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:
Century Aluminum of West Virginia, Inc.
Ravenswood Operations
R30-03500002-2015

William F. Durham
Director

Issued: April 13, 2015 • Effective: April 27, 2015
Expiration: April 13, 2020 • Renewal Application Due: October 13, 2019

Permit Number: **R30-03500002-2015**
Permittee: **Century Aluminum of West Virginia, Inc.**
Facility Name: **Ravenswood Operations**
Permittee Mailing Address: **P. O. Box 98 Ravenswood, WV 26164-0098**

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: Ravenswood, Jackson County, West Virginia
Telephone Number: 304-273-7300
Type of Business Entity: Corporation
Facility Description: Primary Aluminum Plant
SIC Codes: 3334
UTM Coordinates: 428.3 km Easting • 4308.6 km Northing • Zone 17

Permit Writer: Bobbie Scroggie

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

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

Table of Contents

1.0. **Emission Units and Active R13, R14, and R19 Permits** 3

2.0. **General Conditions** 12

3.0. **Facility-Wide Requirements and Permit Shield** 20

Source-specific Requirements

4.0. **Manufacturing Process Groups A-G Requirements** 27

5.0. **Manufacturing Process Group H Requirements** 31

6.0. **Storage Structure Requirements** 34

7.0. **Manufacturing Process Group I Requirements** 36

8.0. **Fuel Burning Unit Requirements** 40

9.0. **Primary Aluminum MACT Sources Requirements** 48

APPENDIX A 62

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

1.1. Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
GROUP A - BARGE UNLOADING					
001P101 001P101A	001S107	Vacuum Truck Unloading/AlF_3 - Cryolite Railcar Unloading and Conveyor	1957	400,000 lb/hr	Baghouse DC-4 905
001P102	Fugitives	Barge Unloading (Hartmann Unloader System)	1977	--	--
001P103	001S110	No. 1 North Unloader	1977	350,000 lb/hr	Fabric Dust Collector
001P104	001S111	No. 2 South Unloader	1977	350,000 lb/hr	Fabric Dust Collector
001P105	001S101 001S102	Conveyor A	1977	960,000 lb/hr	Baghouse DC-1 901 Baghouse DC-2A 902
001P106	001S102 001S103	Conveyor B	1977	960,000 lb/hr	Baghouse DC-2A 902 Baghouse DC-2B 903
001P107	001S102	Alumina Silo No. 1 West 741	1977	960,000 lb/hr	Baghouse DC-2A 902
001P108	001S103	Alumina Silo No. 2 East 742	1977		Baghouse DC-2B 903
001P109	001S106	Parallel Screens 701/702/703/704	1977	240,000 lb/hr	Baghouse DC-3 904
001P110	001S108	Conveyor 1	1977	400,000 lb/hr	Baghouse DC-3 904
001P111	001S109	Conveyor 2	1977	360,000 lb/hr	Baghouse DC-5 906
001P112	001S106	(4) Tote Bins	1977	150 lb/hr	Baghouse DC-3 904
001P113	001S104 001S105	Carbon Ore Bin 11-9206	1976	30,000 lb/hr	Baghouse DC11-412 Baghouse DC11-429
001P113A	--	Blending Station No. 4 Belt	1977	30,000 lb/hr	Baghouse DC11-429
001P114	001S108	Fresh Alumina Bin 11-9201	1976	400,000 lb/hr	Baghouse DC11-102
001P115	001S108	Vibrating Fresh Alumina Screen	1976	40,000 lb/hr	Baghouse DC11-102
001P116	001S108	Fresh Ore Booth Conveying System	1976	40,000 lb/hr	Baghouse DC11-102
GROUP B - MATERIAL TRANSFER TO/FROM POTROOM					
001P201	001S201	Air Slide 372	1976	40,000 lb/hr	Baghouse DC 395
001P201A	001S201	Air Lift 374, Disengaging Bin 374			Baghouse DC 395
001P201B	001S203	Air Slide 470			Baghouse DC 495
001P201C	001S205	Air Lift 471			Baghouse DC 476
001P201D	001S205	Disengaging Bin 471, Air Slides 404 & 472			Baghouse DC 476
001P201E	001S205	Air Slide 473			Baghouse DC 476
001P201F	001S204	Air Slide 405, Air Slide 474			Baghouse DC 406

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
001P202	001S202	Air Slide 302	1976	40,000 lb/hr	Baghouse DC 430
001P202A	001S206	Air Slide 400			Baghouse DC 267
001P202B	001S204	Air Slide 403			Baghouse DC 406
001P202C	001S204	Air Lift 401, Disengaging Bin 401			Baghouse DC 406
001P202D	001S202	Air Lift 304, Disengaging Bin 304			Baghouse DC 430
001P203	001S207	Air Slide 021, Air Slide 025, Air Lift 022, Disengaging Bin 022	1976	80,000 lb/hr	Baghouse DC 030
001P203A	001S208	Air Lift 250, Disengaging Bin 250			Baghouse DC 108
001P204	001S210	Parallel Vibrating Screens 004 and 014 and Tote, Air Slide 102	1976	80,000 lb/hr	Baghouse DC 425
001P205	001S210	Alumina Bin 125	1976	80,000 lb/hr	Baghouse DC 425
001P206	001S209	Air Slide 172, Air Lift 174, Disengaging Bin 174	1976	80,000 lb/hr	Baghouse DC 178
001P207	001S209	Alumina Bin 195	1957	80,000 lb/hr	Baghouse DC 178
004P105	004S101	Potroom Silo 1A	1957	360,000 lb/hr	Baghouse DC 1A
004P106	004S102	Potroom Silo 1C	1957	360,000 lb/hr	Baghouse DC 1C
004P107	004S103	Potroom Silo 1D	1957	40,000 lb/hr	Baghouse DC 1D
004P108	004S104	Potroom Silo 1B	1957	360,000 lb/hr	Baghouse DC 1B
004P109	004S105	Potroom Silo 2A	1957	360,000 lb/hr	Baghouse DC 2A
004P110	004S106	Potroom Silo 2C	1957	40,000 lb/hr	Baghouse DC 2C
004P111	004S107	Potroom Silo 2D	1957	40,000 lb/hr	Baghouse DC 2D
004P112	004S108	Potroom Silo 2B	1957	360,000 lb/hr	Baghouse DC 2B
004P205	004S201	Potroom Silo 3A	1957	40,000 lb/hr	Baghouse DC 3A
004P206	004S202	Potroom Silo 3C	1957	360,000 lb/hr	Baghouse DC 3C
004P207	004S203	Potroom Silo 3D	1957	360,000 lb/hr	Baghouse DC 3D
004P208	004S204	Potroom Silo 3B	1957	40,000 lb/hr	Baghouse DC 3B
004P209	004S205	Potroom Silo 4A	1957	40,000 lb/hr	Baghouse DC 4A
004P210	004S206	Potroom Silo 4C	1957	360,000 lb/hr	Baghouse DC 4C
004P211	004S207	Potroom Silo 4D	1957	360,000 lb/hr	Baghouse DC 4D
004P212	004S208	Potroom Silo 4B	1957	360,000 lb/hr	Baghouse DC 4B
004P217	004S301	Fill Station	1957	20,000 lb/hr	Phase 2 Scrubber
004P218	004S301	Bath Cart	1957	20,000 lb/hr	Phase 2 Scrubber
004P219	004S301	Apollo Fill Station	1957	40,000 lb/hr	Phase 2 Scrubber
004P301	004S304	Air Slide 270, Air Slide 271, Air Slide 277	1976	40,000 lb/hr	Baghouse DC 273

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
004P302	004S302	Air Slide 200, Air Slide 207	1976	40,000 lb/hr	Baghouse DC 203
004P303	004S304	Air Slide 370, Air Slide 371	1976	40,000 lb/hr	Baghouse DC 273
004P304	004S303	Air Slide 300, Air Slide 301	1976	40,000 lb/hr	Baghouse DC 262
004P305	001S202	Air Slide 264, Air Slide 303	1976	40,000 lb/hr	Baghouse DC 430
		GROUP C - BATH PROCESSING			
001P301	N/A	Pure Bath Bin 75 T	1957	20,000 lb/hr	--
001P302	N/A	Pure Bath Bin 125 T	1957		--
001P303	N/A	Contaminated Bath Bin 125T	1957		--
001P304	001S303	Feed Storage Bin 156-103	1957	26,600 lb/hr	Baghouse DC156-400
001P305	001S303	Cascade Mill 156-200	1957	26,600 lb/hr	Baghouse DC156-400
001P306	001S303	Magnetic Separator 156-214	1957	26,600 lb/hr	Baghouse DC156-400
001P307	001S303	Skip Bucket	1957	20,000 lb/hr	Baghouse DC156-400
001P308	001S303	Skip Bucket	1957	20,000 lb/hr	Baghouse DC156-400
001P309	001S303	Vibrating Screen 156-203	1957	26,600 lb/hr	Baghouse DC156-400
001P310	001S303	Fines Storage Bin	1957	26,600 lb/hr	Baghouse DC156-400
001P311	001S303	Bagging Machine 156-501	1957	26,600 lb/hr	Baghouse DC156-400
001P312 001P312A 001P312B 001P312C 001P312D	001S305 001S302 001S301 001S304 001S301	Cyclone 156-206 Air Lift 156-304, Disengaging Bin 156-305 Air Slide 156-309 Air Lift 156-309 Disengaging Bin 156-310	1957	26,600 lb/hr	Baghouse DC156-207 Baghouse DC156-407 Baghouse DC156-409 Baghouse DC156-412 Baghouse DC156-412
001P313	001S304	Bath Storage 156-317	1957	20,000 lb/hr	Baghouse DC156-412
001P314	001S304	Bath Storage 156-315	1957		Baghouse DC156-412
001P314A	001S304	300 Belt	1957		Baghouse DC156-412
001P315	001S303	Skip Hoist	1957	20,000 lb/hr	Baghouse DC156-400
		GROUP D - ANODE MIX, PRESS & PREP.			
002P136	--	Liquid Pitch Unloading	1997	--	--
002P137	--	Liquid Pitch Storage Tank No.1	1997	--	--
002P138	--	Liquid Pitch Storage Tank No. 2	1997	--	--
		GROUP E - CATHODE PASTE			
002P201	002S101	Vibrating Screening/Sizing	1957	40,000 lb/hr	Baghouse R-3
002P202	002S201	Conveyor K-10	1957	40,000 lb/hr	Baghouse R-3

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
002P203	002S201	Roll Crusher M-7	1957	40,000 lb/hr	Baghouse R-3
002P204	002S201	Mill Feed Bin	1957	40,000 lb/hr	Baghouse R-3
002P205	002S201	Fine Grind Mill D-2	1957	40,000 lb/hr	Baghouse R-3
002P206	002S201	Conveyor K-11	1957	40,000 lb/hr	Baghouse R-3
002P207	002S201	Air Classifier G-2	1957	40,000 lb/hr	Baghouse R-3
002P208	002S201	Cyclone P-2	1957	40,000 lb/hr	Baghouse R-3
002P209	002S201	Coal Fines Storage Bin	1957	40,000 lb/hr	Baghouse R-3
002P210	002S201	Coal Intermediate Storage Bin	1957	40,000 lb/hr	Baghouse R-3
002P211	002S201	Coal Storage Bin	1957	40,000 lb/hr	Baghouse R-3
002P212	002S201	Coal Fines Storage Bin	1957	40,000 lb/hr	Baghouse R-3
002P214	002S201	Weigh Larry	1957	40,000 lb/hr	Baghouse R-3
002P215	002V203 002S202	Batch Mixer AF-17	1957	40,000 lb/hr	Baghouse R-7
002P216		Batch Mixer AF-18	1957	40,000 lb/hr	Baghouse R-7
002P218	--	Press Reject Conveyor	1957	40,000 lb/hr	--
002P219	--	Green Scrap Storage Pile	1957	40,000 lb/hr	--
002P220	002S202	Roll Crusher M-5C	1957	40,000 lb/hr	Baghouse R-7
002P221	002S202	Roll Crusher M-5B	1957	40,000 lb/hr	Baghouse R-7
		GROUP F - COAL AND COKE UNLOADING			
002P301 002P301A 002P301B	-- 002S301 --	Coal, Coke, and Pitch Unloading Feeder AA-1, Feeder V-1, Belt 1-1 Bucket Elevator S-1. Screws K-12, K-13, K-14	1957	140,000 lb/hr 140,000 lb/hr 140,000 lb/hr	-- Baghouse R-1 --
002P302	--	Coal and Coke Storage Silos 1-4 and 8-11(8)	1957	140,000 lb/hr	--
002P303	--	Belt 1-3	1957	120,000 lb/hr	--
002P304	002S101	Roll Crusher M-3	1957	80,000 lb/hr	R232 Dust Coll.
002P305	002S101	K-3A, K-3B, S-3, Y-1, AM-1&2 Vibrating Screen	1957	160,000 lb/hr	R232 Dust Coll.
002P306	002S303	Screw K-27, Bin 18, Bin 19, Disc W01, Fine Grind Mill D-1	1957	100,000 lb/hr	Baghouse R-2
002P307	002S303	Air Classifier G-2	1957	50,000 lb/hr	Baghouse R-2
002P308	002S303	Cyclone P3	1957	50,000 lb/hr	Baghouse R-2
002P309	002S303	Cyclone P1	1957	50,000 lb/hr	Baghouse R-2
002P310	002S101	Feeder AA-20, Roll Crusher M-6	1957	60,000 lb/hr	R232 Dust Coll.

