West Virginia Department of Environmental Protection
Division of Air Quality

Earl Ray Tomblin
Governor

Randy C. Huffman
Cabinet Secretary

Permit to Operate

Pursuant to

Title V

of the Clean Air Act

Issued to:

GrafTech International Holdings, Inc.

Anmoore Facility/ Harrison County

R30-03300001-2012

John A. Benedict

Director

Issued: May 2, 2012 • Effective: May 16, 2012
Expiration: May 2, 2017 •Renewal Application Due: November 2, 2016

Permit Number: **R30-03300001-2012**
Permittee: **GrafTech International Holdings, Inc.**
Facility Name: **Anmoore Facility**
Permittee Mailing Address: **P.O. Box 2170**
Clarksburg, WV 26302

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:	Anmoore, Harrison County, West Virginia
Facility Mailing Address:	P.O. Box 2170 Clarksburg, WV 26302
Telephone Number:	(304) 624-7651
Type of Business Entity:	Corporation
Facility Description:	Carbon and Graphite Manufacturing Facility
SIC Codes:	3624
UTM Coordinates:	561 km Easting • 4,345 Northing • Zone 17

Permit Writer: Jesse W. Hanshaw, P.E.

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.

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

1.1. Emission Units

Emission Point ID	Emission Unit ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
300	300	Natural Gas Boiler	1981	11.0 MMBtu/hr	None
301	301	Natural Gas Boiler	2013	12.6 MMBtu/hr	None
308	308	Natural Gas Boiler	1960	15.5 MMBtu/hr	None
309	309	Natural Gas Boiler	1960	13.0 MMBtu/hr	None
001	001A	Storage Silo	1950	25 TPH	001 Bin Vent
002	002A	Storage Silo	1950	25 TPH	002 Bin Vent
003	003A	Storage Silo	1950	25 TPH	003 Bin Vent
004	004A	Storage Silo	1950	25 TPH	004 Bin Vent
005	005A	Storage Silo	1950	25 TPH	005 Bin Vent
006	006A	Storage Silo	1950	25 TPH	006 Bin Vent
007	007A	Storage Silo	1970	25 TPH	007 Bin Vent
008	008A	Storage Silo	1970	25 TPH	008 Bin Vent
009	009A	Storage Silo	1970	25 TPH	009 Bin Vent
010	010A	Storage Silo	1970	25 TPH	010 Bin Vent
011	011A	Storage Silo	1970	25 TPH	011 Bin Vent
012	12A 12B 12C 12D 12E	Bucket Elevator Surge Bin Cont. Fill Station Silos 1-6 Cont. Fill Station Silo 4 Rail Car Unloading	1967 1967 1970 1970 1998	25 TPH 25 TPH 2 TPH 2 TPH 25 TPH	012 Baghouse 012 Baghouse 012 Baghouse 012 Baghouse 012 Baghouse
013	013 013A 013B 013C 013D 013E 013F	Baghouse Crusher Bucket Elevator Storage Bin At Track Bin Covered Conveyor Belt Rail Car Load Vent	1950 1950 1950 1972 1950 1950	6670 CFM 4 TPH 4 TPH 4 TPH 4 TPH 4 TPH 10 TPH	APCD 013 Baghouse 013 Baghouse 013 Baghouse 013 Baghouse 013 Baghouse 013 Baghouse

Emission Point ID	Emission Unit ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
014	014	Baghouse (#1)	2010	11,500CFM	APCD
	014A	Bucket Elevator	1940	17 TPH	014 Baghouse
	014B	#1 Mill Elevator	1940	17 TPH	014 Baghouse
	014C	Small Crusher	1950	17 TPH	014 Baghouse
	014D	Smooth Roll Crusher	1950	17 TPH	014 Baghouse
	014E	#1 Coke Elevator	1950	17 TPH	014 Baghouse
	014F	NA Receiver Bin	1950	25 TPH	014 Baghouse
015	015	Baghouse (#2)		6,500 CFM	
	015A	Coke Flour Bin	1940	8 TPH	015 Baghouse
	015B	Coke Particle Bin		8 TPH	015 Baghouse
016	016	#1 Mill Baghouse	1940	10,000CFM	
	016A	Mill Cyclone		4 TPH	016 Baghouse
017	017	#2 Mill Baghouse	1940	10,000CFM	
	017A	Mill Cyclone		4 TPH	017 Baghouse
018	018	Baghouse (#3 R. Mill)	1950-1940	7,000 CFM	
	018A	Mill Cyclone		4 TPH	018 Baghouse
019	019	Baghouse	1987	13,000CFM	
	019A	Pitch Mill, G50/90	1987	3 TPH	019 Baghouse
	019B	Weigh Hopper/Blender	1987	3 TPH	019 Baghouse
	019C	Mixer G50/90	1987	3 TPH	019 Baghouse
	019D	Mixer G50/90	1987	3 TPH	019 Baghouse
	019H	Container Loading Station	1987	3 TPH	019 Baghouse
	019I	Portable Container Fill Station	1987	1 TPH	019 Baghouse
	019J	Bucket Elevator / Container Filling	1987/1986	1TPH/3TPH	019 Baghouse
	019K	CHP Crusher	1987	1 TPH	019 Baghouse
020	020	Baghouse	1950	5,990 CFM	020 Baghouse
	020A	Crusher	1950	10 TPH	020 Baghouse
	020B	Rotex	1950	10 TPH	020 Baghouse
021	021	Receiver Vent	1972	NA	
	021A	Pitch Airveyor Receiver / Pencil Pitch Recv Bin	1972 1970	10 TPH 40 TPH	021 Bin Vent

Emission Point ID	Emission Unit ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
022	022	Baghouse #3	2010	11,500CFM	APCD
	022A	Dust Bin	1947	20 TPH	022 Baghouse
	022B	Particle Bin	1947	20 TPH	022 Baghouse
	022C	Dust Bin	1947	10 TPH	022 Baghouse
	022D	Particle Cont. Fill Station	1947	10 TPH	022 Baghouse
	022E	Dust Container Fill Station	1947	10 TPH	022 Baghouse
	022F	#1 Particle Bin	1950	17 TPH	022 Baghouse
	022G	Bucket Elevator	1950	17 TPH	022 Baghouse
	022H	Screw Conveyor 4th Floor	1950	17 TPH	022 Baghouse
	022I	3rd Floor Screw Conveyor	1950	17 TPH	022 Baghouse
	022J	3rd Floor Screw Conveyor	1950	17 TPH	022 Baghouse
	022K	3rd Floor Screw Conveyor	1950	17 TPH	022 Baghouse
	022L	3rd Floor Screw Conveyor	1950	17 TPH	022 Baghouse
	022M	3rd Floor Screw Conveyor	1950	17 TPH	022 Baghouse
	022N	Bin Silos 1-6 or BO fr Silo 7 or 8	1974	17 TPH	022 Baghouse
	022O	Recv Bin frm Silos 7 or 8	1974	17 TPH	022 Baghouse
	022P	3rd Floor Screw Conveyor	1962	4 TPH	022 Baghouse
	015C	PGW Weigh Hopper	1979	4 TPH	022 Baghouse
	015D	Manual Charge Station	1979	0.1 TPH	022 Baghouse
	015E	Manual Charge Station	1979	0.1 TPH	022 Baghouse
	026S	40" Batch Car “Boot Attachment”		16 TPH	022 Baghouse
023	023	House Airveyor	1962	20 TPH	023 Filtered Vent
024	024	House Airveyor	1962	20 TPH	024 Filtered Vent
025	025	Bin Vent	1962	NA	025 Baghouse
	025A	Hopper	1962	5 TPH	025 Baghouse
026	026	Baghouse	2001	15,000CFM	APCD
	026A	#4 BO Flour Bin	1940	10TPH	026 Baghouse
	026B	Green Scrap Bin #3	1940	10 TPH	↓
	026C	Pitch Bin	1940	1 TPH	↓
	026D	Particle Bin #6	1940	10 TPH	↓
	026E	Bin 15B	1962	16 TPH	↓
	026F	Bin 15A	1962	16 TPH	↓
	026G	Bin 15	1962	16 TPH	↓
	026H	Bin 16	1962	16 TPH	↓
	026I	Bin 17	1962	16 TPH	↓
	026J	Bin 18	1962	16 TPH	↓
	026K	Bin 19	1962	16 TPH	↓
	026L	Bin 20	1962	16 TPH	↓
	026M	Bin 21	1962	16 TPH	↓
	026N	Bin 22	1962	16 TPH	↓
	026O	Bin 23	1962	16 TPH	↓
	026P	Bin 24	1962	16 TPH	↓
	026Q	Batch Scales	1962	16 TPH	026 Baghouse
	026R	Batch Scales	1962	16 TPH	026 Baghouse
	026V	Container Fill Station	1972	5 TPH	

Emission Point ID	Emission Unit ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
026	026	Baghouse (Same BH as 026 above)	2001	15,000CFM	APCD
	027A	Rail Load Out	1977	40 TPH	026 Baghouse
	027B	Dust Rolloff / Super Sack Loading	1962	8 TPH	↓
	027C	Charge Port 1	1962	8 TPH	↓
	027D	Charge Port 2	1962	8 TPH	↓
	027E	Charge Port 3	1962	8 TPH	↓
	027F	Charge Port 4	1962	8 TPH	↓
	027G	Charge Port 5	↓	↓	↓
	027H	Charge Port 6	↓	↓	↓
	027I	Charge Port 7	↓	↓	↓
	027J	Charge Port 8	↓	↓	↓
	027K	Charge Port 9	↓	↓	↓
	027L	Charge Port 10	1962	8 TPH	026 Baghouse
031	031BH	Dust Injection Baghouse	2008	50,000CFM	APCD
	031A	Mixer #3 40" Press System	1962	4 TPH	031 Baghouse
	031B	Mixer #4 40" Press System	1962	4 TPH	031 Baghouse
	031C	Cooler #2 40" Press System	1962	4 TPH	031 Baghouse
	031D	Conveyor Belt	1962	4 TPH	031 Baghouse
	031E	Mixer #5 40" Press System	1962	4 TPH	031 Baghouse
	031F	Mixer #6	1962	4 TPH	031 Baghouse
	031G	Cooler #3	1962	4 TPH	031 Baghouse
	031H	Mixer #7	1962	4 TPH	031 Baghouse
	031I	Mixer #8	1962	4 TPH	031 Baghouse
	031J	Cooler #4	1962	4 TPH	031 Baghouse
	031K	Mixer #9	1962	4 TPH	031 Baghouse
	031L	Mixer #10	1962	4 TPH	031 Baghouse
	031M	Cooler #5	1962	4 TPH	031 Baghouse
	031N	Vacuum Pump – 40’’ Extruder	1962	4 TPH	031 Baghouse
	031O	Discharge Chute for 031F Covered Conveyor	1962	4 TPH	031 Baghouse
032	032	Dust Injected Baghouse	2008	10,000CFM	APCD
	032A	Mixer #1 for PGW Press System	1967	2 TPH	032 Baghouse
	032B	Mixer #2 for PGW Press System	1967	2 TPH	032 Baghouse
	032C	Belt Conveyor	1967	8 TPH	032 Baghouse
	032D	PGW Press, Mold Filling Hood	1967	2 TPH	032 Baghouse
	019E	Belt Conveyor	1987	3 TPH	032 Baghouse
	019G	Inclined Belt Conveyor Back to 032	1987	3 TPH	032 Baghouse

Emission Point ID	Emission Unit ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
090	090A	Bld 3 Housekeeping Vac Sys Prim Sepa	1995	1 TPH	090 Internal Filter
	090B	Bld. 3 Housekeeping Vac Sys Sec Sepa. (*Currently Out of Service)*	1995	1 TPH	
091	091 091A	Pitch Receiver Vent Pitch Receiver	1997 1986	NA 3 TPH	091 Filter Vent 091 Filter Vent
092	092	Air Classifying Mill Receiver Bin	1996	3 TPH	092 Bin Vent
036	036 036A	Baghouse Duplex Mill	1962 1962	10,500CFM 0.12 TPH	APCD 036 Baghouse
037	037 037A 037B 037C	Baghouse Vertical Mill Niles Lathe Gardner Grinder	1962 1962 1962 1962	4,500 CFM 5 TPH 5 TPH 5 TPH	APCD 037 Baghouse 037 Baghouse 037 Baghouse
038	038 038A 038B	Baghouse Lathe End Face	1962 1962 1962	7,050 CFM 5 TPH 20 TPH	APCD 038 Baghouse 038 Baghouse
039	039 039A 039B	Baghouse Hydrotel Shot Blast Feed Rail	1962 1962 1962	14,000CFM 5 TPH 40 TPH	APCD 039 Baghouse 039 Baghouse
040	040 040A 040B 040C 040D 040E 040F 040G	Baghouse Shot Blast - Main Unit Bag Lump Breaker/Unloading Station Primary Lump Breaker Screw Conveyor Pitch Particle Elevator Pitch Melter Tank Pitch Pump	1962 1962 2009 2009 2009 2009 2009 2009	17,800CFM 40 TPH 1 TPH 1 TPH 1 TPH 1 TPH 0.125 TPH 0.5 TPH	APCD 040 Baghouse 040 Baghouse 040 Baghouse 040 Baghouse 040 Baghouse 040 Baghouse 040 Baghouse
041	041A 041B 041C 041D 041E	ESP 1 ESP 2 Autoclave Pitch Storage Tank #33 Vacuum Pump System	1986 1986 1986 1986 1986	10,000CFM 10,000CFM 1.25 TPH 37,120 Gal NA	APCD APCD 041 A or B ESP 041 A or B ESP 041 A or B ESP
042	042 042A 042B 042C 042D 042E 042F	Baghouse Building 29 Floor Dump Bldg 29 Floor Screw Conveyor Bldg 29 Mill Rm. Screw Conveyor Loading Pit Sand Bin Screw Conveyor Sand Pack Dispensing / Storage Bin Sagger Filling / Packing Pit	1962 1962 1962 1962 1962 1962 1962	10,050CFM 20 TPH 20 TPH 20 TPH 20 TPH 20 TPH 20 TPH	APCD 042 Baghouse 042 Baghouse 042 Baghouse 042 Baghouse 042 Baghouse 042 Baghouse

Emission Point ID	Emission Unit ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
043	043 043A 043B 043C 043D	Baghouse Bucket Elevator Hummer Bucket Elevator Outside Sand Bin	1962 1962 1962 1962 1962	30,000CFM 20 TPH 20 TPH 20 TPH 20 TPH	APCD 043 Baghouse 043 Baghouse 043 Baghouse 043 Baghouse
044	044A- 044S	Bake Department Pit Baking Furnaces Bld. 30	1972	2.62 TPH	Flue Gas Recirculation
045	045A- 045T	Bake Department Pit Baking Furnaces Bld. 29	1972	2.62 TPH	Flue Gas Recirculation
046	046 046A 046B 046C 046D 046E	Baghouse Storage Bin Airveyor Receiver Hummer Over/Undersize Fill Station Bucket Elevator	1962 1962 1962 1962 1962 1962	8,600 CFM 40 TPH 20 TPH 40 TPH 1 TPH 40 TPH	APCD 046 Baghouse 046 Baghouse 046 Baghouse 046 Baghouse 046 Baghouse
047	047 047A 047B	Baghouse Sand Dump / Hopper Fill Station Belt Conveyer	1962 1962 1962	6,800 CFM 40 TPH 40 TPH	APCD 047 Baghouse 047 Baghouse
048	048 048A 048B 048C 048D 048E 048F 048G 048H	Baghouse Bucket Elevator Pack Return Hopper Pack Dispensing Station Hopper Bucket Elevator Witte Screener Sand Pack Storage Bin Bldg. 29 Over/ Undersize Fill Sand Bin	1962 1962 1962 1962 1962 1962 1962 1962 1962	12,100CFM 40 TPH 40 TPH 40 TPH 40 TPH 40 TPH 40 TPH 1 TPH 20 TPH	APCD 048 Baghouse 048 Baghouse 048 Baghouse 048 Baghouse 048 Baghouse 048 Baghouse 048 Baghouse 048 Baghouse
049	049 049A	Powered Bin Vent Bulk Sand Storage Silo	1987 1962	800 CFM 40 TPH	Bin Vent APCD 049 Bin Vent
055	055 055A 055B 055C 055D 055E 055F 055G 055H	Wet Scrubber #1 Small Diameter Induction Furnace #2 Small Diameter Induction Furnace #3 Small Diameter Induction Furnace #4 Small Diameter Induction Furnace #1 Large Diameter Induction Furnace #2 Large Diameter Induction Furnace #3 Large Diameter Induction Furnace Chlorine Cylinder Storage Cabinet	1986 1986 1986 1986 1986 1986 1986 1986 1997	5000 CFM 0.08 TPH 0.08 TPH 0.08 TPH 0.08 TPH 0.11 TPH 0.11 TPH 0.11 TPH NA	055 wet scrubber for all
~~079~~	~~079~~ ~~079A~~ ~~079B~~ ~~079D~~	~~Scrubber~~ ~~Chlorine Cylinder Storage Cabinet~~ ~~Autoclave 1 (Vacuum Furnace)~~ ~~Sealant Pump Separator~~	~~1997~~ ~~1997~~ ~~1997~~ ~~1997~~	~~50 CFM~~ ~~NA~~ ~~0.02~~ ~~NA~~	~~APCD~~ ~~079 scrubber for all~~

