West Virginia Department of Environmental Protection

Austin Caperton
Cabinet Secretary

Permit to Operate

Pursuant to

Title V

of the Clean Air Act

Issued to:

Knauf Insulation, Inc.
Inwood Plant
R30-00300012-2019

Laura M. Crowder
Acting Director, Division of Air Quality

Issued: March 19, 2019 • Effective: April 2, 2019
Expiration: March 19, 2024 • Renewal Application Due: September 19, 2023

Permit Number: **R30-00300012-2019**

Permittee: **Knauf Insulation, Inc.**

Facility Name: **Inwood Plant**

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

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.

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.

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.

Table of Contents

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
RAW MATERIAL HANDLING OPERATIONS (Group 001)					
ES1A	EP23	Raw Material Storage Bin for Sand	07/25/1998	178.35 Tons	CD1A
ES1B	EP23	Raw Material Storage Bin for Borax	07/25/1998	137.45 tons	CD1B
ES1C	EP23	Raw Material Storage Bin for Borax	07/25/1998	137.45 tons	CD1B
ES1D	EP23	Raw Material Storage Bin for Soda Ash	07/25/1998	137.45 tons	CD1D
ES1E	EP23	Raw Material Storage Bin for Soda Ash	07/25/1998	137.45 tons	CD1D
ES1F	EP23	Raw Material Storage Bin for Aplite	07/25/1998	137.45 tons	CD1F
ES1G	EP23	Raw Material Storage Bin for Lime	07/25/1998	109.5 tons	CD1G
ES1H	EP23	Raw Material Storage Bin for Cullet	07/25/1998	108.50 Tons	CD1I
ES1I	EP23	Raw Material Storage Bin for Cullet	07/25/1998	108.50 Tons	CD1I
ES1J	EP23	Raw Material Storage Bin for Cullet	07/25/1998	137.45 tons	CD1F
ES1K	EP23	Raw Material Storage Bin for Baghouse Dust	07/25/1998	75.00 tons	CD1K
ES1L	EP23	Raw Material Storage Bin for Cullet	2017	137.45 tons	CD1L
ES1M	EP23	Raw Material Storage Bin for Cullet	2017	137.45 tons	CD1M
ES1N	EP23	Raw Material Storage Bin for Cullet	2017	137.45 tons	CD1N
ES12A	FP11	Batch Mixer Receiving Bin for 1st and 2nd Line	07/25/1998	8,000 lbs.	CD12A
ES22A	EP23	Batch Mixer Receiving Bin for 2nd Line	2004	8,000 lbs.	CD22A
ES12B	FP11	Mixed Batch Storage backup day bin for 1st Line (5” Line)	07/25/1998	21.72 tons	CD12D
ES12D	FP11	Mixed Batch Storage Day Bin for 1st Line	07/25/1998	39.0 tons	CD12C
ES12Db	FP11	Mixed Batch Storage Day Bin for 1st Line	07/25/1998	1.31 tons	CD12Cb
ES11a	EP11a	Line 2 Day Bin A	2017		CD11a
ES11b	EP11b	Line 2 Day Bin B	2017		CD11b
TANKS (Group 001)					
T3	FP11	ECOSE Storage Tank	07/25/1998	5,131 gallons	NA
T4	FP11	ECOSE Storage Tank	07/25/1998	5,131 gallons	NA

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
T5	FP11	ECOSE Storage Tank	07/25/1998	5,131 gallons	NA
T6	FP11	ECOSE Storage Tank	07/25/1998	5,131 gallons	NA
T7A	FP11	Wax Storage Tank	2014	5,000 gallons	NA
T7B	FP11	Wax Storage Tank	2014	5,000 gallons	NA
T8	FP11	Ammonia (aqueous) Storage Tank	07/25/1998	6,000 gallons	NA
M1	FP11	Catalyst Mix Tank	2015	1,200 gallons	N/A
M2	FP11	Catalyst Hold Tank	2015	1,500 gallons	NA
M3	FP11	Spare Holding Tank	2015	1,700 gallons	NA
M4	FP11	Binder Holding Tank	2015	1,750 gallons	NA
M5	FP11	Binder Mix Tank	2015	750 gallons	NA
M6	FP11	Binder Holding Tanks	2015	1,600 gallons	NA
M7	FP11	Filtered Water Hold Tank	2017	2,600 gallons	NA
FP11		In-Plant Fugitive Emissions Released	07/25/1998		NA
MELTING & REFINING LINE 1 (Group 002) [9,000 lbs/hr or 39,420 TPY Production Rate]					
ES12C	EP12	Melter Hood for 1st Line	07/25/1998	4.50 TPH of melted glass	CD12B & CD12Bb
ES12E	EP12 and EP13	Forehearth for 1st Line Natural Gas Fired Brick Holding Process Heater Tank Max Heat Input Rate: 5.5 MMBtu/hr	07/25/1998	9,000 lbs/hr of Glass per hour	CD13A, CD13B
MELTING & REFINING LINE 2 (Group 003) [13,333 lbs/hr Production Rate]					
ES22	EP23	ML2INW King Melter Gas (natural gas – NG) oxygen fuel furnace. Includes Electric/Gas fired canal and electric forehearth.	2017	6.67 tons of glass pulled (TGP)/hr	CD22B
FORMING & COLLECTING 1 (Group 004)					
ES13A	EP13	Glass Fiber Forming Units Natural gas fired	07/25/1998	9,000 lbs/hr	CD13A, CD13B, CD13C
FORMING & COLLECTING 2 (Group 005)					
ES22E	EP23	ML2INW Forming Includes forming units (fiberizers), and collection plenum. Design Total Heat Input of 20 MMBtu/hr of NG	2017	6.67 TGP/hr	CD23A, CD23B, CD23C, CD23D

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
CURING & COOLING LINE 1 (Group 006)					
ES14A	EP14	3 Zone Curing Oven for 1st Line Manufacturer: B&M Steel of New Castle Indiana Natural Gas Fired Max Heat Input Rate: 18.0 MMBtu/hr	07/25/1998	9,000 lbs/hr	CD14A
CD14A	EP14	Thermal Oxidizer Manufacturer: United McGill Corp. Model No. 2-151C306 Capture Efficiency: 95% for VOC	07/25/1998	2.628 $MMft^3$ / hr at 150.0 ^oF	None
ES14B	EP14	Cooling Table for 1st Line	07/25/1998	9,000 lbs/hr	CD14A
CURING & COOLING LINE 2 (Group 007)					
ES24A	EP24	5 Zone Curing Oven for 2nd Line with two vestibule burners, Natural Gas Fired with Max Heat Input Rate: 25.2 MMBtu/hr	2017	6.67 TGP/hr	CD24A
ES24B	EP24	Cooling Table for 2nd Line	2017	6.67 TGP/hr	CD24B
FACING SIZING & PACKAGING FOR LINE 1 (Group 008)					
ES15A	FP15	Hot Roll – Facing Application	07/25/1998	50-400^{o}F @ 180 GPM	None
ES15Aa	FP15	Infrared Radiation – Facing Application	2004	50-400^{o}F @ 200 amps	CD15A
ES15B	FP15	Slitter Saw	07/25/1998	NA	CD15A
ES15C	EP13	Edge Trimmer and Dicers (or Cubes)	07/25/1998	NA	CD13A, CD13B, CD13C
ES15D	FP15	Choppers	07/25/1998	NA	CD15A
ES15E	FP15	Roll Up	07/25/1998	NA	CD15A
ES15F	FP15	Batt Folder	07/25/1998	NA	CD15A
ES15G	FP15	Batt Packers	07/25/1998	NA	CD15A
ES15H	FP15	Dicers or Cubers	07/25/1998	NA	CD15C
ES15I	FP15	Blowing Wool Bagger	07/25/1998	NA	CD15A and CD15C
ES15J	FP15	Ring Wrapper	07/25/1998	NA	CD15A
FACING SIZING & PACKAGING FOR LINE 2 (Group 008)					
ES25A	FP23	Infrared Radiation – Facing Application Manufacturer: Solartronics IRT Model No.: IRT-MiniFlex Type: Electric	2004		None

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
ES25B	FP23	Slitter Saw	2017	NA	CD25A
CD25A		Water Venturi Scrubbers Manufacturer: Fisher-Klosterman, Inc. Model: MS-650H Captured Efficiency: 85 % Scrubbing Liquid: Water	2004	20,000 cfm	None
ES25C	EP23	EdgeTrimmer and Dicers (or Cubes)	2004		CD23A, CD23B, CD23C, CD23D
ES25D	FP23	Choppers Manufacturer: United Tool Model No.: UX-431	2017		CD25A
ES25F	FP23	Batt Folder	2017		CD25A
ES25G	FP23	Batt Packers	2017		CD25C and CD25D
ES25H	FP23	Dicers or Cubers	2004	NA	CD25C and CD25D
ES25I	FP15	Blowing Wool Bagger	2004	NA	CD15A
CD25C	FP23	Dual Cyclone and Condenser Manufacturer: Van Dommele	2004	NA	CD25D
CD25D	FP23	Screen Room 8’ x 8’ x 16’ Woven Polyester Capture efficiency 95%	2007/2012	10,000 cfm	None
ES25J	FP23	Ring Wrapper	2004	NA	CD25A
ES25L	FP15	Blowing Wool Bagger	2004	NA	CD15A
SUPPORT FACILITIES (Group 009)					
ESDG12	EP16	Emergency Generator Manufacturer: Caterpillar Diesel Fired Compression Ignition Engine Model No.: 3406 Fuel: Diesel	07/25/1998	587-bhp	None
ESDG13	EP17	Emergency Backup Generator Manufacturer: Caterpillar Diesel Fired Compression Ignition Engine Model No.: 3456 Fuel: Diesel	2004	610-bhp	None