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
002P310A	002S101	Bin 50	1957	60,000 lb/hr	R232 Dust Coll.
002P311	002S101	Bucket Elevator S-6, Vibrating Screen AM-4	1957	60,000 lb/hr	R232 Dust Coll.
002P312	002S101	Screws K-5, K-20, Coke Fines Bins 53-68	1957	50,000 lb/hr	R232 Dust Coll.
002P313	002S101	Screw Conveyor K-18, Coke Coarse Bins 20-31	1957	50,000 lb/hr	R232 Dust Coll.
002P314	002S101	Screw Conveyor K-19, Anode Butts Bins 36-41	1957	50,000 lb/hr	R232 Dust Coll.
003P315	--	Bin 17	1957	--	--
		GROUP G - ANODE BLOCKS			
003P101	003S105	51 Bin	1957	40,000 lb/hr	Bin Vent 51BV
003P102	003S101	Belt Conveyor BC-5	1957	93,600 lb/hr	--
003P103	003S101	Coke Tubs	1957	60,000 lb/hr	Baghouse No. 1
003P104	003104	15 Ton Make-Up Bin	1957	40,000 lb/hr	--
003P106	003S103A 003S103B	Portable ECL Bins	1957	60,000 lb/hr	ECL Baghouse
003P111	003S102	Anode Cleaner	1957	1,000 lb/hr	Baghouse No. 2
003P113	003S101	Screening Station	1957	60,000 lb/hr	Baghouse No. 1
003P114	003S101	Vibramill	1957	60,000 lb/hr	Baghouse No. 1
003P115	--	Bucket Elevator	1957	2,000 lb/hr	--
003P116	003S102	Bucket Elevator	1957	2,000 lb/hr	--
003P117	003S102	Anode Bins, Cleaning Station	1957	2,000 lb/hr	--
003P118	003S101	Belt Conveyor BC-6	1957	60,000 lb/hr	Baghouse No. 1
003P119	003S101	Screen Hopper	1957	60,000 lb/hr	Baghouse No. 1
003P120	003S101	Screw Conveyor SC-1	1957	60,000 lb/hr	Baghouse No. 1
003P201 003P201A	003S203 003S201	No. 2 Bin Fresh Alumina Air Slide 201	1976	30,000 lb/hr 10,000 lb/hr	Baghouse DC11-407 Baghouse DC11-570
003P202	003S202	No. 3 Bin, Air Slide 300, Air Lift 300, Disengaging Bin 300	1976	10,000 lb/hr	Baghouse DC 11-470
003P203	003S201	Reacted Booth System	1976	30,000 lb/hr	Baghouse DC11-570
		GROUP H - RODDING DEPARTMENT			
003P301	003S309	Horizontal Press	1957	60,000 lb/hr	Bertha DC
003P302	003S309	Cone Crusher	1957	60,000 lb/hr	Bertha DC
003P303	003S309	Secondary Crusher	1957	60,000 lb/hr	Bertha DC
003P304	003S302	Belt Conveyor #4	1957	60,000 lb/hr	Baghouse No. 2

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
003P305	003S304	Belt Conveyor #24	1957	60,000 lb/hr	Baghouse No. 2
003P306	003S302	Butt Removal	1957	60,000 lb/hr	Baghouse No. 2
003P307	003S302	Butt Crusher	1957	60,000 lb/hr	Baghouse No. 2
003P308	--	Magnetic Separator	1957	60,000 lb/hr	--
003P309	003V302	Thimble Press	1957	6,000 lb/hr	--
003P310	003S303	Thimble Cleaner, Belts 29, 29A, and 30	1957	6,000 lb/hr	Baghouse No. 3
003P311	003S304	(3) Electric Arc Furnaces	1957	60,000 lb/hr	Electric Arc DC
003P312	003S303	Rod Cleaning	1957	60 lb/hr	Baghouse No. 3
003P313	003V306	Stub Dryer	1957	--	--
003P314	003S304	Hole Cleaner	1957	225 lb/hr	Electric Arc DC
003P315	--	Hole Dryer	1957	--	--
003P316	003S304	Pouring and Assembly Station	1957	75,000 lb/hr	Electric Arc DC
003P317	003V308	Chamfer	1957	--	--
003P318	003V305	Stub Saw	1957	--	--
003P319	003V305	Welding Station	1957	--	--
003P320	003V307	Thimble Press, Combination Press	1957	60,000 lb/hr	--
003P321	003S302	Belt Conveyor #22	1957	60,000 lb/hr	Baghouse No. 2
003P322	003S302	Belt Conveyor #23	1957	60,000 lb/hr	Baghouse No. 2
003P323	003S305	Rough Cleaning Machine	1957	60,000 lb/hr	Baghouse No. 5
003P324	003S309	Anode Fine Cleaning (Shot Blast) Machine	1957	60,000 lb/hr	Bertha DC
003P325	003S305	Bath Belt Conveyor	1957	60,000 lb/hr	Baghouse No. 5
003P326	003S305	Surge Hopper	1957	60,000 lb/hr	Baghouse No. 5
003P327	003S305	Crushed Feed Conveyor	1957	60,000 lb/hr	Baghouse No. 5
003P328	003S305	Bath Crusher	1957	60,000 lb/hr	Baghouse No. 5
003P329	003S305	Bath Screen Feed Conveyor	1957	60,000 lb/hr	Baghouse No. 5
003P330	003S305	Bath Screen	1957	60,000 lb/hr	Baghouse No. 5
003P331	003S305	Surge Hopper	1957	60,000 lb/hr	Baghouse No. 5
003P332	003S305	Bath Silo	1957	60,000 lb/hr	Baghouse No. 5
003P333	003S310	No. 1 Storage Bin	1957	0.403 lb/hr	Bin Vent 971BV

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
GROUP I - MISCELLANEOUS SOURCES					
005P104A	005S108	Paste Mixer	1957	--	Dust Collector
005P105	005S101	Carpenter Shop Saws	1957	--	Cyclone
005P106	005S109	Paint Booth used for storage	1957	--	--
005P107	005S110	Paste Heaters	1957	--	--
005P108	005S111	Shell Rebuild	1957	--	--
005P109	005S102	Reduction Cell Super Structure Cleaning Booth	1957	--	Pot Lining Baghouse
005P110	005S114	Spent Pot Lining Disposal	1976	1600 lb/hr	SPL Dust Collector
005P111	005S104A	Module Cleaning Booth	1976	--	Baghouse
005P112	005S113	Rod Preheaters	1957	--	--
005P113	--	Crucible Heaters	2001	--	--
005P114	005S115	TAC System Unit #1	2001	46,000 lb/hr	Baghouse R-442
005P115	005S115	TAC System Unit #2	2001	46,000 lb/hr	Baghouse R-442
005P116	005S112	Crucible Cleaner	2009	2,000 lb/hr	Baghouse 005C112
005P117	005S112	Siphon Cleaner	2009	150 lb/hr	Baghouse 005C112
FUEL BURNING SOURCES					
002P139	002S110	Hot Oil Heater No. 1	1997	1.25 mmBtu/hr	--
002P140	002S111	Hot Oil Heater No. 2	1997	1.25 mmBtu/hr	--
005P103	005S107	Boiler No. 4; Cleaver Brooks D76-RH	1997	76.0 mmBtu/hr	--
005P104	005S106	Boiler No. 5; English Boiler & Tube, Inc. 30-SD-250	2003	37.5 mmBtu/hr	--
PRIMARY ALUMINUM MACT SOURCES					
002P101	002S101	Scrap & Rejects Storage Bin North	1957	60,000 lb/hr	Venturi Reactor VR-371 Sonair Baghouse R-300
002P102	002S101	Scrap & Rejects Storage Bin South	1957	60,000 lb/hr	
002P103	002S101	Coke Fines Storage Bin North	1957	100,000 lb/hr	
002P104	002S101	Coke Fines Storage Bin South	1957	100,000 lb/hr	
002P105	002S101	Coke Coarse Storage Bin North	1957	100,000 lb/hr	
002P106	002S101	Coke Coarse Storage Bin South	1957	100,000 lb/hr	
002P107	002S101	Crushed Anode Butts Storage Bin North	1957	100,000 lb/hr	
002P108	002S101	Crushed Anode Butts Storage Bin South	1957	100,000 lb/hr	
002P109	--	Hard Pitch Storage Bin North	1957	--	--

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
002P110	--	Hard Pitch Storage Bin South	1957	--	--
002P111	002S101	Auto Scale AL-1	1957	100,000 lb/hr	Venturi Reactor VR-371 Sonair Baghouse R-300
002P112	002S101	Auto Scale AL-2	1957	100,000 lb/hr	
002P113	002S101	Screw Conveyor K-101	1957	100,000 lb/hr	
002P114	002S101	Batch Car	1957	100,000 lb/hr	
002P115	002S109	South Mixers 1-8	1957	100,000 lb/hr	Baghouses 002C104, 002C105
002P116	002S109	North Mixers 9-16	1957	100,000 lb/hr	
002P117	002S109	Belt Conveyor I-6	1957	64,000 lb/hr	Baghouses 002C104, 002C105
002P118	002S109	Belt Conveyor I-7	1957	64,000 lb/hr	
002P119	002S109	Belt Conveyor V-4	1957	128,000 lb/hr	Baghouses 002C104, 002C105
002P120	002S109	Belt Conveyor I-8	1957	128,000 lb/hr	
002P121	002S109	Belt Conveyor I-9	1957	128,000 lb/hr	
002P122	002S109	Belt Conveyor I-10	1957	128,000 lb/hr	
002P123	002S109	Cooling Screw AG-1	1957	128,000 lb/hr	Baghouses 002C104, 002C105
002P124	002S109	Cooling Screw AG-2	1957	128,000 lb/hr	
002P125	002S109	Cooling Screw AG-3	1957	128,000 lb/hr	
002P126	002S109	Cooling Screw AG-4	1957	128,000 lb/hr	
002P127	002S109	Disc Feeder W11	1957	128,000 lb/hr	Baghouses 002C104, 002C105
002P128	002S109	Disc Feeder W12	1957		
002P129	002S109	Anode Press AJ-1	1957	128,000 lb/hr	Baghouses 002C104, 002C105
002P130	002S109	Anode Press AJ-2	1957		
002P131	002S109	Belt Conveyor I-11	1957	128,000 lb/hr	Baghouses 002C104, 002C105
002P132	002S109	Screw Conveyor K-103	1957	128,000 lb/hr	
002P133	002S109	Green Scrap Area	1957	128,000 lb/hr	
002P134	002S109	Fresh Coke Fines Storage Tank	1957	50,000 lb/hr	Baghouse 002C104
002P135	002S109	Screw Conveyor K-321	1957	2,400 lb/hr	Baghouse 002C104
002P141	002S101	Screw Conveyor K-100	1957	100,000 lb/hr	Baghouse 002C106
002P142	002S101	Collecting Hopper	1957	100,000 lb/hr	Baghouse 002C106
002P143	002S109	K-312 Screw Conveyor	1957	50,000 lb/hr	Baghouse 002C104

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
003P109	003S204	Building No. 52 Ring Furnace	1957	Capacity is based on green anodes capacity	Anode Bake Furnace Scrubber System (28 stacks) 003C205 (bypass)
003P110	003S204	Building No. 53 Ring Furnace	1957		
004P101	004S301	Reduction Cells Potroom 1A	1957	14,500 lb/hr	Scrubber 004C302
004P102		Reduction Cells Potroom 1B	1957	14,500 lb/hr	
004P103		Reduction Cells Potroom 2A	1957	14,500 lb/hr	
004P104		Reduction Cells Potroom 2B	1957	14,500 lb/hr	
004P201		Reduction Cells Potroom 3A	1957	14,500 lb/hr	Scrubber 004C301
004P202		Reduction Cells Potroom 3B	1957	14,500 lb/hr	
004P203		Reduction Cells Potroom 4A	1957	14,500 lb/hr	
004P204		Reduction Cells Potroom 4B	1957	14,500 lb/hr	
004P113	--	Ore Bucket - Line 1A	1957	120,000 lb/hr	Baghouse DC 1
004P114	--	Ore Bucket - Line 1B	1957	120,000 lb/hr	Baghouse DC 2
004P115	--	Ore Bucket - Line 2A	1957	160,000 lb/hr	Baghouse DC 3
004P116	--	Ore Bucket - Line 2B	1957	160,000 lb/hr	Baghouse DC 4
004P213	--	Ore Bucket - Line 3A	1957	120,000 lb/hr	Baghouse DC 5
004P214	--	Ore Bucket - Line 3B	1957	120,000 lb/hr	Baghouse DC 6
004P215	--	Ore Bucket - Line 4A	1957	120,000 lb/hr	Baghouse DC 7
004P216	--	Ore Bucket - Line 4B	1957	120,000 lb/hr	Baghouse DC 8

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
R13-0348	**December 23, 1977**
R13-201R	**June 10, 1997**
R13-2140A	**August 29, 2003**
R13-2431A	**March 17, 2009**

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	**NESHAPS**	National Emissions Standards for Hazardous Air Pollutants
CBI	Confidential Business Information		
CEM	Continuous Emission Monitor	**NO_x**	Nitrogen Oxides
CES	Certified Emission Statement	**NSPS**	New Source Performance Standards
C.F.R. *or* CFR	Code of Federal Regulations		
CO	Carbon Monoxide	**PM**	Particulate Matter
C.S.R. *or* CSR	Codes of State Rules	**PM_{10}**	Particulate Matter less than 10µm in diameter
DAQ	Division of Air Quality		
DEP	Department of Environmental Protection	**pph**	Pounds per Hour
		ppm	Parts per Million
FOIA	Freedom of Information Act	**PSD**	Prevention of Significant Deterioration
HAP	Hazardous Air Pollutant		
HON	Hazardous Organic NESHAP	**psi**	Pounds per Square Inch
HP	Horsepower	**SIC**	Standard Industrial Classification
lbs/hr	Pounds per Hour		
LDAR	Leak Detection and Repair	**SIP**	State Implementation Plan
m	Thousand	**SO_2**	Sulfur Dioxide
MACT	Maximum Achievable Control Technology	**TAP**	Toxic Air Pollutant
		TPY	Tons per Year
mm	Million	**TRS**	Total Reduced Sulfur
mmBtu/hr	Million British Thermal Units per Hour	**TSP**	Total Suspended Particulate
		USEPA	United States Environmental Protection Agency
$mmft^3/hr$	Million Cubic Feet Burned per Hour	**UTM**	Universal Transverse Mercator
NA *or* N/A	Not Applicable	**VEE**	Visual Emissions Evaluation
NAAQS	National Ambient Air Quality Standards	**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 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 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. 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.]

