: UX-431                                    |                       |                         |                       |
|   |                          | Type: NA   |                       |                         |                       |

| <b>Emission Unit ID</b>               | <b>Emission Point ID</b> | <b>Emission Unit Description</b>                                     | <b>Year Installed</b> | <b>Design Capacity</b>                   | <b>Control Device</b> |
|---------------------------------------|--------------------------|--|-----------------------|--|-----------------------|
| ES25F                                 | FP15                     | Batt Folder  | 2004                  | NA                                       | CD25A                 |
|                                       |                          | Manufacturer: Guardian Fiberglass                                    |                       |  |                       |
|                                       |                          | Model No.: NA  |                       |  |                       |
|                                       |                          | Type: NA   |                       |  |                       |
| ES25G                                 | FP15                     | Batt Packers   | 2004                  | NA                                       | CD25A                 |
|                                       |                          | Manufacturer: Guardian Fiberglass                                    |                       |  |                       |
|                                       |                          | Model No.: NA  |                       |  |                       |
|                                       |                          | Type: NA   |                       |  |                       |
| ES25H                                 | FP15                     | Dicers or Cubers   | 2004                  | NA                                       | CD25A                 |
|                                       |                          | Manufacturer: Guardian Fiberglass                                    |                       |  |                       |
|                                       |                          | Model No.: NA  |                       |  |                       |
|                                       |                          | Type: NA   |                       |  |                       |
| ES25I                                 | FP15                     | Blowing Wool Bagger  | 2004                  | NA                                       | CD25A                 |
|                                       |                          | Manufacturer: Guardian Fiberglass                                    |                       |  |                       |
|                                       |                          | Model No.: NA  |                       |  |                       |
|                                       |                          | Type: NA   |                       |  |                       |
| ES25J                                 | FP15                     | Dicers   | 2004                  | NA                                       | CD25A                 |
|                                       |                          | Manufacturer: Guardian Fiberglass                                    |                       |  |                       |
|                                       |                          | Model No.: NA  |                       |  |                       |
|                                       |                          | Type: NA   |                       |  |                       |
| CD25B                                 | FP15                     | Bag Filter Dust Collector  | 2004                  | NA                                       | None                  |
|                                       |                          | Manufacturer: Guardian Fiberglass                                    |                       |  |                       |
|                                       |                          | Type: Fabric Filter  |                       |  |                       |
|                                       |                          | Captured Efficiency: 90 %  |                       |  |                       |
| ES25K                                 | FP15                     | Silicone & De-Dusting Oil Application                                | 2004                  | NA                                       | CD25B                 |
|                                       |                          | Manufacturer: Guardian Fiberglass                                    |                       |  |                       |
|                                       |                          | Model No.: NA  |                       |  |                       |
|                                       |                          | Type: NA   |                       |  |                       |
| ES25L                                 | FP15                     | Blowing Wool Bagger  | 2004                  | NA                                       | CD25B                 |
|                                       |                          | Manufacturer: Guardian Fiberglass                                    |                       |  |                       |
|                                       |                          | Model No.: NA  |                       |  |                       |
|                                       |                          | Type: NA   |                       |  |                       |
| <b>SUPPORT FACILITIES (Group 009)</b> |                          |  |                       |  |                       |
| ESDG12                                | EP16                     | Emergency Generator  | 07/25/1998            | Limited to 500<br>Hours of<br>Operations | None                  |
|                                       |                          | Manufacturer: Caterpillar<br>Diesel Fired Internal Combustion Engine |                       |  |                       |
|                                       |                          | Model No.: 3406  |                       | 400.2<br>MMBtu/hour-heat                 |                       |
|                                       |                          | Fuel: Diesel   |                       |  |                       |
| ESDG13                                | EP17                     | Emergency Backup Generator   | 2004                  | Limited to 500<br>Hours of<br>Operations | None                  |
|                                       |                          | Manufacture: Caterpillar<br>Diesel Fired Internal Combustion Engine  |                       |  |                       |
|                                       |                          | Model No.: 3456  |                       | 400.2<br>MMBtu/hour-heat                 |                       |
|                                       |                          | Fuel: Diesel   |                       |  |                       |

| Emission Unit ID | Emission Point ID | Emission Unit Description                                     | Year Installed | Design Capacity              | Control Device |
|------------------|-------------------|---|----------------|------------------------------|----------------|
| ESFW11           | EP18              | Emergency Fire Water  | 07/25/1998     | 1,000 Gallons of Diesel Fuel | None           |
|                  |                   | Manufacturer: Cummins Diesel Fired Internal Combustion Engine |                |                              |                |
|                  |                   | Model No.: NT-855-F1  |                |                              |                |
|                  |                   | Horsepower: 255 HP  |                |                              |                |
|                  |                   | Fuel: Diesel  |                |                              |                |
| ESSHB14          | EP21              | Space Heating Boiler  | 1975           | 14,646 MMBtu/hr              |                |
|                  |                   | Type: Horizontally Fired                                      |                |                              |                |
|                  |                   | Fuel: Pipeline Quality Natural Gas                            |                |                              |                |
|                  |                   | 14.6 MMBtu/hr   |                |                              |                |
| ESHW15           | EP20              | 5-0.075 MMBtu/hr Water Heater                                 | 07/25/1998     | 0.375 MMBtu/hr               |                |
|                  |                   | Fuel: Pipeline Quality Natural Gas                            |                |                              |                |
| ESSH15           | EP19              | 8.5 MMBtu/hr Makeup Air Handling Unit                         | 07/25/1998     | 8.5 MMBtu/hr                 |                |
|                  |                   | Fuel: Pipeline Quality Natural Gas                            |                |                              |                |
| ESSH16           | EP22              | Air Handling Unit; Rapid Engineering, Model 4089              | 2004           | 7.875 MMBtu/hr               |                |
|                  |                   | Fuel: Pipeline Quality Natural Gas                            |                |                              |                |

### 1.2. Active R13, R14, and R19 Permits

The underlying authority for any conditions from R13, R14, and/or R19 permits contained in this operating permit is cited using the original permit number (e.g. R13-1234). The current applicable version of such permit(s) is listed below:

| Permit Number     | Date of Issuance                            |
|-------------------|---|
| R14-0015 <u>J</u> | <u>March 3, 2009</u> <del>May 2, 2008</del> |
|                   |   |
|                   |   |

## 2.0. General Conditions

### 2.1. Definitions

- 2.1.1. All references to the "West Virginia Air Pollution Control Act" or the "Air Pollution Control Act" mean those provisions contained in W.Va. Code §§ 22-5-1 to 22-5-18.
- 2.1.2. The "Clean Air Act" means those provisions contained in 42 U.S.C. §§ 7401 to 7671q, and regulations promulgated thereunder.
- 2.1.3. "Secretary" means the Secretary of the Department of Environmental Protection or such other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§ 22-1-6 or 22-1-8 (45CSR§30-2.12.). The Director of the Division of Air Quality is the Secretary's designated representative for the purposes of this permit.

### 2.2. Acronyms

|                             |   |                        |   |
|-----------------------------|---|------------------------|---|
| <b>CAAA</b>                 | Clean Air Act Amendments                                  | <b>NSPS</b>            | New Source                                    |
| <b>CBI</b>                  | Confidential Business Information                         |                        | Performance Standards                         |
| <b>CEM</b>                  | Continuous Emission Monitor                               | <b>PM</b>              | Particulate Matter                            |
| <b>CES</b>                  | Certified Emission Statement                              | <b>PM<sub>10</sub></b> | Particulate Matter less than 10µm in diameter |
| <b>C.F.R. or CFR</b>        | Code of Federal Regulations                               |                        |   |
| <b>CO</b>                   | Carbon Monoxide   | <b>pph</b>             | Pounds per Hour                               |
| <b>C.S.R. or CSR</b>        | Codes of State Rules                                      | <b>ppm</b>             | Parts per Million                             |
| <b>DAQ</b>                  | Division of Air Quality                                   | <b>PSD</b>             | Prevention of Significant Deterioration       |
| <b>DEP</b>                  | Department of Environmental Protection                    | <b>psi</b>             | Pounds per Square Inch                        |
| <b>FOIA</b>                 | Freedom of Information Act                                | <b>SIC</b>             | Standard Industrial Classification            |
| <b>HAP</b>                  | Hazardous Air Pollutant                                   |                        |   |
| <b>HON</b>                  | Hazardous Organic NESHAP                                  | <b>SIP</b>             | State Implementation Plan                     |
| <b>HP</b>                   | Horsepower  |                        |   |
| <b>lbs/hr</b>               | Pounds per Hour   | <b>SO<sub>2</sub></b>  | Sulfur Dioxide                                |
| <b>LDAR</b>                 | Leak Detection and Repair                                 | <b>TAP</b>             | Toxic Air Pollutant                           |
| <b>M</b>                    | Thousand  | <b>TPY</b>             | Tons per Year                                 |
| <b>MACT</b>                 | Maximum Achievable Control Technology                     | <b>TRS</b>             | Total Reduced Sulfur                          |
|                             |   | <b>TSP</b>             | Total Suspended Particulate                   |
| <b>MM</b>                   | Million   |                        |   |
| <b>MMBtu/hr or mmbtu/hr</b> | Million British Thermal Units per Hour                    | <b>USEPA</b>           | United States Environmental Protection Agency |
| <b>MMCF/hr or mmcf/hr</b>   | Million Cubic Feet Burned per Hour                        |                        |   |
|                             |   | <b>UTM</b>             | Universal Transverse Mercator                 |
| <b>NA</b>                   | Not Applicable  |                        |   |
| <b>NAAQS</b>                | National Ambient Air Quality Standards                    | <b>VEE</b>             | Visual Emissions Evaluation                   |
| <b>NESHAPS</b>              | National Emissions Standards for Hazardous Air Pollutants | <b>VOC</b>             | Volatile Organic Compounds                    |
| <b>NO<sub>x</sub></b>       | Nitrogen Oxides   |                        |   |

### **2.3. Permit Expiration and Renewal**

- 2.3.1. Permit duration. This permit is issued for a fixed term of five (5) years and shall expire on the date specified on the cover of this permit, except as provided in 45CSR§30-6.3.b. and 45CSR§30-6.3.c.  
**[45CSR§30-5.1.b.]**
- 2.3.2. A permit renewal application is timely if it is submitted at least six (6) months prior to the date of permit expiration.  
**[45CSR§30-4.1.a.3.]**
- 2.3.3. Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted consistent with 45CSR§30-6.2. and 45CSR§30-4.1.a.3.  
**[45CSR§30-6.3.b.]**
- 2.3.4. If the Secretary fails to take final action to deny or approve a timely and complete permit application before the end of the term of the previous permit, the permit shall not expire until the renewal permit has been issued or denied, and any permit shield granted for the permit shall continue in effect during that time.  
**[45CSR§30-6.3.c.]**

### **2.4. Permit Actions**

- 2.4.1. This permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.  
**[45CSR§30-5.1.f.3.]**

### **2.5. Reopening for Cause**

- 2.5.1. This permit shall be reopened and revised under any of the following circumstances:
- a. Additional applicable requirements under the Clean Air Act or the Secretary's legislative rules become applicable to a major source with a remaining permit term of three (3) or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 45CSR§§30-6.6.a.1.A. or B.
  - b. Additional requirements (including excess emissions requirements) become applicable to an affected source under Title IV of the Clean Air Act (Acid Deposition Control) or other legislative rules of the Secretary. Upon approval by U.S. EPA, excess emissions offset plans shall be incorporated into the permit.
  - c. The Secretary or U.S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
  - d. The Secretary or U.S. EPA determines that the permit must be revised or revoked and reissued to assure compliance with the applicable requirements.

**[45CSR§30-6.6.a.]**

## **2.6. Administrative Permit Amendments**

- 2.6.1. The permittee may request an administrative permit amendment as defined in and according to the procedures specified in 45CSR§30-6.4.  
**[45CSR§30-6.4.]**

## **2.7. Minor Permit Modifications**

- 2.7.1. The permittee may request a minor permit modification as defined in and according to the procedures specified in 45CSR§30-6.5.a.  
**[45CSR§30-6.5.a.]**

## **2.8. Significant Permit Modification**

- 2.8.1. The permittee may request a significant permit modification, in accordance with 45CSR§30-6.5.b., for permit modifications that do not qualify for minor permit modifications or as administrative amendments.  
**[45CSR§30-6.5.b.]**

## **2.9. Emissions Trading**

- 2.9.1. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in the permit and that are in accordance with all applicable requirements.  
**[45CSR§30-5.1.h.]**

## **2.10. Off-Permit Changes**

- 2.10.1. Except as provided below, a facility may make any change in its operations or emissions that is not addressed nor prohibited in its permit and which is not considered to be construction nor modification under any rule promulgated by the Secretary without obtaining an amendment or modification of its permit. Such changes shall be subject to the following requirements and restrictions:
- a. The change must meet all applicable requirements and may not violate any existing permit term or condition.
  - b. The permittee must provide a written notice of the change to the Secretary and to U.S. EPA within two (2) business days following the date of the change. Such written notice shall describe each such change, including the date, any change in emissions, pollutants emitted, and any applicable requirement that would apply as a result of the change.
  - c. The change shall not qualify for the permit shield.
  - d. The permittee shall keep records describing all changes made at the source that result in emissions of regulated air pollutants, but not otherwise regulated under the permit, and the emissions resulting from those changes.
  - e. No permittee may make any change subject to any requirement under Title IV of the Clean Air Act (Acid Deposition Control) pursuant to the provisions of 45CSR§30-5.9.