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
ESFW11	EP18	Emergency Fire Water Manufacturer: Cummins Diesel-fired Compression Ignition Engine Model No.: NT-855-F1 Horsepower: 255 HP Fuel: Diesel	07/25/1998	255 hp	None
ESDG14	NewGEN	Emergency Generator Set Caterpillar C18 Diesel Fired Compression Ignition Engine	2017	900 bhp	None
ESSH15	EP19	Air Handling Unit: Rapid Engineering, Model: 4089 Fuel: Pipeline Quality Natural Gas	07/25/1998	8.525 MMBtu/hr	None
ESSH16	EP22	Air Handling Unit; Rapid Engineering, Model 4089	2004	7.875 MMBtu/hr	None
CT3	CT3	Cooling Tower	2017		Drift Eliminator
CT4	CT4	Cooling Tower	2017		Drift Eliminator
CT5	CT5	Cooling Tower	2017		Drift Eliminator

Control Devices

Control Device ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
CD1A	FP11	Whirl-Air Flow Bin Vent DC Model: 195-42	07/25/1998	585 acfm	None
CD1B	FP11	Whirl-Air Flow Bin Vent DC Model: 195-42	07/25/1998	585 acfm	None
CD1D	FP11	Whirl-Air Flow Bin Vent DC Model: 195-42	07/25/1998	585 acfm	None
CD1D	FP11	Whirl-Air Flow Bin Vent DC Model: 195-42	07/25/1998	585 acfm	None
CD1F	FP11	Whirl-Air Flow Bin Vent DC Model: 195-42	07/25/1998	585 acfm	None
CD1G	FP11	Whirl-Air Flow Bin Vent DC 2 Model: 195-42	07/25/1998	585 acfm	None
CD1I	FP11	Whirl-Air Flow Bin Vent DC Model: 195-42	07/25/1998	585 acfm	None

Control Device ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
CD1K	FP11	Whirl-Air Flow Bin Vent DC Model: 55-30	07/25/1998	165 acfm	None
CD12A	FP11	Whirl-Air Flow Bin Vent DC Model: 345-56	07/25/1998	1,035 acfm	None
CD22A	FP11	IAC Bin-Vent Model: 96TB-FRIP	07/25/1998	2,917 acfm	None
CD12D	FP11	Whirl-Air Flow Bin Vent DC Model: 130-42	07/25/1998	390 acfm	None
CD11a	EP11a	Donaldson Dust Collector	2017	1,000 acfm	None
CD11b	EP11b	Donaldson Dust Collector	2017	1,000 acfm	None
CD1L	FP23	Donaldson Dust Collector	2017		None
CD1M	FP23	Donaldson Dust Collector	2017		None
CD1N	FP23	Donaldson Dust Collector	2017		None
CD12C	FP11	Whirl-Air Flow Bin Vent DC Model: 230-56	07/25/1998	690 acfm	None
CD12Cb	FP11	Whirl-Air Flow Bin Vent DC Model: 265-42	07/25/1998	795 acfm	None
CD12B	EP12	Mactiflo Cartridge Dust Collector Filter Model: MAC 4 – MTF96 Configuration: Closed Pressure Filter Material: Polyester Cartridge Filter Cleaning Method: Pulse Air Removal Efficiency: 99% Filter Area: 28,320 ft	07/25/1998	15,000 acfm	None
CD12Bb (Backup)	EP12	Mactiflo Cartridge Dust Collector Model: MactFlo 4MTF32 Filter Configuration: Closed Pressure Filter Material: Polyester cartridge filter Cleaning Method: Pulse Air Removal Efficiency: 99% Filter Area: 3,520 ft^2	07/25/1998	10,000 acfm	None

Control Device ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
CD13A	EP13	Venturi Wet Scrubber Removal Efficiency: 99% for PM	2015	53,000 acfm	None
CD13B	EP13	Venturi Wet Scrubber Removal Efficiency: 99% for PM	2015	53,000 acfm	None
CD13C	EP13	Venturi Wet Scrubber Removal Efficiency: 99% for PM	2015	53,000 acfm	None
CD14A	EP14	McGill AirClean RTO Thermal Oxidizer Manufacturer: United McGill Model No.: 2-151C306 Destruction Efficiency: 95 % for VOC	07/25/1998	1.785 $MMft^3$ / hr at 250.0 ^oF	None
CD15A	FP15	Wet Collection System (Dynamic Separator)	07/25/1998	20,000 cfm	None
CD15C	FP15	Dual Cyclone and Condenser	2006	NA	None
CD22B	EP23	Baghouse Removal Efficiency: 98 % for PM Filter Material: PTFE Cleaning Method: Pulse Air Filter Area: 6,714 cu ft	2017	28,100 cfm	None
CD23A	EP23	Water Venturi Scrubbers Manufacturer: Fisher-Klosterman, Inc Model: MS-1300 Removal Efficiency: 98% for PM Scrubbing Liquid: Water	2017	65,000 cfm	None
CD23B	EP23	Water Venturi Scrubbers Manufacturer: Fisher-Klosterman, Inc Model: MS-1300 Removal Efficiency: 98 % Scrubbing Liquid: Water	2017	65,000 cfm	None
CD23C	EP23	Water Venturi Scrubbers Manufacturer: Fisher-Klosterman, Inc. Model: MS-1300 Removal Efficiency: 98 % Scrubbing Liquid: Water Custom Design	2017	65,000 cfm	None
CD23D	EP23	Water Venturi Scrubbers Manufacturer: Fisher-Klosterman, Inc. Model: MS-1300 Removal Efficiency: 98 % Scrubbing Liquid: Water	2017	65,000 cfm	None

Control Device ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
CD24A	EP24	McGill Air Clean MCT 30.0 Regentive Thermal Oxidizer Destruction Efficiency: 95 % for VOC	2004		
CD24B	EP24	Water Venturi Scrubbers Manufacturer: Fisher-Klosterman, Inc.			
CD25A	FP23	Dust Collectector (cyclone) -Device vents to CD25Ab	2017	NA	
CD25B		Bag filter dust collector			
CD25Ab	FP23	Secondary dust collector (cartridge filter)	2017	NA	

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
~~R14-0015M~~ R14-0015N	~~September 20, 2017~~ April 18, 2019

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.

2.1.4. Unless otherwise specified in a permit condition or underlying rule or regulation, all references to a "rolling yearly total" shall mean the sum of the monthly data, values or parameters being measured, monitored, or recorded, at any given time for the previous twelve (12) consecutive calendar months.

2.2. Acronyms

CAAA	Clean Air Act Amendments	**NSPS**	New Source Performance Standards
CBI	Confidential Business Information	**PM**	Particulate Matter
CEM	Continuous Emission Monitor	**PM_{10}**	Particulate Matter less than 10μm in diameter
CES	Certified Emission Statement	**pph**	Pounds per Hour
C.F.R. *or* CFR	Code of Federal Regulations	**ppm**	Parts per Million
CO	Carbon Monoxide	**PSD**	Prevention of Significant Deterioration
C.S.R. *or* CSR	Codes of State Rules	**psi**	Pounds per Square Inch
DAQ	Division of Air Quality	**SIC**	Standard Industrial Classification
DEP	Department of Environmental Protection	**SIP**	State Implementation Plan
FOIA	Freedom of Information Act	**SO_2**	Sulfur Dioxide
HAP	Hazardous Air Pollutant	**TAP**	Toxic Air Pollutant
HON	Hazardous Organic NESHAP	**TPY**	Tons per Year
HP	Horsepower	**TRS**	Total Reduced Sulfur
lbs/hr *or* lb/hr	Pounds per Hour	**TSP**	Total Suspended Particulate
LDAR	Leak Detection and Repair	**USEPA**	United States Environmental Protection Agency
m	Thousand	**UTM**	Universal Transverse Mercator
MACT	Maximum Achievable Control Technology	**VEE**	Visual Emissions Evaluation
mm	Million	**VOC**	Volatile Organic Compounds
mmBtu/hr	Million British Thermal Units per Hour		
$mmft^3$/hr *or* mmcf/hr	Million Cubic Feet Burned per Hour		
NA *or* N/A	Not Applicable		
NAAQS	National Ambient Air Quality Standards		
NESHAPS	National Emissions Standards for Hazardous Air Pollutants		
NO_x	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 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 or allow 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, owner, or operator 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). The USEPA, the Division of Waste Management and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them. **[40 C.F.R. §61.145(b) and 45CSR34]**

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 40 C.F.R. §§ 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 40 C.F.R. § 82.158.

c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 C.F.R. § 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 (4.1.3.).
[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, which are 36.71 lb/hr and 39.57 lb/hr for Line #1 and Line #2, respectively. The permitted particulate matter emission rate for line 1 is 16.02 lb/hr (aggregated emissions from EP12, EP13, EP14). The permitted particulate matter emission rate for line 2 is 30.4 lb/hr (aggregated emissions from EP23, and EP24). Compliance with the PM limits in conditions 5.1.1., 5.1.6., 6.1.2., and 7.1.1. assures compliance with the Table 45-7A 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. No person shall cause, suffer, allow or permit the emission into the open air from any source operation an in-stack sulfur dioxide concentration exceeding 2,000 parts per million by volume from existing source operations.
[45CSR§10-4.1.]