Emission Point ID	Emission Unit ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
056	056 056A 056B 056C 056D 056E 056F 056G 056H 056I 056J 056K 056L 056M 056N 056O 056P 056Q 056R 056S	Baghouse (BO Tower) Bin Large Rotex Small Rotex Bin Crusher Feed Bin Crusher Elevator Rail Car Loading Fines Bin Particle Storage Bin Particle Storage Bin Particle Storage Bin Particle Storage Bin Fine Container Fill Station Container Fill Station Container Fill Station Container Fill Station Container Fill Station Truck/ Rail Car Loading Station	1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980 1980	15,900CFM 10 TPH 10 TPH 10 TPH 10 TPH 5 TPH 5 TPH 10 TPH 20 TPH 10 TPH 10 TPH 10 TPH 10 TPH 10 TPH 10 TPH 10 TPH 10 TPH 10 TPH 10 TPH 10 TPH 20 TPH	APCD 056 Baghouse for all
057	057	Baghouse - Zone 11	1981	15,900 SCFM	APCD
058	058	Baghouse - Zone 10	1981	15,900 SCFM	APCD
059	059	Baghouse - Zone 8	1981	15,900 SCFM	APCD
060	060	Baghouse - Zone 7	1981	15,900 SCFM	APCD
061	061	Baghouse - Zone 6	1981	15,900 SCFM	APCD
062	062	Baghouse - Zone 5	1981	15,900 SCFM	APCD
063	063	Baghouse - Zone 4	1981	15,900 SCFM	APCD
064	064	Baghouse - Zone 3	1981	15,900 SCFM	APCD
065	065	Baghouse - Zone 2	1981	15,900 SCFM	APCD
066	066	Baghouse - Zone 1	1981	15,900 SCFM	APCD

Emission Point ID	Emission Unit ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
067	067	Baghouse - Zone 12	1997	28,800 SCFM	APCD
076	076	Baghouse - Zone 9	1981	15,900 SCFM	APCD
070	070	4th Floor Baghouse	1965	14,000CFM	APCD
	070A	Rotex #1	1982	40 TPH	070 Baghouse for all
	070B	Rotex #2	1982	40 TPH	
	070C	Receiver Bin	1982	NA	
	070D	#3 Bin	1965	20 TPH	
	070E	#2 Bin	1965	20 TPH	
	070F	Bin #5	1965	20 TPH	
	070G	Bin #6	1965	20 TPH	
	070H	Bin #1	1965	20 TPH	
	070I	Bin #4	1965	20 TPH	
	070J	Screw Conveyor	1965	20 TPH	
	070K	Bin #10	1965	20 TPH	
	070L	Bin #11	1965	20 TPH	
	070M	Bin #12	1965	20 TPH	
	070N	Bin #13	1965	20 TPH	
	070O	Bin #14	1965	20 TPH	
	070P	Bin #15	1965	20 TPH	
	070Q	Bin #20	1965	20 TPH	
	070R	Bin #21	1965	20 TPH	
	070S	Bin #22	1965	20 TPH	
	070T	Bin #23	1965	20 TPH	
	070U	Bin #24	1965	20 TPH	
	070V	Bin #25	1965	20 TPH	
	070W	Bin #26	1965	20 TPH	

Emission Point ID	Emission Unit ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
074	074	Baghouse	1965	70,000CFM	APCD
	074A	Supersack Fill Station for Off-Site Disposal	1965	5 TPH	074 Baghouse
	074B	Bucket Elevator #3	1965	40 TPH	
	074C	Pack Hopper Dump Station	1999	40 TPH	
	074D	De Duster	1984	40 TPH	
	074E	Hopper Load Station 2 (Bin #2)	1965	40 TPH	
	074F	Hopper Load Station 3 (Bin #3)	1965	40 TPH	
	074G	Hopper Load Station 4 (Bin #4)	1965	40 TPH	
	074H	Hopper Load Station 5 (Bin #5)	1965	40 TPH	
	074I	Hopper Load Station 6 (Bin #6)	1965	40 TPH	
	074J	Hopper Load Station 1(Bin #1)	1965	40 TPH	
	074K	Hopper Load Station 11 (Bin #11)	1965	40 TPH	
	074L	Hopper Load Station 10 (Bin #10)	1965	40 TPH	
	074M	Hopper Load Station 13 (Bin #13)	1965	40 TPH	
	074N	Hopper Load Station 22 (Bin # 22)	1965	40 TPH	
	074O	Hopper Load Station 21 (Bin #21)	1965	40 TPH	
	074P	Hopper Load Station 23 (Bin #23)	1965	40 TPH	
	074Q	Hopper Load Station 25 (Bin #25)	1965	40 TPH	
	074R	Hopper Load Station 26 (Bin #26)	1965	40 TPH	
	074S	Dust Truck Loading	1965	40 TPH	
077	077	Vacuum Pump (BO Tower)	1980	1000 CFM	077C Filter Recv.
	077A	Filter (BO Tower)	1980	NA	077A Sec. Filter
	077B	Filter (BO Tower)	1980	NA	077B Sec. Filter
	077C	Filtered Receiver Bin (BO Tower)	1980	1 TPH	077C Filter Recv.
078	078	Natural Gas Fired Incinerator	1995	078 = 1.5 MMBtu/hr	APCD
	078A	Small Car Bottom Furnace	1995	078A - 2 MMBtu/hr	078 Incinerator
080	080	Natural Gas Fired Incinerator	1997	6821 CFM	APCD
	080L	Car Bottom Furnace #1 (2.1 MMBtu/hr)	1997	0.89 TPH	080 Incinerator
	080M	Car Bottom Furnace #2 (2.1 MMBtu/hr)	1997	0.89 TPH	080 Incinerator
	080N	Car Bottom Furnace #3 (2.1 MMBtu/hr)	1997	0.89 TPH	080 Incinerator
		Incinerator Capacity 080 = 3.5 MMBtu/hr			
	094	Walk-in, Natural Gas Fired, Heat treat Oven	2004	1 MBtu/hr, 011 TPH	080 Incinerator
	095	Walk-in, Natural Gas Fired, Heat treat Oven	2006	1 MBtu/hr	080 Incinerator

Emission Point ID	Emission Unit ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
081	081 081A 081B 081C 081D	081 Incinerator Car Bottom Furnace #4 Car Bottom Furnace #5 Car Bottom Furnace #6 Car Bottom Furnace #7	1995 YTBI YTBI YTBI YTBI	6821 CFM 2.1 MMBtu/hr 2.1 MMBtu/hr 2.1 MMBtu/hr 2.1 MMBtu/hr Note Permitted by R13-2058C 0.89 TPH Process Wt. Rate each for 081 A - 081D when constructed	APCD 081 Incinerator Controls All
082	082 082C 082D 082E 082F 082G 082H 082I 082J 082K 082M 082N 082R 082P 082Q 082S 082T	SFGFF Baghouse End Trim Saw #1 Supersack Unloading Station Sagger Unloading Sand Bin Charcoal Bin Green Scrap Bin Waste Bin Screener Screener IHM Vertical Band Saw Sanding/Grinding IHM Trim Saw IHM #1 Router IHM Router/Saw #2 IHM Hand Held Surface Grinder IHM Sander	1997 1997 1997 1997 1997 1997 1997 1997 1997 1997 2006 2006 2004 2004 2004 2004 2004/2006	20,000 CFM 0.5 TPH 0.5 TPH 20 TPH 20 TPH 1 TPH 1 TPH 2 TPH 20 TPH 20 TPH 1 TPH 1 TPH 1 TPH 1 TPH 1 TPH 1 TPH 1 TPH	APCD 082 Baghouse for all
251-257	NC251 NC252 NC253 NC254 NC255 NC256 NC257	Cool Down Stack For Furnace # 1 Cool Down Stack For Furnace # 2 Cool Down Stack For Furnace # 3 Cool Down Stack For Furnace # 4 Cool Down Stack For Furnace # 5 Cool Down Stack For Furnace # 6 Cool Down Stack For Furnace # 7 *Note: No emissions from these stacks during cool down- utilized for heat dissipation only.*	1997 1997 1997 YTBI YTBI YTBI YTBI	NA NA NA NA NA NA NA	080 Incinerator (found not to need additional heating during cool down) 081 Incinerator
	083 084	Filter receivers for sager unloading wands used for sager sand system	1997 1997	20 TPH 20 TPH	both vent inside building 110 6th floor and are regulated by R13-2058C

Emission Point ID	Emission Unit ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
087	G-2 G-4 G-5 G-7	Pack Receiver Bin ***(Fm Bldg 65 Pack Hoods)*** Baghouse Filter Secondary Filter Blower	1997 1997 1997 1997	10 TPH NA NA 2000 CFM	087 Baghouse 087 Baghouse 087 Baghouse
231	231A- 231T	Bld. 59 Acheson Graphitizing Furnaces. Fugitives from roof vents	1940	7,023 TPY[1]	[1]Bld. designed to settle out TSP
232	232A- 232T	Bld. 58 Acheson Graphitizing Furnaces. Fugitives from roof vents	1940	7,023 TPY	Bld. designed to settle out TSP
233	233A- 233F	Bld. 51 E-Graphitizing Furnaces. Fugitive from roof vents	1992 Reconf.	3,519 TPY	None
235	235A- 235T	Bld. 64 Acheson Graphitizing Furnaces. Fugitives from roof vents	1940	7,023 TPY	Bld. designed to settle out TSP
236	236A- 236F	Bld. 65 E-Graphitizing Furnaces. Fugitive from roof vents	1992 Reconf.	3,519 TPY	None
212	***NA - Fugitive***	Roof monitor for - PI building fugitives	1986	NA	None
213	***NA - Fugitive***	Roof monitor fugitives from Bld. 29 #5 National Pit Baking Furnaces	1972	NA	None
214	***NA - Fugitive***	Roof monitor fugitives from Bld. 30 #5 National Pit Baking Furnaces	1972	NA	None
299	229A 229B 229C	Rigid Insulation Vacuum Pump Vacuum Pump Vacuum Pump	1992 1992 1992	NA	None - No emissions generated
700	700A	Vacuum Unit Of Mill	1992	75 lb/hr	700 Filtered Exhaust
306	306A	Natural Gas Fired Cure Furnace	1990	1 TPH	None
401	401 401A 401B	Baghouse Overfill Container Overfill Container	1988	1000CFM 50 PPH 50 PPH	APCD 401 Baghouse 401 Baghouse
241	241	Tectyl 779Bulk Process Oil - Tank Vent	1988	8000gal.	None
053	053A 053B 053C 053D	Physical Testing Saw Physical Testing Lathe Physical Testing Drill Physical Testing Grinder	1997 Relc. 1997 1997 1997	1 TPH 1 TPH 1 TPH 1 TPH	053 Baghouse " " "
407	407A	End Facing Saw *Note: DAQ R13 NPN*	1996	39.02 TPH	407 Baghouse

Emission Point ID	Emission Unit ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
402	402 402A 402B	Baghouse Shipping Table Saw Shipping Bandsaw	2003 1991 1991	2400 CFM 1 TPH 1 TPH	APCD 402 Baghouse 402 Baghouse
535	535	Bld. 60 Used Oil Space Heating Unit	1966	0.185MM Btu/hr	
536	536	Bld. 23 Used Oil Space Heating Unit	1998	0.185 MM Btu/hr	
276	276	Maintenance Degreasing Units (5)	Varies	NA - Safety Kleen Self Distilled	Fugitive from evaporation only
215	215	Diesel Fuel Storage Tank	1985	6000 gallon tank	None
216	216	Unleaded Gasoline Fuel Storage Tank	1985	1000 gallon tank	None
217	217	Kerosene Fuel Storage Tank	1985	500 gallon tank	None
209	209	Lab Hood #1	1983 relc.	600 CFM	None
210	210	Lab Hood #2	1983 relc.	600 CFM	None
211	211	Muffle Furnace Hood (Vents inside Bld 5)	1983 relc.	400 CFM	None
302	302-A	PI Natural Gas Fired Pre Heater	1986	10 TPH	None
303	303-A	PI Natural Gas Fired Pre Heater	1986	10 TPH	None
304	304-A	PI Natural Gas Fired Pre Heater	1986	10 TPH	None
320	320-A	PI and Special Products Benco Pre Heater	1997	10 TPH	None
222, 225, 224	222A 225A 224A	T-143 Autoclave Portable Exhaust Fan Autoclave vent to Atm.	1970 1970 1970	2 TPH NA NA	None None None
222	222C	Vacuum Pump	1970	NA	None
223	223A	T-157 Autoclave	1970	2 TPH	None
307	307	Cure Oven	1988	15 Ton/cycle	None

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
R13-0874	09-16-1986
R13-0893	11-20-1986
R13-1151	10-26-1989
R13-1540B	07-11-2005
R13-1569A	07-20-1999
R13-1934~~B~~C	~~01-10-2006~~ 08-13-2013
R13-2047	06-04-1997
R13-2058C	06-06-2006
R13-3039	04-09-2013

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
CBI	Confidential Business Information
CEM	Continuous Emission Monitor
CES	Certified Emission Statement
C.F.R. *or* CFR	Code of Federal Regulations
CO	Carbon Monoxide
C.S.R. *or* CSR	Codes of State Rules
DAQ	Division of Air Quality
DEP	Department of Environmental Protection
FOIA	Freedom of Information Act
HAP	Hazardous Air Pollutant
HON	Hazardous Organic NESHAP
HP	Horsepower
lbs/hr *or* lb/hr	Pounds per Hour
LDAR	Leak Detection and Repair
m	Thousand
MACT	Maximum Achievable Control Technology
mm	Million
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
NSPS	New Source Performance Standards
PM	Particulate Matter
PM_{10}	Particulate Matter less than 10µm in diameter
pph	Pounds per Hour
ppm	Parts per Million
PSD	Prevention of Significant Deterioration
psi	Pounds per Square Inch
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
TAP	Toxic Air Pollutant
TPY	Tons per Year
TRS	Total Reduced Sulfur
TSP	Total Suspended Particulate
USEPA	United States Environmental Protection Agency
UTM	Universal Transverse Mercator
VEE	Visual Emissions Evaluation
VOC	Volatile Organic Compounds

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§30-5.7.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 45CSR§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 45CSR38]

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. **Manufacturing Fugitives**. 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, 45CSR13, Permit R13-2058, (condition 4.1.8)]

3.1.10. **General Fugitive Emissions.** The owner or operator of a plant shall maintain particulate matter 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 particulate matter suppressants shall be applied in relation to stockpiling and general material handling to minimize particulate matter generation and atmospheric entrainment.
[45CSR§7-5.2, 45CSR13, Permit R13-2058, (condition 4.1.9)]

3.1.11. Potential Hazardous Material Emissions--Persons responsible for manufacturing process source operations from which hazardous particulate matter material may be emitted such as, but not limited to, lead, arsenic, beryllium and other such materials shall give the utmost care and consideration to the potential harmful effects of the emissions resulting from such activities. Evaluations of these facilities as to adequacy, efficiency and emission potential will be made on an individual basis by the Director working in conjunction with other appropriate governmental agencies.
[45CSR§7-4.13]

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.]

3.2. Monitoring Requirements

3.2.1. The permittee shall maintain records indicating the use of any dust suppressants or any other suitable dust control measures applied at the facility. The permittee shall also inspect all fugitive dust control systems to ensure that they are operated and maintained in conformance with their designs. The permittee shall maintain records of all scheduled and non-scheduled maintenance and shall state any maintenance or corrective actions taken, the times the fugitive dust control system(s) were inoperable and any corrective actions taken.
[45CSR§30-5.1.c.1.B. and 45CSR13, Permit R13-2058, (Condition 4.4.6.)]

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, if applicable, in accordance with the Secretary's delegated authority and any established equivalency determination methods which are 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.

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. **Opacity Demonstration.** Compliance with the opacity standard of 45CSR7 or 45CSR6 shall be demonstrated by conducting a 40CFR60 Appendix A, Method 22 visible emission test once per month for each stack during periods of operation in which particulate matter is being vented to the emission point being tested. The test report shall document the date and time the test was conducted as well as what operations were being vented during the test. If emission generating equipment does not operate during any given month it shall be documented accordingly.

Directly following anytime opacity is identified by the method 22 observation, from a manufacturing process not controlled by an incinerator, the permittee is required to conduct a 45CSR7A visible emission (VE) test. If the test fails to meet the 20% opacity requirement of 45CSR§7-3.1 as well as the limited less than 40% opacity stipulation of 45CSR§7-3.2 and the excess emissions episode does not qualify for a variance under 45CSR§7-9.1, the permittee shall comply with the reporting requirements of 3.5.8. as well as become subject to the following testing, recordkeeping and reporting stipulations:

The permittee shall accelerate the testing frequency to weekly 45CSR7A opacity tests. The emission point(s) of concern shall be required to conduct weekly test for 30 days in order to correct or further define the problem. During this 30 day period the company shall document and maintain all corrective actions taken, any background information, opacity test reports, maintenance records, values of operating parameters being monitored during testing, etc. These documents shall be kept on site and made readily available to the Director upon request. The emission point may resume monthly emission test at the end of the 30 day period if it has demonstrated at least two consecutive weeks in compliance. If the subject emission point cannot meet the criteria for returning to monthly testing within the 30 days, a detailed corrective action program shall be submitted to DAQ's Assistant Director of Compliance and Enforcement for approval. The program must include, but may not be limited to a PM stack testing protocol in accordance with 45CSR7A as well as anticipated milestone dates. This corrective program shall be postmarked no later than the 30th day after documenting the initial excess opacity conditions. During times of excess opacity the permittee shall maintain and operate manufacturing unit(s) including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.

Directly following anytime opacity is identified by the Method 22 observation from an incinerator subject to 45CSR6, the permittee is required to conduct a 40CFR60, Appendix A-4, Method 9 visible emission test. If the test fails to meet the 20% opacity requirement of 45CSR§6-4.3 as well as the limited, less than 40% opacity allowance, for startups not to exceed 8 minutes, as defined by 45CSR§6-4.4 and the excess emissions episode does not qualify for a variance under 45CSR§6-8.2, the permittee shall comply with the reporting requirements of 3.5.8. as well as become subject to the weekly testing, recordkeeping and reporting stipulations stated above for 45CSR7 manufacturing sources except the opacity testing shall be conducted using Method 9 rather than 45CSR7A.

Note: Incinerators used to control PM from 45CSR7 sources are subject only to the incinerator opacity requirements of 45CSR6 since the incinerator is the last unit operation prior to the emission release.

[45CSR§30-5.1.c.1.B., 45CSR7, 45CSR6, and 45CSR13, Permit R13-2058, (Condition 4.3.1.)]