3.1.10 Due to unavoidable malfunction of equipment, emissions exceeding those provided for in 45CSR7 may be permitted by the Director for periods not to exceed ten (10) days upon specific application to the Director. Such application shall be made within twenty-four (24) hours of the malfunction. In cases of major equipment failure, additional time periods may be granted by the Director provided a corrective program has been submitted by the owner or operator and approved by the Director.
[45CSR§7-9.1.]

3.1.11 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. Visible emission checks of each emission point subject to an opacity limit shall be conducted once per week during periods of facility operation using 40 C.F.R. 60 Appendix A, Method 22. If during these checks, or at any other time, visible emissions are observed at any emission point, compliance shall be determined by conducting tests in accordance 45CSR7A within 48 hours. If the 45CSR7A test results show the opacity to be equal to or greater than the limit, then an evaluation to determine the cause of the exceedance shall be conducted within three (3) days, unless the cause of the exceedance is corrected within 24 hours. If no visible emissions are observed after two weeks, visible emission checks shall be conducted monthly. If any visible emissions are observed during the monthly emission checks, visible emission checks shall return to being performed weekly. If no visible emissions are observed after four months, visible emission checks shall be conducted each calendar quarter. If any visible emissions are observed during the quarterly emission checks, visible emission checks shall return to being performed each calendar month. Records shall be maintained on site and shall include all data required by 40 C.F.R. 60 Appendix A, Method 22 or 45CSR7A test, whichever is appropriate. These records shall include, at a minimum, the date and time of each visible emission check, the visible emissions survey results and, if appropriate, all corrective actions taken.

For sources that are controlled by fabric filtration, the Method 22 or 45CSR7A test readings shall be taken at the exhaust point for the associated control device. For sources controlled by other means but without a defined stack emission point, the Method 22 or 45CSR7A test readings shall be taken at the source. For sources located within an enclosed building, the Method 22 or 45CSR7A test readings shall be taken at each visible side and the roof of the building.
[45CSR§30-5.1.c.]

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]

3.4. 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-R13-2431, Condition 4.3.1.]

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.]

3.5. Reporting Requirements

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

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

3.5.3. Except for the electronic submittal of the annual 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:

Director
WVDEP
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone: 304/926-0475
FAX: 304/926-0478

If to the US EPA:

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 requirement of this permit. The annual certification shall be submitted to the DAQ and USEPA on or before March 15 of each year, and shall certify compliance for the period ending December 31. The 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. Compliance Plan

3.6.1. None.

3.7. Permit Shield

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

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

a. 45CSR5 - The facility is exempt from this rule in accordance with Section 2.4.a., a facility that is designed to process less than two hundred (200) tons of coal per day; and Section 2.4.b., a facility subject to the requirements of 45CSR2, 45CSR3, 45CSR7.

b. 40 C.F.R. Part 60 subparts K, Ka, Kb - The facility does not have any tanks that store volatile organic liquids with a capacity greater than 65,000 gallons (Subpart K), 40,000 gallons (Subpart Ka), or 19,813 gallons (Subpart Kb).

c. 40 C.F.R. Part 60 Subpart Y - The provisions of this subpart are not applicable because the facility does not process more than 181 Mg (200 tons) of coal per day.

d. 40 C.F.R. Part 64 - Compliance Assurance Monitoring - In accordance with 40 C.F.R.§ 64.2(a)(3), the following emission units have potential pre-control device emissions of the applicable regulated air pollutant required to be classified as a major source:

Emission Unit ID	Description	Pollutant	Reason for exemption
002P301B	Bucket Elevator S-1. Screws K-12, K-13, K-14	PM	No control device [40 C.F.R. §64.2(a)(2)]
003P109	Building No. 52 Ring Furnace	SO_2	No SO_2 control device [40 C.F.R. §64.2(a)(2)]
003P110	Building No. 53 Ring Furnace	SO_2	
004P101-004P104	Reduction Cells Potroom 1A, 1B, 2A, and 2B	CO	No CO control device [40 C.F.R. §64.2(a)(2)]
004P201-004P204	Reduction Cells Potroom 3A, 3B, 4A, and 4B	CO	
004P101-004P104	Reduction Cells Potroom 1A, 1B, 2A, and 2B	Total Fluorides	Subject to 40 C.F.R. Part 63, Subpart LL. Exempt in accordance with 40 C.F.R. § 64.2(b)(1)(i).
004P201-004P204	Reduction Cells Potroom 3A, 3B, 4A, and 4B	Total Fluorides	

4.0. Manufacturing Process Group Requirements: Group A [Barge Unloading], Group B [Material Transfer to/from Potroom Silos], Group C [Bath Processing], Group D [Anode Mix, Press & Prep], Group E [Cathode Paste], Group F [Coal & Coke Unloading], and Group G [Anode Blocks]

4.1. Limitations and Standards

4.1.1. No person shall cause, suffer, allow, or permit 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 quantities specified in this permit.

Emission Unit ID	Equipment Description	Max. Allowable PM Emission Limit (lb/hr)
Group A - Barge Unloading		
001P101, 001P101A	Vacuum Truck Unloading/AlF_3 - Cryolite Railcar Unloading and Conveyor	46.0
001P111	Conveyor 2	43.6
Group B - Material Transfer to/from Potroom Silos		
001P201	Air Slides 372, 470, 473, 404, 472, 405, & 474; Air Lifts 374 & 471; Disengaging Bins 374 & 471	28.0
001P202	Air Slides 302, 400, & 403; Air Lifts 304 & 401; Disengaging Bins 304 & 401	28.0
001P203	Air Slides 021& 025, Air Lifts 022 & 250; & Disengaging Bins 022 & 250	32.2
001P204	Parallel Vibrating Screens 004 & 014 and Tote, Air Slide 102	32.2
001P206	Air Slide 172, Air Lift 174, Disengaging Bin 174	32.2
004P217	Fill Station	16.0
004P218	Bath Cart	16.0
004P219	Apollo Fill Station	28.0
004P301	Air Slides 270, 271, 277	28.0
004P302	Air Slides 200, 207	28.0
004P303	Air Slides 370, 371	28.0
004P304	Air Slides 300, 301	28.0
004P305	Air Slides 264, 303	28.0
Group C - Bath Processing		
001P305	Cascade Mill 156-200	19.96
001P306	Magnetic Separator 156-214	19.96
001P307 & 001P308	Skip Buckets	16.0 each

Emission Unit ID	Equipment Description	Max. Allowable PM Emission Limit (lb/hr)
001P309	Vibrating Screen 156.-203	19.96
001P311	Bagging Machine 156-501	19.96
001P315	Skip Hoist	16.0
001P312	Cyclone 156-206, Air Lifts 156-304 & 156-309, Disengaging Bins 156-305 & 156-310	19.96
Group E - Cathode Paste		
002P201	Vibrating Screening/Sizing	28.0
002P202	Conveyor K-10	28.0
002P203	Roll Crusher M-7	28.0
002P205	Fine Grind Mill D-2	28.0
002P206	Conveyor K-11	28.0
002P207	Air Classifier G-2	28.0
002P208	Cyclone P-2	28.0
002P214	Weigh Larry	28.0
002P215	Batch Mixer AF-17	28.0
002P216	Batch Mixer AF-18	28.0
002P218	Press Reject Conveyor	28.0
002P220	Roll Crusher M-5C	28.0
002P221	Roll Crusher M-5B	28.0
Group F - Coal & Coke Unloading		
002P301	Coal, Coke and Pitch Unloading Feeder AA-1, Feeder V-1, Belt I-1 Bucket Elevator S-1, Screws K-12, K-13, K-14	34.6
002P304	Roll Crusher M-3	32.2
002P305	K-3A, K-3B, S-3, Y-1, AM-1&2 Vibrating Screen	35.4
002P306	Screw K-27, Bins 18 & 19, Disc W-1, Fine Grind Mill D-1	33.0
002P307	Air Classifier G-2	31.0
002P308	Cyclone P3	31.0
002P309	Cyclone P1	31.0
002P310	Feeder AA-20, Roll Crusher M-6	31.4
002P311	Bucket Elevator S-6, Vibrating Screen AM-4	31.4

Emission Unit ID	Equipment Description	Max. Allowable PM Emission Limit (lb/hr)
Group G - Anode Blocks		
003P102	Belt Conveyor BC-5	32.74
003P106	Portable ECL Bins	31.4
003P111	Anode Cleaner	1.2
003P113	Screening Station	31.4
003P114	Vibramill	31.4
003P115	Bucket Elevator	2.4
003P116	Bucket Elevator	2.4
003P203	Reacted Booth System	13.6

[45CSR§7-4.1.]

4.1.2. 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.]

4.1.3. 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.]

4.1.4. The barge unloader shall not operate more than 50 hours per week and the feeder from the large silo shall not be operated more than two shifts per day. The emissions of particulate matter shall not exceed the amounts listed in the following table:

Emission Point ID	Emission Unit ID	Gas Volume (ACFM)	Max Potential PM Emissions (lbs/hr)	Max PM Emissions w/Controls (lbs/hr)
001S110	001P102	500	20	0.02
001S111		500	20	0.02
001S101	T.P. to 001P105	5000	214	0.21
001S102	T.P. from 001P106 to 001P107 & 001P108	11200	480	0.48
001S103		11200	480	0.48
001S106	001P110	1500	64	0.06
001S108		1500	64	0.06

Compliance with these limits shall demonstrate compliance with the less stringent limit of 45CSR§7-4.1.
[45CSR13 - R13-0348 and 45CSR§7-4.1.]

4.2. Monitoring Requirements

4.2.1. The permittee shall monitor the PM emissions by conducting visible emissions checks and keeping records of the results of the monitoring checks in accordance with Section 3.2.1. **[45CSR§30-5.1.c.]**

4.3. Testing Requirements

4.3.1. None.

4.4. Recordkeeping Requirements

4.4.1. The permittee shall monitor all fugitive PM emission sources as required by Subsection 4.1.3. to ensure that a system to minimize fugitive emissions has been installed or implemented. Records shall be maintained on site stating the types of fugitive PM capture and/or suppression systems used, the times these systems were inoperable, and the corrective actions taken to repair these systems. **[45CSR§30-5.1.c.]**

4.5. Reporting Requirements

4.5.1. None.

4.6. Compliance Plan

4.6.1. None.

5.0. Manufacturing Process Group H Requirements [Rodding Department]

5.1. Limitations and Standards

5.1.1. No person shall cause, suffer, allow, or permit 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 quantities specified in this permit.

Emission Unit ID	Equipment	Max. Allowable PM Emission Limit (lb/hr)
Group H - Rodding Department		
003P301	Horizontal Press	31.4
003P302	Cone Crusher	31.4
003P303	Secondary Crusher	31.4
003P304	Belt Conveyor No. 4	31.4
003P305	Belt Conveyor No. 24	31.4
003P306	Butt Removal	31.4
003P307	Butt Crusher	31.4
003P308	Magnetic Separator	31.4
003P309	Thimble Press	6.0
003P310	Thimble Cleaner	6.0
003P311	Electric Arc Furnaces (3)	31.4
003P312	Rod Cleaning	0.07
003P313	Stub Dryer	0.07
003P314	Hole Cleaner	0.27
003P315	Hole Dryer	0.27
003P316	Assembly and Pouring Station	75.0
003P317	Chamfer	0.001
003P318	Stub Saw	0.0001
003P319	Welding Station	0.0001
003P320	Thimble Press, Combination Press	31.4
003P321	Belt Conveyor No. 22	31.4
003P322	Belt Conveyor No. 23	31.4
003P324	Anode Fine Cleaning (Shot Blast) Machine	31.4
003P323	Anode Rough Cleaning Machine	31.4

Emission Unit ID	Equipment	Max. Allowable PM Emission Limit (lb/hr)
Group H - Rodding Department		
003P325	Bath Belt Conveyor	31.4
003P326	Surge Hopper	31.4
003P327	Crushed Feed Conveyor	31.4
003P328	Bath Crusher	31.4
003P329	Bath Screen Feed Conveyor	31.4
003P330	Bath Screen	31.4
003P331	Surge Hopper	31.4

[45CSR§7-4.1.]

5.1.2. 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. and 45CSR13 - R13-0201]

5.1.3. 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.]

5.1.4. 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, except as provided in 45CSR§§10-4.1.a through 4.1.e.
[45CSR§10-4.1. (003P311)]

5.1.5. The operating rate for the rough cleaning and fine cleaning machines shall be limited to 30 tons per hour.
[45CSR13 - R13-0201, Specific Requirements A.1. (003P323 & 003P324)]

5.1.6. The operating rate for the three conveyor belts, the pneumatic conveying system, the crusher, and the screen associated with the modification to the Bath Processing Facility shall be limited to 30 tons per hour.
[45CSR13 - R13-0201, Specific Requirements A.2. (003P325, 003P327, 003P328, 003P329, & 003P330)]

5.1.7. A dust collector shall be installed, and shall be properly maintained according to the manufacturer's specifications such as to maximize its removal efficiency, and shall be in operation whenever any part of the bath processing circuit is operating.
[45CSR13 - R13-0201, Specific Requirements A.3. (Baghouse No. 5)]

5.2. Monitoring Requirements

5.2.1. The permittee shall monitor the PM emissions by conducting visible emissions checks and keeping records of the results of the monitoring checks in accordance with Section 3.2.1.
[45CSR§30-5.1.c.]