3.1.17. The permittee shall install and maintain an industrial fence around this permitted facility as outlined in the December 19, 2016 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, 5.1.11.]

3.1.18. 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, R14-0015K, R14-0015L, and R14-0015M, 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.]

3.1.19. 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]

3.1.20. **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 5.1.12.; 45CSR§13-5.11.]

3.2. Monitoring Requirements

3.2.1. Reserved.

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.

d. The permittee shall submit a report of the results of the stack test within 60 days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:

1. The permit or rule evaluated, with the citation number and language.

2. The result of the test for each permit or rule condition.

3. A statement of compliance or non-compliance with each permit or rule condition.

[WV Code §§ 22-5-4(a)(14-15) 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. Within 180 days after initial re-starting of Line 2 from completing production upgrade project (i.e. installing the oxy-gas glass -melting furnace) as proposed in Permit Application R14-0015M, the permittee shall conduct performance testing to demonstrate compliance with the CO, NO_x, SO_2, PM, PM_{10}, $PM_{2.5}$, visible emissions (opacity), and VOC emission limits of Conditions 5.1.1. and 5.1.8. Such testing shall be conducted as prescribed in condition 3.3.6. for CO, NOx, and VOC. For $PM/PM_{10}/PM_{2.5}$, such testing shall be conducted as outlined in Condition 3.3.9. For oxides of nitrogen and carbon monoxide, such testing shall be conducted using test methods outlined in Condition 3.3.8. For SO_2, the permittee shall conduct testing using a method approved by the Director. This testing shall establish and/or verify the operating parameters for the respective control devices of the production line, parameter(s) used to verify the controller used to minimum flame temperature, minimum operating temperature of CD24A, and establish the maximum daily average LOI operating parameter.

If the permittee elects to demonstrate compliance with the limits in Condition 5.1.1. based on the individual limits for the glass-melting furnace, then the permittee shall use test Method 201 or 201A for the filterable portion and Method 202 for the condensable portion and report the total of these two fractions as for PM_{10} and $PM_{2.5}$.

[45CSR14, R14-0015, 4.3.5.]

3.3.5. For the purpose of demonstrating that Control Device CD24A is not required to meet the VOC limit in Condition 5.1.1., the permittee shall conduct a performance test before the inlet of Control Device CD24A in accordance with the procedures and methods outlined in Condition 3.3.6. A satisfactory demonstration shall be defined as the average VOC emission rate of the three runs is less than 80% of the permitted limit in Condition 5.1.1. with no individual runs above the permitted limit. As results of a satisfactory demonstration, compliance with the permitted VOC limit shall be based on operating the line with a daily average LOI at or less than as measured during the satisfactory demonstration. Such records shall be maintained in accordance with Condition 3.4.2.
[45CSR14, R14-0015, 4.3.6.]

3.3.6. For the purposes of demonstrating compliance with operational and emission limitations in conditions 5.1.1., 5.1.4., 5.1.5., 5.1.6., 5.1.7., 5.1.8., 6.1.2., 6.1.4., and 7.1.1., 7.1.2., and 7.1.3., the permittee shall conduct performance testing as required by the following conditions in this section. This testing shall establish and/or verify the operating parameters for the respective control devices of the production line and operating parameters of the 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 unless otherwise specified;

ii. Each test run must be conducted with the production line operating at no less than 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 producing a product with the highest LOI expected to be produced by this line;

v. Test(s) shall not be conducted during periods of startup, shutdown, or malfunctions as specified in 40 C.F.R. §60.8(c);

vi. During such testing, the permittee shall measure and record the binder formulation used, and the product LOI;

vii. During such testing, the permittee shall monitor and record all of the operating parameters respective to the production line as noted in condition 3.3.6. in thirty (30) minute intervals. The arithmetic average shall be calculated for each parameter~~s~~ 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. Compliance with the VOC limits shall be determined by taking the sum of the arithmetic average from the collection stack and incinerator stack for the 1st line. The reported emission rates shall be in terms of pounds per ton of glass pulled;

d. Such testing shall be conducted in accordance with permit condition 3.3.1.

[45CSR14, R14-0015, 4.3.1.]

3.3.7. Within 180 days after re-starting of the 1st line from completing the Knauf Technology project, the permittee shall conduct performance testing to demonstrate compliance with the CO, NO_x, PM, and VOC emission limits of Condition 5.1.6., 6.1.2., and 7.1.1. Such testing shall be conducted as prescribed in condition 3.3.6. for CO, NO_x, and VOC. For PM, such testing shall be conducted as outlined in condition 3.3.9. 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.]

3.3.8. Once every five years, the permittee shall conduct emission testing to demonstrate compliance with the permitted CO and NO_x emission limits in 5.1.1., 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 operating parameters for the process. This testing shall be conducted as outlined in permit conditions 3.3.1., 3.3.6.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.]

3.3.9. Once every 5 years or within 180 days of when the production line will be producing a product with a specified LOI of 1% greater than the previous compliance test that demonstrated compliance with the permitted PM emission 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 3.3.6.a. and U.S. EPA Method 5E. Method 9 shall be utilized to determine the visible emissions exhibit for the emission point. The sampling time and sample volume shall be at least 120 minutes and 2.55 dscm (90.1 dscf). This testing shall establish and/or verify the operating parameters for the respective control devices of the production line. At 30-minute intervals during each 2-hour test run of each performance test of a wet scrubber control device, the permittee shall record the measurements required by Conditions 6.2.3. and 6.2.4. (40 CFR §60.683(a)), LOI of the glass fiber produced, and production rate).
[45CSR14, R14-0015, 4.3.4.; 40 C.F.R. §60.685; 45CSR16]

3.3.10. 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]

3.3.11. 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 part 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]

3.3.12. 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]

3.3.13. 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, or use an approved alternative method (i.e., Properly calibrated pull rate cameras. Refer to Federal Register / Vol. 72, No. 143 / Thursday, July 26, 2007 / Abstract 0600088). 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^2 (lb/ft^2).

LOI = loss on ignition, weight percent.

K' = conversion factor, 6 x 10^{-5} (min-Mg)/ (hr-g) [3 x 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, any investigation performed in response to such a complaint, and any responsive action(s) taken.
[45CSR§30-5.1.c. State-Enforceable only.]

3.4.4. The permittee shall monitor and record the hourly production rate on a daily basis for each line. These records shall include the monthly total and the 12-month rolling total for each line respectively. Such records shall be maintained in accordance with condition 3.4.2. For the Line 2, the permittee shall record the date and time start-up began and ended for the gas oxygen glass melting furnace and any time period that Control Device CD22B was being by-passed while the gas oxygen glass melting furnace was operating. Such records shall be maintained in accordance with Condition 3.4.2.
[45CSR14, R14-0015, 4.2.1.]

3.4.5. The permittee shall monitor and record the product LOI of each resinated product manufactured. The frequency of such monitoring shall not be less than once every eight hours. The LOI shall be determined using ASTM D2584-68 (Reapproved 1985) or 94.
[45CSR14, R14-0015, 4.2.3.]

3.4.6. **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.]

3.4.7. **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.]

3.4.8. The permittee shall maintain records of 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. Except for the electronic submittal of the annual compliance certification and semi-annual monitoring reports to the DAQ and USEPA as required in 3.5.5 and 3.5.6. below, 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 or by private carrier with postage prepaid to the address(es), or submitted in electronic format by e-mail as set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

DAQ:

Director
WVDEP
Division of Air Quality
601-57th Street
Charleston, WV 25304

US EPA:

Section Chief
U. S. Environmental Protection Agency, Region III
Enforcement and Compliance Assurance Division
Air Section (3ED21)
1650 Arch Street
Philadelphia, PA 19103-2029

DAQ Compliance and Enforcement[1]:
DEPAirQualityReports@wv.gov

[1]For all self-monitoring reports (MACT, GACT, NSPS, etc.), stack tests and protocols, Notice of Compliance Status reports, Initial Notifications, etc.

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. **[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. The annual certification shall be submitted in electronic format by e-mail to the following addresses:

DAQ:
DEPAirQualityReports@wv.gov

US EPA:
R3_APD_Permits@epa.gov

[45CSR§30-5.3.e.]

3.5.6. **Semi-annual monitoring reports.** The permittee shall submit reports of any required monitoring on or before September 15 for the reporting period January 1 to June 30 and on or before 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. The semi-annual monitoring reports shall be submitted in electronic format by e-mail to the following address:

DAQ:
DEPAirQualityReports@wv.gov

[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.]