- f. No permittee may make any changes which would require preconstruction review under any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) pursuant to the provisions of 45CSR§30-5.9.

**[45CSR§30-5.9]**

## **2.11. Operational Flexibility**

- 2.11.1. The permittee may make changes within the facility as provided by § 502(b)(10) of the Clean Air Act. Such operational flexibility shall be provided in the permit in conformance with the permit application and applicable requirements. No such changes shall be a modification under any rule or any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) promulgated by the Secretary in accordance with Title I of the Clean Air Act and the change shall not result in a level of emissions exceeding the emissions allowable under the permit.  
**[45CSR§30-5.8]**

- 2.11.2. Before making a change under 45CSR§30-5.8., the permittee shall provide advance written notice to the Secretary and to U.S. EPA, describing the change to be made, the date on which the change will occur, any changes in emissions, and any permit terms and conditions that are affected. The permittee shall thereafter maintain a copy of the notice with the permit, and the Secretary shall place a copy with the permit in the public file. The written notice shall be provided to the Secretary and U.S. EPA at least seven (7) days prior to the date that the change is to be made, except that this period may be shortened or eliminated as necessary for a change that must be implemented more quickly to address unanticipated conditions posing a significant health, safety, or environmental hazard. If less than seven (7) days notice is provided because of a need to respond more quickly to such unanticipated conditions, the permittee shall provide notice to the Secretary and U.S. EPA as soon as possible after learning of the need to make the change.  
**[45CSR§30-5.8.a.]**

- 2.11.3. The permit shield shall not apply to changes made under 45CSR§30-5.8., except those provided for in 45CSR§30-5.8.d. However, the protection of the permit shield will continue to apply to operations and emissions that are not affected by the change, provided that the permittee complies with the terms and conditions of the permit applicable to such operations and emissions. The permit shield may be reinstated for emissions and operations affected by the change:
  - a. If subsequent changes cause the facility's operations and emissions to revert to those authorized in the permit and the permittee resumes compliance with the terms and conditions of the permit, or
  - b. If the permittee obtains final approval of a significant modification to the permit to incorporate the change in the permit.

**[45CSR§30-5.8.c.]**

- 2.11.4. "Section 502(b)(10) changes" are changes that contravene an express permit term. Such changes do not include changes that would violate applicable requirements or contravene enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.  
**[45CSR§30-2.39]**

## **2.12. Reasonably Anticipated Operating Scenarios**

- 2.12.1. The following are terms and conditions for reasonably anticipated operating scenarios identified in this permit.
- a. Contemporaneously with making a change from one operating scenario to another, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating and to document the change in reports submitted pursuant to the terms of this permit and 45CSR30.
  - b. The permit shield shall extend to all terms and conditions under each such operating scenario; and
  - c. The terms and conditions of each such alternative scenario shall meet all applicable requirements and the requirements of 45CSR30.

[45CSR§30-5.1.i.]

## **2.13. Duty to Comply**

- 2.13.1. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

[45CSR§30-5.1.f.1.]

## **2.14. Inspection and Entry**

- 2.14.1. The permittee shall allow any authorized representative of the Secretary, upon the presentation of credentials and other documents as may be required by law, to perform the following:
- a. At all reasonable times (including all times in which the facility is in operation) enter upon the permittee's premises where a source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
  - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
  - c. Inspect at reasonable times (including all times in which the facility is in operation) any facilities, equipment (including monitoring and air pollution Control equipment), practices, or operations regulated or required under the permit;
  - d. Sample or monitor at reasonable times substances or parameters to determine compliance with the permit or applicable requirements or ascertain the amounts and types of air pollutants discharged.

[45CSR§30-5.3.b.]

## **2.15. Schedule of Compliance**

- 2.15.1. For sources subject to a compliance schedule, certified progress reports shall be submitted consistent with the applicable schedule of compliance set forth in this permit and 45CSR§30-4.3.h., but at least every six (6) months, and no greater than once a month, and shall include the following:
- a. Dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when such activities, milestones or compliance were achieved; and
  - b. An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measure adopted.

[45CSR§30-5.3.d.]

## **2.16. Need to Halt or Reduce Activity not a Defense**

- 2.16.1. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in determining penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continued operations.

[45CSR§30-5.1.f.2.]

## **2.17. Emergency**

- 2.17.1. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

[45CSR§30-5.7.a.]

- 2.17.2. Effect of any emergency. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of 45CSR§30-8.7.c. are met.

[45CSR§30-5.7.b.]

- 2.17.3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

- a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;
- b. The permitted facility was at the time being properly operated;
- c. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and

- d. Subject to the requirements of 45CSR§30-5.1.c.3.C.1, the permittee submitted notice of the emergency to the Secretary within one (1) working day of the time when emission limitations were exceeded due to the emergency and made a request for variance, and as applicable rules provide. This notice, report, and variance request fulfills the requirement of C. S. R. § 45-30-5.1.c.3.B. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

[45CSR§30-5.7.c.]

- 2.17.4. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.

[45CSR§30-5.7.d.]

- 2.17.5. This provision is in addition to any emergency or upset provision contained in any applicable requirement.

[45CSR§30-5.7.e.]

## **2.18. Federally-Enforceable Requirements**

- 2.18.1. All terms and conditions in this permit, including any provisions designed to limit a source's potential to emit and excepting those provisions that are specifically designated in the permit as "State-enforceable only", are enforceable by the Secretary, USEPA, and citizens under the Clean Air Act.

[45CSR§30-5.2.a.]

- 2.18.2. Those provisions specifically designated in the permit as "State-enforceable only" shall become "Federally-enforceable" requirements upon SIP approval by the USEPA.

## **2.19. Duty to Provide Information**

- 2.19.1. The permittee shall furnish to the Secretary within a reasonable time any information the Secretary may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Secretary copies of records required to be kept by the permittee. For information claimed to be confidential, the permittee shall furnish such records to the Secretary along with a claim of confidentiality in accordance with 45CSR31. If confidential information is to be sent to USEPA, the permittee shall directly provide such information to USEPA along with a claim of confidentiality in accordance with 40 C.F.R. Part 2.

[45CSR§30-5.1.f.5.]

## **2.20. Duty to Supplement and Correct Information**

- 2.20.1. Upon becoming aware of a failure to submit any relevant facts or a submittal of incorrect information in any permit application, the permittee shall promptly submit to the Secretary such supplemental facts or corrected information.

[45CSR§30-4.2.]

## **2.21. Permit Shield**

2.21.1. Compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance provided that such applicable requirements are included and are specifically identified in this permit or the Secretary has determined that other requirements specifically identified are not applicable to the source and this permit includes such a determination or a concise summary thereof.

[45CSR§30-5.6.a.]

2.21.2. Nothing in this permit shall alter or affect the following:

- a. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance; or
- b. The applicable requirements of the Code of West Virginia and Title IV of the Clean Air Act (Acid Deposition Control), consistent with § 408 (a) of the Clean Air Act.
- c. The authority of the Administrator of U.S. EPA to require information under § 114 of the Clean Air Act or to issue emergency orders under § 303 of the Clean Air Act.

[45CSR§30-5.6.c.]

## **2.22. Credible Evidence**

2.22.1. Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defenses otherwise available to the permittee including but not limited to any challenge to the credible evidence rule in the context of any future proceeding.

[45CSR§30-5.3.e.3.B. and §45-38]

## **2.23. Severability**

2.23.1. The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid by a court of competent jurisdiction, the remaining permit terms and conditions or their application to other circumstances shall remain in full force and effect.

[45CSR§30-5.1.e.]

## **2.24. Property Rights**

2.24.1. This permit does not convey any property rights of any sort or any exclusive privilege.

[45CSR§30-5.1.f.4]

## **2.25. Acid Deposition Control**

2.25.1. Emissions shall not exceed any allowances that the source lawfully holds under Title IV of the Clean Air Act (Acid Deposition Control) or rules of the Secretary promulgated thereunder.

- a. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the acid deposition control program, provided that such increases do not require a permit revision under any other applicable requirement.
- b. No limit shall be placed on the number of allowances held by the source. The source may not, however, use allowances as a defense to noncompliance with any other applicable requirement.
- c. Any such allowance shall be accounted for according to the procedures established in rules promulgated under Title IV of the Clean Air Act.

**[45CSR§30-5.1.d.]**

- 2.25.2. Where applicable requirements of the Clean Air Act are more stringent than any applicable requirement of regulations promulgated under Title IV of the Clean Air Act (Acid Deposition Control), both provisions shall be incorporated into the permit and shall be enforceable by the Secretary and U. S. EPA.

**[45CSR§30-5.1.a.2.]**

### 3.0. Facility-Wide Requirements

#### 3.1. Limitations and Standards

- 3.1.1. **Open burning.** The open burning of refuse by any person, firm, corporation, association or public agency is prohibited except as noted in 45CSR§6-3.1.  
[45CSR§6-3.1]
- 3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause, suffer, allow or permit any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible.  
[45CSR§6-3.2.]
- 3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). A copy of this notice is required to be sent to the USEPA, the Division of Waste Management and the Bureau for Public Health - Environmental Health.  
[40 C.F.R. 61]
- 3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public.  
[45CSR§4-3.1 State-Enforceable only.]
- 3.1.5. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11.  
[45CSR§11-5.2]
- 3.1.6. **Emission inventory.** The permittee is responsible for submitting, on an annual basis, an emission inventory in accordance with the submittal requirements of the Division of Air Quality.  
[W.Va. Code § 22-5-4(a)(14)]
- 3.1.7. **Ozone-depleting substances.** For those facilities performing maintenance, service, repair or disposal of appliances, the permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 C.F.R. Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:
- a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the prohibitions and required practices pursuant to C.F.R. §§ 40-82.154 and 82.156.
  - b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to C.F.R. § 40-82.158.

- c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to C.F.R. § 40-82.161.

**[40 C.F.R. 82, Subpart F]**

- 3.1.8. **Risk Management Plan.** Should this stationary source, as defined in 40 C.F.R. § 68.3, become subject to Part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in 40 C.F.R. § 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 C.F.R. Part 70 or 71.

**[40 C.F.R. 68]**

- 3.1.9. No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any process source operation which is greater than twenty (20) percent opacity, except as noted in 45CSR§§7-3.2 (3.1.10.), and 3.7 (4.1.8.).

**[45CSR§7-3.1.]**

- 3.1.10. The provisions of 45CSR§7-3.1 (3.1.9.) shall not apply to smoke and/or particulate matter emitted from any process source operation which is less than forty (40) percent opacity for any period or periods aggregating no more than five (5) minutes in any sixty (60) minute period.

**[45CSR§7-3.2.]**

- 3.1.11. No person shall cause, suffer, allow or permit particulate matter to be vented into the open air from any type source operation or duplicate source operation, or from all air pollution control equipment installed on any type source operation or duplicate source operation in excess of the quantity specified under the appropriate source operation type in Table 45-7A. The allowable particulate matter emission rate for line 1 is 16.0 lb/hr (aggregated emissions from EP12, EP13, EP14). The allowable particulate matter emission rate for line 2 is 17.0 lb/hr (aggregated emissions from EP22, EP23, EP24). Compliance with the PM limits in conditions 5.1.6., 6.1.2., and 7.1.1. assures compliance with the limits in this permit condition.

**[45CSR§7-4.1.]**

- 3.1.12. Any stack serving any process source operation or air pollution control equipment on any process source operation shall contain flow straightening devices or a vertical run of sufficient length to establish flow patterns consistent with acceptable stack sampling procedures.

**[45CSR§7-4.12.]**

- 3.1.13. No person shall cause, suffer, allow, or permit any manufacturing process or storage structure generating fugitive particulate matter to operate that is not equipped with a system, which may include, but not be limited to, process equipment design, control equipment design or operation and maintenance procedures, to minimize the emissions of fugitive particulate matter. To minimize means such system shall be installed, maintained and operated to ensure the lowest fugitive particulate matter emissions reasonably achievable.

**[45CSR§7-5.1.]**

- 3.1.14. The owner or operator of a plant shall maintain dust control of the plant premises, and plant owned, leased or controlled access roads, by paving, application of asphalt, chemical dust suppressants or other suitable dust control measures. Good operating practices shall be implemented and when necessary dust suppressants shall be applied in relation to stockpiling and general material handling to prevent dust generation and atmospheric entrainment.