5.2.2. The permittee shall demonstrate compliance with Section 5.1.4. by testing and /or monitoring as set forth in an approved monitoring plan (see Appendix A) for each emission unit.
[45CSR§10-8.2.c. (003P311)]

5.3. Testing Requirements

5.3.1. None.

5.4. Recordkeeping Requirements

5.4.1. The permittee shall maintain on-site a record of all required monitoring data as established in a monitoring plan (see Appendix A) pursuant to 45CSR§10-8.2.c. Such records shall be made available to the Director or his duly authorized representative upon request. Such records shall be retained on-site for a minimum of five years.
[45CSR§10-8.3.a. (003P311)]

5.4.2. The permittee shall keep a record of all maintenance performed on the dust collector. These records shall be properly maintained on site for a period not less than five (5) years and be made available to the Director, or his or her designated representative, upon request.
[45CSR13 - R13-0201, Other Requirements B.2. (Baghouse No. 5)]

5.4.3. The permittee shall monitor all fugitive PM emission sources as required by Section 5.1.3. to ensure that a system to minimize fugitive emissions has been installed or implemented. Records shall be maintained on site stating the types of fugitive PM capture and/or suppression systems used, the times these systems were inoperable, and the corrective actions taken to repair these systems.
[45CSR§30-5.1.c.]

5.5. Reporting Requirements

5.5.1. The permittee shall submit a periodic exception report to the Director, in a manner specified by the Director. Such an exception report shall provide details of all excursions outside the range of measured emissions or monitored parameters established in an approved monitoring plan (see Appendix A) and shall include, but not be limited to, the time of the excursion, the magnitude of the excursion, the duration of the excursion, the cause of the excursion and the corrective action taken.
[45CSR§10-8.3.b. (003P311)]

5.6. Compliance Plan

5.6.1. None.

6.0. Storage Structure Requirements: Group A [Barge Unloading], Group B [Material Transfer to/from Potroom Silos], Group C [Bath Processing], Group E [Cathode Paste], Group F [Coal & Coke Unloading], Group G [Anode Blocks], and Group H [Rodding Department]

6.1. Limitations and Standards

6.1.1. No person shall cause, suffer, allow, or permit emissions of smoke and/or particulate matter into the open air from any storage structure associated with any manufacturing process.

Emission Unit ID	Equipment Description
Group A - Barge Unloading	
001P107	Alumina Silo No. 1 West 741
001P108	Alumina Silo No. 2 East 742
001P112	Four Tote Bins
001P113	Carbon Ore Bin 11-9206
001P114	Fresh Alumina Bin 11-9201
Group B - Material Transfer to/from Potroom Silos	
001P205	Alumina Bin 125
001P207	Alumina Bin 195
004P105 through 004P112	Potroom Silos 1A, 1C, 1D, 1B, 2A, 2C, 2D, 2B
004P205 through 004P212	Potroom Silos 3A, 3C, 3D, 3B, 4A, 4C, 4D, 4B
Group C - Bath Processing	
001P301 through 001P304	Pure Bath Bins, Contaminated Bath Bin, Feed Storage Bin 156-103
001P310	Fines Storage Bin
001P313 and 001P314	Bath Storage 156-317 and Bath Storage 156-315
Group E - Cathode Paste	
002P204	Mill Feed Bin
002P209 through 002P212	Coal Fines Storage Bins, Coal Intermediate Storage Bin, Coal Storage Bin
002P219	Green Scrap Storage Pile
Group F - Coal & Coke Unloading	
002P302	Coal and Coke Storage Silos 1-4 and 8-11
002P312 through 002P315	Coke Fines Bins 53-68, Coke Coarse Bins 20-31, Anode Butts Bins 36-41, Bin 17
Group G - Anode Blocks	
003P101	51 Bin
003P104	15 Ton Make-Up Bin

Emission Unit ID	Equipment Description
003P117	Anode Bin
003P201	No. 2 Bin Fresh Alumina,
003P202	Disengaging Bin 300
Group H - Rodding Department	
003P332	Bath Silo

[45CSR§7-3.7.]

6.1.2. 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.]

6.2. Monitoring and Recordkeeping Requirements

6.2.1. The permittee shall monitor the smoke and PM emissions by conducting visible emissions checks and keeping records of the results of the monitoring checks in accordance with Section 3.2.1.
[45CSR§30-5.1.c.]

6.3. Testing Requirements

6.3.1. None.

6.4. Recordkeeping Requirements

6.4.1. The permittee shall monitor all fugitive PM emission sources as required by Subsection 6.1.2. to ensure that a system to minimize fugitive emissions has been installed or implemented. Records shall be maintained on site stating the types of fugitive PM capture and/or suppression systems used, the times these systems were inoperable, and the corrective actions taken to repair these systems.
[45CSR§30-5.1.c.]

6.5. Reporting Requirements

6.5.1. None.

6.6. Compliance Plan

6.6.1. None.

7.0. Manufacturing Process Group I Requirements [TAC Units and Miscellaneous Units]

7.1. Limitations and Standards

7.1.1. 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.]**

7.1.2. The provisions of Section 7.1.1. of this permit 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.]**

7.1.3. No person shall cause, suffer, allow, or permit particulate matter to be vented into the open air from any type source operation or duplicate source operation, or from all air pollution control equipment installed on any type source operation or duplicate source operation in excess of the quantity specified in this permit:

Emission Unit ID	Equipment Description	Max. Allowable PM Emission Limit (lb/hr)
005P104A	Paste Mixer	2.4
005P108	Shell Rebuild	5.0
005P109	Reduction Cell Super Structure Cleaning Booth	7.5
005P110	Spent Pot Lining Disposal	1.92

[45CSR§7-4.1.]

7.1.4. No person shall circumvent the provisions of this rule by adding additional gas to any exhaust or group of exhausts for the purpose of reducing the stack gas concentration.
[45CSR§7-4.3.]

7.1.5. No person shall cause, suffer, allow, or permit any manufacturing process generating fugitive particulate matter to operate that is not equipped with a system to minimize the emissions of fugitive particulate matter. To minimize means that a particulate capture or suppression system shall be installed to ensure the lowest fugitive particulate emissions reasonably achievable.
[45CSR§7-5.1.]

7.1.6. Emissions from the TAC Systems Unit #1 and Unit #2, from emission point 005S115, shall not exceed the following types and amounts of pollutants:

Pollutant	Hourly Emission Rate (lb/hr)	Annual Emission Rate (lb/yr)
PM	0.231	2024
PM_{10}	0.231	2024
Hydrogen Fluoride	0.206	1805
Particulate Fluoride	0.046	403

[45CSR13 - R13-2431 - Condition 4.1.1.]

7.1.7. The maximum rate of molten aluminum being treated by both TAC units combined shall be 46,000 pounds per hour and 403,000,000 pounds per year. Compliance with the hourly process limit shall be determined by dividing the daily amount of molten aluminum processed by the number of hours of operation for that given day. Compliance with the yearly process limit shall be determined using a rolling yearly total. A rolling yearly total shall mean the total amount of aluminum processed in pounds at any given time for the previous twelve consecutive months.
[45CSR13 - R13-2431 - Condition 4.1.2. (005P114 & 005P115)]

7.1.8. The emissions generated from TAC Systems Unit #1 and Unit #2, which includes the stationary aluminum fluoride storage bin for each unit, shall be vented to the Wheelabrator Canada Air Pollution Control, Model WCC-36, size 45 bag house (Control Device ID No. R-442), which shall be installed, maintained, and operated to maintain compliance with the emissions limits set forth in Section 7.1.6. of this permit.
[45CSR13 - R13-2431 - Conditions 4.1.3. and 4.1.4. (Baghouse R-442)]

7.1.9. Emissions from the crucible cleaner (unit 005P116) and the siphon cleaner (unit 005P117) shall not exceed the following:

	PM		PM_{10}	
	lb/hr	tpy	lb/hr	tpy
Crucible Cleaner	0.5	2.19	0.5	2.19
Siphon Cleaner	0.04	0.17	0.04	0.17
Total	**0.54**	**2.36**	**0.54**	**2.36**

[45CSR13 - R13-2431 - Condition 4.1.5.]

7.1.10. Emissions from the crucible cleaner (unit 005P116) and the siphon cleaner (unit 005P117) shall be controlled by baghouse 005C112. Said baghouse shall be installed, operated and maintained so as to achieve a minimum control efficiency of 99.9%.
[45CSR13 - R13-2431 - Condition 4.1.6.]

7.1.11. Pressure drop across baghouse 005C112 shall be maintained at a range between 2 inches of water and 6 inches of water.
[45CSR13 - R13-2431 - Condition 4.1.7.]

7.1.12. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate pollution control equipment, baghouse 005C112, 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.
[45CSR§13-5.11. and 45CSR13 - R13-2431, Condition 4.1.8.]

7.2. Monitoring Requirements

7.2.1. The permittee shall monitor the smoke and PM emissions by conducting visible emissions checks and keeping records of the results of the monitoring checks in accordance with Section 3.2.1. of this permit
[45CSR§30-5.1.c.]

7.3. Testing Requirements

7.3.1. None.

7.4. Recordkeeping Requirements

7.4.1. For the purposes of determining compliance with the maximum processing rate limit as set forth in Section 7.1.7. of this permit, the applicant shall maintain certified daily and monthly records of the amount of molten aluminum treated by TAC system. Such records shall be retained by the permittee for at least five (5) years. Certified records shall be made available to the Director or his/her duly authorized representative upon request. **[45CSR13 - R13-2431, Condition 4.3.4.]**

7.4.2. For the purposes of determining compliance with the requirement set forth in condition 7.1.8. of this permit, the permittee shall maintain certified daily records of the pressure drop across baghouse R-442. Said records shall be retained by the permittee on site for at least five years. Certified records shall be made available to the Director or his/her duly authorized representative upon request.
[45CSR13 - R13-2431, Condition 4.3.5.]

7.4.3. In order to determine compliance with condition 7.1.11. of this permit, the permittee shall maintain certified daily records of the pressure drop across baghouse 005C112. Said records shall be retained by the permittee on site for at least five years. Certified records shall be made available to the Director or his/her duly authorized representative upon request.
[45CSR13 - R13-2431, Condition 4.3.6.]

7.4.4. **Record of Maintenance of Air Pollution Control Equipment.** For pollution control equipment, baghouse 005C112, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
[45CSR13 - R13-2431, Condition 4.3.2.]

7.4.5. **Record of Malfunctions of Air Pollution Control Equipment.** For pollution control equipment, baghouse 005C112, 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 - R13-2431, Condition 4.3.3.]

7.5. Reporting Requirements

7.5.1. None.

7.6. Compliance Plan

7.6.1. None.

8.0. Fuel Burning Unit Requirements [002P139, 002P140, 005P103, 005P104)]

8.1. Limitations and Standards

8.1.1. 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 darker in shade or appearance than ten (10) percent opacity based on a six minute block average. Compliance with this limit shall demonstrate compliance with the less stringent limit of 40 C.F.R. § 60.43c(c) and 45CSR16.
[45CSR§2-3.1., 45CSR13 - R13-2140, Condition B.1.]

8.1.2 The addition of sulfur oxides to a combustion unit exit gas stream for the purpose of improving emissions control equipment efficiency shall be reviewed by the Director. No person shall cause, suffer, allow or permit the addition of sulfur oxides as described above unless written approval for such addition is provided by the Director.
[45CSR§2-4.4. (002P139 & 002P140 Exempt)]

8.1.3. The visible emission standards set forth in Section 8.1.1. shall apply at all times except in periods of start-ups, shutdowns and malfunctions. Where the Director believes that start-ups and shutdowns are excessive in duration and/or frequency, the Director may require an owner or operator to provide a written report demonstrating that such frequent start-ups and shutdowns are necessary.
[45CSR§2-9.1. (002P139 & 002P140 Exempt)]

8.1.4. At all times, including periods of start-ups, shutdowns and malfunctions, owners and operators shall, to the extent practicable, maintain and operate any fuel burning unit(s) including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Director which may include, but is not limited to, monitoring results, visible emission observations, review of operating and maintenance procedures and inspection of the source.
[45CSR§2-9.2. and 45CSR13 - R13-2140, Condition B.1. (002P139 & 002P140 Exempt)]

8.1.5. No person shall circumvent the provisions of this rule by constructing fuel burning unit(s) larger than would be necessary to provide heat and/or power for an existing manufacturing plant, with a reasonable margin for plant expansion, in order to use that design heat input to raise the allowable sulfur content in fuel.
[45CSR§10-3.6. and 45CSR13 - R13-2140, Condition B.2.]

8.1.6. No person shall construct, modify or relocate any source of sulfur dioxide without first obtaining a permit in accordance with the provisions of W. Va. Code §22-5-1 et seq., and Series 13, 14, 19 and 30 of Title 45.
[45CSR§10-7.1. and 45CSR13 - R13-2140, Condition B.2.]

8.1.7. Due to unavoidable malfunction of equipment or inadvertent fuel shortages, emissions exceeding those provided for in this rule may be permitted by the Director for periods not to exceed ten (10) days upon specific application to the Director. Such application shall be made within twenty-four (24) hours of the equipment malfunction or fuel shortage. In cases of major equipment failure or extended shortages of conforming fuels, additional time periods may be granted by the Director provided a corrective program has been submitted by the owner or operator and approved by the Director.
[45CSR§10-9.1. and 45CSR13 - R13-2140, Condition B.2.]

8.1.8. The maximum heat input and maximum fuel consumption rates for Boilers No. 4 and No. 5 shall not exceed:

Equip. ID	Source	Maximum Heat Input (10^6 Btu/hr)	Natural Gas Usage		#2 Oil Usage		
			(ft^3/hr)	(ft^3/yr)	Sulfur Content	(gal/hr)	(gal/yr)
005P103	Boiler No. 4	76.0	66,785	480,000,000	0.05%	550	3,800,000
005P104	Boiler No. 5	37.5	32,917	288,356,415	0.05%	258	2,260,080

[45CSR13 - R13-2140, Condition A.1.]

8.1.9. Only natural gas or No. 2 fuel oil shall be burned in Boilers No. 4 (005P103) and No. 5 (005P104).
[45CSR13 - R13-2140, Condition A.2.]