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.]

3.6. 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 such emissions are subject to 40 C.F.R. 60 Subpart PPP.

b. The emission unit emits other criteria pollutant(s) or HAPs in pre-control amounts less than the respective major source threshold.

c. The emission unit has no associated control device for the specific pollutant emitted.

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.
ESDG14	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.
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. Not a "fuel burning unit" as defined in 45CSR§10-2.8.; therefore, 3.3. does not apply.
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. Not a "fuel burning unit" as defined in 45CSR§10-2.8.; therefore, 3.3. does not apply.

3.7.2.3. **40 C.F.R. 60 Subparts K, Ka, and Kb**. These subparts apply to storage tanks of certain sizes constructed, reconstructed, or modified during various time periods. Subpart K applies to petroleum liquids storage tanks constructed, reconstructed, or modified after June 11, 1973, and prior to May 19, 1978, and Subpart Ka applies to those constructed, reconstructed, or modified after May 18, 1978, and prior to July 23, 1984. Both Subparts K and Ka apply to storage tanks with a capacity greater than 40,000 gallons. Subpart Kb applies to volatile organic liquid (VOL) storage tanks constructed, reconstructed, or modified after July 23, 1984 with a capacity equal to or greater than 75 m^3 (~19,813 gallons). All storage tanks at the Inwood facility have a capacity less than 75 m^3. Therefore, Subparts K, Ka, and Kb do not apply to the storage tanks at the Inwood facility.

3.7.2.4. **40 C.F.R. 60 Subpart CC – *Glass Manufacturing Plants***. This subpart applies to glass melting furnaces constructed after June 15, 1979. This subpart does not apply to furnaces that produce less than 4.55 Mg (5 tons) of glass per day and all-electric melters. An all-electric melter is a melting furnace in which all of the heat is provided by electric current, although some fossil fuel may be charged to the furnace as raw material only. The furnaces for Line 1 at the Inwood facility qualifies as an all-electric melters and therefore Subpart CC does not apply.

Knauf is permitted under R14-0015M to install a new gas oxygen-fueled (gas-oxy) glass melting furnace on Line 2 at the Inwood facility that does not have a refractory brick lining. In 40 C.F.R. §60.291, the regulation defines a *Glass melting furnace* as a unit comprising a refractory vessel in which raw materials are charged, melted at high temperature, refined, and conditioned to produce molten glass. The unit includes foundations, superstructure and retaining walls, raw material charger systems, heat exchangers, melter cooling system, exhaust system, refractory brick work, fuel supply and electrical boosting equipment, integral control systems and instrumentation, and appendages for conditioning and distributing molten glass to forming apparatuses. The permitted design that Knauf has selected for Line 2 is a stainless-steel vessel with a water-cooled jacket and no refractory is utilized in the vessel to contain the melting process. Thus, the proposed melter is not a refractory vessel, and does not meet the definition of *Glass melting furnace* in §60.291. Consequently, the Line 2 furnace is not subject to the emission standard of Subpart CC.

3.7.2.5. **40 C.F.R. 60 Subpart JJJJ – *Stationary Spark Ignition Internal Combustion Engines***. This subpart applies to manufacturers, owners, and operators of stationary spark ignition internal combustion engines (ICE) that have been constructed, reconstructed, or modified after various dates, the earliest of which is June 12, 2006. All of the engines at the Inwood facility, including emergency generators, are compression ignition IC engines, and therefore the requirements of this subpart do not apply.

3.7.2.6. **40 C.F.R. 61 Subpart N – Inorganic Arsenic Emissions from Glass Manufacturing Plants**. This NESHAP applies to glass melting furnaces that use commercial arsenic as a raw material. Since the Inwood facility does not use any arsenic as a raw material this subpart does not apply.

3.7.2.7. **40 C.F.R. 63 Subpart Q – Industrial Process Cooling Towers**. This NESHAP-MACT applies to all new and existing industrial process cooling towers that are operated with chromium-based water treatment chemicals and are either major sources or are integral parts of facilities that are major sources as defined in §63.401. Since the Inwood facility is an area (minor) source of HAP, it does not meet the applicability criteria in §63.400, and the three (3) cooling towers (CT3, CT4, and CT5) permitted in R14-0015M are not subject to this subpart.

3.7.2.8. **40 C.F.R. 63 Subpart HHHH – *Glass Manufacturing Area Sources: National Emission Standards for Hazardous Air Pollutants for Wet-Formed Fiberglass Mat Production***. This regulation applies to facilities that produce wet-formed fiberglass mat. Such facilities must own or operate a drying and curing oven at a wet-formed fiberglass mat production facility and must be located at a major source of hazardous air pollutants (HAP). The Inwood facility is a wool-fiberglass production facility that produces insulation whereas the wet-formed fiberglass is a material used in the manufacture of asphalt roofing products (shingles and rolls). Further, the Inwood facility is not a major source of HAP. Therefore, Subpart HHHH does not apply to the Inwood facility.

3.7.2.9. **40 C.F.R. 63 Subpart DDDDD – Industrial, Commercial, and Institutional Boilers and Process Heaters**. This NESHAP-MACT standard applies to industrial, commercial, and institutional boilers and process heaters of various sizes and fuel types at major sources of HAP emissions. Knauf's Inwood facility is considered an area source for HAP. Therefore, there are no units at the Inwood facility subject to Subpart DDDDD.

3.7.2.10. **40 C.F.R. 63 Subpart JJJJJJ - *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources***. With the changes approved in R14-0015L the facility is an area source of HAP. Further, the Air Handling Units ESSH15 and ESSH16 are not boilers as defined in §63.11237. That is, the units do not heat water to recover thermal energy in the form of steam and/or hot water. For these reasons the Air Handling Units ESSH15 and ESSH16 are not subject to Subpart JJJJJJ.

3.7.2.11. **45CSR2 – *To Prevent and Control Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers***. This rule establishes emission limitations for smoke and particulate matter which are discharged from fuel burning units (45CSR§2-1.1). A "fuel burning unit" means and includes any furnace, boiler apparatus, device, mechanism, stack or structure used in the process of burning fuel or other combustible material for the primary purpose of producing heat or power by indirect heat transfer (45CSR§2-2.10.). The Air Handling Units ESSH15 and ESSH16 are not indirect heat exchangers, which was confirmed by review of the 2013 renewal application. This rule also does not apply to the Line 2 melter permitted in R14-0015M since the unit is direct-fired.

3.7.2.12. **40 C.F.R. 63 Subpart NN – *National Emission Standards for Hazardous Air Pollutants for Wool Fiberglass Manufacturing at Area Sources***. This NESHAP-MACT applies to the owner or operator of each wool fiberglass manufacturing facility that is an area source or is located at a facility that is an area source of HAP (*cf.* §63.880(a)). In particular, this subpart applies to emissions of chromium compounds emitted from new and existing *gas-fired glass-melting furnaces* located at a wool fiberglass manufacturing facility that is an area source (*cf.* §63.880(b)). The permittee owns and operates a wool fiberglass manufacturing facility that is an area source of HAP; however, Line 1 does not utilize a *gas-fired glass-melting furnace*. Instead, Line 1 utilizes a *cold top electric glass-melting furnaces* as defined in 40 C.F.R. 63 Subpart NNN (*cf.* §63.1381). The furnace type was confirmed by the permittee as part of the technical review for the 2008 Title V permit renewal and was documented in its Fact Sheet. The permittee confirmed in 12/16/2015 technical correspondence that the furnace for Line 1 is a *cold top electric glass-melting furnaces*. The definition of *gas-fired glass-melting furnace* in §63.881 specifically states that cold-top electric glass-melting furnaces as defined in Subpart NNN of this part are not gas-fired glass-melting furnaces. Since the permittee's furnace for Line 1 does not meet the definition of *gas-fired glass-melting furnace* in §63.881 the Line 1 furnace is not subject to the limitations and standards in 40 C.F.R. 63 Subpart NN.

Line 2 Modification Permitted in R14-0015M
Subpart NN applies to each wool fiberglass manufacturing facility that is an area source. The requirements apply to each new and existing gas-fired melting furnace, where a gas-fired glass melting furnace is defined as:

> A unit comprising a refractory vessel in which raw materials are charged, melted at high temperature using natural gas and other fuels, refined, and conditioned to produce molten glass. The unit includes foundations, superstructure and retaining walls, raw material charger systems, heat exchangers, exhaust system, refractory brick work, fuel supply and electrical boosting equipment, integral control systems and instrumentation, and appendages for conditioning and distributing molten glass to forming processes. The

forming apparatus, including flow channels, is not considered part of the gas-fired glass-melting furnace. Cold-top electric furnaces as defined in Subpart NNN are not gas-fired glass-melting furnaces.

The permitted design that Knauf has selected for Line 2 is a stainless-steel vessel with a water-cooled jacket and no refractory is utilized in the vessel to contain the melting process. Thus, the melter is not a refractory vessel, and does not meet the definition of *Gas-fired glass-melting furnace* in §63.881. Consequently, the Line 2 furnace is not subject to the emission standard of Subpart NN.

