AIR QUALITY DIVISION
CHAPTER 6, SECTION 3
OPERATING PERMIT

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
122 West 25th Street
Cheyenne, Wyoming 82002

PERMIT NO. 3-1-132

Issue Date: **October 24, 2007**
Expiration Date: **September 15, 2009**
Effective Date: **October 24, 2007**
Replaces Permit No.: **30-132 and 30-116-2**

In accordance with the provisions of W.S. §35-11-203 through W.S. §35-11-212 and Chapter 6, Section 3 of the Wyoming Air Quality Standards and Regulations,

FMC Wyoming Corporation
Westvaco Facility
Sections 14, 15, 22 and 23, Township 19 North, Range 110 West
Sweetwater County, Wyoming

is authorized to operate a stationary source of air contaminants consisting of emission units described in this permit. The units described are subject to the terms and conditions specified in this permit. All terms and conditions of the permit are enforceable by the State of Wyoming. All terms and conditions of the permit, except those designated as not federally enforceable, are enforceable by EPA and citizens under the Act. A copy of this permit shall be kept on-site at the above named facility.

David A Finley, Administrator
Air Quality Division

Date

John V. Corra, Director
Department of Environmental Quality

Date

WAQSR CHAPTER 6, SECTION 3 OPERATING PERMIT

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

AIR QUALITY DIVISION

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GENERAL INFORMATION

Company Name: **FMC Wyoming Corporation**

Mailing Address: **P.O. Box 872**

City: **Green River** State: **WY** Zip: **82935**

Plant Name: **Westvaco Facility**

Plant Location: **Sections 14, 15, 22 and 23, Township 19 North, Range 110 West, Sweetwater County, Wyoming (approximately 25 miles west of Green River)**

Plant Mailing Address: **Box 872**

City: **Green River** State: **WY** Zip: **82935**

Name of Owner: **FMC Wyoming Corporation** Phone: **(307) 875-2580**

Responsible Official: **James M. Pearce** Phone: **(307) 872-2155**

Plant Manager/Contact: **Otto C. Schnauber** Phone: **(307) 872-2257**

DEQ Air Quality Contact: **District 5 Engineer** Phone: **(307) 332-6755**
510 Meadowview Drive
Lander, WY 82520

SIC Code: **1474, 2812**

Description of Process: **This plant refines trona (sodium bicarbonate/carbonate mineral) into purified soda ash (sodium carbonate). This is accomplished by driving off the bicarbonate CO_2 and water of hydration in the trona ore and physically removing soluble and insoluble impurities mined with the ore. The plant produces soda ash by two slightly different chemical processes: the monohydrate and the sesqui-carbonate processes. An evaporative lime decahydrate monohydrate plant (ELDM), known as the mine water plant, recovers sodium carbonate from the alkali water in the underground mine. The plant also produces sodium-related compounds. There is also an operation where "burned lime" (CaO, calcium oxide) is produced in a lime kiln from a slurried calcium carbonate feed stock. That CaO is slaked with water to produce a calcium hydroxide solution, and the calcium hydroxide is reacted with sodium carbonate solution to produce a sodium hydroxide caustic solution. The resulting calcium carbonate slurry is then recycled back to the lime kiln. The caustic can be pumped into the trona beds, dissolving the ore, which is then brought back to the surface through return wells. The caustic solution can also be concentrated to 50 percent strength in the caustic concentrator plant for outside sales. In another process, sodium carbonate liquor is recarbonated with compressed carbon dioxide to produce a sodium bicarbonate product in the bicarb plant.**

SOURCE EMISSION POINTS

This table may not include any or all insignificant activities at this facility.

SOURCE ID#	SOURCE DESCRIPTION	SIZE *	CH. 6, SEC. 2 PERMITS
Sesqui Preparation Sources			
PA-4	Sesqui Plant Crusher Vent (Scrubber)	360 ton/hr	OP-265
PA-5	Sesqui Plant Ore Screening Vent (Scrubber)	360 ton/hr	OP-265
PA-6	Sesqui Plant Dissolver Vent	90 ton/hr	OP-265
PA-7	Sesqui Plant Dissolver Vent	75 ton/hr	OP-265
PA-8	Sesqui Plant Dissolver Vent	90 ton/hr	OP-265
PA-9	Sesqui Plant Dissolver Vent	90 ton/hr	OP-265
Sesqui Sources			
RA-1	Baby Sesqui Calciner (Scrubber)	11.2 ton/hr	CT-1045, OP-265
RA-22-A&B	Sesqui Gas Fired Calciner (Cyclones & Scrubber)	35 ton/hr	CT-1045, OP-265
RA-23-A&B	Sesqui Gas Fired Calciner (Cyclones & Scrubber)	50 ton/hr	CT-1045, OP-265
RA-24	Sesqui Gas Fired Calciner (Cyclones & Scrubber)	70 ton/hr	CT-1045, OP-265
RA-25	Sesqui Fluid Bed Calciner (Cyclones & Scrubber)	71.7 ton/hr	OP-265
RA-26	Sesqui Fluid Bed Calciner (Scrubber)	85.5 ton/hr	OP-265
RA-28	Sesqui Bagging (Baghouse)	60 ton/hr	OP-265
RA-29	Sesqui Fluid Bed Calciner (Cyclones & Scrubber)	123.6 ton/hr	OP-265, MD-334
RA-33	Sesqui Silo Storage (Cyclone & Scrubber)	650 ton/hr	OP-265
SESQUI-CT	Sesqui Cooling Tower	10,000 gal/min	None
Mono 1 Sources			
MONO 2	Mono Primary Crusher (Scrubber)	700 ton/hr	OP-265
MONO 3	Mono Ore Distribution (Scrubber)	700 ton/hr	OP-265
MONO 4	Mono 1 Secondary Crusher (Scrubber)	140 ton/hr	OP-265
MONO 5	Mono 1 Gas Fired Calciner (Cyclones & Scrubber)	***122 ton/hr*** **	CT-1045, OP-265
MONO 6	Mono 1 Fluid Bed Dryer (Cyclones & Scrubber)	79.2 ton/hr (production)	OP-265
MONO 8	Mono Stockpile Reclaim (Scrubber)	750 ton/hr	OP-265
MONO 9	Mono Railcar Loadout (Baghouse)	800 ton/hr	OP-197, OP-265
MONO 10	Mono Bulk Truck Loadout (Baghouse)	100 ton/hr	OP-265
MONO 11	Mono Dual Ore Crusher (Scrubber)	700 ton/hr	OP-265
MONO 12	Mono Shipping Screening (Baghouse)	800 ton/hr	OP-265
MONO1-CT	Mono 1 Cooling Tower	5,581 gal/min	None
DECA Mining	Evaporation Lake Deca Mining	90,000 TPY	MD-964

SOURCE ID#	SOURCE DESCRIPTION	SIZE *	CH. 6, SEC. 2 PERMITS
Mono 2 Sources			
NS-3	Mono 2 Gas Fired Calciner (Cyclones & ESP)	276 ton/hr	Division letters 4/3/91 and 8/21/95, CT-1045, OP-265
NS-4	Mono 2 Secondary Crusher (Scrubber)	275 ton/hr	OP-265
NS-6	Mono 2 Fluid Bed Dryer (Cyclones & Scrubber)	139.7 ton/hr (production)	OP-265
MONO2-CT	Mono 2 Cooling Tower	7450 gal/min	None
ELDM Sources			
MW-1	Mine Water Lime Bin Vent (Baghouse)	7.5 ton/hr	OP-265
MW-2	Mine Water Precoat Bin Vent (Baghouse)	12 ton/hr	OP-265
MW-3	Mine Water Fluid Bed Dryer (Cyclones & Scrubber)	137.9 ton/hr (production)	OP-265
MW-4	Soda Ash Storage Housekeeping (Baghouse)	270 ton/hr	OP-265
MW-6	Mine Water Stripper Vent (Scrubber)	657 ton/hr	MD-1216
Fugitive Sources			
MONO PILE	Mono Plant Ore Stockpile (Variable Height Boom)	750 ton/hr	WAQSR Ch 8, Sec 2
SESQUIPILE	Sesqui Plant Ore Stockpile (Variable Height Boom & Exhaust Ventilation)	125 ton/hr	WAQSR Ch 8, Sec 2
SESQUILOAD	Sesqui Railcar Loading	154 ton/hr	WAQSR Ch 8, Sec 2
WIND/ROAD	Wind and Road Fugitive Dust (Paved Road Cleaning & Suppressant Spraying)	N/A	WAQSR Ch 8, Sec 2
Mine Sources			
MINEHTRS	12 Mine air heaters (4 heaters per shaft, 3 shafts), shafts 5, 7, 8	50.712 MMBtu/ hr/shaft	CT-1045
MINEVENTS	Mine exhaust shafts 2, 3, 4, 6, 9	N/A	None
Utility Sources			
NS-1A	Mono Coal/Gas Fired Boiler (ESP & Scrubber) (Moore Boiler O_2 Control)	887 MMBtu/hr	CT-1045, OP-265
NS-1B	Mono Coal/Gas Fired Boiler (ESP & Scrubber) (Moore Boiler O_2 Control)	887 MMBtu/hr	CT-1045, OP-265
NS-2A	Mono Power Housekeeping (Baghouse)	250 ton/hr	OP-265
NS-2B	Mono Power Housekeeping (Baghouse)	250 ton/hr	OP-265
NS-10	Mono Power Fly Ash Silo Vent (Baghouse)	2.5 ton/hr	OP-265
NS-11	Mono Power Fly Ash Truck Loading (Baghouse)	2.5 ton/hr	OP-265
PH-1A	Sesqui Gas Fired Boiler (Combustion Air Control)	166.8 MMBtu/hr	WAQSR Ch 8, Sec 2 and CT-1045