8.1.10. The maximum sulfur content for the No. 2 fuel oil to be burned in Boilers No. 4 (005P103) and No. 5 (005P104) shall not exceed 0.05% by weight. Compliance with this limit shall demonstrate compliance with the less stringent limit of 45CSR§10-10.2, 40 C.F.R. § 60.42c(d) and 45CSR§16.
[45CSR13 - R13-2140, Condition A.3.]

8.1.11. Emissions from Boiler No. 4 (005P103) shall not exceed the limits set forth in the table below:

Pollutant	Pounds per Hour (lb/hr) (combusting natural gas)	Pounds per Hour (lb/hr) (combusting fuel oil)	Tons per Year (TPY) (any combination of fuel)
Carbon Monoxide	6.26	2.75	22.49
Nitrogen Oxides	3.73	11.00	38.00
Particulate Matter	0.57	0.72	2.47
Sulfur Dioxide	0.04	3.91	13.49
Volatile Organic Compounds (VOCs)	0.41	0.12	1.47
Hazardous Air Pollutant (HAPs)	0.13	0.08	0.55

Compliance with the PM and SO_2 emission limits shall demonstrate compliance with the less stringent limits of 45CSR§2-4.1.b. and 45CSR§10-3.1.e.
[45CSR13 - R13-2140, Condition A.4., 45CSR§2-4.1.b., and 45CSR§10-3.1.e.]

8.1.12. Emissions from Boiler No. 5 (005P104) shall not exceed the limits set forth in the table below:

Pollutant	Pounds per Hour (lb/hr) (combusting natural gas)	Pounds per Hour (lb/hr) (combusting fuel oil)	Tons per Year (TPY) (any combination of fuel)
Carbon Monoxide	3.08	1.29	13.51
Nitrogen Oxides	1.84	5.16	22.60
Particulate Matter	0.28	1.08	4.73
Sulfur Dioxide	0.02	1.83	8.02
Volatile Organic Compounds (VOCs)	0.20	0.06	0.88
Hazardous Air Pollutant (HAPs)	0.06	0.04	0.27

Compliance with the PM and SO_2 emission limits shall demonstrate compliance with the less stringent limits of 45CSR§2-4.1.b. and 45CSR§10-3.1.e.
[45CSR13 - R13-2140, Condition A.5., 45CSR§2-4.1.b., and 45CSR§10-3.1.e.]

8.1.13. Boilers No. 4 (Equip ID No. 005P103) and No. 5 (Equip. ID No. 005P104) shall comply with all applicable provisions of 40 C.F.R. 60, Subpart Dc - "Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units," provided that the boilers shall comply with any more stringent requirements as may be set forth under the requirements of this permit.
[40 C.F.R. § 60.40c and 45CSR16]

8.1.14. **Industrial, Commercial, and Institutional Boilers and Process Heaters MACT, 40 CFR 63, Subpart DDDDD:** Hot Oil Heaters 002P139 and 002P140, and Boilers 005P103 and 005P104 shall comply with all applicable requirements for existing affected sources pursuant to 40 CFR 63, Subpart DDDDD, "National Emission Standards for Hazardous Air Pollutants for Industrial/Commercial/Institutional Boilers and Process Heaters no later than the existing source compliance date of January 31, 2016, or as amended by US EPA.
[45CSR34; 40 CFR §63.7495(b).]

a. You must meet the requirements in paragraphs 1. and 2. of this section, except as provided in paragraphs 40 CFR §§63.7500(b) through (e). You must meet these requirements at all times the affected unit is operating, except as provided in paragraph c. of this section.

1. You must meet each emission limit and work practice standard in Table 3 to this subpart that applies to your boiler or process heater, for each boiler or process heater at your source, except as provided under 40 CFR§63.7522.

2. At all times, you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

b. Boilers and process heaters in the units designed to burn gas 1 fuels subcategory with a heat input capacity of less than or equal to 5 million Btu/hr (002P139, 002P140) must complete a tune-up every 5 years as specified in 40 CFR §63.7540. Boilers and process heaters in the units designed to burn gas 1 fuels subcategory are not subject to the emission limits in Tables 1 and 2 or 11 through 13, or the operating limits in Table 4.

c. These standards apply at all times the affected unit is operating, except during periods of startup and shutdown during which time you must comply only with Table 3 to this subpart.
[45CSR34; 40 CFR §§63.7500(a)(1) and (3), (e), and (f); Table 3(1.)]

8.1.15. a. For existing affected sources, you complete an initial tune-up by following the procedures described in Section 8.3.3.a.i. through vi. no later than January 31, 2016, except as specified in paragraph b. of this section. You must complete the one-time energy assessment specified in Table 3 to this subpart no later than January 31, 2015, except as specified in paragraph b of this section.

b. For existing affected sources that have not operated between the effective date of the rule and the compliance date that is specified for your source in 40 CFR §63.7495, you must complete an initial tune-up by following the procedures described in Section 8.3.3.a.i. through vi. no later than 30 days after the re-

start of the affected source and, if applicable, complete the one-time energy assessment specified in Table 3 to this subpart, no later than January 31, 2016.
[45CSR34; 40 CFR §§63.7510(e) and (j)]

8.2. Monitoring Requirements

8.2.1. Compliance with the visible emission requirements of Section 8.1.1. shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 9 on a quarterly basis. If the result of any visible emissions test is equal to or exceeds 10% opacity, then an evaluation to determine the cause of the exceedance shall be conducted within three (3) days, unless the cause of the exceedance is corrected within 24 hours.
[45CSR§2-3.2., 45CSR13 - R13-2140, Condition B.1., and 45CSR§30-5.1.c.]

8.2.2. Compliance with the allowable sulfur dioxide emission limitations from fuel burning units shall be based on a continuous twenty-four (24) hour averaging time. The permittee shall not allow emissions to exceed the weight emissions standards for sulfur dioxide as set forth in this rule, except during one (1) continuous twenty-four (24) hour period in each calendar month and during this one (1) continuous twenty-four hour period said owner and/or operator shall not allow emissions to exceed such weight emission standards by more than ten percent (10%) without causing a violation of this rule. A continuous twenty-four (24) hour period is defined as one (1) calendar day.
[45CSR§10-3.8.]

8.2.3. The liquid pitch hot oil heaters shall be operated and maintained in accordance with the manufacturer's recommendations and specifications and in a manner consistent with good operating practices and shall only burn natural gas.
[45CSR§30-5.1.c. (002P139 & 002P140)]

8.2.4. For distillate oil-fired affected facilities with heat input capacities between 2.9 and 29 MW (10 and 100 million Btu/hr), where the owner or operator seeks to demonstrate compliance with the SO_2 standards based on fuel supplier certification, the performance test shall consist of the certification from the fuel supplier, as described under Section 8.5.2.(d) of this permit, as applicable.
[40 C.F.R. §§60.42c(h)(1) and 60.44c(h), 45CSR16 and 45CSR13 - R13-2140, Condition B.3.]

The CEMS and fuel sampling monitoring requirements of 40 C.F.R. § 60.46c (a) and (d) shall not apply to affected facilities subject to 40 C.F.R. § 60.42c(h) (1), (2), or (3) where the owner or operator of the affected facility seeks to demonstrate compliance with the SO_2 standards based on fuel supplier certification, as described under 40 C.F.R. § 60.48c(f) (1), (2), or (3), as applicable.
[40 C.F.R. §60.46c(e), 45CSR16 and 45CSR13 - R13-2140, Condition B.3.]

8.3. Testing Requirements

8.3.1. For Boilers No. 4 and No. 5: 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 sections 8.1.11. and 8.1.12. Such tests shall be conducted in accordance with the appropriate method set forth in the Appendix to Rule 2 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. and 45CSR13 - R13-2140, Condition B.1.]

Sufficient information on temperatures, velocities, pressures, weights and dimensional values shall be reported to the Director, with such necessary commentary as he may require to allow an accurate evaluation of the reported test results and the conditions under which they were obtained.
[45CSR§2-8.1.b.1. and 45CSR13 - R13-2140, Condition B.1.]

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 Section 8.1.2.
[45CSR§2-8.1.c. and 45CSR13 - R13-2140, Condition B.1.]

8.3.2. Compliance and performance test methods and procedures for particulate matter.
The permittee shall conduct an initial performance test as required under 40 C.F.R. § 60.8, and shall conduct subsequent performance tests as requested by the Administrator, to determine compliance with the standards using the following procedures and reference methods: Method 9 (6-minute average of 24 observations) shall be used for determining the opacity of stack emissions.
[40 C.F.R. § 60.45c and 45CSR16]

8.3.3. a. If your boiler or process heater has a heat input capacity of 10 million Btu per hour or greater (005P103, 005P104), you must conduct an annual tune-up of the boiler or process heater to demonstrate continuous compliance as specified in paragraphs a.i. through vi. below. This frequency does not apply to units with continuous oxygen trim systems that maintain an optimum air to fuel ratio.

i. As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown). At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment;

ii. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;

iii. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown).

iv. Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NOX requirement to which the unit is subject;

v. Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer; and

vi. Maintain on-site and submit, if requested by the Administrator, an annual report containing the information in paragraphs A. through C. below:

A. The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater;

B. A description of any corrective actions taken as a part of the tune-up; and

C. The type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel used by each unit.

b. If your boiler or process heater has a continuous oxygen trim system that maintains an optimum air to fuel ratio, or a heat input capacity of less than or equal to 5 million Btu per hour and the unit is in the units designed to burn gas 1 (002P139, 002P140); you must conduct a tune-up of the boiler or process heater every 5 years as specified in Section 8.3.3.a.i. through vi. to demonstrate continuous compliance. You may delay the burner inspection specified in Section 8.3.3.a.i. of this section until the next scheduled or unscheduled unit shutdown, but you must inspect each burner at least once every 72 months.

c. If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup.

[45CSR34; 40 CFR §§63.7540(a)(10), (12) and (13); Table 3(3.)]

8.4. Recordkeeping Requirements

8.4.1. The permittee shall maintain on-site all records of monitored data. Such records shall be made available to the Director or his duly authorized representative upon request. Such records shall be retained on-site for a minimum of five years.
[45CSR§2-8.3.a.]

The permittee shall submit a periodic exception report to the Director, in a manner and at a frequency to be established by the Director. Such exception report shall provide details of all excursions outside the range of measured emissions or monitored parameters, and shall include, but not be limited to, the time of the excursion, the magnitude of the excursion, the duration of the excursion, the cause of the excursion and the corrective action taken.
[45CSR§2-8.3.b.]

8.4.2. The permittee shall maintain records of the operating schedule, and the quality and quantity of fuel burned in each fuel burning unit as specified: For fuel burning units which burn only pipeline quality natural gas, such records shall include, but not be limited to, the date and time of start-up and shutdown, and the quantity of fuel consumed on a monthly basis. For fuel burning units which burn only distillate oil, such records shall include, but not be limited to, the date and time of start-up and shutdown, the quantity of fuel consumed on a monthly basis and a BTU analysis for each shipment. For fuel burning unit(s) which burn a combination of fuels, the owner or operator shall comply with the applicable recordkeeping requirements for each fuel burned.
[45CSR§2A-7.1.a. and 45CSR§2-8.3.c.]

8.4.3. For the purpose of determining compliance with the maximum heat input and fuel consumption limitations established for the boilers as set forth in Sections 8.1.8. and 8.1.9., and the maximum emission rate limits established for the boilers as set forth in Sections 8.1.11. and 8.1.12., the permittee shall maintain daily, monthly, and annual records of the type and amount of fuel usage, hours of operations, and maintenance work performed on individual boilers. Certified copies of these records shall be made available to the Director or his/her duly authorized representative upon request.
[45CSR13 - R13-2140, Condition B.6.]

8.5. Reporting Requirements

8.5.1. The owner or operator of a fuel burning unit(s) subject to this rule shall report to the Director any malfunction of such unit or its air pollution control equipment which results in any excess particulate matter emission rate or excess opacity as provided in one of the following subdivisions:

a. Excess opacity periods meeting the following conditions may be reported on a quarterly basis unless otherwise required by the Director:

1. The excess opacity period does not exceed thirty (30) minutes within any 24-hour period; and

2. Excess opacity does not exceed 40%.

b. The owner or operator shall report to the Director any malfunction resulting in excess particulate matter or excess opacity, not meeting the criteria set forth in Section 8.5.1.a., by telephone, telefax, or e-mail by the end of the next business day after becoming aware of such condition. The owner or operator shall file a certified written report concerning the malfunction with the Director within thirty (30) days providing the following information:

1. A detailed explanation of the factors involved or causes of the malfunction;

2. The date and time of duration (with starting and ending times) of the period of excess emissions;

3. An estimate of the mass of excess emissions discharged during the malfunction period;

4. The maximum opacity measured or observed during the malfunction;

5. Immediate remedial actions taken at the time of the malfunction to correct or mitigate the effects of the malfunction; and

6. A detailed explanation of the corrective measures or program that will be implemented to prevent a recurrence of the malfunction and a schedule for such implementation.

[45CSR§2-9.3.]

8.5.2. Reporting and record keeping requirements.

a. The owner or operator of each affected facility shall submit notification of the date of any reconstruction as provided by 40 C.F.R. § 60.7 of this part.

b. The owner or operator of each affected facility subject to the SO_2 emission limits of 40 C.F.R. §60.42c shall submit to the Administrator the performance test data from the initial and any subsequent performance tests.

c. The owner or operator of each affected facility subject to the fuel oil sulfur limits under 40 C.F.R. §60.42c shall keep records and submit quarterly reports to the Administrator. Each quarterly report shall be postmarked by the 30th day following the end of the reporting period and include:

1. Calendar dates covered in the reporting period.

2. Each 30-day average sulfur content (weight percent), calculated during the reporting period, ending with the last 30-day period in the quarter; reasons for any noncompliance with the emission standards; and a description of corrective actions taken.

3. If fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification as described under paragraph d. of this section, as applicable. In addition to records of fuel supplier certifications, the quarterly report shall include a certified statement signed by the owner or operator

of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the quarter.

d. Fuel supplier certification for distillate oil shall include the following information: the name of the oil supplier and a statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 C.F.R. §60.41c.

e. The owner or operator of each affected facility shall record and maintain records of the amounts of each fuel combusted during each day.

f. All records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record.