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, and 45CSR13, Permit R13-2058 (Condition 4.4.1), 45CSR13, Permit R13-3039, Condition 4.4.1, 45CSR13, Permit R13-1934, Condition 4.4.1]

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. All test reports required by this permit shall abide with the requirements for retaining records as specified in 3.4.2.
[45CSR§30-5.1.c.2.B.]

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, 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 certification to the USEPA as required in 3.5.5 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, mailed first class or by private carrier with postage prepaid to the address(es) set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

If to the DAQ:	**If to the US EPA:**
Director WVDEP Division of Air Quality 601 57th Street SE Charleston, WV 25304 Phone: 304/926-0475 FAX: 304/926-0478	Associate Director Office of Air Enforcement and Compliance Assistance (3AP20) U. S. Environmental Protection Agency Region III 1650 Arch Street Philadelphia, PA 19103-2029

3.5.4. **Certified emissions statement.** The permittee shall submit a certified emissions statement and pay fees on an annual basis in accordance with the submittal requirements of the Division of Air Quality.
[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 requirements 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 annual certification to the USEPA shall be submitted in electronic format only. It shall be submitted by e-mail to the following address: R3_APD_Permits@epa.gov. The permittee shall maintain a copy of the certification on site for five (5) years from submittal of the certification.
[45CSR§30-5.3.e.]

3.5.6. **Semi-annual monitoring reports.** The permittee shall submit reports of any required monitoring on 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.
[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. 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.

a. 40CFR60 Subparts K, Ka, Kb —Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978; prior to July 23, 1984; or after July 23, 1984 respectively.

Regardless of the construction date these NSPS standards have an applicability threshold of either 40,000 or 20,000 gallons in which GrafTech does not satisfy. The permittee's largest volatile organic liquid tank is 10,000 gallons or less. Therefore, the above referenced NSPS are not applicable to the following tanks permitted herein:

10,000 gallon, Tectyl 779 Bulk Process Oil Tank, constructed in 1988, Emission Point ID (241)
6,000 gallon, Diesel Fuel Storage Tank, constructed in 1985, Emission Point ID (215)
1,000 gallon, Unleaded Gasoline Fuel Storage Tank, constructed 1985, Emission Point ID (216)
500 gallon, Kerosene Fuel Storage Tank, constructed 1985, Emission Point ID (217)

b. 40CFR60 Subpart Dc—Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.
Three of GrafTech's four boilers have the following characteristics:
Natural Gas Fired Boiler, Constructed in 1981, Rated capacity of 11.0 MMBtu/hr, ID (300)
Natural Gas Fired Boiler, Constructed in 1960, Rated capacity of 15.5 MMBtu/hr, ID (308)
Natural Gas Fired Boiler, Constructed in 1960, Rated capacity of 13.0 MMBtu/hr, ID (309)
As a result of these boilers being constructed before the corresponding applicability date of, June 9, 1989 the boilers listed above were found not to be subject to the above referenced NSPS.

c. 40CFR63 Subpart DDDDD–National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters
GrafTech is not a major source of Hazardous Air Pollutants at this time.

d. 40CFR63 Subpart JJJJJJ - National Emission Standards for Hazardous Air Pollutants for Industrial Commercial and Institutional Boilers Area Sources
Gas boilers are listed as being specifically exempt from these area source requirements under §63.11195(e)

4.0 Source-Specific Requirements for Boilers [Emission Point ID(s): 300, 301, 308, and 309]

4.1. Limitations and Standards

4.1.1. No person shall cause, suffer, allow or permit emission of smoke and/ or particulate matter into the open air from any fuel burning unit which is greater than (10) percent opacity based on a six minute block average. **[45CSR§2-3.1.]**

4.1.2. Pursuant to 45CSR2, Section 4.1., the type 'b' fuel burning units emission points ID 300, 301, 308, and 309 shall not exceed 0.99, 1.13, 1.36, and 1.17 (lb/hr) particulate matter respectively. **[45CSR§2-4.1.b.]**

4.1.3. Pursuant to 45CSR10, Section 3, the emissions of SO2 from emission points ID 300, 301, 308, and 309 shall not exceed 35.2, 40.32, 49.6, and 41.6 (lb/hr) respectively. **[45CSR§10-3.3.f.]**

4.1.4. The following conditions and requirements are specific to Boiler 301:

a. The boiler shall be fired with pipeline quality natural gas at all times when in operation.

b. CO discharged from the boiler shall not exceed 1.06 pounds per hour with an annual total not to exceed 4.64 tons per year.

c. NO_x discharged from the boiler shall not exceed 1.26 pounds per hour with an annual total not to exceed 5.52 tons per year.

d. At all times when the boiler is operated solely with pipeline quality natural gas, the use of natural gas in this emission unit satisfies compliance with the limitations of 45CSR§2-3.1., 45CSR§2-4.1.b., and 45CSR§10-3.3.f
[45CSR§2A-3.1.a., 45CSR§10-10.3., 45CSR§10A-3.1.b.]

e. The boiler shall not be designed or constructed with a maximum design heat input in excess of 12.6 MMBtu/hr. Compliance with this limit shall be satisfied by limiting the annual consumption of natural gas to 110.4 MM cubic feet, measured as a rolling 12 month total. Compliance with this limit satisfies the annual limits in items b. and c. of this condition.

[45CSR13, Permit R13-3039, (Condition 4.1.1.), Emission Point ID (301)]

4.2. Monitoring Requirements

4.2.1. Compliance with the PM and SO2 emission limitations, 4.1.2 and 4.1.3 shall be demonstrated by utilizing only pipeline quality natural gas as boiler fuel. **[45CSR§30-12.7, Emission Point ID (300, 308, 309)]**

4.2.2. For each month, the permittee shall record the amount of natural gas consumed by the boiler and shall calculate the rolling 12 month total of natural gas consumed for each month. Such records shall be maintained in accordance with condition 3.4.2. of this permit. **[40C.F.R.§60.48c(g)(2), 45CSR§2A-7.1.a.1., 45CSR13, Permit R13-3039, (Condition 4.2.1), Emission Point ID (301)]**

4.3. Testing Requirements

4.3.1. At such reasonable times as the Director may designate, the owner or operator of any fuel burning unit(s) may be required to conduct or have conducted tests to determine the compliance of such unit(s) with the emission limitations of 4.1.2. Such tests shall be conducted in accordance with the appropriate method set forth in the Appendix to this rule or other equivalent EPA approved method approved by the Director. The Director, or his duly authorized representative, may at his option witness or conduct such tests. Should the Director exercise his option to conduct such tests, the operator will provide all necessary sampling connections and sampling ports 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§2-8.1.b.]

4.3.2. The Director, or his duly authorized representative, may conduct such other tests as he may deem necessary to evaluate air pollution emissions other than those noted in 4.1.2.
[45CSR§2-8.1.c.]

4.4. Recordkeeping Requirements

4.4.1. The owner or operator shall maintain records of the boiler's operating log. Additionally, the permittee shall also maintain records of the quality and quantity of fuel consumed in each fuel burning unit on an annual basis. Verification of pipeline quality natural gas satisfies the gas quality requirement. Such records are to be maintained on-site and made available to the Director or his duly authorized representative upon request.
[45CSR§2-8.3.c.]

4.5. Reporting Requirements

4.5.1. The permittee shall submit an "Initial Notification" to the Director of the initial start-up of the boiler within 15 days after the actual date of start-up.
[40C.F.R.§60.48c(a), 40C.F.R.§60.7, 45CSR13, Permit R13-3039, (Condition 4.5.1), Emission Point ID (301)]

5.0 Source-Specific Requirements for the Bake Process [Emission Point ID(s): 036, 037, 038, 039, 040, 042, 043, 044, 045, 046, 047, 048, 049, 082, 083, 084, 078, 080, 081, 094, 095, 251-257, 213, 214]

5.1. Limitations and Standards

5.1.1. The maximum allowable emissions to the atmosphere from the heat treat oven, carbottom furnaces, incinerators, cooling stacks, associated pack handling system, and surface preparation equipment are not to exceed the limitations set forth in ATTACHMENT A.

The PM emission limitations for each source listed in Attachment A streamlines and assures compliance with 45CSR§7-4.1 and 45CSR13, Permit R13-2058, condition 4.1.6.

[45CSR13, Permit R13-2058, (Condition 4.1.11.), Emission Point ID (082, 083, 084, 251, 252, 253, 254, 255, 256, 257, 078, 080, 081)]

5.1.2. Maximum process throughput shall not exceed 2,800,000 pounds per year of carbonaceous first bake product and 3,727,650 pounds per year of first bake product receiving rebake processing.
[45CSR13, Permit R13-2058, (Condition 4.1.12.), Equipment ID (078, 080, 081)]

5.1.3. Each of the incinerators are required to be in operation at all times when servicing one or more furnaces operating at temperatures between 250°C and 500°C. The maximum number of furnaces within the specified temperature (250°C to 500°C) range drafting to one (1) incinerator is not to exceed three (3) at any one time. Heat treat ovens (094, 095) may vent to the incinerators during the operation of a maximum of three (3) of the carbottom furnaces as stated above.
[45CSR13, Permit R13-2058, (Condition 4.1.13.), Equipment ID (078, 080, 081)]

5.1.4. Sulfur content of the pitch shall not exceed the following rolling yearly average amounts:

i. 1.5% sulfur content for **coal tar pitch** used in the first bake furnace
ii. 3.0% sulfur content for **petroleum based pitch** used in the rebake furnace

A rolling yearly average shall mean the average sulfur content at any given time for the previous twelve (12) consecutive calendar months. The rolling yearly average amounts of sulfur content are to be based upon annual raw material monitoring data.

Compliance with this requirement will demonstrate compliance with sulfur dioxide concentration limit per 45CSR§10-4.1. and 45CSR13 Permit R13-2058 Condition 4.1.10.

[45CSR§30-5 .1. and 45CSR13 Permit R13-2058, (Condition 4.1.14 & 4.2.3), Equipment ID (044, 045, 078, 080, 081)]

5.1.5. The operation of the pack handling system shall not exceed three saggers loaded/unloaded per hour or 11,652 saggers per year with a maximum throughput of 20 tons per hour or 30,494 tons per year of pack material.
[45CSR13, Permit R13-2058, (Condition 4.1.15.), Emission Point ID (082, 083, 084)]

5.1.6. Natural gas will be used to fire each of the seven furnaces with the maximum heat input to each furnace not to exceed 2.1 million Btu/hr. This heat input rate is equivalent to a gas flow rate of 2100 ft^3/hr.
[45CSR13, Permit R13-2058, (Condition 4.1.16.), Equipment ID (080L, 080M, 080N, 081A, 081B, 081C, 081D)]

5.1.7. The maximum heat input for the firing of each of the natural gas fueled burners during cooling shall not exceed 1.0 million BTU per hour. The heat input rate is equivalent to a gas flow rate of 1000 ft^3/hr.
[45CSR13, Permit R13-2058, (Condition 4.1.17.), Equipment ID (NC251, NC252, NC253, NC254, NC255, NC256, NC257)]

5.1.8. The maximum heat input for the firing of each natural gas fired incinerator (078, 080, 081) shall not exceed 3.5 million BTU per hour. This heat input rate is equivalent to a gas flow rate of 3500 ft^3/hr.
[45CSR13, Permit R13-2058, (Condition 4.1.18.), Equipment ID (078, 080, 081)]

5.1.9. The maximum heat input for the firing of the natural gas fired heat treat oven (094, 095) shall not exceed 1.0 million BTU per hour. This heat input rate is equivalent to a gas flow rate of 1000 ft^3/hr.
[45CSR13, Permit R13-2058, (Condition 4.1.19.), Equipment ID (094, 095)]

5.1.10. Maximum throughput of AMW assembly production shall not exceed 50 assemblies per 12 hour cycle. The maximum allowable payload of Pre-Preg Carbon Paper shall not exceed 164 lb/cycle.
[45CSR13, Permit R13-2058, (Condition 4.1.20.), Equipment ID (094, 095)]

5.1.11. Maximum throughput of AMW assembly production to the carbottom furnaces (080L, 080M, 080N) shall not exceed 266 AMW assemblies per 30 hour cycle and 37,500 AMW assemblies per year.
[45CSR13, Permit R13-2058, (Condition 4.1.21.), Equipment ID (080L, 080M, 080N)]

5.1.12. Maximum throughput of C-34 cement to each of the heat treatment ovens (094, 095) shall not exceed 380 pounds of cement in a 12 hour cycle.
[45CSR13, Permit R13-2058, (Condition 4.1.22.), Equipment ID (094, 095)]

5.1.13. Maximum yearly throughput of C-34 cement to each of the heat treatment ovens (094, 095) and the carbottom furnaces (080L, 080M, 080N) shall not exceed 337,500 pounds of cement per year.
[45CSR13, Permit R13-2058, (Condition 4.1.24), Equipment ID (080L, 080M, 080N, 094, 095)]

5.1.14. Maximum throughput of HHN cement to each of the heat treatment ovens (094, 095) shall not exceed 380 pounds of cement in a 12 hour cycle.
[45CSR13, Permit R13-2058, (Condition 4.1.25.), Equipment ID (094, 095)]

5.1.15. Maximum throughput of C-34 cement to each of the carbottom furnaces (080L, 080M, 080N) shall not exceed 4,788 pounds of cement in a 30 hour cycle.
[45CSR13, Permit R13-2058, (Condition 4.1.23.), Equipment ID (080L, 080M, 080N)]

5.1.16. Maximum throughput of HHN cement to each of the carbottom furnaces (080L, 080M, 080N) shall not exceed 4,788 pounds of cement in 30 hour cycle.
[45CSR13, Permit R13-2058, (Condition 4.1.26.), Equipment ID (080L, 080M, 080N)]

5.1.17. Maximum yearly throughput of HHN cement to each of the heat treatment ovens (094, 095) and the carbottom furnaces (080L, 080M, 080N) shall not exceed 337,500 pounds of cement per year.
[45CSR13, Permit R13-2058, (Condition 4.1.27), Equipment ID (080L, 080M, 080N, 094, 095)]

5.1.18. Maximum throughput of cement to the heat treatment ovens (094, 095) shall not exceed 380 pounds of cement in a 12 hour cycle for the AMW assembly wraps.
[45CSR13, Permit R13-2058, (Condition 4.1.28.), Equipment ID (094, 095)]

5.1.19. Maximum yearly throughput of cement to each of the heat treatment ovens (094, 095) and the carbottom furnaces (080L, 080M, 080N) shall not exceed 22,800 pounds of cement per year for the AMW assembly wraps.
[45CSR13, Permit R13-2058, (Condition 4.1.30), Equipment ID (080L, 080M, 080N, 094, 095)]

5.1.20. Maximum throughput of cement to the carbottom furnaces (080L, 080M, 080N) shall not exceed 1,520 pounds of cement per furnace in a 30 hour cycle for the AMW assembly wraps.
[45CSR13, Permit R13-2058, (Condition 4.1.29.), Equipment ID (080L, 080M, 080N)]

5.1.21. Maximum processing of Carbon Foam Blocks processed in the carbottom furnaces (080L, 080M, 080N) shall not exceed 294 pieces per 24 day cycle and 4,410 pieces per year.
[45CSR13, Permit R13-2058, (Condition 4.1.32.), Equipment ID (080L, 080M, 080N)]

5.1.22. Use of any new ingredient(s)/material(s) containing any constituent identified in Section 112(b) of the 1990 Clean Air Act Amendments as a HAP, shall be treated in accordance with the following:

a. The permittee shall notify the Director in writing, via a permit determination, of any new ingredient(s) to be used and the HAP(s) contained therein within thirty (30) days of the initial use of the ingredient. Additionally, a MSDS sheet for each of the new ingredient(s) shall be supplied at this time to the Director.

b. An estimate of emissions associated with the use of the new ingredient(s) shall be determined and incorporated into the record keeping requirements contained herein.

[45CSR13, Permit R13-2058, (Condition 4.1.33.)]

5.1.23. With respect to the surface cleaning of carbonaceous product, pack handling and dispensing, pit baking and operation of the car bottom furnaces the permittee shall not cause, suffer, allow or permit particulate matter (PM) 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 defined by Table 45-7A and summarized in the following table:

Emission Point (I.D.)	Equipment Description	Emission Limitation, PM (lb/hr)
036	Duplex Mill Baghouse	0.288
037	Vertical Mill Baghouse	10.0
038	Lathe Baghouse	28.0
039	Shot Blast Feed Rail Baghouse	32.2
040	Shot Blast Main Unit Baghouse	32.2
042	Building 29 Floor Dump, Etc. Baghouse	28
043	Bucket Elevator/Hummer Baghouse	28
044	Pit Bake Furnaces Building 30	5.2
045	Pit Bake Furnaces Building 29	5.2
046	Airveyor Receiver, Etc. Baghouse	32.2
047	Sand Dump/ Hopper Fill Station, Etc. Baghouse	32.2
048	Pack Dispensing Station Hopper, Etc. Baghouse	32.2
049	Power Bin Vent/ Bulk Sand Storage Silo Baghouse	32.2

[45CSR§7-4.1, Emission Point ID (036, 037, 038, 039, 040, 042, 043, 046, 047, 048, 049, and 044, 045)]

5.1.24. 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 subsections 3.2, 3.3, 3.4, 3.5, 3.6, and 3.7 of 45CSR7.
[45CSR§7-3.1., 45CSR13, Permit R13-2058, (Condition 4.1.4.), Emission Point ID (036, 037, 038, 039, 040, 042, 043, 046, 047, 048, 049, 082, 083, 084, 251-257, 044, 045, 078, 080, 081, 213, 214)]

5.1.25. The provisions of 5.1.24. above 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, 45CSR13, Permit R13-2058, (Condition 4.1.5.), Emission Point ID (036, 037, 038, 039, 040, 042, 043, 046, 047, 048, 049, 082, 083, 084, 044, 045, 078, 080, 081, 251-257, 213, 214)]

5.1.26. Various bars and equipment coated with residual pitch shall be cleaned in the #5 National Pit Baking Furnaces while utilizing flue gas recirculation. These operations shall be documented in accordance with 5.4.3.
[45CSR§30-12.7, Emission Point ID (044, 045)]

5.1.27. Residual pitch from ESP cleaning shall be added to the sand packing material and combusted in the #5 National Pit Bake Furnaces while incorporating flue gas recirculation. The amount of pitch added to the sand packing shall be tracked in accordance with 5.4.3.
[45CSR§30-12.7, Emission Point ID (044, 045)]

5.1.28. The maximum amount of pre-coat applied to the graphite shapes in the heat treat ovens (094, 095) shall not exceed 130 pounds of binder system per furnace in a 14 hour cycle.
[45CSR13, Permit R13-2058, (Condition 4.1.31), Equipment ID (094, 095)]

5.1.29. In the event the graphite shapes do not fit in the heat treat ovens (094, 095), Furnaces 078A, 080L, 080M, 080N may be used to cure the shapes, provided the amount of pre-coat applied doesn't exceed the limit in permit condition 5.1.28.
[45CSR§30-12.7, Equipment ID (078A, 080L, 080M, 080N)]

5.1.30. No person shall cause, suffer, allow or permit particulate matter to be discharged from any incinerator into the open air in excess of the quantity determined by use of the following formula:

Emissions (lb/hr) = F x Incinerator Capacity (tons/hr)

Where, the factor, F, is as indicated in Table I below:

Table I: Factor, F, for Determining Maximum Allowable Particulate Emissions

Incinerator Capacity	**Factor F**
A. Less than 15,000 lbs/hr	5.43
B. 15,000 lbs/hr or greater	2.72

The PM emission limitations for each source (080, 081) listed in Attachment A, streamlines and assures compliance with 45CSR§6-4.1.