SOURCE ID#	SOURCE DESCRIPTION	SIZE *	CH. 6, SEC. 2 PERMITS
PH-1B	Sesqui Gas Fired Boiler (Combustion Air Control)	166.8 MMBtu/hr	WAQSR Ch 8, Sec 2 and CT-1045
PH-2	Sesqui Gas Fired Boiler (Combustion Air Control)	166.8 MMBtu/hr	WAQSR Ch 8, Sec 2 and CT-1045
PH-3	Sesqui Gas Fired Boiler (Combustion Air Control)	333.6 MMBtu/hr	WAQSR Ch 8, Sec 2 and CT-1045
MW-5	Mine Water Plant Boiler (Todd Low NO_X Burners, Flue Gas Recirculation)	315 MMBtu/hr	CT-1045A
COAL PILE	Mono Power Coal Stockpile (Limited Fall Stockpiling, Surfactant Spraying)	250 ton/hr	WAQSR Ch 8, Sec 2
Lime Processing Sources			
RD-3	Lime Slaker Vent	16.3 ton/hr	AP-3581
SM-1	Gas Fired Lime Kiln (Cyclone & Scrubber)	26.1 ton/hr	OP-198, CT-1045, OP-265
Bicarb Processing Sources			
BC-1	Bicarb Flash Dryer (Baghouse)	13.0 ton/hr	OP-265
BC-2	Bicarb Product Handling (Baghouse)	9.1 ton/hr	OP-265

* Unless otherwise noted, the ton/hr size indicated for the equipment is the feed rate

***** Amended February 26, 2009***

TOTAL FACILITY ESTIMATED EMISSIONS

For informational purposes only. These emissions are not to be assumed as permit limits.

POLLUTANT	EMISSIONS (TPY)
CRITERIA POLLUTANT EMISSIONS	
Particulate Matter	2160
PM_{10} Particulate Matter	2160
Sulfur Dioxide (SO_2)	9321
Nitrogen Oxides (NO_X)	7019
Carbon Monoxide (CO)	473
Volatile Organic Compounds (VOCs)	287
HAZARDOUS AIR POLLUTANT (HAP) EMISSIONS	132
Hydrogen Sulfide (H_2S)	9

H_2S emissions estimate is from permit MD-1216. Other emission estimates are from the operating permit application.

FACILITY-SPECIFIC PERMIT CONDITIONS

Facility-Wide Permit Conditions

(F1) PERMIT SHIELD [WAQSR Ch 6, Sec 3(k)]
Compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance.

(F2) FUGITIVE EMISSIONS CONTROL [WAQSR Ch 8, Sec 2(c)(ii) and Ch 6, Sec 2 Permit MD-964]

(a) Installation and effective operation of the following abatement program elements is required to control excessive fugitive emissions from the coal handling facilities.
  (i) Dust collectors with pick-ups at the transfer points.
  (ii) A dust suppression spray system to apply wetting agents to coal being unloaded, transferred, reclaimed, crushed, and handled.
  (iii) Rapid unloading railroad cars.
  (iv) Use of counter weighted hood type doors on the coal stacker.

(b) The permittee shall continue to control fugitive dust from the ore stockpiles (MONO PILE and SESQUIPILE) by maintaining variable height booms so the free fall distance of the ore is held to a minimum and by maintaining shrouds (wind shields) to contain the ore as much as possible after it drops from the end of the boom.

(c) The permittee shall continue to control fugitive dust from the mono loadout facility by maintaining hoods around product chutes of adequate size to cap hatches of slot top or hatch top rail cars. The resultant dust generated due to displacement shall be aspirated to adequate dust collectors. This condition also applies to any truck bulk product loadout facilities.

(d) The permittee shall continue to control fugitive dust from the facility roads (WIND/ROAD) by paving frequently traveled roads and maintaining paved roads in a clean condition through use of a vacuum sweeper. Infrequently traveled roads are to be treated with oil or other suitable dust suppressants.

(e) The permittee shall treat all haul roads, work areas and stockpiles associated with the sodium decahydrate recovery operations with water and/or chemical dust suppressants on a schedule sufficient to control fugitive dust emissions.

(F3) SULFUR DIOXIDE EMISSIONS INVENTORY [WAQSR Ch 14, Sec 3]
The permittee shall report SO_2 emissions annually as required by WAQSR Ch 14, Sec 3. SO_2 emissions shall be estimated in accordance with Ch 14 Sec 3(b), and adjusted in accordance with Ch 14 Sec 3(c) if necessary.

Source-Specific Permit Conditions

(F4) COMMENCEMENT OF CONSTRUCTION [WAQSR Ch 6, Sec 2 Permit MD-1216]
Approval to construct or modify under permit MD-1216 shall become invalid if construction is discontinued for a period of 24 months or more. The Administrator may extend the period based on satisfactory justification of the requested extension.

(F5) VISIBLE AND PARTICULATE LIMITS [WAQSR Ch 3, Sec 2; Ch 8, Sec 2(b); Ch 6 Sec 2 Permits OP-197, CT-1045, OP-265, MD-334, MD-964, AP-3581, Division letter 8/21/95; 40 CFR 60 Subparts D, Y and OOO]

(a) Visible and particulate emissions from the units listed in Table I shall not exceed the specified limits. For all other sources, unless lower limits are specified elsewhere in this permit:
  (i) Visible emissions from any existing emission units (commenced construction or modification before February 10, 1970) shall not exceed 40 percent opacity.
  (ii) Visible emissions of any contaminant discharged into the atmosphere from any other emission source shall not exhibit greater than 20 percent opacity except for one period or periods aggregating not more than six minutes in any one hour of not more than 40 percent opacity.

(b) The permittee shall comply with all applicable requirements of 40 CFR Part 60, Subpart OOO for the conveyor associated with the sodium decahydrate recovery operation.
  (i) The melter building shall be limited to no visible emissions as determined by Method 22 of Appendix A, 40 CFR Part 60, and Subpart OOO.