[40 C.F.R. § 60.48c and 45CSR16]

8.5.3. **What notifications must I submit and when?**

a. You must submit to the Administrator all of the notifications in 40 CFR §§63.7(b) and (c), 63.8(e), (f)(4) and (6), and 63.9(b) through (h) that apply to you by the dates specified.

b. If you operate a unit designed to burn natural gas, refinery gas, or other gas 1 fuels that is subject to this subpart, and you intend to use a fuel other than natural gas, refinery gas, gaseous fuel subject to another subpart of this part, part 60, 61, or 65, or other gas 1 fuel to fire the affected unit during a period of natural gas curtailment or supply interruption, as defined in 40 CFR §63.7575, you must submit a notification of alternative fuel use within 48 hours of the declaration of each period of natural gas curtailment or supply interruption, as defined in 40 CFR §63.7575. The notification must include the information specified in paragraphs 1. through 5. below.

1. Company name and address.

2. Identification of the affected unit.

3. Reason you are unable to use natural gas or equivalent fuel, including the date when the natural gas curtailment was declared or the natural gas supply interruption began.

4. Type of alternative fuel that you intend to use.

5. Dates when the alternative fuel use is expected to begin and end.

[45CSR34; 40CFR §§63.7545(a) and (f)]

8.6. Compliance Plan

8.6.1. None.

9.0. Primary Aluminum MACT (40 CFR Part 63 Subpart LL) Sources Requirements

9.1. Limitations and Standards

9.1.1. No person shall cause, suffer, allow, or permit 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 quantities specified in this permit.

Emission Unit ID	Equipment	Maximum Allowable PM Emission Limit (lb/hr)
002P111	Auto Scale AL-1	33
002P112	Auto Scale AL-2	33
002P113	Screw Conveyor K-101	33
002P114	Batch car	33
002P115	South Mixers 1-8	33
002P116	North Mixers 9-16	33
002P117	Belt Conveyor I-6	31.56
002P118	Belt Conveyor I-7	31.56
002P119	Belt Conveyor V-4	34.12
002P120	Belt Conveyor I-8	34.12
002P121	Belt Conveyor I-9	34.12
002P122	Belt Conveyor I-10	34.12
002P123	Cooling Screw AG-1	34.12
002P124	Cooling Screw AG-2	34.12
002P125	Cooling Screw AG-3	34.12
002P126	Cooling Screw AG-4	34.12
002P127	Disc Feeder W11	34.12
002P128	Disc Feeder W12	
002P129	Anode Press AJ-1	34.12
002P130	Anode Press AJ-2	
002P131	Belt Conveyor I-11	34.12
002P132	Screw Conveyor K-103	34.12
002P135	Screw Conveyor K-321	2.88
002P141	Screw Conveyor K-100	33
002P142	Collecting Hopper	33

Emission Unit ID	Equipment	Maximum Allowable PM Emission Limit (lb/hr)
003P109	Building No. 52 Ring Furnace	20.8
003P110	Building No. 53 Ring Furnace	20.8
004P113	Ore Bucket-Line 1A	33.8
004P114	Ore Bucket-Line 1B	33.8
004P115	Ore Bucket-Line 2A	35.4
004P116	Ore Bucket-Line 2B	35.4
004P213	Ore Bucket-Line 3A	33.8
004P214	Ore Bucket-Line 3B	33.8
004P215	Ore Bucket-Line 4A	33.8
004P216	Ore Bucket-Line 4B	33.8

[45CSR§7-4.1]

9.1.2. No person shall cause, suffer, allow, or permit emissions of smoke and/or particulate matter into the open air from any storage structure associated with any manufacturing process.
[45CSR§7-3.7. (002P101 through 002P110, 002P114)]

9.1.3. 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, except as provided in 45CSR§§10-4.1.a through 4.1.e.
[45CSR§10-4.1. (003P109, 003P110, 004P101 through 004P104, 004P201 through 004P204)]

9.1.4. 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.]

9.1.5. a. Primary aluminum reduction potlines which are equipped with a fluidized bed reactor or other similar gas cleaning device which utilizes particulate matter as a media or as a component of a media for collecting or reducing the emissions of gaseous fluorides, shall be exempted from the requirements of 45CSR§§7-4.1 and 4.4 provided that at least ninety-nine percent (99%) of the gaseous fluoride is removed from the exit gas stream by such device prior to discharging the cleaned gas stream to the open air; and the particulate matter loading in the exit gas stream is not greater than 0.01 grains per standard cubic foot of dry stack gas.

b. The emissions of gaseous fluorides and particulate fluorides from prebake cells shall be controlled by a system for continuous emission reduction which system shall achieve at least ninety percent (90%) fluoride emissions capture efficiency through its primary collection system and at least ninety-nine percent (99%) fluoride emissions removal efficiency through its primary removal system; and

c. Anode butts from such a plant which are recycled in an on-site anode bake plant shall be cleaned as necessary to minimize adherent fluoride bearing bath material.

[45CSR§7-4.7.]

9.1.6. **Potlines.** The permittee shall not discharge or cause to be discharged into the atmosphere any emissions of total fluorides (TF) in excess of 1.5 kg/Mg (3.0 lb/ton) of aluminum produced for each CWPB2 potline. **[40 C.F.R. § 63.843(a)(1)(ii) and 45CSR34]**

The permittee may average TF emissions from potlines and demonstrate compliance with the limits in the table below using the procedures in paragraphs (1) and (2) below.

1. Monthly average emissions of TF shall not exceed the applicable emission limit in the table below. The emission rate shall be calculated based on the total emissions from all potlines over the period divided by the quantity of aluminum produced during the period, from all potlines comprising the averaging group.

2. To determine compliance with the applicable emission limit for TF emissions, the permittee shall determine the monthly average emissions in lb/ton from each potline from at least three runs per potline each month for TF secondary emissions using the procedures and methods in Sections 9.3.1. and 9.3.2. The permittee shall combine the results of secondary TF monthly average emissions with the TF results for the primary control system and divide total emissions by total aluminum production.

	Monthly TF limit (1b/ton) for given number of potlines						
Type	2 lines	3 lines	4 lines	5 lines	6 lines	7 lines	8 lines
CWPB2	2.9	2.8	2.7	2.7	2.6	2.6	2.6

[40 C.F.R. § 63.846(b) and 45CSR34]

9.1.7. **Paste production plants.** The permittee shall install, operate, and maintain equipment to capture and control polycyclic organic matter (POM) emissions from each paste production plant.

1. The emission capture system shall be installed and operated to meet the generally accepted engineering standards for minimum exhaust rates as published by the American Conference of Governmental Industrial Hygienists in Chapters 3 and 5 of "Industrial Ventilation: A Handbook of Recommended Practice" (incorporated by reference in 40 C.F.R. § 63.841); and

2. Captured emissions shall be routed through a closed system to a dry coke scrubber;
[40 C.F.R. §63.843(b)(1)&(2) and 45CSR34 (VR-371 & Sonair Baghouse R-300)]

9.1.8. **Anode bake furnaces**. The permittee shall not discharge or cause to be discharged into the atmosphere any emissions of total fluorides (TF) or polycyclic organic matter (POM) in excess of the limits below.

1. Emissions of total fluorides (TF) shall not exceed 0.10 kg/Mg (0.20 lb/ton) of green anode; and

2. Emissions of polycyclic organic matter (POM) shall not exceed 0.09 kg/Mg (0.18 lb/ton) of green anode.
[40 C.F.R. § 63.843(c)(1) and (2) and 45CSR34 (003P109 and 003P110)]

The permittee may average TF emissions and POM emissions from anode bake furnaces and demonstrate compliance with the limits in the table below using the procedures in paragraphs 1. and 2. below.

1. Annual emissions of TF and/or POM from a given number of anode bake furnaces making up each averaging group shall not exceed the applicable emission limit in the table below in any one year; and
2. To determine compliance with the applicable emission limit in the table below for anode bake furnaces, the permittee shall determine TF and/or POM emissions from the control device for each furnace at least once a year using the procedures and methods in Sections 9.3.1. and 9.3.2.

Number of furnaces	Emission limit (lb/ton of anode)	
	TF	POM
2	0.11	0.17
3	0.09	0.17
4	0.077	0.17
5	0.07	0.17

[40 C.F.R. § 63.846(c) and 45CSR34]

9.1.9. **Pitch storage tanks.** Each pitch storage tank shall be equipped with an emission control system designed and operated to reduce inlet emissions of polycyclic organic matter (POM) by 95 percent or greater.
[40 C.F.R. § 63.844(d) and 45CSR34]

9.1.10. **Applicability.** The provisions in 40 C.F.R. §§ 63.845(a) through (i) shall apply to any CWPB2 potline that adds a new potroom group to an existing potline or that is associated with a potroom group that meets the definition of "modified potroom group" or "reconstructed potroom group."
[40 C.F.R. §§ 63.845(a) through (i) and 45CSR34]

9.2. Monitoring Requirements

9.2.1. The permittee shall demonstrate compliance with Section 9.1.3. by monitoring as set forth in an approved monitoring plan (see Appendix A) for each emission unit.
[45CSR§10-8.2.c. (003P109, 003P110, 004P101 through 004P104, 004P201 through 004P204)]

9.2.2. Initial compliance with the standards in Section 9.1.7. for existing paste production plants will be demonstrated through site inspection(s) and review of site records by the applicable regulatory authority.
[40 C.F.R. §63.847(f) and 45CSR34 (VR-371 & Sonair Baghouse R-300)]

9.2.3. The permittee shall demonstrate initial compliance with the standard for pitch storage tanks in Section 9.1.9. by preparing a design evaluation or by conducting a performance test. The permittee shall submit for approval by the regulatory authority the information specified in 1. and 2. below where a design evaluation is performed or the information specified in 3. of this section where a performance test is conducted.

1. A description of the parameters to be monitored to ensure that the control device is being properly operated and maintained, an explanation of the criteria used for selection of that parameter (or parameters), and the frequency with which monitoring will be performed; and

2. Where a design evaluation is performed, documentation demonstrating that the control device used achieves the required control efficiency during reasonably expected maximum filling rate. The documentation shall include a description of the gas stream that enters the control device, including flow and POM content under varying liquid level conditions, and the information specified in paragraphs i. through vi., as applicable.
   i. If the control device receives vapors, gases, or liquids, other than fuels, from emission points other than pitch storage tanks, the efficiency demonstration is to include consideration of all vapors, gases, and liquids, other than fuels, received by the control device;

   ii. If an enclosed combustion device with a minimum residence time of 0.5 seconds and a minimum temperature of 760 °C (1,400 °F) is used to meet the emission reduction requirement specified in 9.1.9., documentation that those conditions exist is sufficient to meet the requirements of 9.1.9.;

iii. Except as provided in paragraph ii. of this section, for thermal incinerators, the design evaluation shall include the autoignition temperature of the organic HAP, the flow rate of the organic HAP emission stream, the combustion temperature, and the residence time at the combustion temperature;

iv. If the pitch storage tank is vented to the emission control system installed for control of emissions from the paste production plant pursuant to Section 9.1.7., documentation of compliance with the requirements of 9.1.7. is sufficient to meet the requirements of 9.1.9.;

v. For carbon adsorbers, the design evaluation shall include the affinity of the organic vapors for carbon, the amount of carbon in each bed, the number of beds, the humidity of the feed gases, the temperature of the feed gases, the flow rate of the organic HAP emission stream, and if applicable, the desorption schedule, the regeneration stream pressure or temperature, and the flow rate of the regeneration stream. For vacuum desorption, the pressure drop shall be included; and

vi. For condensers, the design evaluation shall include the final temperature of the organic HAP vapors, the type of condenser, and the design flow rate of the organic HAP emission stream.

3. If a performance test is conducted, the permittee shall determine the control efficiency for POM during tank loading using Method 315 in 40 C.F.R. Part 63 appendix A and shall include the following information:

i. Identification of the pitch storage tank and control device for which the performance test will be submitted; and

ii. Identification of the emission point(s) that share the control device with the pitch storage tank and for which the performance test will be conducted.

[40 C.F.R. §63.847(g) and 45CSR34]

9.2.4. The permittee shall determine the operating limits and monitoring frequency for each control device that is to be monitored as required in Section 9.2.7.

1. For potlines and anode bake furnaces, the owner or operator shall determine upper and/or lower operating limits, as appropriate, for each monitoring device for the emission control system from the values recorded during each of the runs performed during the initial performance test and from historical data from previous performance tests conducted by the methods specified in this subpart.

2. For a paste production plant, the owner or operator shall specify and provide the basis or rationale for selecting parameters to be monitored and the associated operating limits for the emission control device.

3. The owner or operator may redetermine the upper and/or lower operating limits, as appropriate, based on historical data or other information and submit an application to the applicable regulatory authority to change the applicable limit(s). The redetermined limits shall become effective upon approval by the applicable regulatory authority.

[40 C.F.R. §63.847(h) and 45CSR34]

9.2.5. *TF emissions from potlines.* Using the procedures in Section 9.3.1. and in the approved test plan, the permittee shall monitor emissions of TF from each potline by conducting monthly performance tests. The permittee shall compute and record the monthly average from at least three runs for secondary emissions and the previous 12-month average of all runs for the primary control system to determine compliance with the applicable emission limit. The owner or operator must include all valid runs in the monthly average. The duration of each run for secondary emissions must represent a complete operating cycle.

[40 C.F.R. §63.848(a) and 45CSR34]

Similar potlines. As an alternative to monthly monitoring of TF emissions from each potline using the test methods in Section 9.3.2., the permittee may perform monthly monitoring of TF emissions from one potline using the test methods in Section 9.3.2. to represent the performance of similar potline(s). The similar potline(s) shall be monitored using an alternative method that meets the requirements of paragraphs 1. through 7. of this section. Two or more potlines are similar if the owner or operator demonstrates that their structure, operability, type of emissions, volume of emissions, and concentration of emissions are substantially equivalent.