As a result of having an incinerator capacity of 50 lb/hr, the 078 incinerator shall be limited to no more than 0.14 lb/hr of PM.

[45CSR13, Permit R13-2058, (Condition 4.1.1.) and 45CSR§6-4.1., Equipment Point ID (078, 080, 081)]

5.1.31. Emission of Visible Particulate Matter --No person shall cause, suffer, allow or permit emission of smoke into the atmosphere from any incinerator which is twenty (20%) percent opacity or greater.
[45CSR13, Permit R13-2058, (Condition 4.1.2) and 45CSR§6-4.3., Equipment Point ID (078, 080, 081)

5.1.32. The provisions of 5.1.31 above shall not apply to smoke and/or particulate matter emitted from any process source operation which is less than forty (40) percent opacity for no more than 8 minutes during startup.
[45CSR§6-4.4., Equipment Point ID (078, 080, 081)]

5.1.33. Incinerators, including all associated equipment and grounds, shall be designed, operated and maintained so as to prevent the emission of objectionable odors.
[45CSR13, Permit R13-2058, (Condition 4.1.3) and 45CSR§6-4.6., Equipment ID (078, 080, 081)]

5.1.34. 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. and 45CSR13, Permit R13-2058, (Condition 4.1.7), Equipment ID (082, 083, 084, 251, 252, 253, 254, 255, 256, 257, 078, 080, 081)]

5.1.35. **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 Section 1.0 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.
[45CSR13, Permit R13-2058, (Condition 4.1.34) and 45CSR§13-5.11., Equipment ID (078, 080, 081,082)]

5.1.36. In order to demonstrate compliance with the POM emission limitations defined within Attachment A, the 080 incinerator shall comply with the compliance assurance monitoring (CAM) requirements defined within this section in accordance with 40 C.F.R. 64. The associated monitoring limitations for the 080 incinerator are contained within permit condition 5.2.5. Additional CAM monitoring, recordkeeping, and reporting provisions are contained within 5.2.7, 5.2.8, 5.2.9, 5.2.10, 5.2.11, 5.4.7, and 5.5.2.
[40C.F.R.64, Emission Point (080)]

5.1.37. In order to demonstrate compliance with the PM limitations defined within Attachment A, for the 082 baghouse and the PM limitations within permit condition 5.1.23, for the 039 baghouse, these control devices shall comply with the compliance assurance monitoring (CAM) requirements defined within this section in accordance with 40 C.F.R. 64. The associated monitoring limitations for the 082 and 039 baghouse are contained within permit condition 5.2.6. Additional CAM monitoring, testing, recordkeeping, and reporting provisions are contained within 5.2.8, 5.2.9, 5.2.10, 5.3.3, 5.4.7, and 5.5.2.
[40C.F.R.64, Emission Points (082, 039)]

5.2. Monitoring Requirements

5.2.1. For the purpose of determining compliance with the limits established in 5.1.1 through 5.1.22 and 5.1.28, the following information shall be maintained on-site for a period of no less than five (5) years and shall be certified and made available to the Director or his duly authorized representative upon request:

- Amount of carbonaceous product throughput for both first bake and rebake processing.
- Sulfur content of pitch used for first bake and rebake furnaces, in addition to raw material monitoring data
- Number of saggers loaded per year of operation of the pack handling system.
- Amount of pack handling material processed
- Amount of energy/fuel used for the firing of each of the natural gas furnaces
- Amount of energy/fuel used for the firing of each of the burners used for intermittent cooling of the furnaces
- Amount of energy/fuel used for the firing of each of the incinerators
- Amount of energy/fuel used for firing of the heat treat oven (094, 095).

- Actual weight per piece and per size of Pre-Preg Paper fed to the heat treat oven (094, 095).
- Amount of Pre-Preg Paper, AMW Boards and Carbon Foam Blocks processed in the heat treat oven (094, 095) and the carbottom furnaces (080L,080M,080N).
- Type and amount of carbonaceous cement and binder system applied to furnace load fed to the heat treat oven (094, 095) and the carbottom furnaces (080L, 080M, 080N).

[45CSR13, Permit R13-2058, (Condition 4.2.1.), Equipment ID (082, 083, 084, 251-257, 078, 080, 080L, 080M, 080N, 081, 094, 095)]

5.2.2. The permittee shall conduct an annual preventative maintenance inspection, cleaning, replacement, and refurbishment as appropriate, of all bags, bag connections, and dust hoppers of the baghouses pertaining to all emission points subject to 45CSR7 in order to ensure proper operation of the filters. Records shall be maintained on site for a period of no less than five (5) years, stating the date and time of each baghouse's annual preventative maintenance activity, the results of the annual preventative maintenance activity and, if applicable, all corrective actions taken. These records shall also reflect any routine maintenance conducted in addition to the preventative maintenance activities specified above.
[45CSR§30-5.1.c.1.B. and 45CSR13, Permit R13-2058, (Condition 4.2.2)]

5.2.3. In order to assure compliance with the PM emission limits established by 5.1.23 the #5 National Pit Bake Furnaces corresponding to emission points (044 and 045) the permittee shall operate in accordance with the following work practice standards:

a.) The exhaust gas from any furnace in volatile service shall not be sent to the atmosphere without first passing through another furnace operating at or above the temperature, which has been demonstrated as best work practices by GrafTech, typically > 575 degrees C. These best work practices are further defined within standard operating procedures (SOP) entitled "Bake Firing - #5 National Pit Baking Furnaces" submitted as supplemental information to the Title V Application.
[45CSR§30-5.1.c.1.B.]

5.2.4. In order to assure compliance with rolling yearly average sulfur content limits set forth in Requirement 5.1.4., the permittee shall monitor sulfur content of every shipment of coal tar pitch and petroleum based pitch, and maintain records of 12-month rolling average amounts for each pitch type.
[45CSR§30-5.1.c.1.B., Emission Points (044, 045, 078, 080, 081)]

5.2.5. In order to demonstrate compliance with the CAM requirements of 40 C.F.R. 64, the 080 incinerator shall monitor and record the incinerator operating temperature at least once per operator shift while emissions from any of the following furnaces, 080L, 080M, 080N, 094, and 095, are vented to the control device.

The incinerator temperature shall be maintained at or above 800 degrees Celsius at all times when emissions are being routed to the control device. The temperature monitoring device shall be located within the combustion chamber and calibrated at least once annually. A deviation shall be defined as a temperature reading below 800 C. Two deviations within a day constitute an excursion.
[40C.F.R.64, Emission Point (080)]

5.2.6. In order to demonstrate compliance with the CAM requirements of 40 C.F.R. 64, the 082 and 039 baghouses shall monitor and record visible emissions (VEs) per method 22 at least once per day during daylight hours, while emissions are being routed to the control device. Each baghouse shall be operated with no visible emissions at all times. An excursion shall be defined as any visible emissions observed.
[40C.F.R.64, Emission Point (082, 039)]

5.2.7. **Proper Maintenance.** The permittee shall maintain monitoring at all times, including maintaining necessary spare parts for routine repairs of the monitoring equipment.
[45CSR§5.1.c.; 40 C.F.R. §64.7(b), Equipment ID (080)]

5.2.8. **Response to Excursions or Exceedances**.

In accordance with the operation of the 080 incinerator an excursion shall be defined as 2 monitoring deviations in a 24 hour period. Therefore, a deviation is any temperature reading below 800 degrees Celsius that is not related to a documented malfunction, startup, or shutdown condition.

In accordance with the operation of the 082 and 039 baghouses an excursion shall be defined as any detectable visible emissions within a given day of operation. Therefore, a deviation and excursion are equivalently defined as any VEs originating from the 082 or 039 baghouses.

a. Upon detecting an excursion or exceedance, the permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or below the applicable emission limitation or standard, as applicable.
b. Determination of whether the permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.

[40 C.F.R. §64.7(d); 45CSR§30-5.1.c, Equipment ID (080, 082, 039)]

5.2.9. **Documentation of Need for Improved Monitoring** - After approval of monitoring under 40 C.F.R. Part 64, if the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the result of compliance or performance testing/design evaluation document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the Director and, if necessary, submit a proposed modification to the permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.
[40 C.F.R. §64.7(e); 45CSR§30-5.1.c, Equipment ID (080, 082, 039)]

5.2.10. **Quality Improvement Plan (QIP)**

(1) Based on the results of a determination made under permit condition 5.2.8.b or 5.2.10(2) the Administrator or the Director may require the permittee to develop and implement a QIP. If a QIP is required, it shall be developed, implemented, and modified as required according to 40 C.F.R. §§64.8(b) through (e). Refer to permit condition 5.5.2(b)(iii) for the reporting required when a QIP is implemented.

(2) If five (5) percent or greater of the time, is documented as an excursion during a calendar quarter, the permittee shall develop and implement a QIP. The Director may waive this QIP requirement upon a demonstration that the cause(s) of the excursions have been corrected, or may require testing to be conducted at any time.

[40 C.F.R. §§ 64.8 and 64.7(d); 45CSR§30-5.1.c, Equipment ID (080, 082, 039)]

5.2.11. **Continued Operation.** Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.
[40 C.F.R. §64.7.c; 45CSR§30-5.1.c, Equipment ID (080)]

5.3. Testing Requirements

5.3.1. 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 when the Director has reason to believe that the stack emission limitations(s) is/are being violated. 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.
[45CSR13, Permit R13-2058, (Condition 4.3.2.), Equipment ID (082, 083, 084, 251, 252, 253, 254, 255, 256, 257, 078, 080, 081, 094, 095)]

5.3.2. Compliance with the opacity standard, 5.1.24. and 5.1.31., shall be demonstrated by conducting a 40CFR60 Appendix A, Method 22 visible emission tests once per month as specified by 3.3.2 of this permit.
[45CSR§30-5.1.c.B.1. and 45CSR13, Permit R13-2058, (Condition 4.3.3.)]

5.3.3. The permittee shall conduct visible emission readings using 40 C.F.R. 60, Appendix A, Method 22, at least once per day in accordance with 5.2.6, when emissions are being abated by the 082 or 039 baghouses. In the event the equipment is not operated on a given day, then it should be documented as such. Additionally, it is necessary that the observer is knowledgeable with respect to the general procedures for determining the presence of visible emissions. At a minimum, the observer must be trained and knowledgeable regarding the effects of background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor) on the visibility of emissions. This training is to be obtained from written materials found in References 1 and 2 or from the lecture portion of the Method 9 certification course.
[40C.F.R.64, Emission Point (082, 039)]

5.4. Recordkeeping Requirements

5.4.1. A record of each visible emission check required by 5.3.2 above. These records shall include, but not be limited to, the date, time, name of emission unit, the applicable visible emissions requirements, the results of the check, what action(s), if any, was/were taken, and the name of the observer.
[45CSR§30-5.1.c. and 45CSR13, Permit R13-2058, (Condition 4.4.4.)]

5.4.2. The permittee shall maintain records quantifying the amount of material collected by air pollution control equipment in order to estimate actual emissions based on manufacturer's guaranteed control efficiency. This estimate of actual emissions shall serve to demonstrate compliance with the PM emission limits of 5.1.23 and 5.1.1. of this permit.
[45CSR§30-5.1.c.1.B. and 45CSR13, Permit R13-2058, (Condition 4.4.5.), Emission Point ID(s) (082, 036, 037, 038, 039, 040, 042, 043, 046, 047, 048, 049)]

5.4.3. Records shall be maintained to document the number of support bars and cages cleaned in order to estimate the (lbs) of residual pitch added to the pit bake furnaces. Additionally, the amount of residual pitch removed from ESP cleaning (ID 41A, and 41B) and burned in the #5 national pit baking furnaces shall be documented on a monthly basis.
[45CSR§30-12.7, Emission Point ID(s) (044, 045)]

5.4.4. The permittee shall conduct an annual preventative maintenance inspection, cleaning, replacement, and refurbishment as appropriate, of all bags, bag connections, and dust hoppers of the baghouses pertaining to all emission points subject to 45CSR7 in order to ensure proper operation of the filters. Records shall be maintained on site for a period of no less than five (5) years stating the date and time of each baghouse's annual preventative maintenance activity, the results of the annual preventative maintenance activity and, if applicable, all corrective actions taken. These records shall also reflect any routine maintenance conducted in addition to the preventative maintenance activities specified above.
[45CSR13, Permit R13-2058, (Condition 4.4.7.)]

5.4.5. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 1.0, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
[45CSR13, Permit R13-2058, (Condition 4.4.2.), Equipment ID (078, 080, 081,082)]

5.4.6. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 1.0, 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.

[45CSR13, Permit R13-2058, (Condition 4.4.3.), Equipment ID (078, 080, 081,082)]

5.4.7. **General Recordkeeping Requirements for 40 C.F.R. Part 64 (CAM)**
The permittee shall maintain records of monitoring data, monitoring performance data, corrective actions taken, any written quality improvement plan required pursuant to 40 C.F.R. §64.8 and any activities maintained under 40 C.F.R. Part 64 (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions).
[40 C.F.R. §64.9(b); 45CSR§30-5.1.c, Equipment ID (080, 082, 039)]

5.5. Reporting Requirements

5.5.1. 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. and 45CSR13, Permit R13-2058, (Condition 4.5.2.)]

5.5.2. **General Reporting Requirements for 40 C.F.R. Part 64 (CAM)**

a. On and after the date specified in 40 C.F.R. §64.7(a) by which the permittee must use monitoring that meets the requirements of 40 C.F.R. 64, the permittee shall submit monitoring reports to the DAQ in accordance with, permit condition 3.5.6.
b. A report for monitoring under 40 C.F.R. 64 shall include, at a minimum, the information required under permit condition 3.5.8. and the following information, as applicable:
   i. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
   ii. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitoring downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable) provided in accordance with 40 C.F.R. Part 75; and
   iii. A description of the actions taken to implement a QIP during the reporting period as specified in 40 C.F.R. §64.8. Upon completion of a QIP, the permittee shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

[40 C.F.R. §64.9(a); 45CSR§30-5.1.c, Equipment ID (080, 082, 039)]

6.0 Source-Specific Requirements for the Pitch Impregnation Process, [Emission Point ID(s) 040, 041, 302, 303, 304, 320]

6.1. Limitations and Standards

6.1.1. 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 subsections 3.2, 3.3, 3.4, 3.5, 3.6, and 3.7 of 45CSR7.
[45CSR§7-3.1., Emission Point ID (040, 041, 302, 303, 304, 320, 212)]

6.1.2. No person shall cause, suffer, allow or permit particulate matter (PM) 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 in Table 45-7A and summarized in the following table:

Emission Point (I.D.)	Equipment Description	Emission Limitation (lb/hr)
040	17,800 CFM Baghouse	32.2
041	Pitch Impregnation (PI) Autoclave ESP 1 or 2	3
302	PI Preheater	16
303	PI Preheater	16
304	PI Preheater	16
320	PI Preheater	16

[45CSR§7-4.1., Emission Point ID (040, 041, 302, 303, 304, 320)]

6.1.3. The provisions of 6.1.1, above 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, **Emission Point ID (040, 041, 302, 303, 304, 320, 212)]**

6.1.4. 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, Emission Point ID (302, 303, 304, 320)]

6.1.5. The electrostatic precipitators (ESP), corresponding to equipment IDS 041A and 041B, shall have at least 2 of the 3 - 12 cell banks in operation at all times the pitch impregnation autoclave ID 041C or its ancillary equipment are in use. Compliance with this limitation shall be documented in accordance with 6.2.4.
[45CSR§30-5.1.c.1.B., Emission Point ID (041)]

6.1.6. In order to demonstrate compliance with the PM limitations defined within permit condition 6.1.2, the 040 baghouse shall comply with the compliance assurance monitoring (CAM) requirements defined within this section in accordance with 40 C.F.R. 64. The associated monitoring limitations for the 040 baghouse are contained within permit condition 6.2.5. Additional CAM monitoring, testing, recordkeeping, and reporting provisions are contained within 6.2.6, 6.2.7, 6.2.8, 6.3.2, 6.4.4, and 6.5.2.
[40C.F.R.64, Emission Point (040)]

6.2. Monitoring Requirements

6.2.1. The permittee shall maintain a log of pitch impregnation batches run on PI autoclave ID 041C.
[45CSR§30-5.1.c.1.B., Equipment ID (041C)]

6.2.2. In order to demonstrate compliance with the PM and SO2 emission limitations established for the pre-heaters within 6.1.2 and 6.1.4, the permittee shall maintain a log of natural gas usage for these heaters, which also verifies that pipeline quality natural gas is the only fuel combusted by the heaters.
[45CSR§30-5.1.c.1.B., Equipment ID (302-A, 303-A, 304-A, 320-A)]

6.2.3. In order to demonstrate compliance with Standard 6.1.5 the permittee shall maintain a log of ESP operations.
This log shall include, but not be limited to the following:
1) The ESP ID and number of cell banks in operation during each cycle,
2) Additionally, any maintenance activities performed on the ESPs, that are considered routine standard operating procedures (SOP) shall also be documented. The SOP referenced here is entitled "#5 National Furnace Fire Controller (PI)" and was submitted as supplemental information to the Title V Application.
[45CSR§30-5.1.c.1.B., Equipment ID (041A, 041B)]

6.2.4. In order to assure compliance with the 3 lb/hr PM limit established by 6.1.2, ESP IDS (041A-B) shall monitor and record the secondary voltage and current to determine the power being utilized at least once before the start of each impregnation batch. In the event the parametric monitoring described above results in a power measurement outside the best work practice ranges established below, the permittee shall document it as a deviation in accordance with 6.4.4. Deviations are not necessarily a determination of noncompliance with the emission limit of 6.1.2., however each deviation shall trigger an inspection of the control equipment in addition to the requirements of 6.4.4.