TABLE I: OPACITY AND PARTICULATE EMISSION LIMITS				
Source ID#	Source Description	Visible Emission Opacity Limits (percent)	Particulate Emission Limits	
			(lb/hr)	Other - not to exceed lb/hr limit
Sesqui Preparation Sources				
PA-4	Sesqui Plant Crusher Vent	40	1.25	
PA-5	Sesqui Plant Ore Screening Vent	40	1.25	
PA-6	Sesqui Plant Dissolver Vent	40	1.00	
PA-7	Sesqui Plant Dissolver Vent	40	1.00	
PA-8	Sesqui Plant Dissolver Vent	40	1.00	
PA-9	Sesqui Plant Dissolver Vent	40	1.00	
Sesqui Sources				
RA-1	Baby Sesqui Calciner	40	10.00	
RA-22-A&B	Sesqui Gas Fired Calciner	40	32.00	
RA-23-A&B	Sesqui Gas Fired Calciner	40	35.00	
RA-24	Sesqui Gas Fired Calciner	20 [(a)]	10.00	0.02 gr/acf
RA-25	Sesqui Fluid Bed Calciner	40	26.50	
RA-26	Sesqui Fluid Bed Calciner	20 [(a)]	12.00	
RA-28	Sesqui Bagging	7	1.29	0.05 g/dscm, 0.02 gr/dscf
RA-29	Sesqui Fluid Bed Calciner	20	3.45	0.05 g/dscm, 0.02 gr/dscf
RA-33	Sesqui Silo Storage	20 [(a)]	3.00	
Mono 1 Sources				
MONO 2	Mono Primary Crusher	20 [(a)]	2.60	
MONO 3	Mono Ore Distribution	20 [(a)]	1.30	
MONO 4	Mono 1 Secondary Crusher	20 [(a)]	2.00	
MONO 5	Mono 1 Gas Fired Calciner	20 [(a)]	53.00	
MONO 6	Mono 1 Fluid Bed Dryer	20 [(a)]	20.00	
MONO 8	Mono Stockpile Reclaim	20 [(a)]	1.90	
MONO 9	Mono Railcar Loadout	20	1.51	
MONO 10	Mono Bulk Truck Loadout	20 [(a)]	1.70	
MONO 11	Mono Dual Ore Crusher	20 [(a)]	3.00	0.05 g/dscm, 0.02 gr/dscf
MONO 12	Mono Shipping Screening	7	2.73	0.05 g/dscm, 0.02 gr/dscf
Mono 2 Sources				
NS-3	Mono 2 Gas Fired Calciner	17 [(d)]	41.00	
NS-4	Mono 2 Secondary Crusher	20 [(a)]	1.00	
NS-6	Mono 2 Fluid Bed Dryer	20 [(a)]	20.00	
ELDM Sources				
MW-1	Mine Water Lime Bin Vent	20 [(a)]	0.34	
MW-2	Mine Water Precoat Bin Vent	7	0.19	0.05 g/dscm, 0.02 gr/dscf
MW-3	Mine Water Fluid Bed Dryer	20 [(a)]	9.89	
MW-4	Soda Ash Storage Housekeeping	7	0.62	0.05 g/dscm, 0.02 gr/dscf
Utility Sources				
NS-1A	Mono Coal/Gas Fired Boiler	20 [(b)]	45.00	0.10 lb/MMBtu
NS-1B	Mono Coal/Gas Fired Boiler	20 [(b)]	45.00	0.10 lb/MMBtu

TABLE I: OPACITY AND PARTICULATE EMISSION LIMITS				
Source ID#	**Source Description**	**Visible Emission Opacity Limits (percent)**	**Particulate Emission Limits**	
			(lb/hr)	**Other - not to exceed lb/hr limit**
NS-2A	Mono Power Housekeeping	Less than 20	0.25	
NS-2B	Mono Power Housekeeping	Less than 20	0.25	
NS-10	Mono Power Fly Ash Silo Vent	20 [(a)]	0.34	
NS-11	Mono Power Fly Ash Truck Loading	20 [(a)]	0.34	
PH-1A PH-1B	Sesqui Gas Fired Boilers (PH-1A and PH-1B share a common stack)	40	8.40	
PH-2	Sesqui Gas Fired Boiler	40	4.20	
PH-3	Sesqui Gas Fired Boiler	40	8.40	
MW-5	Mine Water Plant Boiler	20 [(a)]		
Lime Processing Sources				
RD-3	Lime Slaker Vent	20 [(c)]	0.06	0.02 gr/dscf
SM-1	Gas Fired Lime Kiln	20 [(a)]	14.00	
Bicarb Processing Sources				
BC-1	Bicarb Flash Dryer	20 [(a)]	3.00	
BC-2	Bicarb Product Handling	7	1.70	0.05 g/dscm, 0.02 gr/dscf

[(a)] Not to exhibit greater than 20 percent opacity except for one period or periods aggregating not more than six minutes in any one hour of not more than 40 percent opacity per condition F5(a)(ii)

[(b)] Not to exhibit greater than 20 percent except for one six minute period per hour of not more than 27 percent opacity per 40 CFR 60 Subpart D

[(c)] Not to exceed 20 percent opacity as determined by Method 9 of Appendix A, 40 CFR 60

[(d)] August 21, 1995 letter set the allowable opacity at 17 percent

(F6) NO_X EMISSIONS [WAQSR Ch 3, Sec 3; Ch 6 and Sec 2 Permits CT-1045 and CT-1045A; 40 CFR 60 Subparts D and Db]

NO_X emissions from the units listed in Table II shall not exceed the specified limits.

TABLE II: NO_X EMISSION LIMITS			
Source ID#	**Source Description**	**NO_X Emission Limit**	
		(lb/hr)	**lb/MMBtu**
RA-1	Baby Sesqui Calciner	2.55	
RA-22-A&B	Sesqui Gas Fired Calciner	7.98	
RA-23-A&B	Sesqui Gas Fired Calciner	11.40	
RA-24	Sesqui Gas Fired Calciner	15.96	
MONO 5	Mono 1 Gas Fired Calciner	20.63	
NS-3	Mono 2 Gas Fired Calciner	41.40	
NS-1A	Mono Coal/Gas Fired Boiler	620.90	0.70
NS-1B	Mono Coal/Gas Fired Boiler	620.90	0.70
PH-1A	Sesqui Gas Fired Boiler	38.36	0.23
PH-1B	Sesqui Gas Fired Boiler	38.36	0.23
PH-2	Sesqui Gas Fired Boiler	38.36	0.23
PH-3	Sesqui Gas Fired Boiler [(a)]	76.73	0.23
MW-5	Mine Water Plant Boiler	31.50	0.10
SM-1	Gas Fired Lime Kiln	32.40	

(F7) CO EMISSIONS [WAQSR Ch. 6, Sec 2 Permits OP-198 and CT-1045A]

(a) CO emissions from the lime kiln (SM-1) shall not exceed 26.1 lb/hr.

(b) CO emissions from the mine water plant boiler (MW-5) shall not exceed 0.10 lb/MMBtu, and 31.50 lb/hr.

(F8) SO_2 AND H_2S EMISSIONS [WAQSR Ch 6, Sec 2 Permits CT-1045 and MD-1216; 40 CFR 60 Subpart D]

(a) SO_2 emissions from each mono boiler (NS-1A and NS-1B) shall not exceed 1.2 lb/MMBtu heat input, and 1064.40 lb/hr.

(b) H_2S emissions from the sodium carbonate scrubber (MW-6) shall not exceed 2.0 lb/hr and 8.8 TPY.

(F9) OPERATIONAL LIMITS [WAQSR Ch 6 Sec 2 Permits OP-198, MD-334 and MD-964]

(a) Natural gas fuel shall be the sole fuel used to fire the lime kiln (SM-1).

(b) The permittee will operate the sesqui fluid bed calciner (RA-29) at process rates which do not exceed 123.6 TPH ore feed rate, or 80 TPH dry sesqui soda ash product.

(c) The sodium decahydrate surge pile shall not exceed 2,400 tons and shall be eliminated at the completion of seasonal operations, such that the pile does not become a source of fugitive emissions.

Testing Requirements

(F10) INITIAL PERFORMANCE TESTING [WAQSR Ch 6, Sec 2 Permit MD-1216; W.S.35-11-110]

(a) In accordance with WAQSR Ch 6, Sec 2(j), performance tests shall be conducted on the mine water stripper vent (MW-6), within 30 days of achieving maximum design rate but not later than 90 days after initial start-up, and a written report of the results be submitted. If maximum design production rate is not achieved within 90 days of start-up, the Administrator may require testing be done at the rate achieved and again when maximum rate is achieved.

(i) Testing on MW-6 shall be conducted in accordance with a Division approved test method.

(ii) Prior to any performance testing required by this permit, a test protocol shall be submitted to the Division for approval, at least 30 days prior to testing. The permittee shall provide the Division at least 15 days prior notice of the test date.

(b) Testing shall be conducted in accordance with WAQSR Ch 5, Sec 2(h).

(F11) EMISSIONS TESTING [W.S. 35-11-110]

(a) The Division reserves the right to require testing as provided under condition G1 of this permit. Should testing be required,

(i) For the sesqui bagging (RA-28), mono shipping screening (MONO 12), mine water precoat bin vent (MW-2), soda ash storage housekeeping (MW-4), and bicarb product handling (BC-2), visible and particulate emissions shall be measured as specified in 40 CFR 60 Subpart OOO §60.675 and paragraph (iii) of this condition.

(ii) For the mono dual ore crusher (MONO 11), particulate emissions shall be measured as specified in 40 CFR 60 Subpart OOO §60.675 and paragraph (iii) of this condition.

(iii) For the trona, lime, and bicarb processing sources, particulate emissions shall be measured using Method 5 sampling trains with the back half impinger catch analyzed by the protocol defined by Method 202. To determine compliance for any particular stack, the Division will compare the sum of the Method 5 front half particulate catch and the inorganic (mineral) portion of the Method 202 back half of these Method 5/202 tests against the particulate emission standards indicated in condition F5.

(iv) For the mono boilers (NS-1A and NS-1B), particulate, SO_2, NO_X and visible emissions shall be measured as specified in 40 CFR 60 Subpart D §60.46.