**[45CSR§7-5.2.]**

- 3.1.15. Due to unavoidable malfunction of equipment, emissions exceeding those set forth in 45CSR7 may be permitted by the Director for periods not to exceed ten (10) days upon specific application to the Director. Such application shall be made within twenty-four (24) hours of the malfunction. In cases of major equipment failure, additional time periods may be granted by the Director provided a corrective program has been submitted by the owner or operator and approved by the Director.  
**[45CSR§7-9.1.]**
- 3.1.16. Fugitive emissions from equipment (e.g. pipes, pumps, flanges, etc.), which are placed in toxic air pollutant service, as defined by 45CSR§27-2.11, shall be integrated into the existing Leak Detection and Repair program. This Leak Detection and Repair program shall comply with the provision of 40 C.F.R. 61 Subpart V. All reports and notification required by Subpart V shall be submitted to the Director instead of the U.S. EPA Administrator.  
**[45CSR14, R14-0015, 5.1.13.; 45CSR§§27-4.1. and 10.3. (State-enforceable only)]**
- 3.1.17. The permittee shall install and maintain an industrial fence around this permitted facility as outlined in Appendix B of the December 7, 2001 submittal of the Prevention of Significant Deterioration Air Quality Dispersion Modeling Report. This industrial fence shall be constructed in such a manner to prevent the general public from accessing this permitted facility.  
**[45CSR14, R14-0015, 5.1.14.]**
- 3.1.18. **Process Modifications.** On and after the date on which the performance test required to be conducted by 40 C.F.R. §§ 63.7 and 63.1384 is completed, the owner or operator must operate all affected control equipment and processes according to the following requirements given under applicable requirement 40 C.F.R. §63.1382(b)(8).
- (i) 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 40 C.F.R. §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 (permit condition 3.2.1.).
  - (ii) The owner or operator must implement a QIP consistent with the compliance assurance monitoring provisions of 40 C.F.R. part 64, subpart D when the process parameter(s) is outside the limit(s) established during the performance test as specified in 40 C.F.R. §63.1384 for more than 5 percent of the total operating time in a 6-month block reporting period.
  - (iii) 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 C.F.R. §63.1382(b)(8); 45CSR34]**
- 3.1.19. The permitted facility shall be constructed and operated in accordance with the plans and specifications filed in Permit Application R14-0015, R14-0015A, R14-0015B, R14-0015C, R14-0015D, R14-0015E, R14-0015F, R14-0015G, R14-0015H, R14-0015I, [R14-0015J](#), and any modifications, administrative updates, or amendments thereto. The Secretary may suspend or revoke a permit if the plans and specifications upon which the approval was based are not adhered to.  
**[45CSR14, R14-0015, 2.5.1.; 45CSR§§13-5.11. and 10.3.]**
- 3.1.20. All chemical processing units shall be properly instrumented to alert the operator of process upsets, leaks, and other abnormal discharges of toxic air pollutants into the air and the operator shall record all such incidents and the associated emissions estimated from direct measurements of toxic air pollutant concentration and/or calculations using other process measurements.  
**[45CSR§27-3.4. (State-enforceable only)]**

- 3.1.21. Due to unavoidable malfunction of equipment or other conditions resulting in emissions exceeding a level established in the compliance program, emissions exceeding those provided for in this rule may be permitted by the Director for periods not to exceed ten (10) days upon specific application to the Director. Such application shall be made within twenty-four (24) hours of the malfunction. In cases of major equipment failure, additional time periods may be granted by the Director provided a corrective program has been submitted by the owner or operator and approved by the Director.  
**[45CSR§27-12.1. (State-enforceable only)]**
- 3.1.22. On and after the date on which the performance test required to be conducted by 40 C.F.R. § 60.8 is completed, the permittee shall not cause to be discharged into the atmosphere from any affected facility any gases which contain particulate matter in excess of 5.5 kg/Mg (11.0 lb/ton) of glass pulled for each fiberglass production line.  
**[40 C.F.R. §60.682; 45CSR16]**
- 3.1.23. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in sub-section 1.1. and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.  
**[45CSR14, R14-0015, 4.1.4., and 5.1.15.; 45CSR§13-5.11.]**
- 3.1.24. Except as provided in 45CSR§§27-3.2 and 3.3, the owner or operator of a plant that discharges or may discharge a toxic air pollutant into the open air in excess of the amount shown in the Table A of 45CSR27 shall employ BAT at all chemical processing units emitting the toxic air pollutant: Provided, that any source or equipment specifically subject to a federal regulation or standard shall not be required to comply with provisions more stringent than such regulation or standard.  
**[45CSR§27-3.1. (State-enforceable only)]**

## **3.2. Monitoring Requirements**

- 3.2.1. **Operations, Maintenance, and Monitoring Plan.** On and after the date on which the performance test required to be conducted by 40 C.F.R. §§ 63.7 and 63.1384 is completed, 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 40 C.F.R. 63 Subpart NNN, 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 (permit condition 3.2.2.) and add-on control devices used to meet the emission limits in 40 C.F.R. §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 manufacturer's 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.
  - (4) Process parameter(s) to be monitored to demonstrate compliance with the applicable emission limits in §63.1382. Examples of process parameters include LOI, binder solids content, and binder application rate;

- (5) Correlation(s) between process parameter(s) to be monitored and formaldehyde emissions;
- (6) A schedule for monitoring the process parameter(s); and
- (7) 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.

The operations, maintenance, and monitoring plan must specify corrective actions to be followed in the event of a bag leak detection system alarm. Example corrective actions that may be included in the plan include the following:

- (i) Inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other conditions that may cause and increase in emissions.
- (ii) Sealing off defective bags or filter media.
- (iii) Replacing defective bags or filter media, or otherwise repairing the control device.
- (iv) Sealing off a defective baghouse compartment.
- (v) Cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system.
- (vi) Shutting down the process producing the particulate emissions.

**[40 C.F.R. §§ 63.1383(a), 63.1383(b)(2), and 63.1383(i)(3); 45CSR34]**

**3.2.2. Process Modifications Monitoring.**

- (1) 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.
- (2) The owner or operator must monitor the established parameter(s) according to the procedures in the operations, maintenance, and monitoring plan (permit condition 3.2.1.).
- (3) The owner or operator must include as part of their operations, maintenance, and monitoring plan (permit condition 3.2.1.) the following information:
  - (i) Procedures for the proper operation and maintenance of the process;
  - (ii) Process parameter(s) to be monitored to demonstrate compliance with the applicable emission limits in 40 C.F.R. §63.1382. Examples of process parameters include LOI, binder solids content, and binder application rate;
  - (iii) Correlation(s) between process parameter(s) to be monitored and formaldehyde emissions;
  - (iv) A schedule for monitoring the process parameter(s); and
  - (v) Record keeping procedures, consistent with the record keeping requirements of 40 C.F.R. §63.1386, to show that the process parameter value(s) established during the performance test is not exceeded.

**[40 C.F.R. §63.1383(i); 45CSR34]**

### 3.3. Testing Requirements

- 3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:
- a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63 in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit will be revised in accordance with 45CSR§30-6.4. or 45CSR§30-6.5 as applicable.
  - b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit will be revised in accordance with 45CSR§30-6.4. or 45CSR§30-6.5 as applicable.
  - c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.

#### [WV Code § 22-5-4(a)(15) and 45CSR13]

- 3.3.2. At such reasonable times as the Director may designate, the operator of any manufacturing process source operation may be required to conduct or have conducted stack tests to determine the particulate matter loading in exhaust gases. Such tests shall be conducted in such manner as the Director may specify and be filed on forms and in a manner acceptable to the Director. The Director, or his duly authorized representative, may at his option witness or conduct such stack tests. Should the Director exercise his option to conduct such tests, the operator will provide all the necessary sampling connections and sampling ports to be located in such manner as the Director may require, power for test equipment and the required safety equipment such as scaffolding, railings and ladders to comply with generally accepted good safety practices.

#### [45CSR§7-8.1.]

- 3.3.3. The Director, or his duly authorized representative, may conduct such other tests as he or she may deem necessary to evaluate air pollution emissions.  
**[45CSR§7-8.2.]**
- 3.3.4. For all control device and process operating parameters measured during the initial performance tests, the owners or operators of glass-melting furnaces, or rotary spin manufacturing lines subject to 40 C.F.R. 63 Subpart NNN 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 40 C.F.R. §63.1382. The owner or operator shall conduct all additional performance tests according to the procedures in 40 C.F.R. 63 Subpart A and in 40 C.F.R. §63.1384.  
**[40 C.F.R. §63.1383(m); 45CSR34]**
- 3.3.5. The owner or operator subject to the provisions of this 40 C.F.R. 63 Subpart NNN shall conduct a performance test to demonstrate compliance with the applicable emission limits in 40 C.F.R. §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 40 C.F.R. §63.1382. The owner or operator shall conduct the performance test according to the procedures in 40 C.F.R. part 63, subpart A and in this section.
- (1) All monitoring systems and equipment must be installed, operational, and calibrated prior to the performance test.
  - (2) 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.
  - (3) 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. Record the glass pull rate every 15 minutes during any performance test required by 40 C.F.R. 63 Subpart NNN and determine the arithmetic average of the recorded measurements for each test run and calculate the average of the three test runs.
  - (4) The owner or operator shall conduct a performance test for each existing and new glass-melting furnace.
  - (8) The owner or operator must conduct a performance test for each rotary spin manufacturing line, subject to 40 C.F.R. 63 Subpart NNN, while producing the building insulation with the highest LOI expected to be produced on that line.
  - (9) The owner or operator of each rotary spin manufacturing line regulated by 40 C.F.R. 63 Subpart NNN 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 40 C.F.R. 63 Subpart NNN, 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.
  - (10) 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 40 C.F.R. § 63.1382 must monitor and record the process parameter level(s), as specified in the operations, maintenance, and monitoring plan (permit condition 3.2.1.), which will be used to demonstrate compliance after the initial performance test.

- (12) During the performance test, the owner or operator of a rotary spin manufacturing line shall continuously record the operating temperature of each incinerator and record the average during each 1-hour test; the average operating temperature of the three 1-hour tests shall be used to monitor compliance.
- (13) Unless disapproved by the Administrator, an owner or operator of a rotary spin manufacturing line regulated by 40 C.F.R. 63 Subpart NNN 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.

*[Note: Compliance with this condition ensures compliance with 3.3.10. a.i., a.iv., a.v., a.viii., and c.]*

**[40 C.F.R. §63.1384(a); 45CSR34; 45CSR14, R14-0015, 4.5.3.]**

3.3.6. To determine compliance with the PM emission limit for glass-melting furnaces, use the following equation:

$$E = \frac{C \times Q \times K_1}{P} \quad (\text{Eq. 1})$$

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);

$K_1$  = Conversion factor, 1 kg/1,000 g (1 lb/7,000 gr); and

$P$  = Average glass pull rate, Mg/h (tons/h).

**[40 C.F.R. §63.1384(b); 45CSR34]**

- 3.3.7. To determine compliance with the emission limit for formaldehyde for rotary spin manufacturing lines, use the following equation:

$$E = \frac{C \times MW \times Q \times K_1 \times K_2}{K_3 \times P \times 10^6} \quad (\text{Eq. 2})$$

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);

$K_1$  = Conversion factor, 1 kg/1,000 g (1 lb/453.6 g);

$K_2$  = Conversion factor, 1,000 L/m<sup>3</sup> (28.3 L/ft<sup>3</sup>);

$K_3$  = Conversion factor, 24.45 L/g-mol; and

$P$  = Average glass pull rate, Mg/h (tons/h).

**[40 C.F.R. §63.1384(c); 45CSR34]**

- 3.3.8. The owner or operator shall use the following methods to determine compliance with the applicable emission limits:
- (1) Method 1 (40 C.F.R. part 60, appendix A) for the selection of the sampling port location and number of sampling ports;
  - (2) Method 2 (40 C.F.R. part 60, appendix A) for volumetric flow rate;
  - (3) Method 3 or 3A (40 C.F.R. part 60, appendix A) for O<sub>2</sub> and CO<sub>2</sub> for diluent measurements needed to correct the concentration measurements to a standard basis;
  - (4) Method 4 (40 C.F.R. part 60, appendix A) for moisture content of the stack gas;
  - (5) Method 5 (40 C.F.R. part 60, appendix A) for the concentration of PM. Each run shall consist of a minimum run time of 2 hours and a minimum sample volume of 60 dry standard cubic feet (dscf). The probe and filter holder heating system may be set to provide a gas temperature no greater than 177 ±14 °C (350 ±25 °F);
  - (6) Method 316 or Method 318 (appendix A of 40 C.F.R. 63) for the concentration of formaldehyde. Each run shall consist of a minimum run time of 1 hour;
  - (7) Method contained in appendix A of 40 C.F.R. 63 Subpart NNN for the determination of product LOI;
  - (8) Method contained in appendix B of 40 C.F.R. 63 Subpart NNN for the determination of the free-formaldehyde content of resin;

- (9) Method contained in appendix C of 40 C.F.R. 63 Subpart NNN for the determination of product density;
- (10) An alternative method, subject to approval by the Administrator.