3.7.2.13. **40 C.F.R. 63 Subpart NNN – *National Emission Standards for Hazardous Air Pollutants for Wool Fiberglass Manufacturing***. This NESHAP-MACT applies to the owner or operator of each wool fiberglass manufacturing facility that is a major source or is located at a major source of HAP (cf. §63.1380(a)). Further, this subpart does not apply to a wool fiberglass manufacturing facility that is not a major source of HAP emissions (cf. §63.1380(c)). Pursuant to 40 C.F.R. §63.1381, Subpart NNN regulates HAP emissions from various emission units at new and existing major source wool fiberglass manufacturing facilities, including: glass melting furnaces, rotary spin wool fiberglass manufacturing lines producing a bonded wool fiberglass insulation product using a phenol/formaldehyde binder. Knauf made a process change in 2016 to eliminate the use of phenol/formaldehyde resins in their binder formula as part of their ECOS system. The changes permitted in R14-0015M for Line 2 do not include switching the binder formula back to a phenol/formaldehyde formulation. In addition, based upon permitted emissions in R14-0015M, the facility is an area (non-major) source of HAP emissions. For these reasons, the requirements of 40 CFR 63 Subpart NNN do not apply to the facility.

3.7.2.14. **40 C.F.R. 63 Subpart SSSSSS – *Glass Manufacturing Area Sources: National Emission Standards for Hazardous Air Pollutants (NESHAP)***. This regulation applies to a glass manufacturing facility that is an area source of hazardous air pollutant (HAP) emissions and meets all of the criteria specified in paragraphs (a) through (c) of §63.11448. In accordance with technical correspondence received from the permittee on February 22, 2019, the permittee's facility does not meet the criterion in 40 C.F.R. §63.11448(a) since it does not manufacture flat glass, glass containers, or pressed and blown glass. For this reason, Subpart SSSSSS is not applicable to the facility.

4.0. 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, ES1K, ES1L, ES1M, ES1N, ES11a, ES11b, CD11a, CD11b, CD1L, CD1M, CD1N, CD1K, ES12A, CD12A, ES22A, CD22A, ES12B, CD12D, ES12D, CD12C, ES12Db, CD12Cb; Tanks (Group 1) with emission Unit IDs T3, T4, T5, T6, T7A, T7B, T8, M1, M2, M3, M4, M5, M6, M7 – Emission Point I.D. FP11, EP23, EP11a, and EP11b

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:

Emission Unit ID	Description	Control Equipment	Control Device ID
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 (lime)	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 (cullet)	Whirl-Air Flow Bin-Vent Model 195-42	CD1F
ES1K	Raw Material Storage Bin (baghouse dust)	Whirl-Air Flow Bin-Vent Model 55-30	CD1K
ES12A	Batch Mixer Receiving Hopper (1^{st} & 2^{nd} Lines)	Whirl-Air Flow Bin-Vent Model 345-56	CD12A
ES22A	Batch Mixers' Receiving Bin (2^{nd} Line)	IAC Bin-Vent Model No. 96TB-FRIP	CD22A
ES12B	Mixed Batch Backup Storage Day Bin (1^{st} Line)	Whirl-Air Flow Bin-Vent Model 130-42	CD12D
ES12D	Mixed Batch Storage Day Bin (1^{st} Line)	Whirl-Air Flow Bin-Vent Model 230-56	CD12C
ES12Db	Mixed Batch Storage Day Bin (1^{st} Line)	Whirl-Air Flow Bin-Vent Model 265-42	CD12Cb
ES11a	Line 2 Day Bin	Donaldson Dust Collector	CD11a
ES11b	Line 2 Day Bin	Donaldson Dust Collector	CD11b
ES1L	Raw Material Storage Bin (cullet)	Donaldson Dust Collector	CD1L
ES1M	Raw Material Storage Bin (cullet)	Donaldson Dust Collector	CD1M
ES1N	Raw Material Storage Bin (cullet)	Donaldson Dust Collector	CD1N

The permittee shall select, and install the control devices for Day Bins ES11a and ES11b that have a manufacturer's removal efficiency of no less than 99.9% for filterable PM.

[45CSR14, R14-0015, 5.1.1.]

4.1.2 Emission of PM_{10}, and $PM_{2.5}$ from Emission Points EP11a and EP11b shall not exceed 0.016 tons per year from each point. Compliance is satisfied with these limits through maintaining the respective control device and receiving raw materials into bins ES11a and ES11b at a total raw material throughput for both bins of no more than 184 tons per day and 64,240 tons per rolling 12-month total.
[45CSR14, R14-0015, 5.1.2.]

4.1.3. 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, ES12D, ES12Db, ES11a, ES11b, ES1L, ES1M, and ES1N)*

4.2 Monitoring Requirements

4.2.1. Reserved.

4.3 Testing Requirements

4.3.1. Reserved.

4.4 Recordkeeping Requirements

4.4.1. The permittee shall maintain daily and rolling 12-month total records of the amount of raw material received into storage bins ES11a and ES11b for the purpose of demonstrating compliance with Condition 4.1.2. Such records shall be maintained in accordance with Condition 3.4.2.
[45CSR14, R14-0015, 5.2.3.]

4.4.2. At least once per month, the permittee shall ~~take visual observations in the manner required for~~ conduct a Method 22 "like" observation for at least 2 minutes to verify the control devices CD11a and CD11b are operating properly. The indicator of proper operation is no visible emissions from Emission Points EP11a and EP11b respectively. Should visible emissions be observed, the permittee shall take corrective action to restore the control device back to acceptable operating condition within 48 hours of the observation. Such records of the observations and corrective actions shall be maintained in accordance with Condition 3.4.2.
[45CSR14, R14-0015, 5.2.4.]

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 Melting & Refining Line #1 (Group 002) and emission unit IDs ES12C, ES12E, CD13A, CD13B, CD12B, CD12Bb (backup) – Emission Point I.D. EP12 and EP13 and Melting & Refining Line #2 (Group 003) and emission unit IDs ES22, CD22B – Emission Point I.D. EP23]

5.1. Limitations and Standards

5.1.1. Emissions from the 2nd line shall not exceed the following limits with respect to the corresponding emission point and pollutant shall apply at times:

Emission Limits for the 2nd Line									
Emission Unit	**Emission Point**	**CO lb/TPG**	**NO_x lb/TPG**	**SO_2 lb/TPG**	**PM^2 lb/TPG**	**PM_{10}^1 lb/TPG**	**$PM_{2.5}^1$ lb/TPG**	**VOC* lb/TPG**	**NH_3 lb/TPG**
ES22	EP23	0.52	3.00	~~0.78~~ 0.68	0.25	0.25	0.25	0.20	
Total	EP23	1.64	3.21	~~0.81~~ 0.71	2.92	3.58	3.58	1.21	4.29
ES22E, ES24A, ES24B	EP23/EP24	2.34	0.80	~~0.05~~ 0.16	3.45	4.31	4.31	~~0.87~~ 1.40	4.73
Total	EP24	1.22	0.59	~~0.03~~ 0.13	0.88	1.10	1.10	0.39	0.44

1 – The limit includes the corresponding filterable portion and condensable particulate matter fraction.
2 – These limits satisfy the allowable under 45CSR§7-3.1. and the standard in 40 C.F.R. §60.682.
lb/TGP - pounds of pollutant per ton of glass pulled.
* - VOC emissions shall not include methane and ethane.

[45CSR14, R14-0015, 4.1.2.c.]

5.1.2. Exhaust from the gas oxygen glass-melting furnace, which includes the canal and forehearth, shall be vented into a closed vent system that routes this stream directly to the control device identified baghouses CD22B at all times when the furnace is operating except during startup operations or when the melter is drained of molten glass but is operated to maintain temperature to perform maintenance on CD22B:

i. The startup operations shall begin when any raw materials are added and reaches 50 percent of its typical operating temperature. Startup ends when molten glass begins to flow from the wool fiberglass glass-melting furnace.

ii. Only during startup operations or when the melter is completely drained of molten glass to allow for maintenance on control device CD22B, the permittee may by-pass control device CD22B.

iii. During startup, the permittee shall only use natural gas.

iv. The permittee shall install and maintain a system that indicates and records when Control Device CD22B is by-passed. Such recording system shall be integrated with the data system for the glass pull rate system.

[45CSR14, R14-0015, 4.1.2.e.]