(v) For the mine water plant boiler (MW-5), NO_X emissions shall be measured as specified in 40 CFR 60 Subpart Db §60.46b.

(vi) For the mono power housekeeping (NS-2A and NS-2B), visible emissions shall be measured as specified in 40 CFR 60 Subpart Y §60.254.

(vii) For other visible emissions, Method 9 shall be used.

(viii) For other particulate emissions, Methods 1-4 and 5 shall be used.

(ix) For other NO_X emissions, Methods 1-4 and 7 or 7E shall be used.

(x) For CO emissions, Methods 1-4 and 10 shall be used.

(xi) Methods 1-4 and Method 15 shall be used to measure H_2S emissions.

(xii) For alternative test methods, or methods used for other pollutants, the approval of the Administrator must be obtained prior to using the test method to measure emissions.

(b) Unless otherwise specified, testing shall be conducted in accordance with WAQSR Ch 5, Sec 2(h).

Monitoring Requirements

(F12) SCRUBBER CONTROLLED VISIBLE, PARTICULATE AND H_2S EMISSIONS
[WAQSR Ch 6, Sec 3(h)(i)(C)(I) and Ch 7, Sec 3(c)(ii); 40 CFR 60 Subpart OOO]

(a) For particulate emissions from the scrubber controlled equipment subject to compliance assurance monitoring (CAM), the permittee shall adhere to the (CAM) plan, attached as Appendix A of this permit, and shall conduct monitoring as follows:

(i) For the large CAM sources (RA-22A&B, RA-23A&B, RA-25 and MONO 5), the permittee shall monitor and record the liquor re-circulation flow rate and the scrubber pressure drop, on a continuous basis (at least every 15 minutes).

(ii) For the small CAM sources (PA-4, PA-5, RA-1, RA-24, RA-26, RA-29, RA-33, MONO 2 through 4, MONO 6, MONO 8, MONO 11, NS-4, NS-6, MW-3, and SM-1), the permittee shall monitor and record the liquor re-circulation flow rate, at least once daily. In addition, for units RA-1, RA-24, RA-26, RA-29, MONO 6, MONO 11, NS-6, MW-3, and SM-1, the permittee shall also monitor and record at least once daily, the scrubber pressure drop.

(iii) A re-circulation flow rate or, if applicable, a pressure drop, less than the indicated range in the CAM plan shall prompt immediate inspection and, if necessary, corrective action.

(iv) The permittee shall follow all other applicable requirements under conditions CAM-1 through CAM-5 of this permit.

(b) For the scrubber controlled equipment the permittee shall conduct monitoring as follows, to assess compliance with the emission limits specified in condition F5, and to verify the correlation between re-circulation flow rate, pressure drop, and particulate emissions.

(i) For units RA-22A&B, RA-25 and MONO 5, the permittee shall measure particulate emissions annually at minimum (and for RA-22A&B, in accordance with condition CAM-5). For unit RA-23A&B, the permittee shall measure particulate emissions once during the remainder of the permit term. For RA-23A&B, acceptable testing conducted after Jan. 1, 2007 will fulfill this requirement. The permittee shall record if a unit is not operated for a year. Testing is not required during any calendar year that a unit is not operated.

(ii) For units MONO 2, MONO 3, MONO 8, NS-4, PA-4 and PA-5, testing conducted on MONO 2 to establish a gpm/1000 acfm scrubber flow ratio will be accepted as an indicator of particulate emissions compliance. Units NS-4 and PA-5 shall each be tested, one within 12 months of permit issuance, and one within 24 months of permit issuance, to further demonstrate the ratio. If testing of these two units are acceptable as determined by the Division, testing on units MONO 2, MONO 3, MONO 8 and PA-4, will not be required during the remainder of this permit term.

(iii) Testing on units RA-1, RA-33, NS-6, MW-3, and SM-1, will not be required during the remainder of this permit term, unless requested by the Division.

(iv) For the remaining equipment (RA-24, RA-26, RA-29, MONO 4, MONO 6, and MONO 11), the permittee shall measure particulate emissions at least once more during the remainder of the permit term, (and for RA-29, in accordance with condition CAM-5).

(v) The methods specified in condition F11 shall be used to measure particulate emissions. During any testing, the permittee shall record the average re-circulation flow rate and pressure drop. Following each test, the permittee shall evaluate the data from the test, together with data from previous testing, to determine if the indicator ranges in the CAM plan should be revised.

(c) For H_2S emissions from the mine water stripper vent (MW-6), the permittee shall begin compliance assurance monitoring upon development of the indicator range, as expeditiously as practicable, but no later than 180 days after the date of startup of this source. (The implementation plan is described in condition CAM-5.)

(d) Unless otherwise specified, testing shall be conducted in accordance with WAQSR Ch 5, Sec 2(h).

(F13) BAGHOUSE VISIBLE & PARTICULATE EMISSIONS [WAQSR Ch 6, Sec 3(h)(i)(C)(I); Ch 7, Sec 3(c)(ii)]

(a) For particulate emissions from the baghouse controlled equipment (RA-28, MONO 9, MONO 10, MONO 12, MW-4, NS-2A, NS-2B, NS-10, NS-11, BC-1, and BC-2), the permittee shall adhere to the CAM plan, attached as Appendix A, and shall conduct monitoring as follows:

(i) The permittee shall conduct, at minimum once daily, Method 22-like visual observations as specified in the CAM plan for each baghouse to determine the presence of visible emissions each day the units are operating. The permittee shall record days a unit is not operated.

(ii) The visual observations shall be conducted by a person who is educated on the procedures for determining the presence of visible emissions for Method 22 observations.

(iii) Observation of any visible emissions from this unit shall prompt immediate inspection and, if necessary, corrective action.

(iv) The permittee shall follow all other applicable requirements under conditions CAM-1 through CAM-4 of this permit.

(b) The permittee shall conduct, at minimum, weekly Method 22-like visual observations of the baghouse stacks for the mine water lime bin vent (MW-1) and mine water precoat bin vent (MW-2), to determine the presence of visible emissions and the effectiveness of the control measures. The permittee shall record days a unit is not operated. If a unit is not operated for a week, an observation shall be conducted when the unit is next operated.

(i) The visual observations shall be conducted by a person who is educated on the procedures for determining the presence of visible emissions for Method 22 observations.

(ii) Observation of visible emissions from either baghouse shall prompt immediate inspection and, if necessary, corrective actions as described in the Preventive and Corrective Maintenance Plan in Appendix B of this permit.

(iii) The visible emissions monitoring, combined with adherence to the Preventive and Corrective Maintenance Plan shall serve as a surrogate to periodic monitoring for particulate emissions.

(c) Unless otherwise specified, testing shall be conducted in accordance with WAQSR Ch 5, Sec 2(h).

(F14) ELECTROSTATIC PRECIPITATOR VISIBLE AND PARTICULATE EMISSIONS [WAQSR Ch 6, Sec 3(h)(i)(C)(I); Ch 7, Sec 3(c)(ii); W.S. §35-11-110 and Division letter 4/3/91; 40 CFR 60 Subpart D]

(a) For particulate emissions from the electrostatic precipitator (ESP) controlled Mono boilers (NS-1A and NS-1B), the permittee shall adhere to the CAM plan, attached as Appendix A of this permit, and shall conduct monitoring as follows:

(i) The permittee shall monitor and record secondary voltage and current on a continuous basis (at least every 15 minutes), and calculate the power input for the ESP. The calculated power input data shall be averaged on an hourly basis. Monitoring shall begin upon development of the indicator range, but no later than 180 days after the date of issuance of this operating permit. (The implementation plan is described in condition CAM-5.)

(ii) Hourly average power input of less than the indicated range in the CAM plan for the given fields operating shall prompt immediate inspection and corrective action.

(iii) The permittee shall follow all other applicable requirements under conditions CAM-1 through CAM-5 of this permit.

(b) For particulate emissions from the ESP controlled Mono 2 calciner (NS-3), the permittee shall adhere to the CAM plan, and shall conduct monitoring as follows:

(i) The permittee shall calibrate, operate, and maintain a continuous in-stack monitoring system to measure and record the opacity from NS-3. The continuous opacity monitor shall be calibrated and operated per the requirements set forth in WAQSR Ch 5, Sec 2(j).

(ii) An opacity measurement greater than indicated in the CAM plan shall prompt immediate inspection and corrective actions.

(iii) The permittee shall follow all other applicable requirements under conditions CAM-1 through CAM-4 of this permit.

(c) For the ESP controlled equipment, the permittee shall conduct monitoring as follows, to assess compliance with the emission limits specified in condition F5, and to verify as applicable, the correlation between secondary voltage, current, and particulate emissions, or opacity and particulate emissions.