1. To demonstrate (to the satisfaction of the regulatory authority) that the level of emission control performance is the same or better, the owner or operator shall perform an emission test using an alternative monitoring procedure for the similar potline simultaneously with an emission test using the applicable test methods. The results of the emission test using the applicable test methods must be in compliance with the applicable emission limit for existing potlines in Section 9.1.6. An alternative method for TF emissions must account for or include gaseous fluoride and cannot be based on measurement of particulate matter or particulate fluoride alone.

2. An HF continuous emission monitoring system is an approved alternative for the monitoring of TF secondary emissions.

3. An permittee electing to use an alternative monitoring procedure shall establish an alternative emission limit based on at least nine simultaneous runs using the applicable test methods and the alternative monitoring method. All runs must represent a full process cycle.

4. The owner or operator shall derive an alternative emission limit for the HF continuous emission monitor or an alternative method using either of the following procedures:

    i. Use the highest value from the alternative method associated with a simultaneous run by the applicable test method that does not exceed the applicable emission limit; or

    ii. Correlate the results of the two methods (the applicable test method results and the alternative monitoring method results) and establish an emission limit for the alternative monitoring system that corresponds to the applicable emission limit.

5. The owner or operator shall submit the results required in paragraph 4. of this section and all supporting documentation to the applicable regulatory authority for review and approval.

6. The regulatory authority shall review and approve or disapprove the request for an alternative method and alternative emission limit. The criterion for approval shall be a demonstration (to the satisfaction of the regulatory authority) that the alternative method and alternative emission limit achieve a level of emission control that is the same as or better than the level that would have otherwise been achieved by the applicable method and emission limit.

7. If the alternative method is approved by the applicable regulatory authority, the owner or operator shall perform monthly emission monitoring using the approved alternative monitoring procedure to demonstrate compliance with the alternative emission limit for each similar potline.

[40 C.F.R. §63.848(d) and 45CSR34]

Reduced sampling frequency. The permittee may submit a written request to the applicable regulatory authority to establish an alternative testing requirement to reduce the sampling of secondary TF emissions from potlines from monthly to quarterly.

1. In the request, the permittee shall provide information and data demonstrating, to the satisfaction of the applicable regulatory authority, that secondary emissions of TF from potlines have low variability during normal operations using the procedures in paragraphs i. or ii. below.

   i. Submit data from 24 consecutive months of sampling that show the average TF emissions are less than 60 percent of the applicable limit and that no monthly performance test in the 24 months of sampling exceeds 75 percent of the applicable limit; or

   ii. Submit data and a statistical analysis that the regulatory authority may evaluate based on the approach used in "Primary Aluminum: Statistical Analysis of Potline Fluoride Emissions and Alternative Sampling Frequency" (EPA-450-86-012, October 1986), which is available from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161.

2. An approved alternative requirement must include a test schedule and the method to be used to measure emissions for performance tests.

3. The owner or operator of a plant that has received approval of an alternative sampling frequency under 40 C.F.R. § 60.194 is deemed to have approval of the alternative sampling frequency under this subpart.

4. If emissions in excess of the applicable TF limit occur while performing quarterly sampling approved under paragraph 1.i. of this section, the owner or operator shall return to monthly sampling for at least 12 months and may reduce to quarterly sampling when:

   i. The average of all tests performed over the most recent 24-month period does not exceed 60 percent of the applicable limit, and

   ii. No more than one monthly performance test in the most recent 24-month period exceeds 75 percent of the applicable limit.

5. If emissions in excess of the applicable TF limit occur while performing quarterly sampling approved under paragraph 1.ii. of this section, the owner or operator shall immediately return to the monthly sampling schedule until another request for an alternative sampling frequency is approved by the applicable regulatory authority.

[40 C.F.R. §63.848(e) and 45CSR34]

9.2.6. *TF and POM emissions from anode bake furnaces.* Using the procedures in Section 9.3.1. and in the approved test plan, the permittee shall monitor TF and POM emissions from each anode bake furnace on an annual basis. The permittee shall compute and record the annual average of TF and POM emissions from at least three runs to determine compliance with the applicable emission limits. The permittee must include all valid runs in the annual average.

[40 C.F.R. §63.848(c) and 45CSR34]

9.2.7. *Monitoring parameters for emission control devices.* The permittee shall install, operate, calibrate, and maintain a continuous parameter monitoring system for each emission control device. The owner or operator shall submit for approval by the regulatory authority a description of the parameter(s) to be monitored, the operating limits, and the monitoring frequency to ensure that the control device is being properly operated and maintained. An explanation of the criteria used for selection of the parameter(s), the operating limits, and the monitoring frequency, including how these relate to emission control also shall be submitted to the regulatory authority. For dry alumina scrubbers, devices for the measurement of alumina flow and air flow shall be installed.

[40 C.F.R. §63.848(f) and 45CSR34]

9.2.8. *Visible emissions.* The owner or operator shall visually inspect the exhaust stack(s) of each control device on a daily basis for evidence of any visible emissions indicating abnormal operation. Compliance with this limit shall demonstrate compliance with the less stringent limitation from 45CSR§7-3.1.
[40 C.F.R. §63.848(g) and 45CSR34; 45CSR§7-3.1.]

9.2.9. *Corrective action.* If a monitoring device for a primary control device measures an operating parameter outside the limit(s) established pursuant to Section 9.2.4., if visible emissions indicating abnormal operation are observed from the exhaust stack of a control device during a daily inspection, or if a problem is detected during the daily inspection of a wet roof scrubber for potline secondary emission control, the owner or operator shall initiate the corrective action procedures identified in the startup, shutdown, and malfunction plan within 1 hour. Failure to initiate the corrective action procedures within 1 hour or to take the necessary corrective actions to remedy the problem is a violation.
[40 C.F.R. §63.848(h) and 45CSR34]

9.2.10. *Exceedances.* If the limit for a given operating parameter associated with monitoring a specific control device is exceeded six times in any semiannual reporting period, then any subsequent exceedance in that reporting period is a violation. For the purpose of determining the number of exceedances, no more than one exceedance shall be attributed in any given 24-hour period.
[40 C.F.R. §63.848(i) and 45CSR34]

9.2.11. *Weight of aluminum and green anodes.* The owner or operator of a new or existing potline or anode bake furnace shall install, operate, and maintain a monitoring device to determine the daily weight of aluminum produced and the weight of green anode material placed in the anode bake furnace. The weight of green anode material may be determined by monitoring the weight of all anodes or by monitoring the number of anodes placed in the furnace and determining an average weight from measurements of a representative sample of anodes.
[40 C.F.R. §63.848(j) and 45CSR34]

9.2.12. *Accuracy and calibration.* The owner or operator shall submit recommended accuracy requirements to the regulatory authority for review and approval. All monitoring devices required by this section must be certified by the owner or operator to meet the accuracy requirements and must be calibrated in accordance with the manufacturer's instructions.
[40 C.F.R. §63.848(k) and 45CSR34]

9.2.13. *Alternative operating parameters.* The owner or operator may monitor alternative control device operating parameters subject to prior written approval by the applicable regulatory authority.
[40 C.F.R. §63.848(l) and 45CSR34]

9.2.14. *Other control systems.* A permittee using a control system not identified in this section shall request that the applicable regulatory authority include the recommended parameters for monitoring in the facility's part 70 permit.
[40 C.F.R. §63.848(m) and 45CSR34]

9.3. Testing Requirements

9.3.1. **Test plan.** The permittee shall prepare a site-specific test plan prior to the performance test according to the requirements of 40 C.F.R. § 63.7(c). The test plan must include procedures for conducting the performance test required in Section 9.2.5.and 9.2.6. for emission monitoring. In addition to the information required by 40 C.F.R. § 63.7, the test plan shall include:

1. Procedures to ensure a minimum of three runs are performed annually for the primary control system for each source;

2. For a source with a single control device exhausted through multiple stacks, procedures to ensure that at least three runs are performed annually by a representative sample of the stacks satisfactory to the applicable regulatory authority;

3. For multiple control devices on a single source, procedures to ensure that at least one run is performed annually for each control device by a representative sample of the stacks satisfactory to the applicable regulatory authority;

4. Procedures for sampling single stacks associated with multiple anode bake furnaces;

5. For plants with roof scrubbers, procedures for rotating sampling among the scrubbers or other procedures to obtain representative samples as approved by the applicable regulatory authority;

6. Procedures for establishing the frequency of testing to ensure that at least one run is performed before the 15th of the month, at least one run is performed after the 15th of the month, and that there are at least 6 days between two of the runs during the month, or that secondary emissions are measured according to an alternate schedule satisfactory to the applicable regulatory authority.

[40 C.F.R. § 63.847(b) and 45CSR34]

Performance test requirements. The initial performance test and all subsequent performance tests shall be conducted in accordance with the requirements of the general provisions in 40 C.F.R. 63 Subpart A, the approved test plan, and the procedures in this section.

1. *TF emissions from potlines.* For each potline, the permittee shall measure and record the emission rate of TF exiting the outlet of the primary control system for each potline and the rate of secondary emissions exiting through each roof monitor, or for a plant with roof scrubbers, exiting through the scrubbers. Using Equation 1, the owner or operator shall compute and record the average of at least three runs each month for secondary emissions and at least three runs each year for the primary control system to determine compliance with the applicable emission limit. Compliance is demonstrated when the emission rate of TF is equal to or less than the applicable emission limit in Section 9.1.6. of this permit.

Compute the emission rate (Ep) of TF from each potline using Equation 1:

$$E_p = \frac{\left[\left(C_{s1} \times Q_{sd}\right)_1 + \left(C_{s2} \times Q_{sd}\right)_2\right]}{\left(P \times K\right)} \qquad (Equation\ 1)$$

Where:

E_p=emission rate of TF from a potline, kg/Mg (lb/ton);

C_{s1}=concentration of TF from the primary control system, mg/dscm (mg/dscf);

Q_{sd}=volumetric flow rate of effluent gas corresponding to the appropriate subscript location, dscm/hr (dscf/hr);

C_{s2}=concentration of TF as measured for roof monitor emissions, mg/dscm (mg/dscf);

P=aluminum production rate, Mg/hr (ton/hr);

K=conversion factor, 10 6 mg/kg (453,600 mg/lb);

1 = subscript for primary control system effluent gas; and

2 = subscript for secondary control system or roof monitor effluent gas.

2. *Previous control device tests.* If the permittee has performed more than one test of primary emission control device(s) for a potline or for a bake furnace during the previous consecutive 12 months, the average of all runs performed in the previous 12-month period shall be used to determine the contribution from the primary emission control system.

3. *TF and POM emissions from anode bake furnaces.* For each anode bake furnace, the permittee shall measure and record the emission rate of TF and POM exiting the exhaust stacks(s) of the primary emission control system for each anode bake furnace. Using Equation 2, the permittee shall compute and record the average of at least three runs each year to determine compliance with the applicable emission limits for TF and POM. Compliance is demonstrated when the emission rates of TF and POM are equal to or less than the applicable TF and POM emission limits in Section 9.1.8. of this permit.

[40 C.F.R. § 63.847(d) and 45CSR34]

Compute the emission rate (E_b) of TF from each anode bake furnace using Equation 2,

$$E_b = \frac{(C_s \times Q_{sd})}{(P_b \times K)} \qquad (Equation\ 2)$$

Where:

E_b = emission rate of TF, kg/mg (lb/ton) of green anodes produced;

C_s = concentration of TF, mg/dscm (mg/dscf);

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

P_b = quantity of green anode material placed in the furnace, mg/hr (ton/hr); and

K = conversion factor, 10 6 mg/kg (453,600 mg/lb).

4. Compute the emission rate of POM from each anode bake furnace using Equation 2, where C_s = concentration of POM, mg/dscm (mg/dscf).

5. Determine the weight of the aluminum tapped from the potline and the weight of the green anode material placed in the anode bake furnace using the monitoring devices required in 40 C.F.R. § 63.848(j).

6. Determine the aluminum production rate (P) by dividing the number of hours in the calendar month into the weight of aluminum tapped from the potline during the calendar month that includes the three runs of a performance test.

7. Determine the rate of green anode material introduced into the furnace by dividing the number of operating hours in the calendar month into the weight of green anode material used during the calendar month in which the performance test was conducted.

[40 C.F.R. § 63.847(e) and 45CSR34]

9.3.2. The permittee shall use the following reference methods to determine compliance with the applicable emission limits for TF and POM emissions:

1. Method 1 in appendix A to part 60 of this chapter for sample and velocity traverses;

2. Method 2 in appendix A to part 60 of this chapter for velocity and volumetric flow rate;

3. Method 3 in appendix A to part 60 of this chapter for gas analysis;

4. Method 13A or Method 13B in appendix A to part 60 of this chapter, or an approved alternative, for the concentration of TF where stack or duct emissions are sampled;

5. Method 13A or Method 13B and Method 14 or Method 14A in appendix A to part 60 of this chapter or an approved alternative method for the concentration of TF where emissions are sampled from roof monitors not employing wet roof scrubbers;

6. Method 315 in appendix A to this part or an approved alternative method for the concentration of POM where stack or duct emissions are sampled; and

7. Method 315 in appendix A to this part and Method 14 in appendix A to part 60 of this chapter or an approved alternative method for the concentration of POM where emissions are sampled from roof monitors not employing wet roof scrubbers.

[40 C.F.R. § 63.849(a) and 45CSR34]

9.3.3. The permittee may use an alternative test method for TF or POM emissions providing:

1. The owner or operator has already demonstrated the equivalency of the alternative method for a specific plant and has received previous approval from the Administrator or the applicable regulatory authority for TF or POM measurements using the alternative method; or

2. The owner or operator demonstrates to the satisfaction of the applicable regulatory authority that the results from the alternative method meet the criteria specified in Section 9.2.5. under *Similar Potlines*. The results from the alternative method shall be based on simultaneous sampling using the alternative method and the following reference methods:

   i. For TF, Methods 13 and 14 or Method 14A in appendix A to part 60 of this chapter; or

   ii. For POM, Method 315 in appendix A to this part and Method 14 in appendix A to part 60 of this chapter.