Ionizer Voltage 10-14 kV DC
Current 1-36 mA

[45CSR§30-5.1.c.1.B., Equipment ID (041A, 041B)]

6.2.5. In order to demonstrate compliance with the CAM requirements of 40 C.F.R. 64, the 040 baghouse shall monitor and record visible emissions (VEs) per method 22 at least once per day during daylight hours, while emissions are being routed to the control device. Each baghouse shall be operated with no visible emissions at all times. An excursion shall be defined as any visible emissions observed.
[40C.F.R.64, Emission Point (040)]

6.2.6. **Response to Excursions or Exceedances**.

In accordance with the operation of the 040 baghouse an excursion shall be defined as any detectable visible emissions within a given day of operation. Therefore, a deviation and excursion are equivalently defined as any VEs originating from the 040 baghouse.

a. Upon detecting an excursion or exceedance, the permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation,

recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or below the applicable emission limitation or standard, as applicable.

b. Determination of whether the permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.

[40 C.F.R. §64.7(d); 45CSR§30-5.1.c, Equipment ID (040)]

6.2.7. **Documentation of Need for Improved Monitoring** - After approval of monitoring under 40 C.F.R. Part 64, if the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the result of compliance or performance testing/design evaluation document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the Director and, if necessary, submit a proposed modification to the permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[40 C.F.R. §64.7(e); 45CSR§30-5.1.c, Equipment ID (040)]

6.2.8. **Quality Improvement Plan (QIP)**

(1) Based on the results of a determination made under permit condition 6.2.6.b or 6.2.8(2) the Administrator or the Director may require the permittee to develop and implement a QIP. If a QIP is required, it shall be developed, implemented, and modified as required according to 40 C.F.R. §§64.8(b) through (e). Refer to permit condition 6.5.2(b)(iii) for the reporting required when a QIP is implemented.

(2) If five (5) percent or greater of the time, is documented as an excursion during a calendar quarter, the permittee shall develop and implement a QIP. The Director may waive this QIP requirement upon a demonstration that the cause(s) of the excursions have been corrected, or may require testing to be conducted at any time.

[40 C.F.R. §§ 64.8 and 64.7(d); 45CSR§30-5.1.c, Equipment ID (040)]

6.3. Testing Requirements

6.3.1. Compliance with the opacity standard, 6.1.1., shall be demonstrated by conducting a 40CFR60 Appendix A, Method 22 visible emission tests in accordance with the methods and schedule specified by 3.3.2 of this permit.

[45CSR§30-5.1.c.B.1.]

6.3.2. The permittee shall conduct visible emission readings using 40 C.F.R. 60, Appendix A, Method 22, at least once per day in accordance with 6.2.5 when emissions are being abated by the 040 baghouse. In the event the equipment is not operated on a given day, then it should be documented as such.

Additionally, it is necessary that the observer is knowledgeable with respect to the general procedures for determining the presence of visible emissions. At a minimum, the observer must be trained and knowledgeable regarding the effects of background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor) on the visibility of emissions. This training is to be obtained from written materials found in References 1 and 2 or from the lecture portion of the Method 9 certification course.

[40C.F.R.64, Emission Point (040)]

6.4. Recordkeeping Requirements

6.4.1. The records corresponding to opacity testing outlined in 6.3.1, above shall be maintained and kept up to date for all emission points subject to the opacity limitations of 45CSR7 and thus 6.1.1, of this permit.
[45CSR§30-5.1.c.B.1.]

6.4.2. Records of all monitoring required within section 6.2, shall be maintained and kept up to date. These records shall be made available and certified by a "responsible official" upon request of the Director or a duly authorized representative.
[45CSR§30-5.1.c.1.B.]

6.4.3. The recordkeeping requirements of Section 5.4.2 of this permit also apply to the Pitch Impregnation Process.
[45CSR§30-5.1.c.1.B , Equipment ID (041A, 041B)]

6.4.4. **General Recordkeeping Requirements for 40 C.F.R. Part 64 (CAM)**
The permittee shall maintain records of monitoring data, monitoring performance data, corrective actions taken, any written quality improvement plan required pursuant to 40 C.F.R. §64.8 and any activities maintained under 40 C.F.R. Part 64 (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions).
[40 C.F.R. §64.9(b); 45CSR§30-5.1.c, Equipment ID (040)]

6.5. Reporting Requirements

6.5.1. 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.]

6.5.2. **General Reporting Requirements for 40 C.F.R. Part 64 (CAM)**

a. On and after the date specified in 40 C.F.R. §64.7(a) by which the permittee must use monitoring that meets the requirements of 40 C.F.R. 64, the permittee shall submit monitoring reports to the DAQ in accordance with, permit condition 3.5.6.
b. A report for monitoring under 40 C.F.R. 64 shall include, at a minimum, the information required under permit condition 3.5.8. and the following information, as applicable:
   i. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
   ii. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitoring downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable) provided in accordance with 40 C.F.R. Part 75; and
   iii. A description of the actions taken to implement QIP during the reporting period as specified in 40 C.F.R. §64.8. Upon completion of a QIP, the permittee shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

[40 C.F.R. §64.9(a); 45CSR§30-5.1.c, Equipment ID (040)]

7.0 Source-Specific Requirements for the Special Products, Rigid Graphite Insulation and Porous Carbon, Emission Point ID(s)[222, 224, 225, 223, 307, 306, 320, 055, ~~079~~]

7.1. Limitations and Standards

7.1.1. Maximum process weight rate shall not exceed 30,000 pounds per load or 833 pounds per hour of graphite.
[45CSR13, Permit Number, R13-1151, (Condition A.1) Equipment ID (307)]

7.1.2. Maximum emission rate shall not exceed 0.1 pounds per hour of HCL. The permittee shall also adhere to the 45CSR§7-4.2 mineral acid concentration limit of 210 mg/m^3 on a dry basis.
[45CSR§7-4.2, 45CSR13, Permit Number, R13-1151, (Condition A.2.), Emission Point ID (307)]

7.1.3. Emissions to the atmosphere from the **Rigid Graphite Insulation Process** shall not exceed the following hourly and annual limits:

Emission Point ID	Equipment Name	Pollutant	Maximum Emission Rates	
			(lb/hr)	(lb/yr)
055 ~~or 079~~	Induction Furnace (1) (ID: 055E, 055F, 055G~~, 079A~~)	PM	0.3	500
		VOC	1.7	1,313
306	Walk-in Cure Furnace (Equipment ID: 306A)	CO	0.4	1,600
		NO_x	0.1	400
		PM	0.1	400
		SO_2	0.05	200
		VOC (Natural Gas Combustion)	0.1	97
		VOC (GRI Coating)	1.26	590
		Total Hydrocarbons	1.36	683

(1) The emission limits applied to the electrical heating induction furnaces are associated with the heat treating/processing of Graphite Rigid Insulation. Furnace operations associated with the purification process, involving chlorine injection, have permitted emission limits as per R13-1934~~B~~C within section 9.0 of the Title V permit.

This requirement streamlines compliance with the PM limitation specified by 45CSR§7-4.1.
[45CSR13, Permit Number, R13-1540, (Condition 4.1.2.), Emission Point IDS (306, 055~~, 079~~)]

7.1.4. Emissions to the atmosphere from the **Porous Carbon Baking Process** shall not exceed the following hourly and annual limits:

Emission Point ID:	Equipment Name	Equipment ID:	Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (lb/yr)
306	Cure Oven	306A	CO	0.4	2,600
			NO_x	0.1	650
			PM	0.1	650
			SO_2	0.05	325
			VOC	15	22,893[(1)]
055~~, 079~~ [(2)]	Induction Furnace	055A,055B, 055C,055D, 055E, 055F, 055G, ~~& 079A~~	PM	0.1	25

Note [(1)] Maximum hourly and annual hydrocarbon (VOC) emissions were shown in permit R13-1569 as originating from the # 5 National Pit Bake Furnaces at a rate of 123,516 lb/yr, and from the cure oven at 10,000 lb/yr. The actual emission rate will be 22,893 lb/yr (or 11.446 ton/yr) for VOC/total hydrocarbons. Car bottom bake furnaces will emit a maximum of 288 lb/yr of VOCs which is part of the allowable emissions contained in permit R13-2058A.

[(2)] Emission point~~s~~ 055 ~~and 079~~ ~~are~~ is a scrubber exhaust vent~~s~~, which ~~have~~ has additional emission limits permitted under existing permit R13-1934~~B~~C for purification operations.

This requirement streamlines compliance with the PM limitation specified by 45CSR§7-4.1.
[45CSR13, Permit Number, R13-1569, (Condition A.1.), Equipment ID (306, 055~~, 079~~)]

7.1.5. For the "B" Bake Cycle, the Benco Pre-heater (EP#320) shall be operated with an inert atmosphere of nitrogen to prevent oxidation so that there are no particulate emissions associated with the processing of Graphite Rigid Insulation.
This requirement streamlines compliance with the PM limitation specified by 45CSR§7-4.1.
[45CSR13, Permit Number, R13-1540, (Condition 4.1.1.), Emission Point IDS (320)]

7.1.6. The production rate for the **Porous Carbon** product line shall not exceed 22.1 tons per month, or 265 tons per year. The annual production limit shall be based on a rolling yearly total. A rolling yearly total shall mean the total production of Porous Carbon product at any given time for the previous twelve (12) consecutive calendar months.
[45CSR13, Permit Number, R13-1569, (Condition A.2.), Equipment ID (NEP-406-H)]

7.1.7. 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 subsections 3.2, 3.3, 3.4, 3.5, 3.6, and 3.7 of 45CSR7.
[**45CSR§7-3.1, 45CSR13, Permit Number, R13-1151 (Section B), 13-1540 (condition 4.1.3), R13-1569 (Section B), Emission Point ID(s) (222, 224, 225, 223, 307, 306, 320, 055~~, 079~~)]**

7.1.8. The provisions of 7.1.7 above 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, 45CSR13, Permit Number, R13-1151 (Section B), 13-1540 (condition 4.1.4), R13-1569 (Section B), Emission Point ID(s) (222, 224, 225, 223, 307, 306, 320, 055~~, 079~~)]

7.1.9. No person shall cause, suffer, allow or permit particulate matter (PM) 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 in Table 45-7A and summarized in the following table:

Emission Point (I.D.)	Equipment Description	Emission Limitation PM(lb/hr)
222	T-143 Autoclave Vac. Pump	4.2
224	T-143 Autoclave Vent to Atm.	4.2
225	Portable Exhaust Fan for T-143 Autoclave	4.2
223	T-157 Autoclave Vent	4.2
307	Cure Oven	1.0

[45CSR§7-4.1., 45CSR13, Permit Number, R13-1151 (Section B), 13-1540 (condition 4.1.6), R13-1569 (Section B),]

7.1.10. 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, Emission Point ID (306, 307, 320)]

7.1.11. The maximum amount of pre-coat applied to the graphite shapes in the heat treat oven 306A shall not exceed 130 pounds of binder system in a 14 hour cycle.
[45CSR13, Permit R13-2058, (Condition 4.1.31), Equipment ID (306A)]

7.2. Monitoring Requirements

7.2.1. The permittee shall conduct an **annual** preventative maintenance inspection, cleaning, replacement, and refurbishment as appropriate, of all bags, bag connections, and dust hoppers of the baghouses pertaining to all emission points subject to 45CSR7 in order to ensure proper operation of the filters. Records shall be maintained on site for a period of no less than five (5) years, stating the date and time of each baghouse's annual preventative maintenance activity, the results of the annual preventative maintenance activity and, if applicable, all corrective actions taken. These records shall also reflect any routine maintenance conducted in addition to the preventative maintenance activities specified above.
[45CSR§30-5.1.c.1.B.]

7.2.2. Compliance with the 2,000 ppm sulfur dioxide limitation specified by 7.1.10 shall be satisfied by maintaining records of the amount of natural gas combusted as well as verification that pipeline quality natural gas is the only fuel combusted within these ovens.
[45CSR§30-5.1.c.1.B., Emission Point ID (306, 307, 320)]

7.2.3. For the purpose of determining compliance with the limits established in 7.1.11, the following information shall be maintained on-site for a period of no less than five (5) years and shall be certified and made available to the Director or his duly authorized representative upon request:

Type and amount of carbonaceous cement and binder system applied to furnace load fed to the heat treat oven 306A.

[45CSR13, Permit R13-2058, (Condition 4.2.1.), Equipment ID 306A]

7.3. Testing Requirements

7.3.1. When requested by the Secretary, tests to determine compliance with the CO, NO_x, SO_2, and VOC emission limitations set forth in 7.1.3 and 7.1.4. shall be conducted in accordance with the test methods specified below and as set forth in 40 CFR 60, Appendix A. The Secretary may approve an alternative test method in light of any technology advancements that may occur. Thirty (30) days prior to conducting such testing, the company shall submit a testing protocol following the guidelines set forth under 45CSR7A.

Pollutant	**Test Method**
CO	10 or 10B
NOx	7, 7A, 7B, 7C, 7D, or 7E
SOx	6, 6A, 6B, or 6C
VOC	25, 25A, or 25B

[45CSR13, Permit Number R13-1540 (Condition 4.3.1), & R13-1569, (Condition B.1.), Emission Point IDS (306, 055~~, 079~~)]

7.3.2. Testing to determine compliance with the particulate emission limitations set forth under 7.1.3 and 7.1.4 of this Title V permit, shall be conducted in accordance with 45CSR7A - "Compliance Test Procedures for Regulation 7 - To Prevent and Control Particulate Air Pollution From Manufacturing Process Operations". Prior to conducting such testing, the company shall submit thirty (30) day in advance a testing protocol following guidelines set forth under 45CSR7A.
[45CSR13, Permit Number R13-1540, (Condition 4.3.2), & R13-1569, (Condition B.2.), Emission Point IDS (306, 055~~, 079~~)]

7.3.3. Compliance with the opacity standard, 7.1.7., shall be demonstrated by conducting a 40CFR60 Appendix A, Method 22 visible emission tests in accordance with the methods and schedule specified by 3.3.2 of this permit.
[45CSR§30-5.1.c.B.1.]

7.4. Recordkeeping Requirements

7.4.1. In order to demonstrate compliance with the **production limitations for graphite curing** established in 7.1.1. of this permit, the permittee shall maintain an operations log, summarized annually, on the amount of product cured in the 307 furnace. All related records shall be maintained on-site for a period of no less than five (5) years and made available to the Director or a duly authorized representative upon request. This information shall be "certified" per 3.5.1. by a Responsible Official.
[45CSR§30-5.1.c. Equipment ID (307)]

7.4.2. In order to determine compliance with the **Porous Carbon production limit** established in 7.1.6. of this Title V permit, the permittee shall keep and maintain monthly certified records of production on the Porous Carbon line by utilizing the Certification of Data Accuracy form, contained herein as Attachment B, which must be completed by a "Responsible Official" within fifteen (15) days after the end of each calendar month. This information shall be maintained on-site for a period of no less than five (5) years and made available to the Director or his duly authorized representative upon request.
[45CSR13, Permit Number R13-1569, (Condition B.3.) Equipment ID (NEP-406-H)]

7.4.3. For the walk-in cure furnace (Equipment ID: 306A), the permittee shall keep monthly records of:

- Hours of furnace operation (hours per month)
- Natural gas usage (cubic feet per month)
- Hand-applied GRI coating usage (gallons per month)
- Number of pieces of stock per furnace cycle (# pieces per cycle)
- Number of furnace cycles (cycles per month)

The above information shall be maintained on-site for a period of no less than five (5) years and made available to the Secretary or his duly authorized representative upon request. Prior to being submitted to the Secretary, all records shall be certified and signed by a "Responsible Official" utilizing the attached Certification of Data Accuracy statement, contained herein as Attachment B.
[45CSR13, Permit Number R13-1540, (Condition 4.4.4) Equipment ID (306A)]

7.4.4. *Record of Maintenance of Air Pollution Control Equipment.* For all pollution control equipment listed in Section 1.0, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
[45CSR13, Permit Number R13-1540, (Condition 4.4.2)]

7.4.5. *Record of Malfunctions of Air Pollution Control Equipment.* For all air pollution control equipment listed in Section 1.0, 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.

e. Steps taken to correct the malfunction.

g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.

[45CSR13, Permit Number R13-1540, (Condition 4.4.3)]

7.5. Reporting Requirements

7.5.1. 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.]