(i) For the Mono boilers (NS-1A and NS-1B), the permittee shall measure particulate emissions annually at minimum.

(ii) For the Mono 2 calciner (NS-3), the permittee shall measure particulate emissions at least once during the permit term.

(iii) The methods specified in condition F11 shall be used to measure particulate emissions. Following each test, the permittee shall evaluate the data from the test, together with data from previous testing, to determine if the indicator ranges in the CAM plan should be revised.

(d) Opacity monitoring requirements for the Mono boilers (NS-1A and NS-1B) are specified under condition P60-D1 of this permit.

(e) Unless otherwise specified, testing shall be conducted in accordance with WAQSR Ch 5, Sec 2(h).

(F15) OTHER VISIBLE AND PARTICULATE MONITORING [WAQSR Ch 6, Sec 3(h)(i)(C)(I)]

(a) Periodic monitoring of visible and particulate emissions from the sesqui plant dissolver vents (PA-6, PA-7, PA-8 and PA-9) and lime slaker vent (RD-3) is not required based on their size and potential impact on ambient standards.

(b) Periodic monitoring for visible and particulate emissions from the sesqui boilers (PH-1A, PH-1B, PH-2 and PH-3) and mine water plant boiler (MW-5), shall consist of monitoring the type of fuel used to ensure natural gas is the sole fuel source for these units.

(F16) NO_X, CO & SO_2 EMISSIONS MONITORING [WAQSR Ch 6, Sec 3(h)(i)(C)(I); 40 CFR 60 Subparts D & Db]

(a) For NO_X emissions, the permittee shall assess compliance with the limits specified in condition F6, by conducting monitoring as follows:

(i) For the Mono 2 calciner (NS-3) and lime kiln (SM-1) the permittee shall measure NO_X emissions, annually at minimum, using Methods 1-4 and 7 or 7E, or an alternative method approved by the Administrator.

(ii) For the sesqui calciners (RA-22A&B, RA23A&B and RA-24) and the Mono 1 calciner (MONO 5) the permittee shall measure NO_X emissions at least once during the permit term using Methods 1-4 and 7 or 7E, or an alternative method approved by the Administrator. Acceptable testing conducted after Jan. 1, 2007 will fulfill this requirement.

(iii) In the event any of the sesqui boilers (PH-1A, PH-1B, PH-2 and PH-3) are operated for more than 3000 hours in any calendar year during the permit term, the permittee shall test each boiler operated more than 3000 hours. The testing shall be conducted during the calendar year the 3000 hour limit is exceeded. However, unit PH-3 shall be tested at least once during the permit term. Methods 1-4 and 7 or 7E, or an alternative method approved by the Administrator shall be used to measure NO_X emissions.

(iv) NO_X emissions monitoring requirements for the Mono boilers (NS-1A and NS-1B) are specified under condition P60-D1 of this permit.

(v) NO_X emissions monitoring requirements for the mine water plant boiler (MW-5) are specified under condition P60-Db1 of this permit.

(vi) Periodic monitoring of NO_X emissions from the baby sesqui calciner (RA-1) shall consist of operating and maintaining the unit in accordance with the manufacturer's specifications and recommendations so the emission limit specified in condition F6 is not exceeded.

(b) For CO emissions, the permittee shall assess compliance with the limits specified in condition F7, by conducting monitoring as follows:

(i) For the lime kiln (SM-1) and mine water plant boiler (MW-5), the permittee shall measure CO emissions, at least once during the permit term, using the EPA methods described in condition F11, the Division's portable analyzer monitoring protocol, or an alternative method approved by the Administrator. The Division's monitoring protocol is attached as Appendix C of this permit. Acceptable testing conducted after Jan. 1, 2007 will fulfill this requirement.

(c) For SO_2 emissions, monitoring requirements for the Mono boilers (NS-1A and NS-1B) are specified under condition P60-D1 of this permit.

(d) Unless otherwise specified, testing shall be conducted in accordance with WAQSR Ch 5, Sec 2(h).

(F17) OPERATIONAL MONITORING [WAQSR Ch 6, Sec 3(h)(i)(C)(I)]

(a) The permittee shall monitor the ore feed and dry sesqui soda ash product process rates for the sesqui fluid bed calciner (RA-29) to ensure the limits in condition F9(b) are not exceeded.

(b) The permittee shall monitor the sodium decahydrate surge pile to ensure the limit in condition F9(c) is not exceeded, and to verify that the surge pile is eliminated at the completion of seasonal operations.

(F18) AMBIENT PARTICULATE & METEOROLOGICAL MONITORING [EPA letter 7/26/73]

(a) The permittee shall continue to operate, in accordance with the requirements of 40 CFR Parts 50 and 58, an ambient air monitoring network acceptable to the Division.

(b) The permittee shall continue to maintain a meteorological station acceptable to the Division.

Recordkeeping Requirements

(F19) FUGITIVE EMISSIONS CONTROL RECORDS [WAQSR Ch 6, Sec 3(h)(i)(C)(II)]

(a) The permittee shall maintain records of water usage, chemical dust suppressant usage including the manufacturer and specifications, and annual usage rates in terms of gallons, and other operational parameters such that compliance with condition F2 of this permit can be assessed.

(b) The permittee shall retain on-site at the facility all fugitive emission control records kept in accordance with this condition for a period of at least five years from the date such records are generated.

(F20) SULFUR DIOXIDE EMISSIONS INVENTORY RECORDS [WAQSR Ch 14, Sec 3(b)]

(a) The permittee shall maintain all records used in the calculation of SO_2 emissions for the inventory required by condition F3, including but not limited to the following:

(i) Amount of fuel consumed;

(ii) Percent sulfur content of fuel and how the content was determined;

(iii) Quantity of product produced;

(iv) Emissions monitoring data;

(v) Operating data; and

(vi) How the emissions are calculated, including monitoring/estimation methodology with a demonstration that the selected methodology is acceptable under Ch 14, Sec 3.

(b) The permittee shall maintain records of any physical changes to facility operations or equipment, or any other changes (e.g. raw material or feed) that may affect emissions projections of SO_2.

(c) The permittee shall retain all records and support information for compliance with this condition and with the reporting requirements of condition F30 at the facility, for a period of **at least ten (10) years** from the date of establishment, or if the record was the basis for an adjustment to the milestone, five years after the date of an implementation plan revision, whichever is longer.

(F21) TESTING AND MONITORING RECORDS [WAQSR Ch 6, Sec 3(h)(i)(C)(II)]

(a) For any testing required under conditions F10 and F11 of this permit, other than Method 9, and the monitoring required under conditions F12, F13, F14 and F16, the permittee shall record, as applicable, the following:

(i) The date, place, and time of sampling, measurements or observations;

(ii) The date(s) the analyses or observations were performed;

(iii) The company or entity that performed the analyses or observations;

(iv) The analytical or observational techniques or methods used;

(v) The results of such analyses or observations;

(vi) The operating conditions as they existed at the time of sampling, measurement or observations; and

(vii) Any corrective actions taken.

(b) For any Method 9 observations required by the Division under condition F11, the permittee shall keep field records in accordance with Section 2.2 of Method 9.

(c) In addition, for the testing required for particulate emissions from the scrubber and ESP controlled equipment under conditions F12 and F14, the permittee shall record the following, as applicable:

(i) The average re-circulation flow rate and pressure drop for the scrubbers;

(ii) ESP secondary voltage and current, and the calculated hourly average power input;

(iii) Any calibration and maintenance of the ESP instrumentation used to measure CAM parameters;

(iv) The opacity; and
(v) The evaluation of indicator ranges required by conditions F12 and F14.

(d) The permittee shall record the ore feed and dry sesqui soda ash product process rates for the sesqui fluid bed calciner (RA-29) to assess compliance with condition F9(b).

(e) The permittee shall record the dates of sodium decahydrate mining and hauling activities, as well as the amount of material hauled from the evaporation lake to the surge pile each day, to assess compliance with condition F9(c).

(f) The permittee shall retain on-site at the facility, the records of each test, measurement, or observation and support information for a period of at least five years from the date of the test, measurement, or observation.

(F22) ADDITIONAL CAM RECORDS [WAQSR Ch 6, Sec 3(h)(i)(C)(II) and Ch 7, Sec 3(i)(ii)]

(a) For the CAM plans required under conditions F12, F13 and F14, the permittee shall also maintain records of corrective actions taken, any written quality improvement plan required pursuant to WAQSR Chapter 7, Section 3(h), any activities undertaken to implement a Quality Improvement Plan (QIP), and other supporting information required to be maintained under WAQSR Ch 7, Sec 3.