5.1.3. In order to comply with NO_x limits in condition 5.1.1. for the glass-melting furnace, the burner(s) associated with the canal section of the glass-melting furnace, the permittee shall tune-up the burner(s) at least once per year for optimizing the formation of oxides of nitrogen while minimizing the formation of carbon monoxide. **[45CSR14, R14-0015, 4.1.2.i.; 45CSR§14-8.3.]**

5.1.4. Production of fiberglass insulation from the 1st line shall not exceed 9,000 pounds of glass pulled per hour or 39,420 TPY. Compliance with these limits shall be based on a 12-month rolling total. **[45CSR14, R14-0015, 4.1.1.b.]** ***(Emission Unit IDs: ES12C, ES12E)***

5.1.5. Production of fiberglass insulation from the 2nd line shall not exceed 13,333 pounds of glass pulled per hour and 58,400 TPY. Compliance with this annual limit shall be based on a 12-month rolling total. **[45CSR14, R14-0015, 4.1.2.b.]** ***(Emission Unit IDs: ES22)***

5.1.6. Emissions from the 1st line shall not exceed the following limits with respect to the corresponding emission point and pollutant and shall apply at all times:

Emission Limits for 1st Line				
Emission Point ID	CO (lb/TGP)	NOx (lb/TGP)	PM (lb/TGP)	PM_{10} (lb/TGP)
EP12	0.73	0.03	0.07	0.07

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

[45CSR14, R14-0015, 4.1.1.c.]

5.1.7. Exhaust from the electric melter (ES12C) shall be vented into a closed vent 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.d.]**

5.1.8. Visible emissions from Emission Points EP23 and EP24, excluding condensed water vapor, shall not exceed 20 percent based on a six (6) minute average and shall apply at all times. **[45CSR14, R14-0015, 4.1.2.d.]**

5.1.9. The 1st and 2nd production lines shall not use a phenol-formaldehyde binder in manufacturing resinated wool fiberglass insulation. **[45CSR14, R14-0015, 4.1.1.a. and 4.1.2.a.]**

5.2. Monitoring Requirements

5.2.1. A bag leak detection system (BLDS) shall be installed and operated on the fabric filter baghouses identified as CD12B, CD12Bb, and CD22B. Each BLDS shall be installed, maintained, and operated in accordance with U.S. EPA guidance document, “Fabric Filter Bag Leak Detection Guidance” (EPA-454/R-98-015, September 1997). **[45CSR14, R14-0015, 4.1.3.a.]**

5.2.2. A continuous pull rate monitor shall be installed, calibrated, and maintained that measures and records the glass pull rate of the line on an hourly basis. **[45CSR14, R14-0015, 4.1.2.n.] (Line 2)**

5.2.3. In order to comply with NO_x limits in condition 5.1.1. from the glass-melting furnace, the permittee shall the use a ratio of oxygen enrichment to combustion air equal to or greater than the ratio determined during the initial compliance determination used to established the minimum oxygen enrichment to combustion air ratio. The permittee shall develop and implement a monitoring plan to continuously monitor the ratio of oxygen enrichment to combustion air or a surrogate parameter that was measured and is linked to the minimum oxygen enrichment to combustion air ratio during the compliance demonstration.
[45CSR14, R14-0015, 4.1.2.h.; 45CSR§14-8.3.]

5.3. Testing Requirements

5.3.1. To demonstrate compliance with condition 5.1.6., refer to condition 3.3.7.

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.
[45CSR14, R14-0015, 4.4.5.]

5.4.2. The permittee shall maintain records of the annual tune-ups as required in Conditions 5.2.3. and 5.1.3. Such records shall be maintained in accordance with Condition 3.4.2.
[45CSR14, R14-0015, 4.4.6.]

5.5. Reporting Requirements

5.5.1. To demonstrate compliance with the operational requirements of condition 5.1.7., 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. Forming & Collecting Line 1 (Group 004) and Emission Unit IDs ES13A, CD13A, CD13B, and CD13C – Emission Point ID EP13 and Forming & Collecting Line 2 (Group 005) and emission unit IDs ES22E, CD23A, CD23B, CD23C, and CD23D - Emission Point ID EP23

6.1. Limitations and Standards

6.1.1. Refer to condition 5.1.1. for emission limits for the 2nd Line.

6.1.2. Emissions from the 1st line shall not exceed the following limits with respect to the corresponding emission point and pollutant and shall apply at all times:

Emission Limits for 1st Line						
Emission Point ID	CO (lb/TGP)	NOx (lb/TGP)	PM (lb/TGP)	PM_{10} (lb/TGP)	VOC (1) (lb/TGP)	NH_3 (lb/TGP)
EP13	3.60 (2)	3.61 (2)	3.49 (2)	3.49 (2)	2.54 (2)	4.64 (2)

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.).

[45CSR14, R14-0015, 4.1.1.c.]

6.1.3. For minimizing the formation of oxides of nitrogen from the forming section, the permittee shall install and thereafter continuously operate whenever fiberglass is being produced, and maintain the use of combustion controls which minimize peak flame temperatures in the fiber forming process.
[45CSR14, R14-0015, 4.1.2.j.; 45CSR§14-8.3.] (Line 2)

6.1.4. For the purpose of maximizing the collection of filterable PM using the wet scrubbers associated with 2nd Line (CD23A, CD23B, CD23C, CD23D, and CD24B), the permittee shall operate the wet scrubbing device with a pressure drop of at least 3 inches of water column and a liquor flow rate of no less than 50 gpm until operating parameters for the associated device is established through performance testing as required in Condition 3.3.4.
[45CSR14, R14-0015, 4.1.2.f.]

6.1.5. Exhaust from the forehearth and fiberizers of the 1st line shall be vented into a closed vent system that routes this stream directly to either one of identified wet scrubbers CD13A, CD13B, or CD13C at all times when the line is operating.
[45CSR14, R14-0015, 4.1.1.e.]

6.1.6. Exhaust from the forming section (ML2INW Forming) of the 2nd line will be vented into a closed vent system that routes this stream directly to one of four venturi scrubbers (CD23A, CD23B, CD23D).
[45CSR14, R14-0015, 4.1.2.k.; 45CSR§14-8.3.]

6.2. Monitoring Requirements

6.2.1. All monitoring devices required under 40 C.F.R. §60.683 (conditions 6.2.3. and 6.2.4.) 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]

6.2.2. The permittee shall monitor the ratio of oxygen enrichment to combustion air for the gas oxygen glass-melting furnace on a continuous basis while the glass is being melted. Such records shall be maintained in accordance with condition 3.4.2.
[45CSR14, R14-0015, 4.2.4.]

6.2.3. A device that continuously measures and records the pressure drop across the scrubber shall be installed, calibrated, maintained, and operated for each venturi scrubber (CD13A, CD13B, CD13C, CD23A, CD23B, CD23C, CD23D, and CD24B). Such device is to be certified by its manufacturer to be accurate within ± 250 pascals (± 1 inch water gauge) over its operating range.
[45CSR14, R14-0015, 4.1.3.b. and 4.2.2.; 40 C.F.R. §60.683(a) and §60.13(b); 45CSR16]

6.2.4. A device that continuously measures and records the scrubbing liquid flow to each wet scrubber shall be installed, calibrated, maintained, and operated for each venturi scrubber (CD13A, CD13B, CD13C, CD23A, CD23B, CD23C, CD23D, and CD24B). Such device is to be certified by its manufacturer to be accurate within ± 5 percent 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. All monitoring devices required in conditions 6.2.3. and 6.2.4. shall be recalibrated quarterly in accordance with procedures under 40 C.F.R. §60.13(b).
[45CSR14, R14-0015, 4.1.3.e.; 40 C.F.R. §60.683(c); 45CSR16]

6.2.6. The permittee shall develop and implement a verification means to ensure the combustion controls or controller used to minimize the flame temperature of the burners used in the glass forming units and curing oven of the 2nd Line is maintaining the minimum flame temperature. The frequency of the monitoring shall be at least four times or measurements per operating day. Records of such monitoring shall be maintained in accordance with Condition 3.4.2.
[45CSR14, R14-0015, 4.2.5.]

6.2.7. Should the measured sulfur dioxide emission rate as required in Condition 3.3.4. be greater than 50 percent of the permitted SO_2 limit in condition 5.1.1., then the permittee shall monitor and record the amount of raw materials or feedstock that contains sulfur compounds consumed each month. Such records shall be maintained in accordance with Condition 3.4.2.
[45CSR14, R14-0015, 4.2.6.]

6.3. Testing Requirements

6.3.1. 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 conditions 6.2.3. and 6.2.4.) during the particulate matter runs.
[40 C.F.R. §60.685(d); 45CSR16]

6.3.2. To demonstrate compliance with the ammonia (NH_3) emission limits in 6.1.2., the permittee shall use US EPA Method 320 (FTIR) or US EPA Method CTM-027 (wet chemistry). Once every 5 years or within 180 days of when the production line will be producing a product with a specified LOI greater than ±1% greater than the previous compliance test that demonstrated compliance with the permitted NH_3 limits of this permit, the permittee shall conduct performance testing to determine the NH_3 emission rate. During such testing, the permittee shall also demonstrate compliance with the VOC emission limits in condition 6.1.2.
[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 at least once every 4 hours thereafter, the owner or operator shall record the measurements required by 40 C.F.R. §60.683(a) (conditions 6.2.3. and 6.2.4. of this permit).
[40 C.F.R. §60.684(a); 45CSR16]

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, CD13C, CD23A, CD23B, CD23C, CD23D, and CD24B) 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 6.2.1. 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. With the following exception: scrubber pressure drop and scrubber water flow that are greater than 130 percent of the baseline levels, established during the most recent successful performance test, are not considered as periods of excess emissions in accordance with the U.S. EPA response to Knauf Fiberglass in the Federal Register / Vol. 73, No. 148 / Thursday, July 31, 2008 / Notices / Abstract 0700066).
[40 C.F.R. §60.684(d); 45CSR16; 45CSR14, R14-0015, 4.5.1.]