7.5.2. The permittee shall notify the Secretary in writing at least 90 days in advance of any planned operational change(s) to the natural gas fired Benco Pre-heater (EP#320) and/or the electrical heating induction furnaces (EP#055 ~~or EP#079~~) that would allow a non-nitrogen and/or non-argon atmosphere to be associated with the processing of Graphite Rigid Insulation.
[45CSR13, Permit Number R13-1540, (Condition 4.5.1) Emission Point ID(s) (055~~, 079~~)]

8.0 Source-Specific Requirements for Raw Materials Handling Operations, Emission Point ID(s)[070, 074, 087]

8.1. Limitations and Standards

8.1.1. The maximum quantity of carbonaceous pack material to be processed through the high efficiency separating cyclone (G-2) shall not exceed 16,667 pounds per hour (PPH) and 9,834 tons per year (TPY).
[45CSR13, Permit Number R13-2047, (Condition A.1.), Equipment ID (G-2), Emission Point ID (087)]

8.1.2. The maximum emission rate of particulate matter to the atmosphere from Emission Point 087 shall not exceed 0.01 lb/hr and 0.044 tons per year.
This requirement streamlines and assures compliance with 45CSR§7-4.1
[45CSR13, Permit Number R13-2047, (Condition A.2.), Emission Point (087)]

8.1.3. No person shall cause, suffer, allow or permit particulate matter (PM) 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 in Table 45-7A as listed in the table below.
Compliance with limitation 8.1.2 streamlines and assures compliance with this requirement for emission point 087.

Emission Point (I.D.)	Equipment Description	Emission Limitation (lb/hr)
070	***Graphite Pack Handling Equipment (Rotexes and Bins)***	32.2
074	***Hopper Dump Station, De-Duster, Elevators, Load-out Hoods, Dust Truck Load-out***	32.2

[45CSR§7-4.1., 45CSR13 Permit Number R13-2047, (Condition B.2.c) Emission Point ID (070, 074)]

8.1.4. 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 subsections 3.2, 3.3, 3.4, 3.5, 3.6, and 3.7 of 45CSR7.
[45CSR§7-3.1., 45CSR13 Permit Number R13-2047, (Condition B.2.a) Emission Point ID (070, 074, 087)]

8.1.5. The provisions of 8.1.4. above 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, Emission Point ID (070, 074, 087)]

8.1.6. In order to demonstrate compliance with the PM limitations defined within permit condition 8.1.3, the 070 and 074 baghouses shall comply with the compliance assurance monitoring (CAM) requirements defined within this section in accordance with 40 C.F.R. 64. The associated monitoring limitations for the 070 and 074 baghouses are contained within permit condition 8.2.4. Additional CAM monitoring, testing, recordkeeping, and reporting provisions are contained within 8.2.5, 8.2.6, 8.2.7, 8.3.3, 8.4.2, and 8.5.2.
[40C.F.R.64, Emission Points (070, 074)]

8.2. Monitoring Requirements

8.2.1. The permittee shall conduct an annual preventative maintenance inspection, cleaning, replacement, and refurbishment as appropriate, of all bags, bag connections, and dust hoppers of the baghouses pertaining to all emission points subject to 45CSR7 in order to ensure proper operation of the filters. Records shall be maintained on site for a period of no less than five (5) years, stating the date and time of each baghouse's annual preventative maintenance activity, the results of the annual preventative maintenance activity and, if applicable, all corrective actions taken. These records shall also reflect any routine maintenance conducted in addition to the preventative maintenance activities specified above.
[45CSR§30-5.1.c.1.B.]

8.2.2. For the purpose of determining compliance with the maximum annual carbonaceous pack material throughput limitation established in 8.1.1, the company shall maintain monthly and annual records showing the amount of pack material processed. All related records shall be maintained on-site for a period of no less than five (5) years and made available to the Director or a duly authorized representative upon request. This information shall be certified per 3.5.1. by a Responsible Official.
[45CSR13, Permit Number R13-2047, (Condition B.3.), Equipment ID (G-2)]

8.2.3. The high efficiency separating cyclone (G-2), the primary dust collector (G-4), and the secondary dust collector (G-5) are to be properly maintained and operated to insure maximum collector efficiencies. Maintenance records shall be maintained on-site for a period of no less than five (5) years and made available to the Director or a duly authorized representative upon request. This information shall be certified per 3.5.1. by a Responsible Official.
[45CSR13, Permit Number R13-2047, (Condition B.4.), Equipment ID (G-2, G-4, G-5)]

8.2.4. In order to demonstrate compliance with the CAM requirements of 40 C.F.R. 64, the 070 and 074 baghouses shall monitor and record visible emissions (VEs) per method 22 at least once per day during daylight hours, while emissions are being routed to each of the control device. Each baghouse shall be operated with no visible emissions at all times. An excursion shall be defined as any visible emissions observed.
[40C.F.R.64, Emission Point (070, 074)]

8.2.5. **Response to Excursions or Exceedances**.

In accordance with the operation of the 070 and 074 baghouses an excursion shall be defined as any detectable visible emissions within a given day of operation. Therefore, a deviation and excursion are equivalently defined as any VEs originating from the 070 or 074 baghouse.

a. Upon detecting an excursion or exceedance, the permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or below the applicable emission limitation or standard, as applicable.
b. Determination of whether the permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.

[40 C.F.R. §64.7(d); 45CSR§30-5.1.c, Equipment ID (070, 074)]

8.2.6. **Documentation of Need for Improved Monitoring** - After approval of monitoring under 40 C.F.R. Part 64, if the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the result of compliance or performance testing/design evaluation document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the Director and, if necessary, submit a proposed modification to the permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.
[40 C.F.R. §64.7(e); 45CSR§30-5.1.c, Equipment ID (070, 074)]

8.2.7. **Quality Improvement Plan (QIP)**
(1) Based on the results of a determination made under permit condition 8.2.5.b or 8.2.7(2) the Administrator or the Director may require the permittee to develop and implement a QIP. If a QIP is required, it shall be developed, implemented, and modified as required according to 40 C.F.R. §§64.8(b) through (e). Refer to permit condition 8.5.2(b)(iii) for the reporting required when a QIP is implemented.
(2) If five (5) percent or greater of the time, is documented as an excursion during a calendar quarter, the permittee shall develop and implement a QIP. The Director may waive this QIP requirement upon a demonstration that the cause(s) of the excursions have been corrected, or may require testing to be conducted at any time.

[40 C.F.R. §§ 64.8 and 64.7(d); 45CSR§30-5.1.c, Equipment ID (070, 074)]

8.3. Testing Requirements

8.3.1. Compliance with the opacity standard, 8.1.4, shall be demonstrated by conducting a 40CFR60 Appendix A, Method 22 visible emission tests in accordance with the methods and schedule specified by 3.3.2 of this permit.
[45CSR§30-5.1.c.B.1.]

8.3.2. 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.]

8.3.3. The permittee shall conduct visible emission readings using 40 C.F.R. 60, Appendix A, Method 22, at least once per day, in accordance with 8.2.4, when emissions are being abated by the 070 and 074 baghouses. In the event the equipment is not operated on a given day, then it should be documented as such.
Additionally, it is necessary that the observer is knowledgeable with respect to the general procedures for determining the presence of visible emissions. At a minimum, the observer must be trained and knowledgeable regarding the effects of background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor) on the visibility of emissions. This training is to be obtained from written materials found in References 1 and 2 or from the lecture portion of the Method 9 certification course.
[40C.F.R.64, Emission Point (070, 074)]

8.4. Recordkeeping Requirements

8.4.1. The permittee shall maintain records quantifying the amount of material collected by air pollution control equipment in order to estimate actual emissions based on manufacturer's guaranteed control efficiency. This estimate of actual emissions shall serve to demonstrate compliance with the PM emission limits of 8.1.2. and 8.1.3. of this permit.
[45CSR§30-5.1.c.1.B.]

8.4.2. **General Recordkeeping Requirements for 40 C.F.R. Part 64 (CAM)**
The permittee shall maintain records of monitoring data, monitoring performance data, corrective actions taken, any written quality improvement plan required pursuant to 40 C.F.R. §64.8 and any activities maintained under 40 C.F.R. Part 64 (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions).
[40 C.F.R. §64.9(b); 45CSR§30-5.1.c, Equipment ID (070, 074)]

8.5. Reporting Requirements

8.5.1. 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.]

8.5.2. **General Reporting Requirements for 40 C.F.R. Part 64 (CAM)**

a. On and after the date specified in 40 C.F.R. §64.7(a) by which the permittee must use monitoring that meets the requirements of 40 C.F.R. 64, the permittee shall submit monitoring reports to the DAQ in accordance with, permit condition 3.5.6.
b. A report for monitoring under 40 C.F.R. 64 shall include, at a minimum, the information required under permit condition 3.5.8. and the following information, as applicable:
   i. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
   ii. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitoring downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable) provided in accordance with 40 C.F.R. Part 75; and
   iii. A description of the actions taken to implement QIP during the reporting period as specified in 40 C.F.R. §64.8. Upon completion of a QIP, the permittee shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

[40 C.F.R. §64.9(a); 45CSR§30-5.1.c, Equipment ID (070, 074)]

9.0 Source-Specific Requirements for the Graphite Furnaces and Purification Process, Emission Point ID(s) [231, 232, 235, 233, 236, 055~~, 079~~]

9.1. Limitations and Standards

9.1.1. ~~Emissions to the atmosphere from the packed-bed scrubbers shall not exceed the following:~~

~~Emission Point ID~~	~~Maximum Hourly Emissions (lb/hr)~~			~~Maximum Annual Emissions (lb/yr)~~		
	~~PM~~	~~Free Chlorine~~	~~Total Chlorides~~	~~PM~~	~~Free Chlorine~~	~~Total Chlorides~~
~~055~~	~~0.4~~	~~0.124~~	~~0.0124~~	~~1,460~~	~~452.6~~	~~90.5~~
~~079~~	~~0.4~~	~~0.124~~	~~0.0124~~	~~1,460~~	~~452.6~~	~~90.5~~

~~This requirement streamlines compliance with the (lb/hr) PM limitation defined by 45CSR§7-4.1~~.

The permittee shall comply with the following limitation when operating any one of the low-ash induction furnaces identified in Table 1.0. of this permit as 055A, 055B, 055C, 055D, 055E, 055F, and 055G.

a. While employing the chlorine injection cycle (purification process step) to any one of the furnaces, the permittee shall vent the off gases from the corresponding furnace to scrubber 055.

b. Visible emission from emission point 055 shall not exceed twenty (20) percent opacity. Compliance with this limitation shall be satisfied through proper operation of the scrubber 055. **[45 CSR §§7-3.1. and 5.1]**

c. Emissions to the atmosphere from emission point 055 during the chlorine injection shall not exceed the following:

Table 9.1.1. Emission Limits for Emission Point 055

Pollutant	Conc. Limit (mg/dscm)	Hourly Limit (lb/hr)	Annual Limit (TPY)
$PM/PM_{10}/PM_{2.5}$	-	0.05[1]	0.22
Chorine (Cl_2)	-	1.06	1.93
Hydrochloric Acid (HCl)	210[2]	-	-

1 PM Allowable under 45CSR §7-4.1.
2 Mineral Acid Allowable under 45 CSR §7-4.2.

d. Compliance with the annual chlorine limit in 9.1.1.c. shall be satisfied by proper operation of scrubber 055 during the purification cycles and limiting the annual amount of chlorine injected to less than 25,550 pounds on a 12 month rolling total.

[45CSR13, Permit Number R13-1934, (Condition 4.1.1.), Emission Point~~s~~ (055~~, 079~~)]

~~9.1.2. Operations related to chlorine injection of any of the electric furnaces identified as 055A, 055B, 055C, 055D, 055E, 055F, 055G, and 079B, or the chlorine cylinder storage cabinets 079A, 055H, and 055I without the benefit of emissions being controlled by the packed bed scrubber venting through Emission Point 055 or 079, shall be considered a violation of this permit.~~

9.1.2. The packed-bed scrubber ID 055 shall be operated and maintained in accordance with the following limitations:

a. Scrubber liquor shall be maintained at a minimum pH of 11.0 during the cycle when any one furnace is engaged in a purification cycle. At all other times, the pH of the liquor shall be maintained at or above 7.9.

b. Scrubber liquor flow rate to top of the packed-bed scrubber shall be maintained at a minimum of 7 gallons per minute.

c. Scrubber liquor supply pressure shall be maintained at no less than 35 psia.

d. The pressure drop across the scrubber shall be no greater than 2 inches of water column.

e. The liquor level in the scrubber shall be at or above the minimum level. The permittee shall verify this level at least once within 24 hours prior to engaging in a purification cycle.

f. At least once per year, which means 11 to 13 months from the last inspection, the spray bar and nozzles shall be inspected and repaired/replaced as needed.

g. At least once every 5 years, the packing in the scrubber shall be inspected, and either cleaned or replaced as necessary.

h. All measuring devices shall be maintained and calibrated in accordance with the respective manufacturer's specifications. Calibration of each device shall be verified at the minimum of once per year, which means 11 to 13 months from the last calibration or verification.

[45 CSR §7-5.1., 45CSR13, Permit Number R13-1934, (Condition 4.1.2.), Emission Point ID (055~~,~~ ~~079~~)]

~~9.1.3. During chlorine injection cycles, packed-bed scrubber ID(s) 055 shall be operated such that:~~
~~a. Scrubber liquor supplied to spray nozzles is maintained at a minimum pH of 8~~
~~b. Scrubber liquor flow rate to top of the packed-bed scrubber shall be maintained at a minimum of 7 gallons per minute.~~
~~c. Scrubber liquor supply pressure shall be maintained at a minimum of 35 psia.~~
~~**[45CSR13, Permit Number R13-1934, (Condition 4.1.3.), Emission Point ID (055)]**~~

~~9.1.4. During chlorine injection cycles, packed-bed scrubber ID 079 shall be operated such that:~~
~~a. Scrubber liquor supplied to spray nozzles is maintained at a minimum pH of 8.0.~~
~~b. Scrubber liquor flow rate to the top of the packed-bed scrubber shall be maintained at a minimum of 3.5 gallons per minute.~~
~~c. Scrubber liquor supply pressure shall be maintained at a minimum of 26 psia.~~
~~**[45CSR13, Permit Number R13-1934, (Condition 4.1.4.), Emission Point ID (079)]**~~

~~9.1.5. The number of furnaces simultaneously generating chlorine emissions is limited only by the emission limits specified in 9.1.1 and 9.1.9 of this permit. However, emission rates from scrubber (ID: 055, or 079) shall be verified by performance determinations (stack testing) in accordance with 9.3.2 each time the total number of furnaces discharging simultaneously to either scrubber increases beyond that in which previous compliance testing was based.~~
~~**[45CSR13, Permit Number R13-1934, (Condition 4.1.5.), Emission Point IDS (055, 079)]**~~

~~9.1.6. While employing chlorine injection no more than one (1) of the electric furnaces identified as 055A, 055B, 055C, 055D, 055E, 055F, 055G, and 079B, shall be vented at a time with chlorine injection in progress to scrubbers (emission points 055 or 079) without first having conducted stack testing approved by the~~

~~Division of Air Quality, verifying that operation of multiple furnaces utilizing chlorine injection can demonstrate compliance with the emission limits of 9.1.1 and 9.1.9.~~
~~**[45CSR§30-5.1.c.B.1., 45CSR13, Permit Number R13-1934, (Condition 4.1.6), Emission Point IDS (055, 079)]**~~

~~9.1.7. 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 subsections 3.2, 3.3, 3.4, 3.5, 3.6, and 3.7 of 45CSR7.~~
~~**[45CSR§7-3.1, 45CSR13, Permit Number R13-1934, (Condition 4.1.7), Emission Point ID(s) (231, 232, 235, 233, 236, 055, 079)]**~~

~~9.1.8. The provisions of 9.1.7. above 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, 45CSR13, Permit Number R13-1934, (Condition 4.1.8), Emission Point ID(s) (231, 232, 235, 233, 236, 055, 079)]**~~

~~9.1.9. Emission points 055 and 079 shall not result or cause emissions of hydrochloric acid exceeding a concentration of 210 mg/m^3 dry volume.~~
~~**[45CSR§7-4.2, 45CSR13, Permit Number R13-1934, (Condition 4.1.9), Emission Points (055, 079)]**~~

~~9.1.10. The permittee shall abide by the following work practice standards/maintenance procedures in order to maintain the manufacturer's warranty pertaining to the control efficiency of the 055 and 079 scrubbers:~~
~~The permittee shall record once per furnace cycle, whenever chlorine gas is being injected, the pressure drop reading across the associated scrubber. A reading greater than three (3) inches of water column above the standard pressure drop conditions in which compliance has been demonstrated is considered to be a deviation.~~
~~In the event the parametric monitoring described above results in a measurement outside the established operating range(s), the permittee shall document it as a deviation. Deviations are not necessarily a determination of non-compliance with established emission limits in Section 9.1.1 and 9.1.9 of this permit, however, each deviation shall trigger an inspection of the control equipment.~~
~~**[45CSR§30-5.1.c.B.1., 45CSR13, Permit Number R13-1934, (Condition 4.1.10), Emission Point ID(s) (055, 079)]**~~

~~9.1.11~~ 9.1.3. **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 Section 1.0 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.
[45CSR13, Permit Number R13-1934, (Condition 4.1.~~11~~3), Emission Point~~s~~ (055~~, 079~~)]

9.2. Monitoring Requirements

9.2.1. In order to demonstrate compliance with ~~Standard Limitations~~ emission limitations of condition 9.1.1.~~, 9.1.3., 9.1.4., and 9.1.9. of this permit~~ the ~~following~~ permittee shall monitor operating parameters~~, on~~ of scrubber~~s~~ 055 ~~and 079, shall be recorded once per operator shift whenever chlorine injection is utilize~~ to demonstrate that the scrubber is operating in accordance with the operating limits of condition 9.1.2. Thus, the permittee shall monitor and record at least once within the first and last hour of each chlorine injection cycle the following:

- The ~~liquid~~ scrubbing liquor flow rate (gal/min) supplied to the top of the packed bed column
- The ~~liquid~~ scrubbing liquor pressure delivered to the spray nozzles (psia)
- The pH of the ~~recycle~~ scrubber liquor ~~within the liquid circulation line~~
- The pressure drop across the packed bed scrubber (inches of water column)