(b) The permittee shall retain on-site at the facility, the records of each test, measurement, or observation and support information for a period of at least five years from the date of the test, measurement, or observation.

(F23) ADDITIONAL SCRUBBER MONITORING RECORDS
[WAQSR Ch 6, Sec 3(h)(i)(C)(II) and 40 CFR 60 Subpart OOO]

(a) Additional recordkeeping for the scrubber system on the Mono dual ore crusher (MONO 11) is specified under condition P60-OOO2 of this permit.

(b) The permittee shall retain on-site at the facility all records kept in accordance with this condition for a period of at least five years from the date such records are generated.

(F24) ADDITIONAL ESP MONITORING RECORDS [W.S. §35-11-201 and 40 CFR 60 Subpart D]

(a) Additional recordkeeping for the continuous opacity monitoring system on the Mono 2 calciner (NS-3) shall comply with the requirements of WAQSR Ch 5, Sec 2(g).

(b) Additional recordkeeping for the continuous opacity monitoring systems on the Mono boilers (NS-1A and NS-1B) is specified under condition P60-D2 of this permit.

(c) The permittee shall retain on-site at the facility all records kept in accordance with paragraphs (a) and (b) of this condition for a period of at least five years from the date such records are generated.

(F25) ADDITIONAL NO_X AND SO_2 EMISSIONS MONITORING RECORDS
[WAQSR Ch 6, Sec 3(h)(i)(C)(II); 40 CFR 60 Subparts D and Db]

(a) Recordkeeping for the continuous NO_X emissions monitoring systems on the Mono coal/gas fired boilers (NS-1A and NS-1B) is specified under condition P60-D2 of this permit.

(b) Recordkeeping for the continuous NO_X emissions monitoring system on the mine water plant boiler (MW-5) is specified under conditions P60-Db1(d) and P60-Db2 of this permit.

(c) Recordkeeping for the continuous SO_2 emissions monitoring systems on the Mono coal/gas fired boilers (NS-1A and NS-1B) is specified under condition P60-D2 of this permit.

(F26) MAINTENANCE RECORDS [WAQSR Ch 6, Sec3(h)(i)(C)(II)]

(a) The permittee shall record all maintenance activities performed on the mine water lime bin vent (MW-1) and mine water precoat bin vent (MW-2), in accordance with the Preventive and Corrective Maintenance Plan, and all maintenance activities performed on the baby sesqui calciner (RA-1) burners.

(b) The record of maintenance activities for each unit shall include:
(i) The maintenance activity performed;
(ii) The date, place, and time the activity was performed;
(iii) The company and individual(s) that performed the activity;
(iv) The purpose of the activity; and
(v) An explanation for any deviation from the Preventive and Corrective Maintenance Plan, or the manufacturer's recommendations for the Baby sesqui calciner burners.

(c) The permittee shall retain on-site at the facility, the records of each maintenance activity for a period of at least five years from the date of the maintenance activity.

(F27) AMBIENT PARTICULATE & METEOROLOGICAL MONITORING RECORDS
[WAQSR Ch 6, Sec 3(h)(i)(C)(II)]

(a) The permittee shall maintain records of the data generated by the ambient particulate monitoring program and the meteorological station in accordance with the most recently approved "Quality Assurance Plan".

(b) The permittee shall retain on-site at the facility all ambient particulate and meteorological monitoring records kept in accordance with this condition for a period of at least five years from the date such records are generated.

Reporting Requirements

(F28) NOTIFICATION OF CONSTRUCTION, START-UP AND TESTING [WAQSR Ch 6, Sec 2 Permit MD-1216]
Prior to any performance testing required by condition F10:

(a) A test protocol shall be submitted to the Division for approval, at least 30 days prior to testing.

(b) The permittee shall provide the Division at least 15 days prior notice of the test date

(F29) FUGITIVE EMISSIONS CONTROL REPORTS [WAQSR Ch 6, Sec 3 (h)(i)(C)(III)]

(a) The permittee shall submit an annual fugitive emissions control report with the annual emission inventory required under condition G9. The annual fugitive emissions control report shall include the water usage, chemical usage, and other operational parameters such that compliance with condition F2(a)(ii), (b), (c), (d), and (e) can be assessed.

(b) The reports shall be submitted to the Division in accordance with condition G4 of this permit.

(F30) SULFUR DIOXIDE EMISSIONS INVENTORY REPORTS [WAQSR Ch 14, Sec 3(b) and (c)]

(a) The permittee shall report calendar year SO_2 emissions by April 15th of the following year. The inventory shall be submitted in the format specified by the Division.

(b) Emissions from startup, shutdown, and upset conditions shall be included in the inventory.

(c) If the permittee uses a different emission monitoring or calculation method than was used to report SO_2 emissions in 1998, the permittee shall adjust reported SO_2 emissions to be comparable to the emission monitoring or calculation method that was used in 1998. The calculations that are used to make this adjustment shall be included with the annual emission report.

(d) The annual reports shall be submitted in accordance with condition G4 of this permit.

(F31) TEST REPORTS [WAQSR Ch 6, Sec 3(h)(i)(C)(III)]
The permittee shall report the results of the emissions tests required under conditions F10, F12, F14, F16, and any additional testing required by the Division under condition F11, within 45 days of conducting the tests.

(a) The reports shall include the information specified under condition F21 of this permit and shall be submitted to the Division in accordance with condition G4.

(b) For the particulate testing required by conditions F12 and F14, the permittee shall also submit the evaluation required by those conditions. If that evaluation indicates that CAM indicator ranges for particulate emissions need to be revised, the permittee shall submit a revised CAM plan to the Division within 90 days of conducting the test.

(F32) MONITORING REPORTS
[WAQSR Ch 6, Sec 3(h)(i)(C)(III), Ch 7, Sec 3(i); 40 CFR 60 Subpart OOO]

(a) The following shall be reported to the Division by January 31 and July 31 each year:

(i) Documentation that the lime kiln (SM-1) is firing only natural gas as specified under condition F9(a), and the emissions units are firing natural gas as specified under condition F15(b).

(ii) Any exceedances of the ore feed and dry sesqui soda ash product process rates for the sesqui fluid bed calciner (RA-29) under condition F9(b) of this permit. If no exceedances of the process rates have occurred during the reporting period, this shall be stated in the report.

(iii) A report which summarizes the information required under condition F21(e) for the sodium decahydrate operations, and any exceedances of the surge pile limits under condition F9(c).

(iv) Results of the emissions monitoring required under conditions F13(b).

(v) The results of CAM required under conditions F12, F13 and F14 shall include the following:

(A) Summary information on the number, duration, and cause of excursions, as applicable, and the corrective actions taken;

(B) Summary information on the number, duration, and cause for monitor downtime incidents, as applicable;

(C) A description of the action taken to implement a QIP (if required) during the reporting period as specified in Chapter 7, Section 3 (h). Upon completion of a QIP, the permittee shall include in the next summary report documentation that the implementation of the plan has reduced the likelihood of similar excursions.

(b) All instances of deviations from the conditions of this permit must be clearly identified in each report.

(c) The semiannual reports shall be submitted in accordance with condition G4 of this permit.

(F33) MAINTENANCE REPORTS [WAQSR Ch 6, Sec 3(h)(i)(C)(III)]

(a) The permittee shall report to the Division by January 31 and July 31 each year whether the permittee has adhered to the Preventive and Corrective Maintenance Plan for the mine water lime bin vent (MW-1) and mine water precoat bin vent (MW-2), and manufacturer's specifications and recommendations for the baby sesqui calciner burners (RA-1).

(b) Any deviations from the Preventive and Corrective Maintenance Plan or the manufacturer's specifications and recommendations for these units must be clearly identified in each report.

(c) If the permittee has adhered to the Preventive and Corrective Maintenance Plan and the manufacturer's specifications and recommendations for these units during the reporting period, this shall be stated in the report.

(d) The reports shall be submitted to the Division in accordance with condition G4 of this permit.

(F34) QUARTERLY AMBIENT PARTICULATE & METEOROLOGICAL MONITORING REPORTS [WAQSR Ch 6, Sec 3(h)(i)(C)(III)]

(a) The ambient particulate and meteorological data retained in accordance with condition F27 shall be submitted to the Division in an acceptable format within 60 days of the end of each calendar quarter.

(i) The meteorological data shall be reported as a windrose with hourly wind speed and wind direction summary tables.

(b) The reports shall be submitted to the Division in accordance with condition G4 of this permit.

(F35) EXCESS OPACITY AND MONITORING SYSTEM REPORTS [W.S. §35-11-110 and 40 CFR 60 Subparts D and Db]

(a) Excess emissions reporting for the continuous opacity monitoring system on the Mono 2 calciner (NS-3) shall comply with the requirements of WAQSR Ch 5, Sec 2(g).