**[40 C.F.R. §63.1385(a); 45CSR34]**

3.3.9. Each performance test shall consist of 3 runs. The owner or operator shall use the average of the three runs in the applicable equation for determining compliance.

**[40 C.F.R. §63.1385(b); 45CSR34]**

3.3.10. For the purposes of demonstrating initial compliance with operational and emission limitations in conditions 6.1.2., 7.1.1., and 40 C.F.R. §63.7(a), the permittee shall conduct performance testing of the 1<sup>st</sup> and 2<sup>nd</sup> lines within 180 days after issuance of permit R14-0015H (October 17, 2007). Such testing shall determine the VOC, formaldehyde, and phenol emission rates from the collection and incinerator stacks of the both production lines. This testing shall establish and/or verify the operating parameters for the respective control devices of the production line. This testing shall be conducted as outlined in the following:

a. General Testing Requirements:

- i. This testing shall consist of three test runs. Each test run must last at least one hour;
- ii. Each test run must be conducted with the production line operating at no less 90 percent capacity;
- iii. During each test run, sampling of the collection and incinerator must occur simultaneously to each other;
- iv. The line must be using a resin with the highest free-formaldehyde content;
- v. The line must be producing a product with a highest LOI expected to be produce by this line;
- vi. Test(s) shall not be conducted during periods of startup, shutdown, or malfunctions as specified in 40 C.F.R. §63.7(e)(1);
- vii. During such testing, the permittee shall measure and record the free-formaldehyde content of the resin, the binder formulation used, and the product LOI, and density;
- viii. During such testing, the permittee shall monitor and record all of the operating parameters respective to the production line as noted in condition 3.3.10. in fifteen (15) minute intervals. The arithmetic average shall be calculated for each parameters using all of recorded measurements. Such measurements and arithmetic averages shall be included with the testing report.

b. Demonstrating compliance with the VOC emission limit shall be conducted with a method(s) approved by the Director. The permittee may propose a testing method as part of the required protocol of condition 3.3.1.;

c. Demonstrating compliance with the formaldehyde limits shall be conducted in accordance with U.S. EPA Method 316 or Method 318;

d. Demonstrating compliance with the phenol limits shall be conducted in accordance with U.S. EPA Method 318 or 320 or other method approved by the Director;

- e. Compliance with the VOC, formaldehyde, and phenol limits shall be determined by taking sum of the arithmetic average of the respective pollutant from the collection stack and incinerator stack. The reported emission rates shall be in terms of pounds per ton of glass pulled;
- f. Such testing shall be conducted in accordance with permit condition 3.3.1.

**[45CSR14, R14-0015, 4.3.1.]**

- 3.3.11. Within 180 days after completing modification of the 1<sup>st</sup> line to be capable of producing 8,000 pounds of glass pulled per hour, the permittee shall conduct performance testing to demonstrate compliance with the carbon dioxide, PM, VOC, formaldehyde, and phenol emission limits. Such testing shall be conducted as prescribed in condition 3.3.10. for VOC, formaldehyde, and phenol. For PM, such testing shall be conducted as outlined in condition 3.3.13. For carbon monoxide, such testing shall be conducted in accordance with U.S. EPA Method 10. This testing shall establish and/or verify the operating parameters for the respective control devices of the production line.

**[45CSR14, R14-0015, 4.3.2.]**

- 3.3.12. Once every five years, the permittee shall conduct emission testing to demonstrate compliance with the permitted CO and NO<sub>x</sub> emission limits in 6.1.2. and 7.1.1. for the collection stack (EP13 and EP23) and incinerator stack (EP14 and EP24) of each production line and to verify and/or establish maximum Thermo reading in millivolts for the fiberizers and forehearth as stipulated in 6.1.3. and 6.1.4. This testing shall be conducted as outlined in permit conditions 3.3.1., 3.3.10.a., and as follows:

- a. Demonstrating compliance with the carbon monoxide limits shall be conducted in accordance with U.S. EPA Method 10,
- b. Demonstrating compliance with the oxides of nitrogen limits shall be conducted in accordance with U.S. EPA Method 7E.

**[45CSR14, R14-0015, 4.3.3.]**

- 3.3.13. Once every 5 years or within 180 days that when the production line will be producing a product with a LOI greater than the previous compliance test that demonstrated compliance with the permitted PM limits of this permit, the permittee shall conduct performance testing to determine the PM emission rate of the collection and incinerator stacks of the respective production line. Such testing shall be conducted as outlined in condition 3.3.10.a. and U.S. EPA Method 5E. This testing shall establish and/or verify the operating parameters for the respective control devices of the production line.

**[45CSR14, R14-0015, 4.3.4.; 40 C.F.R. §60.685; 45CSR16]**

- 3.3.14. Should the permittee elect to change binder formula or produce a product with a LOI that is greater than the one that was produced during a compliance test that demonstrated compliance with the permitted VOC, formaldehyde, and phenol limits of this permit, the permittee shall conduct performance testing within 180 days of after making such change to demonstrate compliance with the VOC, formaldehyde, and phenol emission limits. Such testing shall be conducted as prescribed in conditions 3.3.1. and 3.3.10. for VOC, formaldehyde, and phenol of the respective line that the change is effecting. This testing shall establish and/or verify the operating parameters for the respective control devices of the production line.

**[45CSR14, R14-0015, 4.3.5.]**

3.3.15. Performance tests shall be conducted under such conditions as the Administrator shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.  
**[40 C.F.R. §60.8(c); 45CSR16]**

3.3.16. In conducting the performance tests required in 40 C.F.R. §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of 40 C.F.R. 60 or other methods and procedures as specified in 40 C.F.R. §60.685, except as provided in 40 C.F.R. §60.8(b).  
**[40 C.F.R. §60.685(a); 45CSR16]**

3.3.17. The owner or operator shall conduct performance tests while the product with the highest loss on ignition (LOI) expected to be produced by the affected facility is being manufactured.  
**[40 C.F.R. §60.685(b); 45CSR16]**

3.3.18. The owner or operator shall determine compliance with the particulate matter standard in 40 C.F.R. §60.682 as follows:

(1) The emission rate (E) of particulate matter shall be computed for each run using the following equation:

$$E = \frac{C_t Q_{sd}}{P_{avg} K}$$

where:

$E$  = emission rate of particulate matter, kg/Mg (lb/ton).

$C_t$  = concentration of particulate matter, g/dscm (gr/dscf).

$Q_{sd}$  = volumetric flow rate of effluent gas, dscm/hr (dscf/hr).

$P_{avg}$  = average glass pull rate, Mg/hr (ton/hr).

$K$  = 1,000 g/kg (7,000 gr/lb).

(2) Method 5E (40 C.F.R. part 60, Appendix A) shall be used to determine the particulate matter concentration ( $C_t$ ) and the volumetric flow rate ( $Q_{sd}$ ) of the effluent gas. The sampling time and sample volume shall be at least 120 minutes and 2.55 dscm (90.1 dscf).

(3) The average glass pull rate ( $P_{avg}$ ) for the manufacturing line shall be the arithmetic average of three glass pull rate ( $P_i$ ) determinations taken at intervals of at least 30 minutes during each run. The individual glass pull rates ( $P_i$ ) shall be computed using the following equation:

$$P_i = K' L_s W_m M \left[ 1.0 - \left( \frac{LOI}{100} \right) \right]$$

where:

$P_i$  = glass pull rate at interval "i", Mg/hr (ton/hr).

$L_s$  = line speed, m/min (ft/min).

$W_m$  = trimmed mat width, m (ft).

$M$  = mat gram weight, g/m<sup>2</sup> (lb/ft<sup>2</sup>).

$LOI$  = loss on ignition, weight percent.

$K'$  = conversion factor,  $6 \times 10^{-5}$  (min-Mg)/(hr-g) [ $3 \times 10^{-2}$  (min-ton)/(hr-lb)].

- (i) ASTM D2584-68 (Reapproved 1985) or 94 (incorporated by reference -- see 40 C.F.R. § 60.17), shall be used to determine the LOI for each run.
- (ii) Line speed ( $L_s$ ), trimmed mat width ( $W_m$ ), and mat gram weight ( $M$ ) shall be determined for each run from the process information or from direct measurements.

**[40 C.F.R. §60.685(c); 45CSR16]**

### 3.4. Recordkeeping Requirements

3.4.1. **Monitoring information.** The permittee shall keep records of monitoring information that include the following:

- a. The date, place as defined in this permit and time of sampling or measurements;
- b. The date(s) analyses were performed;
- c. The company or entity that performed the analyses;
- d. The analytical techniques or methods used;
- e. The results of the analyses; and
- f. The operating conditions existing at the time of sampling or measurement.

**[45CSR§30-5.1.c.2.A.; 45CSR14, R14-0015, 4.4.1. and 5.4.1.]**

3.4.2. **Retention of records.** The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of monitoring sample, measurement, report, application, or record creation date. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Where appropriate, records may be maintained in computerized form in lieu of the above records.

**[45CSR§30-5.1.c.2.B.]**

3.4.3. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received. Such record shall contain an assessment of the validity of the complaints as well as any corrective actions taken.

**[45CSR§30-5.1.c. State-Enforceable only.]**

3.4.4. As required by 40 C.F.R. §63.10(b) of 40 C.F.R. 63, the owner or operator shall maintain files of all information (including all reports and notifications) required by the general provisions of 40 C.F.R. 63 and this 40 C.F.R. 63 Subpart NNN:

- (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.

**[40 C.F.R. §63.1386(d)(1); 45CSR34]**

3.4.5. In addition to the general records required by 40 C.F.R. §63.10(b)(2), 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;
- (v) The formulation of each binder batch and the LOI and density for each product manufactured on a rotary spin manufacturing line subject to the provisions of 40 C.F.R. 63 Subpart NNN, and the free formaldehyde content of each resin shipment received and used in the binder formulation;
- (vi) Process parameter level(s) for RS 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;
- (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.

**[40 C.F.R. §63.1386(d)(2); 45CSR34]**

3.4.6. Written records shall be maintained that identify all pumps, compressors, pressure relief valves, valves, sampling connections, open-ended lines, and flanges of a chemical processing unit that are in toxic air pollutant service. These records shall record the results of all monitoring and inspections, emissions control measures applied and the nature, timing, and results of repair efforts.

**[45CSR§27-10.3. (State-enforceable only)]**

3.4.7. The permittee shall monitor and record the hourly production on a daily basis for each line. These records shall include the monthly total and the 12 month rolling total for each line respectively.

**[45CSR14, R14-0015, 4.2.1.]**

3.4.8. The permittee shall monitor and record the free-formaldehyde and phenol content of each resins shipment received at the facility. The free-formaldehyde shall be determined using the method prescribed in Appendix B of 40 C.F.R. 63, Subpart NNN.

**[40 C.F.R. §63.1383(j); 45CSR34; 45CSR14, R14-0015, 4.2.3.]**

3.4.9. The permittee shall monitor and record the formulation of each batch of binder used.

**[40 C.F.R. §63.1383(k); 45CSR34; 45CSR14, R14-0015, 4.2.4.]**

3.4.10. The permittee shall monitor and record the product LOI and density of the each resinated product manufactured. The frequency of such monitoring shall not be less than once every eight hours. The LOI and density shall be determined using the methods prescribed in Appendix A and C of 40 CFR 63, Subpart NNN respectively. **[40 C.F.R. §63.1383(I); 45CSR34; 45CSR14, R14-0015, 4.2.5.]**

3.4.11. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in subsection 1.1, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures. **[45CSR14, R14-0015, 4.4.2. and 5.4.2.]**

3.4.12. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in subsection 1.1, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:

- a. The equipment involved.
- b. Steps taken to minimize emissions during the event.
- c. The duration of the event.
- d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

- e. The cause of the malfunction.
- f. Steps taken to correct the malfunction.
- g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.