Such records shall be maintained in accordance with condition 3.4.2.
~~In the event the parametric monitoring described above results in a parameter measurement outside the range(s) established in 9.1.3. and 9.1.4. the permittee shall document it as an deviation in accordance with 9.4.3. Deviations are not necessarily a determination of noncompliance with the emission limits of 9.1.1 or 9.1.9, however each deviation shall trigger an inspection of the control equipment.~~
[45CSR§30-5.1.c.B.1., Permit Number R13-1934, (Condition 4.2.1), Emission Point~~s~~ (055~~, 079~~)]

9.3. Testing Requirements

9.3.1. *Reserved*. ~~Compliance with the opacity standard, 9.1.7., shall be demonstrated by conducting a 40CFR60 Appendix A, Method 22 visible emission tests in accordance with the methods and schedule specified by 3.3.2 of this permit.~~
~~**[45CSR§30-5.1.c.B.1., 45CSR13, Permit Number R13-1934, (Condition 4.3.1), Emission Point IDS (231,232, 235, 233, 236, 055, 079)]**~~

~~9.3.2. Stack testing shall be conducted in accordance with the provisions of this condition within 90 days of initiating chlorine injection into "Autoclave 1" ID (079B). Additionally, stack testing shall be conducted in accordance with this condition within 90 days of initiating chlorine injection on more than one of the 055 induction furnaces at a time. These testing conditions shall determine compliance with the emission limitations set forth in 9.1.1 and 9.1.9 as well as the control equipment operating limits defined by 9.1.3 and 9.1.4. In addition, compliance testing shall serve to define the margin of compliance as well as establish the relationship between parametric monitoring ranges and atmospheric emissions. These tests shall be in accordance with EPA test methods referenced in 40 CFR 60, Appendix A. These methods shall include, but are not limited to Method 26A of the aforementioned Appendix A. Prior to conducting such testing, the permittee shall submit a testing protocol following those guidelines set forth under 3.3.1.c. Said testing protocol shall be approved by the Director prior to the testing being conducted. Provided the performance test demonstrates compliance with all applicable emission limitations, then the control parameter ranges documented during the test shall be used to define a deviation per 9.2.1 of this permit. All stack testing results shall be reported to the Director of the West Virginia Division of Air Quality within 60 days of completing stack measurements.~~

~~All relevant process data such as cycle time, temperature, material loading, and chlorine injection rates shall be defined with respect to percent of maximum potential capacity in the protocol as well as documented during the performance test. All relevant control device parameters such as those monitored according to 9.2.1 and any associated interlock set points shall also be addressed within the protocol as well as documented during the stack test. The protocol should discuss the relationship between the monitored parameters and compliance with emission limitations as well as what possible ranges compliance is expected to be maintained. It is important to note that the emission testing shall be conducted under the operating conditions that result in the highest pollutant loading to the associated control equipment.~~
~~**[45CSR§30-5.1.c.B.1., 45CSR13 Permit Number R13-1934, (Condition 4.3.2), Emission Point IDS (055, 079)]**~~

9.4. Recordkeeping Requirements

9.4.1. *Reserved.*~~Records of all monitoring activities prescribed within 9.2.1 shall be maintained and kept up to date. Additionally, all control equipment maintenance shall also be documented in order to demonstrate compliance with the work practice standards specified by 9.1.10. These records shall be maintained on site for no less than 5 years. These records shall be made available upon request of the Director or a duly authorized representative.~~
~~**[45CSR13, Permit Number R13-1934, (Condition 4.4.4), Emission Points (055, 079)]**~~

9.4.2. An operations log shall be maintained for each of the electric purification furnaces to document how many purification runs were conducted by recording the run number, furnace number, date, and total amount of chlorine used during purification via chlorine injection. ~~These records shall be made available and certified by a "responsible official" in accordance with 3.5.1 upon request of the Director or a duly authorized representative.~~ In addition to this log, the permittee shall determine the 12 month rolling total of chlorine injected to demonstrate compliance with the limitation in 9.1.1.d after each calendar month. Such records shall be maintained in accordance with condition 3.4.2.
[45CSR13, Permit Number R13-1934, (Condition 4.4.4~~5~~), Emission Point~~s~~ (055~~, 079~~)]

9.4.3. *Reserved.*~~ In the event of a control parameter deviation as defined by 9.2.1 the permittee shall document any corrective actions taken to bring the system back within an acceptable operating range as well as any measures taken to mitigate excess emission during the deviation, such as interlock sequences and any actions taken to prevent a reoccurrence. Each deviation report shall include the time the event was observed in addition to the time in which the parameter was brought back into an acceptable range. These records shall be made available and certified by a "responsible official" in accordance with 3.5.1, upon request of the Director or a duly authorized representative.~~
~~**[45CSR13, Permit Number R13-1934, (Condition 4.4.6), Emission Points (055, 079)]**~~

9.4.4. The Acheson and E-Graphitization furnaces shall maintain an operations log to document the weight of graphite processed. ~~These records shall be made available and certified by a "responsible official" in accordance with 3.5.1, upon request of the Director or a duly authorized representative.~~ Such records shall be maintained in accordance with 3.4.2.
[45CSR13, Permit Number R13-1934, (Condition 4.4.5~~7~~), Emission Point~~s~~ (055~~, 079~~)]

9.4.5. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 1.0, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures. This applies to inspection, calibration, and maintenance requirements of Condition 9.1.2.
[45CSR13, Permit Number R13-1934, (Condition 4.4.2), Emission Point~~s~~ (055~~, 079~~)]

9.4.6. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 1.0, 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.

[45CSR13, Permit Number R13-1934, (Condition 4.4.3), Emission Point~~s~~ (055~~, 079~~)]

9.5. Reporting Requirements

9.5.1. *Reserved.* ~~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 make within twenty four (24) hours of the malfunction. In cases of major equipment failure additional time periods maybe granted by the Director provided a corrective program has been submitted by the owner or operator and approved by the Director.~~
~~**[45CSR13, Permit Number R13-1934, (Condition 4.5.1)]**~~

9.6. Compliance Plan

9.6.1. None. ~~In accordance with the GrafTech letter dated August 27, 2007 to Mr. Tephabock of WVDAQ the permittee shall submit an application to modify minor source NSR permit R13-1934B to reflect the results of the July 19, 2007 compliance test conducted in accordance with condition 9.3.2 of R30-03300001-2006. This modification application shall be submitted to DAQ within 180 days of permit issuance. This modification shall incorporate limitations for HCL as measured by 40CFR60, Appendix A, Method 26A. Additionally, the permit application shall propose operating parameter limits, which reflect the monitoring results of the July 19, 2007 stack test.~~

10.0 Source-Specific Requirements for the Graphite Machining and Materials Handling Process, Emission Point ID(s)[407, 056, 057, 058, 059, 060, 061, 062, 063, 064, 065, 066, 067, 076, 077]

10.1. Limitations and Standards

10.1.1. 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 subsections 3.2, 3.3, 3.4, 3.5, 3.6, and 3.7 of 45CSR7.
[45CSR§7-3.1, Emission Point ID(s) (407, 056, 057, 058, 059, 060, 061, 062, 063, 064, 065, 066, 067, 076, 077)]

10.1.2. The provisions of 10.1.1 above 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, Emission Point ID(s) (407, 056, 057, 058, 059, 060, 061, 062, 063, 064, 065, 066, 067, 076, 077)]

10.1.3. No person shall cause, suffer, allow or permit particulate matter (PM) 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 in Table 45-7A as summarized in the table below.

Emission Point (I.D.)	Equipment Description	Emission Limitation (lb/hr)
407	End Facing Saw	***32.2***
056	BO Tower Baghouse & Associated Equipment	***28.0***
057	Graphite Machining Zone 11 Baghouse	***0.48***
058	Graphite Machining Zone 10 Baghouse	***0.48***
059	Graphite Machining Zone 8 Baghouse	***0.48***
060	Graphite Machining Zone 7 Baghouse	***0.48***
061	Graphite Machining Zone 6 Baghouse	***0.48***
062	Graphite Machining Zone 5 Baghouse	***0.48***
063	Graphite Machining Zone 4 Baghouse	***0.48***
064	Graphite Machining Zone 3 Baghouse	***0.48***
065	Graphite Machining Zone 2 Baghouse	***0.48***
066	Graphite Machining Zone 1 Baghouse	***0.48***
067	Graphite Machining Zone 12 Baghouse	***0.48***
076	Graphite Machining Zone 9 Baghouse	***0.48***
077	Filter Receiver Bin Vacuum Pump	***2.4***

[45CSR§7-4.1]

10.1.4. In order to demonstrate compliance with the PM limitations defined within permit condition 10.1.3, the 056 baghouse shall comply with the compliance assurance monitoring (CAM) requirements defined within this section in accordance with 40 C.F.R. 64. The associated monitoring limitations for the 056 baghouse are contained within permit condition 10.2.2. Additional CAM monitoring, testing, recordkeeping, and reporting provisions are contained within 10.2.3, 10.2.4, 10.2.5, 10.3.2, 10.4.2, and 10.5.2.
[40C.F.R.64, Emission Point (056)]

10.2. Monitoring Requirements

10.2.1. The permittee shall conduct an **annual** preventative maintenance inspection, cleaning, replacement, and refurbishment as appropriate, of all bags, bag connections, and dust hoppers of the baghouses pertaining to all emission points subject to 45CSR7 in order to ensure proper operation of the filters. Records shall be maintained on site for a period of no less than five (5) years, stating the date and time of each baghouse's annual preventative maintenance activity, the results of the annual preventative maintenance activity and, if applicable, all corrective actions taken. These records shall also reflect any routine maintenance conducted in addition to the preventative maintenance activities specified above.
[45CSR§30-5.1.c.1.B.]

10.2.2. In order to demonstrate compliance with the CAM requirements of 40 C.F.R. 64, the 056 baghouse shall monitor and record visible emissions (VEs) per method 22 at least once per day during daylight hours, while emissions are being routed to the control device. Each baghouse shall be operated with no visible emissions at all times. An excursion shall be defined as any visible emissions observed.
[40C.F.R.64, Emission Point (056)]

10.2.3. **Response to Excursions or Exceedances**.

In accordance with the operation of the 056 baghouse an excursion shall be defined as any detectable visible emissions within a given day of operation. Therefore, a deviation and excursion are equivalently defined as any VEs originating from the 056 baghouse.

a. Upon detecting an excursion or exceedance, the permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or below the applicable emission limitation or standard, as applicable.
b. Determination of whether the permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.

[40 C.F.R. §64.7(d); 45CSR§30-5.1.c, Equipment ID (056)]

10.2.4. **Documentation of Need for Improved Monitoring** - After approval of monitoring under 40 C.F.R. Part 64, if the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the result of compliance or performance testing/design evaluation document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the

Director and, if necessary, submit a proposed modification to the permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.
[40 C.F.R. §64.7(e); 45CSR§30-5.1.c, Equipment ID (056)]

10.2.5. **Quality Improvement Plan (QIP)**

(1) Based on the results of a determination made under permit condition 10.2.3.b or 10.2.5(2) the Administrator or the Director may require the permittee to develop and implement a QIP. If a QIP is required, it shall be developed, implemented, and modified as required according to 40 C.F.R. §§64.8(b) through (e). Refer to permit condition 10.5.2(b)(iii) for the reporting required when a QIP is implemented.

(2) If five (5) percent or greater of the time, is documented as an excursion during a calendar quarter, the permittee shall develop and implement a QIP. The Director may waive this QIP requirement upon a demonstration that the cause(s) of the excursions have been corrected, or may require testing to be conducted at any time.

[40 C.F.R. §§ 64.8 and 64.7(d); 45CSR§30-5.1.c, Equipment ID (056)]

10.3. Testing Requirements

10.3.1. Compliance with the opacity standard, 10.1.1., shall be demonstrated by conducting a 40CFR60 Appendix A, Method 22 visible emission tests in accordance with the methods and schedule specified by 3.3.2 of this permit.
[45CSR§30-5.1.c.B.1]

10.3.2. The permittee shall conduct visible emission readings using 40 C.F.R. 60, Appendix A, Method 22, at least once per day in accordance with 10.2.2, when emissions are being abated by the 056 baghouse. In the event the equipment is not operated on a given day, then it should be documented as such. Additionally, it is necessary that the observer is knowledgeable with respect to the general procedures for determining the presence of visible emissions. At a minimum, the observer must be trained and knowledgeable regarding the effects of background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor) on the visibility of emissions. This training is to be obtained from written materials found in References 1 and 2 or from the lecture portion of the Method 9 certification course.
[40C.F.R.64, Emission Point (056)]

10.4. Recordkeeping Requirements

10.4.1. The permittee shall maintain annual records quantifying the amount of material collected by air pollution control equipment in order to estimate actual emissions based on manufacturer's guaranteed control efficiency. This estimate of actual emissions shall serve to demonstrate compliance with the PM emission limits of 10.1.3. of this permit.
[45CSR§30-5.1.c.1.B]

10.4.2. **General Recordkeeping Requirements for 40 C.F.R. Part 64 (CAM)**
The permittee shall maintain records of monitoring data, monitoring performance data, corrective actions taken, any written quality improvement plan required pursuant to 40 C.F.R. §64.8 and any activities maintained under 40 C.F.R. Part 64 (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions).
[40 C.F.R. §64.9(b); 45CSR§30-5.1.c, Equipment ID (056)]

10.5. Reporting Requirements

10.5.1. 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]

10.5.2. **General Reporting Requirements for 40 C.F.R. Part 64 (CAM)**

a. On and after the date specified in 40 C.F.R. §64.7(a) by which the permittee must use monitoring that meets the requirements of 40 C.F.R. 64, the permittee shall submit monitoring reports to the DAQ in accordance with, permit condition 3.5.6.
b. A report for monitoring under 40 C.F.R. 64 shall include, at a minimum, the information required under permit condition 3.5.8. and the following information, as applicable:
   i. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
   ii. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitoring downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable) provided in accordance with 40 C.F.R. Part 75; and
   iii. A description of the actions taken to implement QIP during the reporting period as specified in 40 C.F.R. §64.8. Upon completion of a QIP, the permittee shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

[40 C.F.R. §64.9(a); 45CSR§30-5.1.c, Equipment ID (056)]

11.0 Source-Specific Requirements for the Shipping and Quality Control Operations, Emission Point ID(s)[402 and 053]

11.1. Limitations and Standards

11.1.1. 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 subsections 3.2, 3.3, 3.4, 3.5, 3.6, and 3.7 of 45CSR7.
[45CSR§7-3.1, Emission Point ID(s) (053, 402)]

11.1.2. The provisions of 11.1.1. above 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 Emission Point ID(s) (053, 402)]

11.1.3. No person shall cause, suffer, allow or permit particulate matter (PM) 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 in Table 45-7A.

Therefore based on a process weight rate of 1 ton per hour, each control device's associated emission point shall not exceed 2.4 lb/hr of PM.
[45CSR§7-4.1 Emission Point ID(s) (053, 402)]

11.2. Monitoring Requirements

11.2.1. The permittee shall conduct an **annual** preventative maintenance inspection, cleaning, replacement, and refurbishment as appropriate, of all bags, bag connections, and dust hoppers of the baghouses pertaining to all emission points subject to 45CSR7 in order to ensure proper operation of the filters. Records shall be maintained on site for a period of no less than five (5) years, stating the date and time of each baghouse's annual preventative maintenance activity, the results of the annual preventative maintenance activity and, if applicable, all corrective actions taken. These records shall also reflect any routine maintenance conducted in addition to the preventative maintenance activities specified above.
[45CSR§30-5.1.c.1.B., Emission Point ID (402, 053)]

11.3. Testing Requirements

11.3.1. Compliance with the opacity standard, 11.1.1., shall be demonstrated by conducting a 40CFR60 Appendix A, Method 22 visible emission tests in accordance with the methods and schedule specified by 3.3.2 of this permit.
[45CSR§30-5.1.c.B.1]

11.4. Recordkeeping Requirements

11.4.1. The permittee shall maintain records quantifying the amount of material collected by air pollution control equipment in order to estimate actual emissions based on manufacturer's guaranteed control efficiency. This estimate of actual emission shall serve to demonstrate compliance with the PM emission limits of 11.1.3. of this permit.
[45CSR§30-5.1.c.1.B., Emission Point ID (402, 053)]

11.5. Reporting Requirements

11.5.1. 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.]

12.0 Source-Specific Requirements for the Mill, Mix, and Forming Operations, Emission Point ID(s)[001, 002, 003, 004, 005, 006, 007, 008, 009, 010, 011, 012, 013, 014, 015, 016, 017, 018, 019, 020, 021, 022, 023, 024, 025, 026, 031, 032, 090, 091, 092]

12.1. Limitations and Standards

12.1.1. Particulate emissions from emission point (019) shall not exceed the maximum emission limitation of 1.06 lb/hr. This requirement streamlines and assures compliance with the PM allowable rates defined by 45CSR§7-4.1.
[45CSR13, Permit Number R13-0874, (Condition A.1.), Emission Point ID (019)]

12.1.2. The G 50/90 production process shall not exceed 2000 pounds per hour of "green"carbonaceous mix product.
[45CSR13, Permit Number R13-0874, (12/11/95 Administrative Update), Equipment ID (092)]

12.1.3. 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 subsections 3.2, 3.3, 3.4, 3.5, 3.6, and 3.7 of 45CSR7.
[45CSR§7-3.1., Emission Point ID(s) (Same as those listed in Section Title)]

12.1.4. The provisions of 12.1.3. above 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., Emission Point ID(s) (Same as those listed in Section Title)]

12.1.5. No person shall cause, suffer, allow or permit particulate matter (PM) 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 in Table 45-7A and summarized below.