(b) The permittee shall submit an excess emissions and monitoring systems performance report (excess emissions are defined in paragraph (c) of this condition) and/or a summary report form (see paragraph (b)(v) of this condition) to the Administrator quarterly. All reports shall be postmarked by the 30th day following the end of each calendar quarter. Written reports of excess emissions shall include the following information:

(i) The magnitude of excess emissions computed in accordance with WAQSR Ch 5, Sec 2(j)(viii), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.

(ii) Specific identification of each period of excess emissions that occurs during start ups, shutdowns, malfunctions of the Mono 2 calciner. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.

(iii) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

(iv) When no excess emissions have occurred or the continuous monitoring system(s) have not been in operative, repaired, or adjusted, such information shall be stated in the report.

(v) One summary report form for each pollutant monitored at each affected facility in a format approved by the Division.

(A) If the total duration of excess emissions for the reporting period is less than one percent of the total operating time for the reporting period and continuous monitoring system downtime for the reporting period is less than five percent of the total operating time for

the reporting period, only the summary report form shall be submitted and the excess emission report described in paragraph (b) of this condition need not be submitted unless requested by the Administrator.

(B) If the total duration of excess emissions for the reporting period is one percent or greater of the total operating time for the reporting period or the total continuous monitoring system downtime for the reporting period is five percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in paragraph (b) of this condition shall both be submitted.

(c) For the purpose of reporting under this condition, excess emissions are defined as any six minute period when the average opacity from the Mono 2 calciner exceeds 17 percent.

(d) Notwithstanding the frequency of reporting requirements specified in paragraph (b) of this condition, a permittee who is required to submit excess emissions and monitoring systems performance reports (and summary reports) on a quarterly (or more frequent) basis may reduce the frequency of reporting for that standard to semiannual as described in WAQSR Ch 5, Sec 2(g)(iv). Any reduction in reporting frequency requires a significant modification to this operating permit pursuant to WAQSR Ch 6, Sec 3(d)(vi)(C).

(e) For the Mono boilers (NS-1A and NS-1B), reporting requirements for excess SO_2, NO_X and visible emissions are described under condition P60-D3 of this permit.

(f) For the mine water plant boiler (MW-5), reporting requirements for excess NO_X emissions are described under condition P60-Db3 of this permit.

(g) The reports shall be submitted to the Division in accordance with condition G4 of this permit.

(F36) REPORTING EXCESS EMISSIONS & DEVIATIONS FROM PERMIT REQUIREMENTS
[WAQSR Ch 6, Sec 3(h)(i)(C)(III)]

(a) General reporting requirements are described under the General Conditions of this permit. The Division reserves the right to require reports as provided under condition G1 of this permit.

(b) Emissions which exceed the limits specified in this permit and which are not reported under a different condition of this permit shall be reported annually with the emission inventory unless specifically superseded by condition G17, condition G19, or other condition(s) of this permit. The probable cause of such exceedance, the duration of the exceedance, the magnitude of the exceedance, and any corrective actions or preventative measures taken shall be included in this annual report. For sources and pollutants which are not continuously monitored, if at any time emissions exceed the limits specified in this permit by 100 percent, or if a single episode of emission limit exceedance spans a period of 24 hours or more, such exceedance shall be reported to the Division within one working day of the exceedance. (Excess emissions due to an emergency shall be reported as specified in condition G17. Excess emissions due to abnormal conditions or equipment malfunction shall be reported as specified in condition G19.)

(c) Any other deviation from the conditions of this permit shall be reported to the Division in writing within 30 days of the deviation or discovery of the deviation.

WAQSR CHAPTER 7, SECTION 3
COMPLIANCE ASSURANCE MONITORING (CAM) REQUIREMENTS

(Chapter 7, Section 3 is provided in Appendix D)

(CAM-1) COMPLIANCE ASSURANCE MONITORING REQUIREMENTS [WAQSR Ch 7, Sec 3(b) and (c)]

The permittee shall follow the CAM plan attached as Appendix A of this permit and meet all CAM requirements of WAQSR Chapter 7, Section 3 as they apply to the scrubber, baghouse and ESP controlled equipment as identified in conditions F12, F13 and F14. Compliance with the source specific monitoring, recordkeeping, and reporting requirements of this permit meets the monitoring, recordkeeping, and reporting requirements of WAQSR Ch 7, Sec 3, except for additional requirements specified under conditions CAM-2 through CAM-4.

(CAM-2) OPERATION OF APPROVED MONITORING [WAQSR Ch 7, Sec 3(g)]

(a) At all times, the permittee shall maintain the monitoring under this section, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

(b) Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities, the permittee shall conduct all monitoring in continuous operation (or at all required intervals) at all times that the pollutant specific emissions unit is operating.

(c) Upon detecting an excursion, the permittee shall restore operation of the pollutant-specific emission unit to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices. The response shall include minimizing the period of any start-up, shutdown or malfunction and taking any corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion.

(d) If the permittee identifies a failure to achieve compliance with an emission limit for which the monitoring did not provide an indication of an excursion while providing valid data, or the results of compliance or performance testing documents a need to modify the existing indicator ranges, the permittee shall promptly notify the Division and, if necessary, submit a proposed modification to this permit to address the necessary monitoring changes.

(CAM-3) QUALITY IMPROVEMENT PLAN (QIP) REQUIREMENTS [WAQSR Ch 7, Sec 3(h)]

(a) If the Division or the EPA Administrator determines, based on available information, that the permittee has used unacceptable procedures in response to an excursion or exceedance, the permittee may be required to develop and implement a Quality Improvement Plan (QIP).

(b) If required, the permittee shall maintain a written Quality Improvement Plan (QIP) and have it available for inspection.

(c) The plan shall include procedures for conducting one or more of the following:

(i) Improved preventative maintenance practices.

(ii) Process operation changes.

(iii) Appropriate improvements to control methods.

(iv) Other steps appropriate to correct control.

(v) More frequent or improved monitoring (in conjunction with (i) - (iv) above).

(d) If a QIP is required, the permittee shall develop and implement a QIP as expeditiously as practicable and shall notify the Division if the period for completing the QIP exceeds 180 days from the date on which the need to implement the QIP was determined.

(e) Following implementation of a QIP, upon any subsequent determination under paragraph (a) above, the Division may require the permittee to make reasonable changes to the QIP if the QIP failed to address the cause of control device problems, or failed to provide adequate procedures for correcting control device problems as expeditiously as practicable.

(f) Implementation of a QIP shall not excuse the permittee from compliance with any existing emission limit(s) or any existing monitoring, testing, reporting, or recordkeeping requirements that may be applicable to the facility.

(CAM-4) SAVINGS PROVISIONS [WAQSR Ch 7, Sec 3(j)]

Nothing in the CAM regulations shall excuse the permittee from compliance with any existing emission limit or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may be applicable to the facility.

(CAM-5) CAM IMPLEMENTATION PLAN AND SCHEDULE [WAQSR Ch 7, Sec 3(d)(v)]

(a) The permittee shall perform particulate matter testing on scrubber-controlled equipment RA-22A&B, to determine the indicator range to be used as a parameter for assuring compliance with particulate matter emission limitations. The permittee shall submit for Division approval the revised CAM plan with the indicator range specified. The permittee shall begin compliance assurance monitoring as described in condition F12(a) and (b) for RA-22-A&B upon development of the indicator range, as expeditiously as practicable, but no later than 180 days after of startup of the source.

(b) For source RA-29, the permittee shall begin compliance assurance monitoring as described in condition F12(a) and (b) upon issuance of the permit. Additionally, the permittee shall conduct particulate matter testing as expeditiously as practicable, but no later than 12 months after the date of issuance of this operating permit, to further refine the indicator range to be used as a parameter for assuring compliance with particulate matter emission limitations.

(c) The permittee shall perform particulate matter testing on the ESP-controlled Mono boilers (NS-1A and NS-1B) to determine the power input indicator range to be used as a parameter for assuring compliance with particulate matter emission limitations from the boiler. The permittee shall submit for Division approval the revised CAM plan with the indicator range for power input to the ESP specified. The permittee shall begin compliance assurance monitoring as described in condition F14(a) upon development of the indicator range, as expeditiously as practicable, but no later than 180 days after the date of issuance of this operating permit.

(d) The permittee shall perform H_2S emissions testing on the scrubber controlled mine water stripper vent (MW-6), to determine the indicator range to be used as a parameter for assuring compliance with the H_2S emission limitations. The permittee shall submit for Division approval, a CAM plan with the indicator range(s) specified. The permittee shall begin compliance assurance monitoring upon development of the indicator range, as expeditiously as practicable, but no later than 180 days after the date of startup of this source.