**[45CSR14, R14-0015, 4.4.3. and 5.4.3.]**

3.4.13. The permittee shall maintain records of the any and all testing conducted as required in subsection 3.3. **[45CSR14, R14-0015, 4.4.4.]**

### **3.5. Reporting Requirements**

3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete. **[45CSR§30-4.4. and 5.1.c.3.D.]**

3.5.2. A permittee may request confidential treatment for the submission of reporting required under 45CSR§30-5.1.c.3. pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31. **[45CSR§30-5.1.c.3.E.]**

- 3.5.3. All notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, or mailed first class with postage prepaid to the address(es) set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

Director  
WVDEP  
Division of Air Quality  
601-57<sup>th</sup> Street  
Charleston, WV 25304

Phone: 304/926-0499  
FAX: 304/926-0478

Associate Director  
Office of Enforcement and Permits Review  
(3AP12)  
U. S. Environmental Protection Agency  
Region III  
1650 Arch Street  
Philadelphia, PA 19103-2029

- 3.5.4. **Certified emissions statement.** The permittee shall submit a certified emissions statement and pay fees on an annual basis in accordance with the submittal requirements of the Division of Air Quality. A receipt for the appropriate fee shall be maintained on the premises for which the receipt has been issued, and shall be made immediately available for inspection by the Secretary or his/her duly authorized representative.  
[45CSR§30-8.]
- 3.5.5. **Compliance certification.** The permittee shall certify compliance with the conditions of this permit on the forms provided by the DAQ. In addition to the annual compliance certification, the permittee may be required to submit certifications more frequently under an applicable requirement of this permit. The annual certification shall be submitted to the DAQ and USEPA on or before March 15 of each year, and shall certify compliance for the period ending December 31. The permittee shall maintain a copy of the certification on site for five (5) years from submittal of the certification.  
[45CSR§30-5.3.e.]
- 3.5.6. **Semi-annual monitoring reports.** The permittee shall submit reports of any required monitoring on September 15 for the reporting period January 1 to June 30 and March 15 for the reporting period July 1 to December 31. All instances of deviation from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official consistent with 45CSR§30-4.4.  
[45CSR§30-5.1.c.3.A.]
- 3.5.7. **Emergencies.** For reporting emergency situations, refer to Section 2.17 of this permit.
- 3.5.8. **Deviations.**
- a. In addition to monitoring reports required by this permit, the permittee shall promptly submit supplemental reports and notices in accordance with the following:
1. Any deviation resulting from an emergency or upset condition, as defined in 45CSR§30-5.7., shall be reported by telephone or telefax within one (1) working day of the date on which the permittee becomes aware of the deviation, if the permittee desires to assert the affirmative defense in accordance with 45CSR§30-5.7. A written report of such deviation, which shall include the probable cause of such deviations, and any corrective actions or preventative measures taken, shall be submitted and certified by a responsible official within ten (10) days of the deviation.

2. Any deviation that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to the Secretary immediately by telephone or telefax. A written report of such deviation, which shall include the probable cause of such deviation, and any corrective actions or preventative measures taken, shall be submitted by the responsible official within ten (10) days of the deviation.
3. Deviations for which more frequent reporting is required under this permit shall be reported on the more frequent basis.
4. All reports of deviations shall identify the probable cause of the deviation and any corrective actions or preventative measures taken.

**[45CSR§30-5.1.c.3.C.]**

- b. The permittee shall, in the reporting of deviations from permit requirements, including those attributable to upset conditions as defined in this permit, report the probable cause of such deviations and any corrective actions or preventive measures taken in accordance with any rules of the Secretary.

**[45CSR§30-5.1.c.3.B.]**

- c. Every report submitted under this subsection shall be certified by a responsible official.

**[45CSR§30.5.1.c.3.D.]**

- 3.5.9. **New applicable requirements.** If any applicable requirement is promulgated during the term of this permit, the permittee will meet such requirements on a timely basis, or in accordance with a more detailed schedule if required by the applicable requirement.

**[45CSR§30-4.3.h.1.B.]**

- 3.5.10. **Notifications.** As required by 40 C.F.R. §§ 63.9(b) through (h), the owner or operator shall submit the following written initial notifications to the Administrator:

- (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 40 C.F.R. §§ 63.9(b)(4) and (5));
- (5) Notification of special compliance obligations;
- (6) Notification of performance test; and
- (7) Notification of compliance status.

**[40 C.F.R. §63.1386(a); 45CSR34]**

- 3.5.11. **Performance test report.** As required by 40 C.F.R. §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 permit condition 3.5.10. (7).

**[40 C.F.R. §63.1386(b); 45CSR34]**

- 3.5.12. **Startup, shutdown, and malfunction plan (SSMP).** The owner or operator of an affected source must develop and implement a written startup, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction; a program of corrective action for malfunctioning process; and air pollution control and monitoring equipment used to comply with the relevant standard. This plan must be developed by the owner or operator by the source's compliance date for that relevant standard. The purpose of the startup, shutdown, and malfunction plan is to –
- (A) Ensure that, at all times, the owner or operator operate and maintain affected sources, including associated air pollution control and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions to the levels required by the relevant standards;
  - (B) Ensure that owners or operators are prepared to correct malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of hazardous air pollutants; and
  - (C) Reduce the reporting burden associated with periods of startup, shutdown, and malfunction (including corrective action taken to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation).

This 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.

**[40 C.F.R. §§ 63.1386(c)(1), and 63.6(e)(3); 45CSR34]**

- 3.5.13. The owner or operator shall also keep records of each event as required by 40 C.F.R. §63.10(b) 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 40 C.F.R. §63.10(e)(3)(iv).

**[40 C.F.R. §63.1386(c)(2); 45CSR34]**

- 3.5.14. As required by 40 C.F.R. §63.10(e)(3)(v), 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 40 C.F.R. §63.10(c) of this part as well as the additional records required by the recordkeeping requirements of 40 C.F.R. §63.1386 (d). When no deviations have occurred, the owner or operator shall submit a report stating that no excess emissions occurred during the reporting period.

**[40 C.F.R. §63.1386(e); 45CSR34]**

- 3.5.15. The emission to the air of any toxic air pollutant resulting from an abnormal release or spill in excess of the following amounts shall be reported to the Director or his authorized representative not later than 24-hours after the chemical processing unit owner/operator has knowledge of such emission:

- a. For ethylene oxide, and vinyl chloride, one (1) pound
- b. For acrylonitrile, and butadiene, ten (10) pounds
- c. For all other toxic air pollutants, fifty (50) pounds

The owner or operator shall file a written report with the Director stating the details of all such incidents resulting in the emission of more than fifty (50) pounds of any toxic air pollutant within seven (7) days of the occurrence. The owner/operator shall submit to the Director, at his request, records of all abnormal toxic air pollutant discharges to the air.

**[45CSR14, R14-0015, 5.5.1.; 45CSR§27-10.4. (State-enforceable only)]**

3.5.16. The permittee shall submit the results of testing required in subsection 3.3. before the close of business on the 60<sup>th</sup> day following the completion of such testing to the Director.

**[45CSR14, R14-0015, 4.5.1.]**

3.5.17. Any period of failure or inoperability of air pollution control equipment required by 45CSR27 shall be reported to the Director not later than 24-hours after the owner/operator has knowledge of such failure. Such reports shall be made in conjunction with necessary requests for variances as provided under 45CSR§27-12 (permit condition 3.1.21.).

**[45CSR§27-10.5. (State-enforceable only)]**

### **3.6. Compliance Plan**

3.6.1. There is no compliance plan since a responsible official certified compliance with all requirements in the renewal application.

### **3.7. Permit Shield**

3.7.1. The permittee is hereby granted a permit shield in accordance with 45CSR§30-5.6. The permit shield applies provided the permittee operates in accordance with the information contained within this permit.

3.7.2. The following requirements specifically identified are not applicable to the source based on the determinations set forth below. The permit shield shall apply to the following requirements provided the conditions of the determinations are met.

#### **3.7.2.1. 40 C.F.R. Part 64 – Compliance Assurance Monitoring**

One or more of the following characteristics of the permittee's emission units make the emission units, on a pollutant-specific basis, not subject to CAM.

- a. The emission unit emits particulate matter, and thereby emissions of that pollutant are subject to 40 C.F.R. 60 Subpart PPP.
- b. The emission unit emits a chromium compound or formaldehyde, and thereby emissions of that pollutant are subject to 40 C.F.R. 63 Subpart NNN.
- c. The emission unit emits other criteria pollutant(s) or HAPs in pre-control amounts less than the respective major source threshold.

#### **3.7.2.2. 45CSR10 to certain sources**

The emission units in the following table are not subject to 45CSR10:

| Emission Unit ID | Description of Emission Unit   | Rationale for Non-applicability of 45CSR10   |
|------------------|--|--|
| ESDG12           | Emergency backup generator, diesel IC engine                               | Internal combustion engines, including gas turbines and emergency generators, are not subject to 45CSR10 as per Director's verbal guidance.  |
| ESDG13           | Emergency backup generator, diesel IC engine                               | Internal combustion engines, including gas turbines and emergency generators, are not subject to 45CSR10 as per Director's verbal guidance.  |
| ESFW11           | Fire suppression water, diesel IC engine                                   | Internal combustion engines, including gas turbines and emergency generators, are not subject to 45CSR10 as per Director's verbal guidance.  |
| ESHW15           | Hot water heaters (5 units) rated at 75,100 Btu/hr each                    | Not a "source operation" defined in 45CSR§10-2.19., therefore 4.1. does not apply. Also, exempt from sections 3, and 6 through 8 since less than 10 MMBtu/hr (per 45CSR§10-10.1.). |
| ESSH15           | Space heating natural gas-fired make-up air heat exchanger, 8.525 MMBtu/hr | Not a "source operation" defined in 45CSR§10-2.19., therefore 4.1. does not apply. Also, exempt from sections 3, and 6 through 8 since less than 10 MMBtu/hr (per 45CSR§10-10.1.). |
| ESSH16           | Space heating natural gas-fired make-up air heat exchanger, 7.875 MMBtu/hr | Not a "source operation" defined in 45CSR§10-2.19., therefore 4.1. does not apply. Also, exempt from sections 3, and 6 through 8 since less than 10 MMBtu/hr (per 45CSR§10-10.1.). |

**3.7.2.3. 40 C.F.R. 60 Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984**

All of the permittee's tanks listed in section 1.1. of the permit were constructed after July 23, 1984. Also, the tanks are used to hold either volatile organic liquid or petroleum liquid. In addition to the construction date and content criteria, this regulation applies to each storage vessel with a capacity greater than or equal to 75 m<sup>3</sup> (19,812.9 U.S. gallons). Each of the tanks listed in section 1.1. have a capacity less than this threshold; therefore, Subpart Kb does not apply.

**4.0. Source-Specific Requirements [Raw Material Handling Operation (Group 001) and emission unit IDs ES1A, CD1A, ES1B, CD1B, ES1C, ES1D, CD1D, ES1E, ES1F, CD1F, ES1G, CD1G, ES1H, ES1I, CD1I, ES1J, CD1F, ES1K, CD1K, ES12A, CD12A, ES22A, CD22A, ES12B, CD22D, CD12D, ES22B, CD22C, ES12D, CD12C, ES22D, ES12Db, CD12Cb, CD22Cb; Tanks (Group 1) with emission Unit IDs T3, T4, T5, T6, T7A, T7B, T8, M1, M2, M3, M4, M5, M6, M7, M8, and M9] – Emission Point I.D. FP11**

**4.1. Limitations and Standards**

4.1.1. The following storage devices shall be equipped and operated with the corresponding control devices or an equivalent bin vent manufactured by Whirl-Air or IAC or equivalent:

| <b>Emission Unit ID</b> | <b>Description</b>                                  | <b>Control Equipment</b>             | <b>Control Device ID</b> |
|-------------------------|---|--------------------------------------|--------------------------|
| ES1A                    | Raw Material Storage Bin (sand)                     | Whirl-Air Flow Bin-Vent Model 195-42 | CD1A                     |
| ES1B                    | Raw Material Storage Bin (borax)                    | Whirl-Air Flow Bin-Vent Model 195-42 | CD1B                     |
| ES1C                    | Raw Material Storage Bin (borax)                    | Whirl-Air Flow Bin-Vent Model 195-42 | CD1B                     |
| ES1D                    | Raw Material Storage Bin (soda ash)                 | Whirl-Air Flow Bin-Vent Model 195-42 | CD1D                     |
| ES1E                    | Raw Material Storage Bin (soda ash)                 | Whirl-Air Flow Bin-Vent Model 195-42 | CD1D                     |
| ES1F                    | Raw Material Storage Bin (aplite)                   | Whirl-Air Flow Bin-Vent Model 195-42 | CD1F                     |
| ES1G                    | Raw Material Storage Bin (spare)                    | Whirl-Air Flow Bin-Vent Model 195-42 | CD1G                     |
| ES1H                    | Raw Material Storage Bin (cullet)                   | Whirl-Air Flow Bin-Vent Model 195-42 | CD1I                     |
| ES1I                    | Raw Material Storage Bin (cullet)                   | Whirl-Air Flow Bin-Vent Model 195-42 | CD1I                     |
| ES1J                    | Raw Material Storage Bin (lime)                     | Whirl-Air Flow Bin-Vent Model 195-42 | CD1F                     |
| ES1K                    | Raw Material Storage Bin (baghouse dust)            | Whirl-Air Flow Bin-Vent Model 195-42 | CD1K                     |
| ES12A                   | Batch Mixer Receiving Hopper (1 <sup>st</sup> Line) | Whirl-Air Flow Bin-Vent Model 345-56 | CD12A                    |
| ES22A                   | Batch Mixer Receiving Hopper (2 <sup>nd</sup> Line) | IAC Bin-Vent Model No. 96TB-FRIP     | CD22A                    |
| ES12B                   | Mixed Batch Storage Day Bin (1 <sup>st</sup> Line)  | Whirl-Air Flow Bin-Vent Model 260-42 | CD12D                    |
| ES22B                   | Mixed Batch Storage Bin (2 <sup>nd</sup> Line)      | IAC Bin-Vent Model No. 96TB-FRIP     | CD22C                    |
| ES12D                   | Mixed Batch Storage Day Bin (1 <sup>st</sup> Line)  | Whirl-Air Flow Bin-Vent Model 230-56 | CD12C                    |
| ES12Db                  | Mixed Batch Storage Bin (1 <sup>st</sup> Line)      | Whirl-Air Flow Bin-Vent Model 55-30  | CD12Cb                   |

[45CSR14, R14-0015, 5.1.1.]