[40 C.F.R. § 63.849(e) and 45CSR34]

9.4. Recordkeeping Requirements

9.4.1. The permittee shall maintain on-site a record of all required monitoring data as established in a monitoring plan (see Appendix A) pursuant to 45CSR§10-8.2.c. Such records shall be made available to the Director or his duly authorized representative upon request. Such records shall be retained on-site for a minimum of five years. **[45CSR§10-8.3.a. (003P109, 003P110, 004P101 through 004P104, 004P201 through 004P204)]**

9.4.2. The permittee shall maintain files of all information (including all reports and notifications) required by 40 C.F.R. § 63.10(b) and by this subpart.

1. The owner or operator must retain each record for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The most recent 2 years of records must be retained at the facility. The remaining 3 years of records may be retained offsite;

2. The owner or operator may retain records on microfilm, on a computer, on computer disks, on magnetic tape, or on microfiche;

3. The owner or operator may report required information on paper or on a labeled computer disc using commonly available and compatible computer software; and

4. In addition to the general records required by 40 C.F.R. § 63.10(b), the owner or operator shall maintain records of the following information:

   i. Daily production rate of aluminum;

   ii. Daily production rate of green anode material placed in the anode bake furnace;

   iii. A copy of the startup, shutdown, and malfunction plan;

   iv. Records of design information for paste production plant capture systems;

   v. Records of design information for an alternative emission control device for a paste production plant;

   vi. Records supporting the monitoring of similar potlines demonstrating that the performance of similar potlines is the same as or better than that of potlines sampled by manual methods;

   vii. Records supporting a request for reduced sampling of potlines;

   viii. Records supporting the correlation of emissions measured by a continuous emission monitoring system to emissions measured by manual methods and the derivation of the alternative emission limit derived from the measurements;

   ix. The current implementation plan for emission averaging and any subsequent amendments;

   x. Records, such as a checklist or the equivalent, demonstrating that the daily inspection of a potline with wet roof scrubbers for secondary emission control has been performed as required in Section 9.2.7., including the results of each inspection;

   xi. Records, such as a checklist or the equivalent, demonstrating that the daily visual inspection of the exhaust stack for each control device has been performed as required in Section 9.2.8., including the results of each inspection;

   xii. For a potline equipped with an HF continuous emission monitor, records of information and data required by 40 C.F.R. § 63.10(c);

   xiii. Records documenting the corrective actions taken when the limit(s) for an operating parameter established under § 63.847(h) were exceeded, when visible emissions indicating abnormal operation were observed from a control device stack during a daily inspection required under Section 9.2.8., or when a problem was detected during the daily inspection of a wet roof scrubber for potline secondary control required in Section 9.2.7.;

   xiv. Records documenting any POM data that are invalidated due to the installation and startup of a cathode; and

xv. Records documenting the portion of TF that is measured as particulate matter and the portion that is measured as gaseous when the particulate and gaseous fractions are quantified separately using an approved test method.

[40 C.F.R. § 63.850(e) and 45CSR34]

9.5. Reporting Requirements

9.5.1. The permittee shall submit a periodic exception report to the Director, in a manner specified by the Director. Such an exception report shall provide details of all excursions outside the range of measured emissions or monitored parameters established in an approved monitoring plan (see Appendix A) and shall include, but not be limited to, the time of the excursion, the magnitude of the excursion, the duration of the excursion, the cause of the excursion and the corrective action taken.

[45CSR§10-8.3.b. (003P109, 003P110, 004P101 through 004P104, 004P201 through 004P204)]

9.5.2. *Notifications.* The owner or operator shall submit the following written notifications:

1. Notification for an area source that subsequently increases its emissions such that the source is a major source subject to the standard;

2. Notification that a source is subject to the standard, where the initial startup is before the effective date of the standard;

3. Notification that a source is subject to the standard, where the source is new or has been reconstructed, the initial startup is after the effective date of the standard, and for which an application for approval of construction or reconstruction is not required;

4. Notification of intention to construct a new major source or reconstruct a major source; of the date construction or reconstruction commenced; of the anticipated date of startup; of the actual date of startup, where the initial startup of a new or reconstructed source occurs after the effective date of the standard, and for which an application for approval of construction or reconstruction is required [see 40 C.F.R. §§ 63.9(b)(4) and (b)(5)];

5. Notification of initial performance test;

6. Notification of initial compliance status;

7. One-time notification for each affected source of the intent to use an HF continuous emission monitor; and

8. Notification of compliance approach. The owner or operator shall develop and submit to the applicable regulatory authority, if requested, an engineering plan that describes the techniques that will be used to address the capture efficiency of the reduction cells for gaseous hazardous air pollutants in compliance with the emission limits in Sections 9.1.6., 9.1.7., 9.1.8, and 9.1.9.

[40 C.F.R. § 63.850(a) and 45CSR34]

9.5.3. *Performance test reports.* The owner or operator shall report the results of the initial performance test as part of the notification of compliance status required in Section 9.5.2.6. of this section. Except as provided in Section 9.5.5., the owner or operator shall submit a summary of all subsequent performance tests to the applicable regulatory authority on an annual basis.

[40 C.F.R. § 63.850(b) and 45CSR34]

9.5.4. *Startup, shutdown, and malfunction plan and reports.* The owner or operator shall develop and implement a written plan as described in 40 C.F.R. § 63.6(e)(3) that contains specific procedures to be followed for operating the source and maintaining the source during periods of startup, shutdown, and malfunction and a program of corrective action for malfunctioning process and control systems used to comply with the standard. The plan does not have to be submitted with the permit application or included in the operating permit. The permitting authority may review the plan upon request. In addition to the information required in 40 C.F.R. § 63.6(e)(3), the plan shall include:

1. Procedures, including corrective actions, to be followed if a monitoring device measures an operating parameter outside the limit(s) established under Section 9.2.4., if visible emissions from an exhaust stack indicating abnormal operation of a control device are observed by the owner or operator during the daily inspection required in Section 9.2.8., or if a problem is detected during the daily inspection of a wet roof scrubber for potline secondary emission control required in Section 9.2.7.; and

2. The owner or operator shall also keep records of each event as required by 40 C.F.R. § 63.10(b) and record and report if an action taken during a startup, shutdown, or malfunction is not consistent with the procedures in the plan as described in 40 C.F.R. § 63.6(e)(3)(iv).

[40 C.F.R. § 63.850(c) and 45CSR34]

9.5.5. *Excess emissions report.* As required by 40 C.F.R. § 63.10(e)(3), the owner or operator shall submit a report (or a summary report) if measured emissions are in excess of the applicable standard. The report shall contain the information specified in 40 C.F.R. § 63.10(e)(3)(v) and be submitted semiannually unless quarterly reports are required as a result of excess emissions.

[40 C.F.R. § 63.850(d) and 45CSR34]

9.6. Compliance Plan

9.6.1. None.

APPENDIX A

45CSR10 Monitoring Plan

45 CSR 10 Monitoring Plan Applicability

Century has twelve units subject to 45 CSR 10. Two baked carbon ring furnaces, three electric arc furnaces, and four potroom lines are defined as "manufacturing processes" while the three boilers are defined as "fuel burning units" in accordance with 45 CSR 10. Fuel burning units that combust natural gas, wood, and/or distillate oil alone or in combination are exempt. Because of the natural gas exemption, that leaves the two baked carbon furnaces, three electric arc furnaces and four potlines to be covered by a monitoring plan. A 45 CSR 10 monitoring plan is required only for Century's manufacturing process units.

45 CSR 10 Monitoring Requirements

Emissions of sulfur oxides from the affected units primarily originate from the production and consumption of carbon anodes. Insignificant amounts of sulfur oxides will be generated from the combustion of natural gas in the baked carbon ring furnaces and from melting iron in the electric arc furnaces. Natural gas and iron contain only traces of sulfur.

According to 45 CSR 10-4.1. the is-stack sulfur dioxide concentration shall not exceed 2,000 ppmv from existing manufacturing process source operations. In recent years, Century performed in-house stack testing of sulfur dioxide for emission inventory purposes. The calculations provided in Attachment 1 were prepared for the baked carbon ring furnaces, electric arc furnaces, and potrooms. The tested sulfur dioxide rates combined with physical stack parameter measurements of pressure, temperature, and volumetric flow were applied using the ideal gas law to calculate the concentration of sulfur dioxide in the stack. The results of the in-stack concentrations are shown in Table 1.

Table 1: In-stack SO_2 Concentration Calculation Results

Unit	Emission Point	Result (ppm)
Bake Carbon	Anode Bake Scrubber	7.96
Electric Arc Furnaces	Furnace Baghouse Stack	18.13
Potrooms	Potroom Scrubber	31.63

The concentrations demonstrate that each affected unit operated by Century is well below the 2,000 ppmv in-stack sulfur dioxide concentration standard.

Century proposes to monitor the sulfur content of the raw materials that are used in the production of carbon anodes. This monitoring will be conducted by obtaining sulfur content statements from raw material suppliers (coke, coal tars, pitch, etc.) The proposed sampling frequency is shown in Table 2. Average and maximum sulfur content percentages from the raw materials and finished anodes are shown in Table 3.

Table 2: Proposed Sulfur Sampling Frequency

Unit	Fuel Type	Proposed Sulfur Sampling Frequency	Raw Material	Proposed Sulfur Sampling Frequency
Bake Carbon	Natural Gas[1]	N/A	Coke Delayed Coke Packing Material	Each shipment
			Anode Butt (return)	NP
			Anode Butt (undersized)	NP
			Pitch	Each batch received from supplier
Electric Arc Furnaces	Electric	N/A	Iron[1]	NP
Potrooms	Electric	N/A	Baked Anodes	NP

(1) Sampling of natural gas and iron for sulfur content is not proposed as these materials contain only insignificant amounts.
(2) NP- None Proposed

The sulfur content of the coke, delayed coke, packing material, and pitch are the only materials that require monitoring. By monitoring the sulfur content of these materials, the baked anodes and the anode butts will not be measured because they are the products of the same raw materials. The aluminum process does not alter the sulfur contents of the butts; therefore there is no need for monitoring these parameters. Maintaining sulfur contents below the maximum percentages listed in Table 3 will assure that the in-stack sulfur dioxide concentrations will be below the 2,000 ppm standard as indicated in Table 2.

Table 3: Average and Maximum Sulfur Content Percentages

Unit	Fuel Type	Fuel Sulfur Content (%)	Raw Material	Sulfur Content	
				Average (%)	Maximum (%)
Bake Carbon	Natural Gas	Trace S	Coke	1.97 - 2.05	3.0 - 5.0
			Delayed Coke	1.9 - 2.5	3.0 - 4.0
			Packing Material	3.0 – 6.5	7.5 - 8.0
			Anode Butt (return)	1.9	3.0
			Anode Butt (undersize)	1.9	3.0
			Anode Liquid Pitch	0.6	1.5
Electric Arc Furnaces	Electric	N/A	Iron	Trace S	Trace S
Potrooms	Electric	N/A	Baked Anodes	1.9	3.0

Compliance Testing

Century hereby petitions the Director for an alternative to stack testing and requests that sulfur content analysis and calculations of in-stack sulfur dioxide concentration be used as a substitute in demonstrating compliance with the 2,000 ppm standard from 45 CSR 10, Section 4.

45 CSR 10 Recordkeeping and Reporting Requirements

Century will maintain sulfur content records on-site for a period of at least five (5) years in accordance with 45 CSR 10A, Section 7. Upon approval of this monitoring plan by the Director, Century will submit a "Monitoring Summary Report" and an "Excursion and Monitoring Plan Performance Report". In accordance with 45 CSR 10A, Section 7.2.b., Century will submit these reports on a quarterly basis to the Director by the 30th day of the month following the calendar quarter. The purpose of these reports is to provide the Director with sulfur content records for the materials utilized during the quarter and to report any excursions in accordance with 45 CSR 10A, Section 7.2.b.3.

Summary

Century requests that the Director accept the attached results based on actual stack testing for the initial tests, and sulfur content sampling as the trackable basis of a Regulation 10 monitoring plan for the affected units. These methods will prove to be a reliable indication of Century's ability to meet the standard. By continuing to operate these units in the manner in which they were designed, it can be reasonably expected that the in-stack sulfur dioxide concentration will be well below the 2,000 ppm standard.

Century Aluminum of West Virginia, Inc.
Ravenswood, West Virginia

Electric Arc Furnaces - Point Source Emissions from Electric Arc Furnace Baghouse Stack

SO_2 in-stack concentration is based on stack testing that was conducted on September 1, 1995.

Hourly SO_2 Mass Measurement = 1.75 lbs/hour

1. Converting hourly SO_2 mass measurement to gram-moles of SO_2 using MW of sulfur dioxide = 64 grams/mole

n_{SO2} = 12.40 moles SO_2 /hour

2. Using the ideal gas law to calculate the number of moles of stack gas per hour:

$n = P V / R T$

n = number of moles of stack gas per hour
P = stack pressure (atm)
V = stack volumetric flow rate (L/hr)
R = ideal gas constant (0.08206 L atm / mole K)
T = stack gas temperature (K)

Input Plant Parameters:

Stack pressure =	4.11	lbs/in^2
Stack temperature =	105	F
Stack flow rate =	32,000	ft^3/minute

Converting to required units for the ideal gas law equation:

Stack pressure =	0.28	atmosphere (1 atmosphere = 14.7 lbs/in^2)
Stack temperature =	313.71	K [K = ((F-32)/1.8) + 273.15]
Stack flow rate =	62,870.400	L/hr (L/hr = ft^3/minute x 28.32 L/ft^3 x 60 minute/hr)

n_{stack} = 663.824 moles/hour

3. Calculating the SO_2 in-stack concentration in parts per million (ppm):

SO_2 concentration = **18.13** **ppm**