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 Curing & Cooling Line 1 (Group 006) and emission unit ID(s) ES14A, CD14A, and ES14B – Emission Point I.D. EP14 *and* Curing & Cooling Line 2 (Group 007) and emission unit ID(s) ES24A, CD24A, ES24B, and CD24B – Emission Point I.D. EP24

7.1. Limitations and Standards

7.1.1. Emissions from the 1st line shall not exceed the following limits with respect to the corresponding emission point and pollutant and shall apply at all times:

Emission Limits for 1st Line						
Emission Point ID	CO (lb/TGP)	NOx (lb/TGP)	PM (lb/TGP)	PM_{10} (lb/TGP)	VOC (1) (lb/TGP)	NH_3 (lb/TGP)
EP14	3.60 (2)	3.61 (2)	3.49 (2)	3.49 (2)	2.54 (2)	4.64 (2)

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).

[45CSR14, R14-0015, 4.1.1.c.]

7.1.2. Exhaust from the curing oven shall be vented into a closed vent 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 1,500ºF or the average temperature recorded during the most recent performance testing that demonstrated compliance with the VOC emissions~~s~~ limits. Compliance with this limit shall be based on a 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.]

7.1.3. If the exhaust from the curing oven contains VOCs greater than the permitted rate in condition 5.1.1., the permittee shall vent the exhaust into a closed vent 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 1,500ºF or the average temperature recorded during the most recent performance testing that demonstrated compliance with the VOC emission limits. Compliance with this limit shall be based on a rolling three hour average.

ii. The oxidizer is permitted to use natural gas as a supplemental fuel in order to maintain the minimum temperature in the combustion chamber.

[45CSR14, R14-0015, 4.1.2.m.]

7.1.4. Exhaust from the cooling table of the 2nd line shall be vented into a closed vent 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.o.]

7.1.5. Refer to condition 5.1.1. for emission limits for the 2nd Line.

7.1.6. Refer to condition 6.1.4. for operating requirements for CD24B.

7.1.7. In order to comply with NO_x limits in condition 5.1.1. from the curing oven, the permittee shall install, maintain, and thereafter continuously whenever fiberglass is being produced, and maintain the use of low NO_x burners with integrated flue gas recirculation and combustion controls which minimize peak flame temperatures in the fiberglass curing process. The permittee shall tune-up the burner(s) at least once per year for the purpose of optimizing the formation of oxides of nitrogen while minimizing the formation of carbon monoxide.
[45CSR14, R14-0015, 4.1.2.l.; 45CSR§14-8.3.] (Line 2)

7.2. Monitoring Requirements

7.2.1. 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 ± one (1) degree Fahrenheit.
[45CSR14, R14-0015, 4.1.3.d. and 4.2.2.]

7.2.2. Refer to permit condition 6.2.3. for CD24B.

7.2.3. Refer to permit condition 6.2.4. for CD24B.

7.3. Testing Requirements

7.3.1 To demonstrate compliance with the ammonia (NH_3) emission limits in 7.1.1., the permittee shall use US EPA Method 320 (FTIR) or US EPA Method CTM-027 (wet chemistry). Once every 5 years or within 180 days of when the production line will be producing a product with a specified LOI greater than +1% greater than the previous compliance test that demonstrated compliance with the permitted NH3 limits of this permit, the permittee shall conduct performance testing to determine the NH3 emission rate. During such testing, the permittee shall also demonstrate compliance with the VOC emission limits (condition 7.1.1.) in accordance with condition 3.3.6.
[45CSR§30-12.7.]

7.4. Recordkeeping Requirements

7.4.1. To demonstrate compliance with conditions 7.1.2.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).
[45CSR§30-5.1.c.]

7.4.2. The permittee shall maintain records of the annual tune-ups as required in Condition 7.1.7. Such records shall be maintained in accordance with Condition 3.4.2.
[45CSR14, R14-0015, 4.4.6.]

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 Facing Sizing & Packaging for Line 1 (Group 008) and emission unit IDs ES15A, ES15Aa, ES15B, ES25I, ES25L, CD15A, ES15C, ES15D, ES15E, ES15F, ES15G, ES15H, ES15I, ES15J, CD13A, CD13B, CD13C, CD15C – Emission Point ID FP15 and EP13 and Facing Sizing & Packaging for Line 2 (Group 008) and emission unit IDs ES25A, ES25B, CD23A, CD23B, CD23C, CD23D, CD25A, CD25B, ES25C, ES25D, ES25F, ES25G, ES25H, CD25C, CD25D, and ES25J – Emission Point ID FP23 and EP23

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, 5.1.3.]

8.1.2. Refer to permit condition 3.1.20.

8.1.3. For minimizing fugitive PM from the trimming and packaging sections of the line, exhaust from the trimming and packing operations shall be routed to a closed vent system to Control Devices CD25A and CD25B.
[45CSR14, R14-0015, 4.1.2.g.]

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 3.4.6. and 3.4.7.

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. Supporting Facilities (Group 009) and emission unit IDs ESDG12, ESDG13, ESFW11, ESDG14, ESSH15, ESSH16, CT3, CT4, CT5 – Emission Point IDs EP16, EP17, EP18, NewGEN, EP19, EP22, CT3, CT4, and CT5

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:

Caterpillar 3406 (Emission Point EP16)		
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

Caterpillar 3456 (Emission Point EP17)		
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	0.64	0.16
Volatile Organic Compounds	0.14	0.04

Cummins NT-855-F1 (Emission Point EP18)		
Pollutant	Maximum Allowable Emission Rate	
	lb/hr	TPY
Particulate Matter	0.60	0.2
Sulfur Dioxide	0.56	0.14
Nitrogen Oxides	8.5	2.1
Carbon Monoxide	1.82	0.5
Volatile Organic Compounds	0.69	0.2

[45CSR14, R14-0015, 5.1.4.] ***(Emission Unit IDs: ESDG12, ESDG13, and ESFW11)***

9.1.2. The two Caterpillar 3406 and 3456 (ID. No. ESDG12 and ESDG13) and Cummins NT-855-F1 (ID. No. ESFW11) internal combustion engines shall not operate more than 500 hours per year per engine, calculated as the sum during a consecutive 12-month period.
[45CSR14, R14-0015, 5.1.5.] ***(Emission Unit IDs: ESDG12, ESDG13, and ESFW11)***

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, 5.1.6.] ***(Emission Unit IDs: ESDG12, ESDG13, and ESFW11)***

9.1.4. The 8.5 MMBTU/hr makeup air handling unit (ID. No. ESSH15), and 7.875 MMBtu/hr Air Handling Unit (ID. No. ESSH16) shall only be fired with pipeline quality natural gas.
[45CSR14, R14-0015, 5.1.7.]

9.1.5. 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.]

9.1.6. The following conditions and requirements are specific to the generator set identified as ESDG14:

a. The generator set shall be used as an emergency stationary generator and be limited to non-emergency operation of no more than 100 hours per year. Non-emergency operation shall include maintenance checks and readiness tests. Emergency operation is defined when electric power from the local utility is interrupted.
[40 CFR §60.4211(f); 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

b. The generator set shall be equipped with an engine or engine configuration that has been certified by the manufacturer with a NO_x emission rate not to exceed 6.21 grams per brake horsepower at 100% load, and to comply or conform with 40 CFR §60.4205(b), which referred to 40 CFR §§89.112 and 89.113.
[40 CFR §§60.4211(a)(3) and (c); 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

c. The permittee shall maintain the engine of the generator set according to the manufacturer's emission-related written instructions.
[40 CFR §60.4211(a)(1); 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

d. The permittee shall only change those emission-related settings of the generator sets that are permitted by the manufacturer.
[40 CFR §60.4211(a)(2); 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

e. The maximum name plate power output of the engine for the generator set shall not be greater than listed in Section 1.1.

f. The engine will be equipped with a non-resettable hour meter.
[40 CFR §60.4209(a); 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

g. The engine shall be fueled only with diesel fuel that has a maximum sulfur content no greater than 15 ppm (ultra-low sulfur diesel) and with either a minimum centane index of 40 or a maximum aromatic content of 35 volume percent. Diesel meeting the specifications of Nonroad diesel under 40 CFR §80.510(b) is recognized as acceptable diesel fuel with regards to this fuel specification.
[40 C.F.R. §60.4207(b), 45CSR§14-8.3.; 45CSR16]

[45CSR14, R14-0015, 5.1.9.]

9.1.7. The conditions and requirements in the following subdivisions are specific to the mechanical draft cooling towers (ID #CT3, CT4, and CT5):

a. Emissions of PM, PM_{10}, and $PM_{2.5}$ shall be controlled with a 0.005% drift eliminator or an equivalent control technology.
[45CSR§14-8.3.]

b. PM emissions emitted to the atmosphere from each cooling tower shall not exceed 0.05 lb/hr and 0.20 TPY.

c. PM_{10} and $PM_{2.5}$ emissions emitted to the atmosphere from each cooling tower shall not exceed 0.04 lb/hr and 0.17 TPY.

d. Make-up water for the cooling system shall be supplied by the local public water system. If water from any other source than the local public water system is added to the cooling system, the permittee shall annually sample and determined the total dissolved solids content less than 750 ppm by weight.