- 4.1.2 The four resin (T3, T4, T5, and T6) and two de-dusting oil (T7A and T7B) storage tanks shall not be operated in such a manner where the combined total potential to emit of VOCs exceed over 1,695 pounds of VOCs per year.  
**[45CSR14, R14-0015, 5.1.11.]**
- 4.1.3. The pre-react tanks (mixing tank M1 and holding tanks M2 and M3) shall not be operated in such a manner where the combined total potential to emit of VOC from these sources exceed over 11.8 tons of VOCs per year.  
**[45CSR14, R14-0015, 5.1.12.]**
- 4.1.4. On and after the date on which the performance test required to be conducted by 40 C.F.R. §§ 63.7 and 63.1384 is completed, the owner or operator must operate all affected control equipment and processes according to the following requirements.
- (i) 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 40 C.F.R. §63.1384.
  - (ii) 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 40 C.F.R. § 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 C.F.R. §§ 63.1382(b)(9) and (10); 45CSR34]**
- 4.1.5. Owners and operators of chemical processing units or facilities subject to the requirements of this regulation shall prevent and control working and filling losses of toxic air pollutants from tanks by routing such tank emissions to BAT control devices. The Director may approve the use of floating roof storage tanks as BAT, provided that such tanks are designed and operated in a manner which minimizes toxic air pollutant emissions taking into consideration the toxic air pollutant emission rate, tank size, and control efficiency associated with such tanks. On a case-by-case basis, the Director may exempt very small process or storage tanks or tanks storing material mixtures containing low mass fractions of toxic air pollutants from the BAT requirements taking into consideration the actual level of emissions control and/or the toxic air pollutant emission rate from the tank.  
**[45CSR§27-5.1. (State-enforceable only)]** (*M1, M2, M3, M4, M5, M6, M7, M8, M9, T3, T4, T5, T6, and T8*)
- 4.1.6. The amount of resin consumed shall not exceed 1,692,850 gallons per year, calculated as the sum during a consecutive 12 month period.  
**[45CSR14, R14-0015, 5.1.9.]**
- 4.1.7. The amount of de-dusting oil consumed shall not exceed 1,144,095 gallons per year, calculated as the sum during a consecutive 12 month period  
**[45CSR14, R14-0015, 5.1.10.]**
- 4.1.8. No person shall cause, suffer, allow or permit visible emissions from any storage structure(s) associated with any manufacturing process(es) that pursuant to 45CSR§7-5.1. (See permit condition 3.1.13.) is required to have a full enclosure and be equipped with a particulate matter control device.  
**[45CSR§7-3.7.]** (*ES1A, ES1B, ES1C, ES1D, ES1E, ES1F, ES1G, ES1H, ES1I, ES1J, ES1K, ES12A, ES22A, ES12B, ES22B, ES22Bb, ES12D, ES12Db*)

## 4.2 Monitoring Requirements

- 4.2.1. Reserved.

### **4.3 Testing Requirements**

4.3.1. Reserved.

### **4.4 Recordkeeping Requirements**

- 4.4.1. To demonstrate compliance with condition 4.1.6., the permittee shall monitor and record on a monthly basis the amount of resin consumed at the permitted facility.  
**[45CSR14, R14-0015, 5.2.1.]**
- 4.4.2. To demonstrate compliance with conditions 4.1.2. and 4.1.7., the permittee shall monitor and record on a monthly basis the amount of de-dusting oil and wax emulsion consumed at the permitted facility.  
**[45CSR14, R14-0015, 5.2.2.]**
- 4.4.3. To demonstrate compliance with condition 4.1.4., refer to conditions 3.4.8. and 3.4.9.
- 4.4.4. To demonstrate compliance with condition 4.1.3., the permittee shall monitor and record on a monthly basis the actual raw material throughput for the pre-react tanks (mixing tank M1 and holding tanks M2 and M3).  
**[45CSR§§30-5.1.c. and 12.7.]**

### **4.5 Reporting Requirements**

4.5.1. Reserved.

### **4.6 Compliance Plan**

- 4.6.1. There is no compliance plan since a responsible official certified compliance with all requirements in the renewal application.

**5.0 Source-Specific Requirements [Melting & Refining Line #1 (Group 002) and emission unit IDs ES12C, CD12B, CD12Bb (backup) – Emission Point I.D. EP12] and Melting & Refining Line #2 (Group 003) and emission unit IDs ES22C, CD22B, CD22Bb (backup) – Emission Point I.D. EP22]**

**5.1. Limitations and Standards**

5.1.1. On and after the date the initial performance test is completed or required to be completed under 40 C.F.R. §63.7, 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.

**[40 C.F.R. §63.1382(a)(1); 45CSR34] (Emission Point IDs: EP12 and EP22)**

5.1.2. On and after the date on which the performance test required to be conducted by 40 C.F.R. §§ 63.7 and 63.1384 is completed, the owner or operator must operate all affected control equipment and processes according to the following requirements.

(i) The owner or operator must initiate corrective action within 1 hour of an alarm from a bag leak detection system and complete corrective actions in a timely manner according to the procedures in the operations, maintenance, and monitoring plan (permit condition 3.2.1.).

(ii) The owner or operator must implement a Quality Improvement Plan (QIP) consistent with the compliance assurance monitoring provisions of 40 CFR part 64, subpart D when the bag leak detection system alarm is sounded for more than 5 percent of the total operating time in a 6-month block reporting period.

**[40 C.F.R. §63.1382(b)(1); 45CSR34] (Control Device IDs: CD12B, CD12Bb, CD22B, CD22Bb)**

5.1.3. On and after the date on which the performance test required to be conducted by 40 C.F.R. §§ 63.7 and 63.1384 is completed, the owner or operator must operate all affected control equipment and processes according to the following requirements.

(i) 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 40 C.F.R. §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 (permit condition 3.2.1.).

(ii) The owner or operator must implement a QIP consistent with the compliance assurance monitoring provisions of 40 C.F.R. 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 40 C.F.R. § 63.1384 for more than 5 percent of the total operating time in a 6-month block reporting period.

(iii) 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 40 C.F.R. § 63.1384 for more than 10 percent of the total operating time in a 6-month block reporting period.

**[40 C.F.R. §63.1382(b)(5); 45CSR34] (Emission Unit IDs: ES12C, ES12E, ES22C, ES22E)**

- 5.1.4. Production of fiberglass insulation from the 1st line shall not exceed 8,000 pounds of glass pulled per hour or 35,040 TPY. Compliance with this limit shall be based on a 12-month rolling total.  
**[45CSR14, R14-0015, 4.1.1.a.] (Emission Unit IDs: ES12C, ES12E)**
- 5.1.5. Production of fiberglass insulation from the 2nd line shall not exceed 8,000 pounds of glass pulled per hour and 35,040 TPY. Compliance with this limit shall be based on a 12-month rolling total.  
**[45CSR14, R14-0015, 4.1.2.a.] (Emission Unit IDs: ES22C, ES22E)**
- 5.1.6. Emissions from the line shall not exceed the following limits with respect to the corresponding emission point and pollutant:

| Emission Limits for 1 <sup>st</sup> and 2 <sup>nd</sup> Lines |             |                          |             |                           |
|---|-------------|--------------------------|-------------|---------------------------|
| Emission Point ID   | CO (lb/TGP) | NO <sub>x</sub> (lb/TGP) | PM (lb/TGP) | PM <sub>10</sub> (lb/TGP) |
| EP12  | 0.73        | 0.03                     | 0.07        | 0.07                      |
| EP22  | 0.73        | 0.03                     | 0.07        | 0.07                      |

lb/TGP – pounds of pollutant per ton of glass pulled

**[45CSR14, R14-0015, 4.1.1.b. and 4.1.2.b.]**

- 5.1.7. Exhaust from the electric melter (ES12C) shall be vented into a closed loop system that routes this stream directly to either one of identified baghouses (CD12B or CD12Bb) at all times when the line is operating.  
**[45CSR14, R14-0015, 4.1.1.c.]**
- 5.1.8. Exhaust from the electric melter (ES22C) shall be vented into a closed loop system that routes this stream directly to either one of identified baghouses (CD22B or CD22Bb) at all times when the line is operating  
**[45CSR14, R14-0015, 4.1.2.c.]**

## 5.2. Monitoring Requirements

- 5.2.1. Where a baghouse is used to control PM emissions from a glass-melting furnace, the owner or operator shall install, calibrate, maintain, and continuously operate a bag leak detection system.
- (i) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.
  - (ii) The bag leak detection system sensor must produce output of relative PM emissions.
  - (iii) The bag leak detection system must be equipped with an alarm system that will sound automatically when an increase in relative PM emissions over a preset level is detected and the alarm must be located such that it can be heard by the appropriate plant personnel.
  - (iv) For positive pressure fabric filter systems, a bag leak detection system must be installed in each baghouse compartment or cell. If a negative pressure or induced air baghouse is used, the bag leak detection system must be installed downstream of the baghouse. Where multiple bag leak detection systems are required (for either type of baghouse), the system instrumentation and alarm may be shared among the monitors.

- (v) A triboelectric bag leak detection system shall be installed, operated, adjusted, and maintained in a manner consistent with the U.S. Environmental Protection Agency guidance, "Fabric Filter Bag Leak Detection Guidance" (EPA-454/R-98-015, September 1997). Other bag leak detection systems shall be installed, operated, adjusted, and maintained in a manner consistent with the manufacturer's written specifications and recommendations.
- (vi) Initial adjustment of the system shall, at a minimum, consist of establishing the baseline output by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time.
- (vii) Following the initial adjustment, the owner or operator shall not adjust the range, averaging period, alarm setpoints, or alarm delay time except as detailed in the approved operations, maintenance, and monitoring plan (permit condition 3.2.1.). In no event shall the range be increased by more than 100 percent or decreased more than 50 percent over a 365-day period unless a responsible official as defined in 40 C.F.R. §63.2 of the general provisions in 40 C.F.R. 63 Subpart A of this part certifies that the baghouse has been inspected and found to be in good operating condition.

A bag leak detection system (BLDS) shall be installed and operated on the fabric filter baghouses identified as CD12B, CD12Bb, CD22B, and CD22Bb.

**[40 C.F.R. §63.1383(b)(1); 45CSR34; 45CSR14, R14-0015, 4.1.3.a.]**

5.2.2. On and after the date on which the performance test required to be conducted by 40 C.F.R. §§ 63.7 and 63.1384 is completed, the owner or operator must monitor all affected control equipment and processes according to the following requirements.

- (1) 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.
- (2) On any new glass-melting furnace, the owner or operator must install, calibrate, and maintain a continuous glass pull rate monitor that monitors and records on an hourly basis the glass pull rate.

**[40 C.F.R. §63.1383(f); 45CSR34; 45CSR14, R14-0015, 4.1.2.g.]**

### **5.3. Testing Requirements**

- 5.3.1. To demonstrate compliance with condition 5.1.1., refer to condition 3.3.6.
- 5.3.2. To demonstrate compliance with condition 5.1.6., refer to conditions 3.3.8.

### **5.4. Recordkeeping Requirements**

- 5.4.1. The permittee shall record the date and time of any bag leak detection system alarm. Such record shall include 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.

**[40 C.F.R. §63.1386(d)(2)(i); 45CSR34; 45CSR14, R14-0015, 4.4.5.]**

## **5.5. Reporting Requirements**

- 5.5.1. To demonstrate compliance with the operational requirements of conditions 5.1.7. and 5.1.8., the permittee shall submit a corresponding statement of compliance as part of the semiannual monitoring report required in condition 3.5.6.  
[\[45CSR§30-5.3.e.\]](#)

## **5.6. Compliance Plan**

- 5.6.1. There is no compliance plan since a responsible official certified compliance with all requirements in the renewal application.