Emission Point (I.D.)	Equipment Description	Emission Limitation (lb/hr)
001	Storage Silo	31.0
002	Storage Silo	31.0
003	Storage Silo	31.0
004	Storage Silo	31.0
005	Storage Silo	31.0
006	Storage Silo	31.0
007	Storage Silo	31.0
008	Storage Silo	31.0
009	Storage Silo	31.0
010	Storage Silo	31.0

Emission Point (I.D.)	Equipment Description	Emission Limitation (lb/hr)
011	Storage Silo	31.0
012	Continuous fill Stations 1-6, 4/ Rail Car Unloading, Surge Bin, Elevator	31.0
013	Crusher, Rail Car Load Vent, Storage Bin at Track, Elevator, Conveyor	31.0
014	Baghouse #1, #1 Mill Elevator, #1 Coke Elevator & Associated Equipment	31.0
015	Baghouse #2, Coke Flour Bin, Coke Particle Bin	13.6
016	#1 Mill Baghouse, Mill Cyclone	8.0
017	#2 Mill Baghouse, Mill Cyclone	8.0
018	Baghouse #3Ramond Mill & Mill Cyclone	8.0
020	Baghouse for Crusher and Rotex	16
021	Pitch Airveyor Receiver/ Pencil Pitch Receiver Bin	32.2
022	#3 Baghouse, Dust and Particle Bins/ Fill Stations, Elevators	28.0
023	House Air Veyor	28.0
024	House Air Veyor	28.0
025	Hopper Bin Vent	10.0
026	Baghouse for Charge Ports and Rail Load Out/ Dust Rolloff/ Super Sack Loading	32.2
031	40" Press Coolers and Mixers, Press Vacuum Pump /Discharge Chute/Conveyor Belt	13.78
032	PGW Press System/ Mold Filling Hood/ Belt Conveyor G50/90 System, Mixers,Conveyors, Loading stations, CHP Chiper	9.02
090	Bld. 3 Hoffman Housekeeping Vac. System	2.4
091	Pitch Receiver Bin Vent	6.0
092	Air Classifying Mill Receiver Bin	6.0

[45CSR§7-4.1]

12.1.6. In order to demonstrate compliance with the PM limitations defined within 12.1.5 above, each of the following baghouses (012, 013, 014, 015, 016, 017, 018, 021, 023, 024, 025) shall comply with the compliance assurance monitoring (CAM) requirements defined within this section in accordance with 40 C.F.R. 64. The associated monitoring limitations for the baghouses are contained within permit condition 12.2.4. Additional CAM monitoring, testing, recordkeeping, and reporting provisions are contained within 12.2.5, 12.2.6, 12.2.7, 12.3.2, 12.4.6, and 12.5.2.
[40C.F.R.64]

12.2. Monitoring Requirements

12.2.1. The permittee shall conduct an **annual** preventative maintenance inspection, cleaning, replacement, and refurbishment as appropriate on all control equipment used to abate PM emissions subject to 45CSR7 limitations in order to assure the designed removal efficiencies are maintained. Records shall be maintained on site for a period of no less than five (5) years, which state the date and time preventative maintenance activities occur, the results of the preventative maintenance and, if applicable, all corrective actions taken. These records shall also reflect any non-routine maintenance conducted in addition to the preventative maintenance activities specified above.
[45CSR§30-5.1.c.1.B.]

12.2.2**.** In order to assure compliance with the PM emission limits established by 12.1.5 for the (2) dust injection baghouses corresponding to emission points (031 and 032) the permittee shall monitor and record at least once per operator shift, the pressure drop across each baghouse (ID 031 and 032) when in operation. In the event the parametric monitoring described above results in a differential pressure measurement outside of the ranges established below, the permittee shall document it as a deviation in accordance with 12.4.3.

Baghouse #	031	$3 \leq \Delta P \leq$ 6 inches W.C.
Baghouse #	032	$4 \leq \Delta P \leq$ 7 inches W.C.

Deviations are not necessarily a determination of noncompliance with the emission limits established by 12.1.5., however each deviation shall trigger an inspection of the control equipment, which includes a visible emissions check as well as initiate the recordkeeping requirements of 12.4.3.

In addition to the parametric monitoring described above the permittee shall also operate the dust injection system in accordance with the following work practice standards.

a.) The programmable logic controller (PLC) shall monitor dust levels in the main dust supply bin and the mass flow bin on each collector (ID 031 and 032). When the PLC receives a low dust level signal from any of the bins in the dust injection system, an alarm condition is indicated at the operator interface. The alarm prohibits initiation of any new batching operations for any systems serviced by the control devices referenced above.

b.) At least monthly dust amounts removed from the system shall be recorded in order to determine the amount of makeup dust added to each baghouse corresponding to emission points (ID 031 and 032)
[45CSR§30-5.1.c.1.B.]

12.2.3. In order to assure compliance with the 1.06 lb/hr PM limit established by 12.1.1. the permittee shall monitor and record the pressure drop across the baghouse ID (019) at least once per operator shift when in operation. In the event the parametric monitoring described above results in a parameter measurement outside of the best work practice range established below, the permittee shall document it as a deviation in accordance with 12.4.3. Deviations are not necessarily a determination of noncompliance with the emission limit of 12.1.1, however each deviation shall trigger an inspection of the control equipment as well as the recordkeeping requirements of 12.4.3.

GrafTech's Best Work Practice Operating Range 3 < (delta P) < 9 inches W.C.

[45CSR§30-5.1.c.1.B.]

12.2.4. In order to demonstrate compliance with the CAM requirements of 40 C.F.R. 64, following baghouses (012, 013, 014, 015, 016, 017, 018, 021, 023, 024, 025) shall monitor and record visible emissions (VEs) per method 22 at least once per day during daylight hours, while emissions are being routed to the control device. Each baghouse shall be operated with no visible emissions at all times. An excursion shall be defined as any visible emissions observed.
[40C.F.R.64]

12.2.5. **Response to Excursions or Exceedances**.

In accordance with the operation of baghouses 012, 013, 014, 015, 016, 017, 018, 021, 023, 024, and 025 an excursion shall be defined as any detectable visible emissions within a given day of operation. Therefore, a deviation and excursion are equivalently defined as any VEs originating from the baghouse.

a. Upon detecting an excursion or exceedance, the permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or below the applicable emission limitation or standard, as applicable.

b. Determination of whether the permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.

[40 C.F.R. §64.7(d); 45CSR§30-5.1.c, Equipment ID (012, 013, 014, 015, 016, 017, 018, 021, 023, 024, 025)]

12.2.6. **Documentation of Need for Improved Monitoring** - After approval of monitoring under 40 C.F.R. Part 64, if the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the result of compliance or performance testing/design evaluation document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the Director and, if necessary, submit a proposed modification to the permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.
[40 C.F.R. §64.7(e); 45CSR§30-5.1.c, Equipment ID (012, 013, 014, 015, 016, 017, 018, 021, 023, 024, 025)]

12.2.7. **Quality Improvement Plan (QIP)**

(1) Based on the results of a determination made under permit condition 12.2.5.b or 12.2.7(2) the Administrator or the Director may require the permittee to develop and implement a QIP. If a QIP is required, it shall be developed, implemented, and modified as required according to 40 C.F.R. §§64.8(b) through (e). Refer to permit condition 12.5.2(b)(iii) for the reporting required when a QIP is implemented.

(2) If five (5) percent or greater of the time, is documented as an excursion during a calendar quarter, the permittee shall develop and implement a QIP. The Director may waive this QIP requirement upon a demonstration that the cause(s) of the excursions have been corrected, or may require testing to be conducted at any time.

[40 C.F.R. §§ 64.8 and 64.7(d); 45CSR§30-5.1.c, Equipment ID (012, 013, 014, 015, 016, 017, 018, 021, 023, 024, 025)]

12.3. Testing Requirements

12.3.1. Compliance with the opacity standard, 12.1.3., shall be demonstrated by conducting monthly 40CFR60 Appendix A, Method 22 visible emission tests in accordance with the methods and schedule specified by 3.3.2 of this permit.
[45CSR§30-5.1.c.B.1., Emission Point IDS (All)]

12.3.2. The permittee shall conduct visible emission readings using 40 C.F.R. 60, Appendix A, Method 22, at least once per day in accordance with 12.2.4, when emissions are being abated by each of the following baghouses, 012, 013, 014, 015, 016, 017, 018, 021, 023, 024 and 025. In the event the equipment is not operated on a given day, then it should be documented as such. Additionally, it is necessary that the observer is knowledgeable with respect to the general procedures for determining the presence of visible emissions. At a minimum, the observer must be trained and knowledgeable regarding the effects of background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor) on the visibility of emissions. This training is to be obtained from written materials found in References 1 and 2 or from the lecture portion of the Method 9 certification course.
[40C.F.R.64, Emission Points (012, 013, 014, 015, 016, 017, 018, 021, 023, 024, 025)]

12.4. Recordkeeping Requirements

12.4.1. The permittee shall maintain records quantifying the amount of material collected by air pollution control equipment in order to estimate actual emissions based on manufacturer's guaranteed control efficiency. This estimate of actual emissions shall serve to demonstrate compliance with the PM emission limits of 12.1.5, with the exception of the Dust Injection Baghouses (031, 032).
[45CSR§30-5.1.c.1.B.]

12.4.2. Records of all monitoring activities required within section 12.2.2. or 12.2.3. above shall be maintained and kept up to date. Additionally, all control equipment downtime for maintenance shall be documented. Said records shall be made available and certified by a "responsible official" upon request of the Director or a duly authorized representative.
[45CSR§30-5.1.c.1.B.]

12.4.3. In the event of a control parameter deviation as defined by section 12.2.2. or 12.2.3., the permittee shall document any corrective actions taken to bring the system back within an acceptable operating range as well as any measures taken to mitigate excess emission during the deviation, such as interlock sequences and any actions taken to prevent a reoccurrence. Each deviation report shall include the date and time the event was observed in addition to the time in which the parameter was brought back into an acceptable range. These records shall be made available and certified by a "responsible official" upon request of the Director or a duly authorized representative.
[45CSR§30-5.1.c.1.B.]

12.4.4. The G50/90 production process shall maintain a log to record the weight of "green" carbonaceous mix product as well as the daily hours of production. These records shall be summarized into monthly reports to confirm compliance with the 2000 pounds per hour limitation of 12.1.2. Compliance with this limit shall be based on a daily average and the monthly summaries shall document each daily average while highlighting the highest hourly average for the month as well as any exceedences of the 12.1.2 limit. These records shall be made available and certified by a "responsible official" upon request of the Director or a duly authorized representative.
[45CSR§30-5.1.c.1.B.]

12.4.5. A log shall be maintained which quantifies the amount of green mix processed through mixers (30A, 30B, 32A, 32B, 33A, 33B, 34A, 34B, 35A, 35B, 19C, and 19D) summarized on an annual basis. These records shall be made available and certified by a "responsible official" upon request of the Director or a duly authorized representative.
[45CSR§30-5.1.c.1.B.]

12.4.6. **General Recordkeeping Requirements for 40 C.F.R. Part 64 (CAM)**
The permittee shall maintain records of monitoring data, monitoring performance data, corrective actions taken, any written quality improvement plan required pursuant to 40 C.F.R. §64.8 and any activities maintained under 40 C.F.R. Part 64 (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions).
[40 C.F.R. §64.9(b); 45CSR§30-5.1.c, Equipment ID (012, 013, 014, 015, 016, 017, 018, 021, 023, 024, 025)]

12.5. Reporting Requirements

12.5.1. 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.]

12.5.2. **General Reporting Requirements for 40 C.F.R. Part 64 (CAM)**

a. On and after the date specified in 40 C.F.R. §64.7(a) by which the permittee must use monitoring that meets the requirements of 40 C.F.R. 64, the permittee shall submit monitoring reports to the DAQ in accordance with, permit condition 3.5.6.
b. A report for monitoring under 40 C.F.R. 64 shall include, at a minimum, the information required under permit condition 3.5.8. and the following information, as applicable:
   i. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;

ii. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitoring downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable) provided in accordance with 40 C.F.R. Part 75; and

iii. A description of the actions taken to implement QIP during the reporting period as specified in 40 C.F.R. §64.8. Upon completion of a QIP, the permittee shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

[40 C.F.R. §64.9(a); 45CSR§30-5.1.c, Equipment ID (012, 013, 014, 015, 016, 017, 018, 021, 023, 024, 025)]

Attachment A - Emission Limitations – Facility ID 033-00001

Emission Point / ID#	Maximum Hourly Controlled Emissions[1], (lb/hr)														
	CO	NO_x	PM	PM_{10}	POM	SO2	VOC	benzene	toluene	xylene	styrene	cresol	methanol	phenol	formaldehyde
Baghouse / 082	---	---	1.86	---	---	---	---	---	---	---	---	---	---	---	---
Canister Filter / 083	---	---	0.1	---	---	---	---	---	---	---	---	---	---	---	---
Canister Filter / 084	---	---	0.1	---	---	---	---	---	---	---	---	---	---	---	---
Cooling Stack / 251	0.1	0.1	.024	---	---	0.01	---	---	---	---	---	---	---	---	---
Cooling Stack / 252	0.1	0.1	.024	---	---	0.01	---	---	---	---	---	---	---	---	---
Cooling Stack / 253	0.1	0.1	.024	---	---	0.01	---	---	---	---	---	---	---	---	---
Cooling Stack / 254	0.1	0.1	.024	---	---	0.01	---	---	---	---	---	---	---	---	---
Cooling Stack / 255	0.1	0.1	.024	---	---	0.01	---	---	---	---	---	---	---	---	---
Cooling Stack / 256	0.1	0.1	.024	---	---	0.01	---	---	---	---	---	---	---	---	---
Cooling Stack / 257	0.1	0.1	.024	---	---	0.01	---	---	---	---	---	---	---	---	---
Heat Treat Oven / 306A	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Furnace - Incinerator 078[2]	0.7	0.28	---	---	0.3	50	0.01	---	---	---	---	---	---	---	---
Incinerator[3] / 080	1.5	2.71	1.5	0.75	0.75	50	0.1	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Incinerator[3] / 081	1.5	2.71	1.5	0.75	0.75	50	0.1	---	---	---	---	---	---	---	---

(1) Maximum hourly emissions data for the incinerators, are based on peak emission found to occur at relatively short intervals of time during the baking cycle, which does not reflect an average hourly or annual emission rate.
(2) Previously issued permit R13-1773 for the one furnace that was constructed in 1995.
(3) Incinerator emissions include those emitted from the furnaces.
(4) The SO2 emissions for furnace (078), permitted under R13-1773, were revised in August 1995 which raised the annual value from 0.01 ton/yr to 0.22 ton/yr. For this permit, the maximum hourly rate for this furnace has been increased to the value equal to that of the new furnaces to compensate for the peak values. However, the annual rate will remain at 0.22 tons/yr.
(5) PM emission rates include emissions of POM (hazardous air pollutant).

Emission Point / ID#	Average Annual Controlled Emissions, (tons/yr)														
	CO	NO_x	POM	PM	PM_{10}	SO_2	VOC	benzene	toluene	xylene	styrene	cresol	methanol	phenol	formaldehyde
Baghouse / 082	---	---	---	1.63	---	---	---	---	---	---	---	---	---	---	---
Canister Filter / 083	---	---	---	0.08	---	---	---	---	---	---	---	---	---	---	---
Canister Filter / 084	---	---	---	0.08	---	---	---	---	---	---	---	---	---	---	---
Cooling Stack / 251	0.4	0.4	---	0.11	---	0.04	---	---	---	---	---	---	---	---	---
Cooling Stack / 252	0.4	0.4	---	0.11	---	0.04	---	---	---	---	---	---	---	---	---
Cooling Stack / 253	0.4	0.4	---	0.11	---	0.04	---	---	---	---	---	---	---	---	---
Cooling Stack / 254	0.4	0.4	---	0.11	---	0.04	---	---	---	---	---	---	---	---	---
Cooling Stack / 255	0.4	0.4	---	0.11	---	0.04	---	---	---	---	---	---	---	---	---
Cooling Stack / 256	0.4	0.4	---	0.11	---	0.04	---	---	---	---	---	---	---	---	---
Cooling Stack / 257	0.4	0.4	---	0.11	---	0.04	---	---	---	---	---	---	---	---	---
Heat Treat Oven / 306A	---	---	---	---	---	---	0.76	---	---	---	---	---	0.76	---	---
Furnace -Incinerator 078(2)	0.25	1.01	0.51	---	---	0.22(4)	0.04	---	---	---	---	---	---	---	---
Incinerator(3) / 080	0.9	6.3	0.5	1.0	0.5	6.5	0.44	0.02	0.02	0.01	0.01	0.01	0.01	0.03	0.01
Incinerator(3) / 081	0.9	6.3	0.5	1.0	0.5	6.5	0.44	---	---	---	---	---	---	---	---

(1) Maximum hourly emissions data for the incinerators, are based on peak emission found to occur at relatively short intervals of time during the baking cycle, which does not reflect an average hourly or annual emission rate.
(2) Previously issued permit R13-1773 for the one furnace that was constructed in 1995.
(3) Incinerator emissions include those emitted from the furnaces.
(4) The SO2 emissions for furnace (078), permitted under R13-1773, were revised in August 1995 which raised the annual value from 0.01 ton/yr to 0.22 ton/yr. For this permit, the maximum hourly rate for this furnace has been increased to the value equal to that of the new furnaces to compensate for the peak values. However, the annual rate will remain at 0.22 tons/yr.
(5) PM emission rates include emissions of POM (hazardous air pollutant).

Attachment B

CERTIFICATION OF DATA ACCURACY

I, the undersigned, hereby certify that, based on information and belief formed after reasonable inquiry, all information contained in the attached _____, representing the period beginning _____ and ending _____, and any supporting documents appended hereto, is true, accurate, and complete.

Signature[1] ....

(please use blue ink) Responsible Official or Authorized Representative Date

Name and Title..... .....
(please print or type) Name Title

Telephone No..... ..... Fax No.

---

[1] This form shall be signed by a "Responsible Official." "Responsible Official" means one of the following:

a. For a corporation: The president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:

   (i) the facilities employ more than 250 persons or have a gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars), or

   (ii) the delegation of authority to such representative is approved in advance by the Director;

b. For a partnership or sole proprietorship: a general partner or the proprietor, respectively;

c. For a municipality, State, Federal, or other public entity: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of USEPA); or

d. The designated representative delegated with such authority and approved in advance by the Director.