[45CSR14, R14-0015, 5.1.10.]

9.1.8. If you have an existing stationary CI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, you must comply with the applicable emission limitations and operating limitations (permit condition 9.1.9.) no later than May 3, 2013.
[40 C.F.R. § 63.6595(a)(1); 45CSR34] (*Emission Unit ID: ESFW11*)

9.1.8.1. If you have an existing stationary CI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations and operating limitations (permit condition 9.1.9.) no later than May 3, 2013.
[40 C.F.R. § 63.6595(a)(1); 45CSR34] (Emission Unit ID: *ESDG12, ESDG13*)

9.1.9. For emergency stationary CI RICE[1], you must meet the following requirements, except during periods of startup:

a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[2]

b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary;

c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]

During periods of startup you must minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes.

[1] If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in Table 2c (Table 2d for ESDG12 and ESDG13) of 40 C.F.R. 63 Subpart ZZZZ, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.

[2] Sources have the option to utilize an oil analysis program as described in 40 C.F.R. §63.6625(i) (permit condition 9.1.13.) in order to extend the specified oil change requirement in Table 2c (Table 2d for ESDG12 and ESDG13) of 40 C.F.R. 63 Subpart ZZZZ.

[3] Sources can petition the Administrator pursuant to the requirements of 40 C.F.R. §63.6(g) for alternative work practices. (ESFW11 only)

[40 C.F.R. §63.6602, Table 2c, Item #1; 40 C.F.R. §63.6625(h); 45CSR34] (*Emission Unit ID: ESFW11*)

[40 C.F.R. §63.6603(a), Table 2d, Item #4; 40 C.F.R. §63.6625(h); 45CSR34] (*Emission Unit ID: ESDG12, ESDG13*)

9.1.10. At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.
[40 C.F.R. §63.6605(b); 45CSR34] (*Emission Unit ID: ESFW11, ESDG12, ESDG13*)

9.1.11. If you own or operate any of the following stationary RICE, you must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions:

(2) An existing emergency or black start stationary RICE with a site rating of less than or equal to 500 HP located at a major source of HAP emissions;
[40 C.F.R. §§63.6625(e) and 63.6625(e)(2); 40 C.F.R. §63.6640(a), Table 6, Item #9; 45CSR34] (*Emission Unit ID: ESFW11*)

(3) An existing emergency or black start stationary RICE located at an area source of HAP emissions;
[40 C.F.R. §§63.6625(e) and 63.6625(e)(3); 40 C.F.R. §63.6640(a), Table 6, Item #9; 45CSR34] (*Emission Unit ID: ESDG12, ESDG13*)

9.1.12. If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (ESFW11) or an existing emergency stationary RICE located at an area source of HAP emissions (ESDG12, ESDG13), you must install a non-resettable hour meter if one is not already installed.
[40 C.F.R. §63.6625(f); 45CSR34] (*Emission Unit ID: ESFW11, ESDG12, ESDG13*)

9.1.13. If you own or operate a stationary CI engine that is subject to the work, operation or management practices in Item # 1 of Table 2c (Item #4 of Table 2d for ESDG12 and ESDG13) to 40 C.F.R. 63 Subpart ZZZZ (permit condition 9.1.9.), you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Table 2c (Table 2d for ESDG12 and ESDG13) to 40 C.F.R. 63 Subpart ZZZZ. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c (Table 2d for ESDG12 and ESDG13) to 40 C.F.R. 63 Subpart ZZZZ (permit condition 9.1.9.a.). The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine (permit condition 9.1.11.).
[40 C.F.R. §63.6625(i); 45CSR34] (*Emission Unit ID: ESFW11, ESDG12, ESDG13*)

9.1.14. If you own or operate an emergency stationary RICE, you must operate the emergency stationary RICE according to the requirements in paragraphs (1) through (4) of this condition. In order for the engine to be considered an emergency stationary RICE under 40 C.F.R. 63 Subpart ZZZZ, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (1) through (4) of this condition, is prohibited. If you do not operate the engine according to the requirements in paragraphs (1) through (4) of this condition, the engine will not be considered an emergency engine under 40 C.F.R. 63 Subpart ZZZZ and must meet all requirements for non-emergency engines.

(1) There is no time limit on the use of emergency stationary RICE in emergency situations.

Note that this operational standard of condition 9.1.14.(1) is streamlined by the more stringent 500 hours per year operational limitation in condition 9.1.2.

(2) You may operate your emergency stationary RICE for any combination of the purposes specified in paragraph (2)(i) of this condition for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraphs (3) and (4) of this condition counts as part of the 100 hours per calendar year allowed by this paragraph (2).

(i) Emergency stationary RICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.

(ii) Emergency stationary RICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

(iii) Emergency stationary RICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(3) Emergency stationary RICE located at major sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (2) of this condition. (ESFW11)

(4) Emergency stationary RICE located at area sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (2) of this condition. (ESDG12, ESDG13)

[40 C.F.R. §§ 63.6640(f), 63.6640(f)(1), 63.6640(f)(2), 63.6640(f)(2)(i), 63.6640(f)(3), and 63.6640(f)(4); 45CSR34] (*Emission Unit ID: ESFW11, ESDG12, ESDG13*)

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 the emission limits in conditions 9.1.1. and the hours of operation limits in conditions 9.1.2. and 9.1.6., the permittee shall record the number of hours each generator set (and fire water pump engine) is operated during the calendar month and the reason for such operation. Such records shall be kept on both a monthly and 12-month rolling total basis.
[45CSR14, R14-0015, 5.2.1.; 45CSR§30-5.1.c.; 40 C.F.R. §60.4211(f); 45CSR16] ***(Emission Unit IDs: ESDG12, ESDG13, ESDG14, and ESFW11)***

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 ESFW11)***

9.4.3. You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan (permit condition 9.1.11.) if you own or operate an existing stationary emergency RICE.
[40 C.F.R. §§63.6655(e) and 63.6655(e)(2) and (3); 45CSR34] (*Emission Unit ID: ESFW11, ESDG12, ESDG13*)

9.4.4. If you own or operate any of the stationary RICE in paragraphs (f)(1) through (2) of this section, you must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation.

(1) An existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions that does not meet the standards applicable to non-emergency engines.
[40 C.F.R. §§63.6655(f) and 63.6655(f)(1); 45CSR34] (*Emission Unit ID: ESFW11*)

(2) An existing emergency stationary RICE located at an area source of HAP emissions that does not meet the standards applicable to non-emergency engines.
[40 C.F.R. §§63.6655(f) and 63.6655(f)(2); 45CSR34] (*Emission Unit ID: ESDG12, ESDG13*)

9.4.5. **Form and Retention of Records for 40 C.F.R. 63 Subpart ZZZZ**.

(a) Your records must be in a form suitable and readily available for expeditious review according to 40 C.F.R. §63.10(b)(1).

(b) As specified in 40 C.F.R. §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 C.F.R. §63.10(b)(1).

[40 C.F.R. §§63.6660(a), (b), and (c); 45CSR34] (*Emission Unit ID: ESFW11, ESDG12, ESDG13*)

9.4.6. Records of water sampling from the cooling system, if required to be sampled by Condition 9.1.7.d. shall be maintained in accordance with Condition 3.4.2.
[45CSR14, R14-0015, 5.2.2.]

9.4.7. If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the owner or operator is not required to submit an initial notification. Starting with the model years in table 5 to 40 C.F.R. 60 Subpart IIII (i.e., 2011 for engine power ≥ 175 hp), if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time.
[40 C.F.R. §60.4214(b); 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34] *(Emission Unit ID: ESDG14)*

9.5. Reporting Requirements

9.5.1. To demonstrate compliance with conditions 9.1.4. and 9.1.5., 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.]

9.5.2. You must report each instance in which you did not meet each work practice in Tables 2c and 2d to 40 C.F.R. 63 Subpart ZZZZ that apply to you (permit condition 9.1.9.). These instances are deviations from the emission and operating limitations in 40 C.F.R. 63 Subpart ZZZZ. These deviations must be reported according to the requirements in 40 C.F.R. §63.6650 (permit condition 9.5.4.).
[40 C.F.R. §63.6640(b); 45CSR34] (*Emission Unit ID: ESFW11, ESDG12, ESDG13*)

9.5.3. You must also report each instance in which you did not meet the requirements in Table 8 to 40 C.F.R. 63 Subpart ZZZZ that apply to you.
[40 C.F.R. §63.6640(e); 45CSR34] (*Emission Unit ID: ESFW11, ESDG12, ESDG13*)

9.5.4. The permittee must report all deviations as defined in 40 C.F.R. 63 Subpart ZZZZ in the semiannual monitoring report required by permit condition 3.5.6.
[40 C.F.R. §63.6650(f); 45CSR34] (*Emission Unit ID: ESFW11, ESDG12, ESDG13*)

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.