**6.0. Source-Specific Requirements [Forming & Collecting Line 1 (Group 004) and Emission Unit IDs ES12E, ES13A, ES13B, ES13C, CD13A, and CD13B – Emission Point ID EP13] and [Forming & Collecting Line 2 (Group 005) and emission unit IDs ES22E, ES23A, ES23B, ES23C, CD23A, CD23B, and CD23C - Emission Point ID EP23]**

**6.1. Limitations and Standards**

6.1.1. *Rotary spin manufacturing lines.* On and after the date the initial performance test is completed or required to be completed under 40 C.F.R. §63.7 (permit condition 3.3.5.), 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.
- (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.

**[40 C.F.R. §63.1382(a)(2); 45CSR34]**

6.1.2. Emissions from the line shall not exceed the following limits with respect to the corresponding emission point and pollutant:

| <b>Emission Limits for 1<sup>st</sup> and 2<sup>nd</sup> Lines</b> |             |              |             |                           |                             |                     |                     |                          |
|--|-------------|--------------|-------------|---------------------------|-----------------------------|---------------------|---------------------|--------------------------|
| Emission Point ID  | CO (lb/TGP) | NOx (lb/TGP) | PM (lb/TGP) | PM <sub>10</sub> (lb/TGP) | VOC <sup>(1)</sup> (lb/TGP) | HCOH (lb/TGP)       | Phenol (lb/TGP)     | NH <sub>3</sub> (lb/TGP) |
| EP13   | 5.28        | 0.32         | 3.47        | 3.47                      | 2.86 <sup>(2)</sup>         | 0.80 <sup>(2)</sup> | 1.55 <sup>(2)</sup> | 3.77                     |
| EP23   | 5.28        | 0.32         | 3.25        | 3.25                      | 2.86 <sup>(3)</sup>         | 0.80 <sup>(3)</sup> | 1.55 <sup>(3)</sup> | 3.77                     |

lb/TGP – pounds of pollutant per ton of glass pulled.

- (1) VOC emissions shall not include methane and ethane.
- (2) Compliance with the emission limit shall be the sum of the respective pollutant from both EP13 and EP14 (condition 7.1.1.).
- (3) Compliance with the emission limit shall be the sum of the respective pollutant from both EP23 and EP24 (condition 7.1.1.).

**[45CSR14, R14-0015, 4.1.1.b. and 4.1.2.b.]**

6.1.3. The fiberizers and forehearth of the 1<sup>st</sup> line shall be operated in such a manner the following air to fuel ratios are not exceeded:

Thermox Gas Ratio Setting for the fiberizers: 962 millivolts  
 Thermox Gas Ratio Setting for the forehearth: 823 millivolts

**[45CSR14, R14-0015, 4.1.1.d.]**

6.1.4. The fiberizers and forehearth of the 2<sup>nd</sup> line shall be operated in such a manner the following air to fuel ratios are not exceeded:

Thermox Gas Ratio Setting for the fiberizers: 962 millivolts  
 Thermox Gas Ratio Setting for the forehearth: 823 millivolts

**[45CSR14, R14-0015, 4.1.2.d.]**

- 6.1.5. Exhaust from the forehearth and fiberizers of the 1<sup>st</sup> line shall be vented into a closed loop system that routes this stream directly to either one of identified water sprays with drop-out boxes (CD13A or CD13B) at all times when the line is operating.  
**[45CSR14, R14-0015, 4.1.1.e.]**
- 6.1.6. Exhaust from the forehearth and fiberizers of the 2<sup>nd</sup> line shall be vented into a closed loop system that routes this stream directly to one of three venturi scrubbers (CD23A, CD23B, or CD23C). Scrubbers CD23A ~~or /~~ and CD23B shall be operated when **one or more of the fiberizers over the large collection chamber is in operation resinated fiberglass is being produced**. Scrubber CD23C shall be operated when **one or more of the fiberizers over the small collection chamber is in operation non-resinated fiberglass is being produced**. ~~All three scrubbers shall be operated when resinated and non-resinated fiberglass is being produced.~~  
**[45CSR14, R14-0015, 4.1.2.e.]**
- 6.1.7. Each fiberizer that produces resinated (bonded) fiberglass shall be equipped, maintained, and operated with an advance water-jet ring to minimize formaldehyde emissions from the fiber forming process.  
**[45CSR14, R14-0015, 4.1.3.b.]**

## 6.2. Monitoring Requirements

- 6.2.1. An owner or operator subject to the provisions of this 40 C.F.R. 60 Subpart PPP who uses a wet scrubbing control device to comply with the mass emission standard shall install, calibrate, maintain, and operate monitoring devices that measure the gas pressure drop across each scrubber and the scrubbing liquid flow rate to each scrubber. The pressure drop monitor is to be certified by its manufacturer to be accurate within 250 Pascal ( $\pm 1$  inch water gauge) over its operating range, and the flow rate monitor is to be certified by its manufacturer to be accurate within 5 percent over its operating range.  
**[40 C.F.R. §60.683(a); 45CSR16]**
- 6.2.2. All monitoring devices required under 40 C.F.R. §60.683 (conditions 6.2.4. and 6.2.5.) are to be recalibrated quarterly in accordance with procedures under 40 C.F.R. §60.13(b).  
**[40 C.F.R. §60.683(c); 45CSR16]**
- 6.2.3. The permittee shall install, calibrate, maintain, and operate two Thermo Premix (air to fuel) analyzers to measure and record the air to fuel ratio being fed to the fiberizers and forehearth for each production line. Each analyzer shall be maintained in such a way that the analyzer is available to analyze samples 90 percent of the time or greater. Each analyzer shall be calibrated once a month in accordance with the manufacturer's specifications and follow the Quality & Assurance guidelines recommended by the manufacturer. Readings shall be taken and recorded twice a day with a minimum of ten hours between readings.  
**[45CSR14, R14-0015, 4.2.6.]**
- 6.2.4. A device that continuously measures and records the pressure drop across the scrubber shall be installed, calibrated, maintained, and operated for each venturi scrubber (CD23A, CD23B, CD23C, and CD24B). Such device is to be certified by its manufacturer to be accurate within  $\pm 250$  pascals ( $\pm 1$  inch water gauge) over its operating range.  
**[45CSR14, R14-0015, 4.1.3.c. and 4.2.2.; 40 C.F.R. §60.683(a); 45CSR16]**

6.2.5. A device that continuously measures and records the scrubbing liquid flow to each scrubber and drop-out box shall be installed, calibrated, maintained, and operated for each venturi scrubber and drop-out box (CD13A, CD13B, CD23A, CD23B, CD23C, and CD24B). Such device is to be certified by its manufacturer to be accurate within  $\pm 5$  percent over its operating range.

**[45CSR14, R14-0015, 4.1.3.d. and 4.2.2.; 40 C.F.R. §60.683(a); 45CSR16]**

6.2.6. A device that continuously measures and records the scrubbing liquid pressure at delivery to each drop-out box shall be installed, calibrated, maintained, and operated for each drop-out box (CD13A, and CD13B). Such device is to be certified by its manufacturer to be accurate within  $\pm 5$  percent over its operating range.

**[45CSR14, R14-0015, 4.1.3.e. and 4.2.2.]**

### **6.3. Testing Requirements**

6.3.1. To demonstrate compliance with condition 6.1.1., refer to condition 3.3.7.

6.3.2. To comply with 40 C.F.R. §60.684(d) (permit condition 6.4.3.), the owner or operator shall record measurements as required in 40 C.F.R. §60.684(a) (permit condition 6.4.1.) using the monitoring devices in 40 C.F.R. §60.683(a) (permit condition 6.2.1.) during the particulate matter runs.

**[40 C.F.R. §60.685(d); 45CSR16]**

6.3.3. To demonstrate compliance with the ammonia (NH<sub>3</sub>) emission limits in 6.1.2., the permittee shall use US EPA Method 320 (FTIR) or US EPA Method CTM-027 (wet chemistry). Testing shall be performed within 180 days after making a binder formulation change or if the facility needs to qualify a higher LOI than previously qualified. During such testing, the permittee shall also demonstrate compliance with the VOC, formaldehyde, and phenol emission limits in accordance with condition 3.3.14.

**[45CSR§30-12.7.]**

### **6.4. Recordkeeping Requirements**

6.4.1. At 30-minute intervals during each 2-hour test run of each performance test of a wet scrubber control device and drop-out boxes at least once every 4 hours thereafter, the owner or operator shall record the measurements required by 40 C.F.R. §60.683(a) (condition 6.2.1. of this permit).

**[40 C.F.R. §60.684(a); 45CSR16; 45CSR14, R14-0015, 4.5.2.]**

6.4.2. Records of the measurements required in paragraph (a) of 40 C.F.R. §60.684 (condition 6.4.1. of this permit) must be retained for at least 2 years.

**[40 C.F.R. §60.684(c); 45CSR16]**

6.4.3. Each owner or operator shall submit written semiannual reports of exceedances of control device (CD13A, CD13B, CD23A, CD23B, and CD23C) operating parameters required to be monitored by paragraph (a) of 40 C.F.R. §60.684 (condition 6.4.1. of this permit) and written documentation of, and a report of corrective maintenance required as a result of, quarterly calibrations of the monitoring devices required in 40 C.F.R. §60.683(c) (condition 6.2.2. of this permit). For the purpose of these reports, exceedances are defined as 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 recorded during the most recent performance test.

**[40 C.F.R. §60.684(d); 45CSR16; 45CSR14, R14-0015, 4.5.2.]**

## **6.5. Reporting Requirements**

- 6.5.1. To demonstrate compliance with the operational requirements of conditions 6.1.5. and 6.1.6., the permittee shall submit a corresponding statement of compliance as part of the semiannual monitoring report required in condition 3.5.6.  
[45CSR§30-5.3.e.]

## **6.6. Compliance Plan**

- 6.6.1. There is no compliance plan since a responsible official certified compliance with all requirements in the renewal application.

**7.0 Source-Specific Requirements [Curing & Cooling Line 1 Group 006 and emission unit ID(s) (ES14A, CD14A, and ES14B) – Emission I.D. EP-14] and [Curing & Cooling Line 2 Group 007 and emission point unit ID(s) (ES24A, CD24A, ES24B, and CD24B) – Emission Point I.D. EP-24]**

**7.1. Limitations and Standards**

7.1.1. Emissions from the line shall not exceed the following limits with respect to the corresponding emission point and pollutant:

| Emission Limits for 1 <sup>st</sup> and 2 <sup>nd</sup> Lines |             |              |             |                           |                             |                     |                     |                          |
|---|-------------|--------------|-------------|---------------------------|-----------------------------|---------------------|---------------------|--------------------------|
| Emission Point ID   | CO (lb/TGP) | NOx (lb/TGP) | PM (lb/TGP) | PM <sub>10</sub> (lb/TGP) | VOC <sup>(1)</sup> (lb/TGP) | HCOH (lb/TGP)       | Phenol (lb/TGP)     | NH <sub>3</sub> (lb/TGP) |
| EP14  | 1.13        | 3.75         | 0.46        | 0.46                      | 2.86 <sup>(2)</sup>         | 0.80 <sup>(2)</sup> | 1.55 <sup>(2)</sup> | 0.87                     |
| EP24  | 1.31        | 3.75         | 0.93        | 0.93                      | 2.86 <sup>(3)</sup>         | 0.80 <sup>(3)</sup> | 1.55 <sup>(3)</sup> | 0.87                     |

lb/TGP – pounds of pollutant per ton of glass pulled.

(1) VOC emissions shall not include methane and ethane.

(2) Compliance with the emission limit shall be the sum of the respective pollutant from both EP14 and EP13 (condition 6.1.2).

(3) Compliance with the emission limit shall be the sum of the respective pollutant from both EP24 and EP23 (condition 6.1.2).

**[45CSR14, R14-0015, 4.1.1.b. and 4.1.2.b.]**

7.1.2. Exhaust from the curing oven shall be vented into a closed loop system that routes this stream directly to the United McGill Thermal Oxidizer identified as CD14A at all times when the line is operating. The oxidizer shall be operated and maintained in accordance with the following:

i. The temperature of combustion chamber shall not fall below 1,500°F or the average temperature recorded during the most recent performance testing that demonstrated compliance with the VOC, formaldehyde, and phenol emissions limits. Compliance with this limit shall be based on rolling three hour average.

ii. The oxidizer shall not consume more than 5,000 cubic feet of natural gas per hour or 43.8 MMscf per year

**[45CSR14, R14-0015, 4.1.1.f.; 40 C.F.R. §63.1382(b)(6); 45CSR34]**

7.1.3. Exhaust from the curing oven shall be vented into a closed loop system that routes this stream directly to the McGill AirClean Thermal Oxidizer identified as CD24A at all times when the line is operating. The oxidizer shall be operated and maintained in accordance with the following:

i. The temperature of combustion chamber shall not fall below 1,500°F or the average temperature recorded during the most recent performance testing that demonstrated compliance with the VOC, formaldehyde, and phenol emissions limits. Compliance with this limit shall be based on rolling three hour average.

ii. The oxidizer shall not consume more than 5,000 cubic feet of natural gas per hour or 43.8 MMscf per year

**[45CSR14, R14-0015, 4.1.2.f.; 40 C.F.R. §63.1382(b)(6); 45CSR34]**

7.1.4. Exhaust from the cooling table of the 2<sup>nd</sup> line shall be vented into a closed loop system that routes this stream directly to a venturi scrubber (CD24B) at all times when the line is operating.

**[45CSR14, R14-0015, 4.1.2.h.]**

## 7.2. Monitoring Requirements

### 7.2.1. Thermal Incinerator Firebox Temperature Monitoring

- (1) The owner or operator who uses an incinerator to control formaldehyde emissions from forming or curing shall install, calibrate, maintain, and operate a monitoring device that continuously measures and records the operating temperature in the firebox of each incinerator.
- (2) The owner or operator must inspect each incinerator at least once per year according to the procedures in the operations, maintenance, and monitoring plan (permit condition 3.2.1.). At a minimum, an inspection must include the following:
  - (i) Inspect all burners, pilot assemblies, and pilot sensing devices for proper operation and clean pilot sensor, as necessary;
  - (ii) Ensure proper adjustment of combustion air and adjust, as necessary;
  - (iii) Inspect, when possible, internal structures, for example, baffles, to ensure structural integrity per the design specifications;
  - (iv) Inspect dampers, fans, and blowers for proper operation;
  - (v) Inspect for proper sealing;
  - (vi) Inspect motors for proper operation;
  - (vii) Inspect combustion chamber refractory lining and clean and repair/replace lining, as necessary;
  - (viii) Inspect incinerator shell for corrosion and/or hot spots;
  - (ix) For the burn cycle that follows the inspection, document that the incinerator is operating properly and make any necessary adjustments; and
  - (x) Generally observe that the equipment is maintained in good operating condition.
  - (xi) Complete all necessary repairs as soon as practicable.

#### **[40 C.F.R. §63.1383(g); 45CSR34]**

- 7.2.2. A device that continuously measures and records the temperature of the combustion chamber for each thermal oxidizer (CD14A, CD24A) shall be installed, calibrated, maintained, and continuously operated. Such device shall be certified by the manufacturer to be accurate within  $\pm$  one (1) degree Fahrenheit.

#### **[45CSR14, R14-0015, 4.1.3.g. and 4.2.2.]**

- 7.2.3. Refer to permit condition 6.2.4. for CD24B.

- 7.2.4. Refer to permit condition 6.2.5. for CD24B.

### **7.3. Testing Requirements**

- 7.3.1 To demonstrate compliance with the ammonia (NH<sub>3</sub>) emission limits in 7.1.1., the permittee shall use US EPA Method 320 (FTIR) or US EPA Method CTM-027 (wet chemistry). Testing shall be performed within 180 days after making a binder formulation change or if the facility needs to qualify a higher LOI than previously qualified. During such testing, the permittee shall also demonstrate compliance with the VOC, formaldehyde, and phenol emission limits in accordance with condition 3.3.14.  
[45CSR§30-12.7.]

### **7.4. Recordkeeping Requirements**

- 7.4.1. To demonstrate compliance with conditions 7.1.2.ii. and 7.1.3.ii., the permittee shall maintain monthly records and 12 month rolling total of hours operated and natural gas consumed by the United McGill Thermal Oxidizer Model 2-151C306 (CD14A) and the McGill AirClean Thermal Oxidizer Model MCT 30.0 (CD24A).  
[45CSR§30-5.1.c.]

### **7.5. Reporting Requirements**

- 7.5.1. Reserved.

### **7.6. Compliance Plan**

- 7.6.1. There is no compliance plan since a responsible official certified compliance with all requirements in the renewal application.

**8.0 Source-specific Requirements [Facing Sizing & Packaging for Line 1 (Group 008) and emission unit IDs ES15A, ES15B, CD15A, ES15C, ES15D, ES15E, ES15F, ES15G, ES15H, ES15I, and ES15J – Emission Point ID FP15] and [Facing Sizing & Packaging for Line 2 (Group 008) and emission unit IDs ES25A, ES25B, CD25A, ES25C, ES25D, ES25E, ES25F, ES25G, ES25H, ES25I, ES25J, CD25B, ES25K, and ES25L – Emission Point ID FP15]**

**8.1. Limitations and Standards**

8.1.1. The permittee shall install, maintain, and operate the Quentin Keeney Air Tumblers (CD15A), the Fisher-Klosterman Scrubber (CD25A) and the bag filter dust collector (CD25B) in such a way that the PM and PM-10 emissions from FP15 do not exceed 0.25 pounds per hour and 1.1 tons per year.  
**[45CSR14, R14-0015, 5.1.2.]**

8.1.2. Refer to permit condition 3.1.23.

**8.2. Monitoring Requirements**

8.2.1. Reserved.

**8.3. Testing Requirements**

8.3.1. Reserved.

**8.4. Recordkeeping Requirements**

8.4.1. Refer to permit conditions 3.4.11. and 3.4.12.

**8.5. Reporting Requirements**

8.5.1. Reserved.

**8.6. Compliance Plan**

8.6.1. There is no compliance plan since a responsible official certified compliance with all requirements in the renewal application.

**9.0. Source-Specific Requirements [Supporting Facilities (Group 009) and emission unit IDs ESDG12, ESDG13, ESW11, ESSHB14, ESSH15, and ESHW15 – Emission Point IDs EP16, EP17, EP18, EP19, EP20, EP21 and EP22]**

**9.1. Limitations and Standards**

9.1.1. Emissions of the following pollutants to the atmosphere from the associated emission points shall not exceed the following:

| <b>Caterpillar 3406 (Emission Point EP16 )</b> |                                 |      |
|--|---------------------------------|------|
| Pollutant                                      | Maximum Allowable Emission Rate |      |
|  | lb/hr                           | TPY  |
| Particulate Matter                             | 0.58                            | 0.15 |
| Sulfur Dioxide                                 | 3.80                            | 0.90 |
| Nitrogen Oxides                                | 9.13                            | 2.30 |
| Carbon Monoxide                                | 4.16                            | 1.04 |
| Volatile Organic Compounds                     | 0.10                            | 0.03 |

| <b>Caterpillar 3456 (Emission Point EP17 )</b> |                                 |      |
|--|---------------------------------|------|
| Pollutant                                      | Maximum Allowable Emission Rate |      |
|  | lb/hr                           | TPY  |
| Particulate Matter                             | 0.09                            | 0.03 |
| Sulfur Dioxide                                 | 3.80                            | 0.90 |
| Nitrogen Oxides                                | 10.96                           | 2.74 |
| Carbon Monoxide                                | 0.62                            | 0.56 |
| Volatile Organic Compounds                     | 0.11                            | 0.03 |

| <b>Cummins NT-855-F1 (Emission Point EP18)</b> |                                 |     |
|--|---------------------------------|-----|
| Pollutant                                      | Maximum Allowable Emission Rate |     |
|  | lb/hr                           | TPY |
| Particulate Matter                             | 0.59                            | 0.2 |
| Sulfur Dioxide                                 | 0.56                            | 0.1 |
| Nitrogen Oxides                                | 8.5                             | 2.1 |
| Carbon Monoxide                                | 1.8                             | 0.5 |
| Volatile Organic Compounds                     | 0.69                            | 0.2 |

[45CSR14, R14-0015, 5.1.3.; 45CSR§30-12.7.] (Emission Unit IDs: ESDG12, ESDG13, and ESW11)

- 9.1.2. The two Caterpillar 3406 and 3456 (ID. No. ESDG12 and ESDG13) and Cummins NT-855-F1 (ID. No. ESWF11) internal combustion engines shall not operate more than 500 hours per year, calculated as the sum during a consecutive 12 month period.  
**[45CSR14, R14-0015, 5.1.4.] (Emission Unit IDs: ESDG12, ESDG13, and ESWF11)**
- 9.1.3. The two Caterpillar 3406 and 3456, and Cummins NT-855-F1 internal combustion engines shall not consume a fuel with a sulfur content of greater than 0.5 percent by weight.  
**[45CSR14, R14-0015, 5.1.5.] (Emission Unit IDs: ESDG12, ESDG13, and ESWF11)**
- 9.1.4. The 14.6 MMBTU/hr boiler (ID. No. ESSHB14), 8.5 MMBTU/hr makeup air handling unit (ID. No. ESSH15), 7.875 MMBtu/hr Air Handling Unit (ID. No. ESSH16), and five (5) 75 MBTU/hr binder water heaters (ID. No. ESHW15) shall only be fired with pipeline quality natural gas.  
**[45CSR14, R14-0015, 5.1.6.]**
- 9.1.5. Emissions of the following pollutants to the atmosphere at emission point EP21 from the 14.6 MMBTU/hr boiler (ID. No. ESSHB14) shall not exceed the following:

| Pollutant                  | Hourly Emission Rate | Annual Emission Rate |
|----------------------------|----------------------|----------------------|
|                            | lb/hr                | TPY                  |
| Particulate Matter         | 0.05 <sup>(1)</sup>  | 0.2                  |
| Particulate Matter-10      | 0.05 <sup>(1)</sup>  | 0.2                  |
| Nitrogen Oxides            | 1.5                  | 6.6                  |
| Carbon Monoxide            | 0.29                 | 1.3                  |
| Volatile Organic Compounds | 0.08                 | 0.3                  |

(1) Compliance with this streamlined limit ensures compliance with 45CSR§2-4.1.b.

**[45CSR14, R14-0015, 5.1.7.; 45CSR§2-4.1.b.]**

- 9.1.6. Emissions of the following pollutants to the atmosphere from the 8.5 MMBTU/hr makeup air handling unit (ID No. ESSH15) shall not exceed the following:

| Pollutant                  | Hourly Emission Rate | Annual Emission Rate |
|----------------------------|----------------------|----------------------|
|                            | lb/hr                | TPY                  |
| Particulate Matter         | 0.03                 | 0.1                  |
| Particulate Matter-10      | 0.03                 | 0.1                  |
| Nitrogen Oxides            | 0.85                 | 3.7                  |
| Carbon Monoxide            | 0.17                 | 0.8                  |
| Volatile Organic Compounds | 0.05                 | 0.2                  |

**[45CSR14, R14-0015, 5.1.8.]**

- 9.1.7. No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any fuel burning unit which is greater than ten (10) percent opacity based on a six minute block average.  
[45CSR§2-3.1.] (*Emission Unit IDs: ESSHB14, ESHW15, ESSH15, ESSH16*)
- 9.1.8. No person shall cause, suffer, allow or permit the discharge of sulfur dioxide into the open air from all stacks located at one plant in excess of 46.9 lb/hr.  
[45CSR§10-3.3.f.] (*Emission Unit ID: ESSHB14*)
- 9.1.9. Due to unavoidable malfunction of equipment or inadvertent fuel shortages, emissions exceeding those provided for in 45CSR10 may be permitted by the Director for periods not to exceed ten (10) days upon specific application to the Director. Such application shall be made within twenty-four (24) hours of the equipment malfunction or fuel shortage. In cases of major equipment failure or extended shortages of conforming fuels, additional time periods may be granted by the Director provided a corrective program has been submitted by the owner or operator and approved by the Director.  
[45CSR§10-9.1.]
- 9.1.10. No owner or operator subject to the provisions of 45CSR10 shall build, erect, install, modify or use any article, machine, equipment or process, the use of which purposely conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with a standard that is based on the concentration of a pollutant in the gases discharged to the atmosphere.  
[45CSR§10-11.1.]

## **9.2. Monitoring Requirements**

- 9.2.1. Reserved.

## **9.3. Testing Requirements**

- 9.3.1. Reserved.

## **9.4. Recordkeeping Requirements**

- 9.4.1. To demonstrate compliance with conditions 9.1.1. and 9.1.2., the permittee shall monitor and record the hours of operation of the engines for the generators and fire water pumps. Such records shall be kept on both a monthly and 12-month rolling total basis.  
[45CSR14, R14-0015, 5.2.3.; 45CSR§30-5.1.c.] (*Emission Unit IDs: ESDG12, ESDG13, and ESW11*)
- 9.4.2. To demonstrate compliance with conditions 9.1.1. and 9.1.3., the permittee shall maintain records of sulfur content of the fuel oil received and/or vendors contractual sulfur specifications for the fuel oil.  
[45CSR14, R14-0015, 5.4.4.] (*Emission Unit IDs: ESDG12, ESDG13, and ESW11*)

## **9.5. Reporting Requirements**

- 9.5.1. To demonstrate compliance with conditions 9.1.4., 9.1.5., and 9.1.6., the permittee shall certify in the semiannual monitoring report (permit condition 3.5.6.) that only pipeline quality natural gas was combusted as fuel in the affected emission units.  
[45CSR§30-5.1.c.]

## **9.6. Compliance Plan**

- 9.6.1. There is no compliance plan since a responsible official certified compliance with all requirements in the renewal application.