WAQSR CHAPTER 5, SECTION 2 NEW SOURCE PERFORMANCE STANDARDS (NSPS) AND 40 CFR 60 SUBPART D REQUIREMENTS

(Subpart D is provided in Appendix E)

(P60-D1) SUBPART D REQUIREMENTS [WAQSR Ch 5, Sec 2 and 40 CFR 60 Subpart D]

The permittee shall meet all requirements of WAQSR Ch 5, Sec 2 and 40 CFR 60 Subpart D as they apply to the Mono boilers (NS-1A and NS-1B).

(a) The permittee shall meet all standards specified in §60.42(a)(1) for particulate emissions, §60.42 (a)(2) for visible emissions, §60.43(a)(2) for SO_2 emissions, and §60.44(a)(3) for NO_X emissions.

(i) The lb/MMBtu particulate and visible emissions limits specified in condition F5, Table I of this permit are the particulate and visible emissions standards under §60.42(a)(1) and (a)(2).

(ii) The lb/MMBtu SO_2 emission limit specified in condition F8 is the SO_2 emission standard under §60.43(a)(2).

(iii) The lb/MMBtu NO_X emission limit specified in condition F6 is the NO_X emission standard under §60.44 9(a)(3).

(b) The permittee shall meet all monitoring requirements as specified in §60.45. Except for system breakdown, repairs, calibration checks, and zero and span adjustments required under WAQSR Ch 5, Sec 2(j)(iv), all continuous monitoring systems shall be in continuous operation and shall meet minimum frequency of operation requirements as follows:

(i) All continuous monitoring systems referenced by WAQSR Ch 5, Sec 2(j)(iii)(A) and (B) for measuring opacity of emissions shall complete a minimum of one cycle of sampling and analyzing for each successive ten second period and one cycle of data recording for each successive six minute period.

(ii) All continuous monitoring systems referenced by WAQSR Ch 5, Sec 2(j)(iii)(A) and (B) for measuring emissions, except opacity, shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15 minute period.

(P60-D2) RECORDKEEPING [WAQSR Ch 5, Sec 2(g)(ii) and (g)(v)]

(a) The permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the Mono boilers; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative. These records shall be retained on-site at the facility for a period of at least five years from the date of such occurrences.

(b) The permittee shall maintain records of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; reports; and other information required by the NSPS conditions of this permit recorded in a permanent form suitable for inspection. These records shall be retained on-site at the facility for a period of at least five years from the date such records are generated.

(P60-D3) EXCESS EMISSIONS AND MONITORING SYSTEM PERFORMANCE REPORTS [WAQSR Ch 5, Sec 2(g)(iii) & (iv) and 40 CFR 60 Subpart D]

(a) The permittee shall submit an excess emissions and monitoring systems performance report (excess emissions are defined in paragraph (b) of this condition) and/or a summary report form (see paragraph (a)(v) of this condition) to the Administrator quarterly. All reports shall be postmarked by the 30th day following the end of each calendar quarter. Written reports of excess emissions shall include the following information:

(i) The magnitude of excess emissions computed in accordance with WAQSR Ch 5, Sec 2 (j)(viii), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.

(ii) Specific identification of each period of excess emissions that occurs during start ups, shutdowns, malfunctions of the Mono boilers. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.

(iii) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

(iv) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

(v) One summary report form for each pollutant monitored at the Mono boilers in a format approved by the Division.

(A) If the total duration of excess emissions for the reporting period is less than one percent of the total operating time for the reporting period and continuous monitoring system downtime for the reporting period is less than five percent of the total operating time for the reporting period, only the summary report form shall be submitted and the excess emission report described in paragraph (a) of this condition need not be submitted unless requested by the Administrator.

(B) If the total duration of excess emissions for the reporting period is one percent or greater of the total operating time for the reporting period or the total continuous monitoring system downtime for the reporting period is five percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in paragraph (a) of this condition shall both be submitted.

(b) For the purpose of reporting under this condition, excess emissions are defined as follows:

(i) For opacity, excess emissions are defined under §60.45(g)(1).

(ii) For SO_2, excess emissions are defined under §60.45(g)(2).

(iii) For NO_X, excess emissions are defined under §60.45 (g)(3).

(c) Notwithstanding the frequency of reporting requirements specified in paragraph (a) of this condition, a permittee who is required by an applicable subpart to submit excess emissions and monitoring systems performance reports (and summary reports) on a quarterly (or more frequent) basis may reduce the frequency of reporting for that standard to semiannual as described in WAQSR Ch 5, Sec 2(g)(iv). Any reduction in reporting frequency requires a significant modification to this operating permit pursuant to WAQSR Ch 6, Sec 3(d)(vi)(C).

(d) The reports shall be submitted to the Division in accordance with condition G4 of this permit.

(P60-D4) GOOD AIR POLLUTION CONTROL PRACTICE [WAQSR Ch 5, Sec 2(i)(iv)]

At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate the Mono boilers including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.

WAQSR CHAPTER 5, SECTION 2 NEW SOURCE PERFORMANCE STANDARDS (NSPS) AND 40 CFR 60 SUBPART Db REQUIREMENTS

(Subpart Db is provided in Appendix F)

(P60-Db1) SUBPART Db REQUIREMENTS [40 CFR 60 Subpart Db]

The permittee shall meet all requirements of 40 CFR 60 Subpart Db as they apply to the mine water plant boiler (MW-5).

(a) The permittee shall meet all applicable standards specified in §60.44b(a)(1) and (h). Compliance with the NO_X emission limit in condition F6 of this permit is considered compliance with §60.44b(a)(1).

(b) The permittee shall meet all applicable testing requirements specified in §60.46b if additional performance tests are required.

(c) The permittee shall meet all monitoring requirements specified in §60.48b(b), (c), (d), (e), and (f).

(d) The permittee shall meet all applicable recordkeeping and reporting requirements specified in §60.49b.

(P60-Db2) RECORDKEEPING [WAQSR Ch 5, Sec 2(g)(ii) and (g)(v)]

(a) The permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the mine water plant boiler; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative. These records shall be retained on-site at the facility for a period of at least five years from the date of such occurrences.

(b) The permittee shall maintain records of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; reports; and other information required by the NSPS conditions of this permit recorded in a permanent form suitable for inspection. These records shall be retained on-site at the facility for a period of at least five years from the date such records are generated.

(P60-Db3) EXCESS EMISSIONS AND MONITORING SYSTEM PERFORMANCE REPORTS [Ch 5, Sec 2(g)(iii) & (iv)]

(a) The permittee shall submit an excess emissions and monitoring systems performance report (excess emissions are defined in paragraph (b) of this condition) and/or a summary report form (see paragraph (a)(v) of this condition) to the Administrator quarterly. All reports shall be postmarked by the 30th day following the end of each calendar quarter. Written reports of excess emissions shall include the following information:

(i) The magnitude of excess emissions computed in accordance with WAQSR Ch 5, Sec 2 (j)(viii), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.

(ii) Specific identification of each period of excess emissions that occurs during start ups, shutdowns, malfunctions of the mine water plant boiler. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.

(iii) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

(iv) When no excess emissions have occurred or the continuous monitoring system(s) have not been in operative, repaired, or adjusted, such information shall be stated in the report.

(v) One summary report form for each pollutant monitored at the mine water plant boiler in a format approved by the Division.

(A) If the total duration of excess emissions for the reporting period is less than one percent of the total operating time for the reporting period and continuous monitoring system downtime for the reporting period is less than five percent of the total operating time for the reporting period, only the summary report form shall be submitted and the excess emission report described in paragraph (a) of this condition need not be submitted unless requested by the Administrator.

(B) If the total duration of excess emissions for the reporting period is one percent or greater of the total operating time for the reporting period or the total continuous monitoring system

downtime for the reporting period is five percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in paragraph (a) of this condition shall both be submitted.

(b) For the purpose of reporting under this condition, excess emissions are defined as any one-hour period when the average NO_X emissions exceed 31.50 lb/hr or 0.10 lb/MMBtu heat input.

(c) Notwithstanding the frequency of reporting requirements specified in paragraph (a) of this condition, a permittee who is required by an applicable subpart to submit excess emissions and monitoring systems performance reports (and summary reports) on a quarterly (or more frequent) basis may reduce the frequency of reporting for that standard to semiannual as described in WAQSR Ch 5, Sec 2(g)(iv). Any reduction in reporting frequency requires a significant modification to this operating permit pursuant to WAQSR Ch 6, Sec 3(d)(vi)(C).

(d) The reports shall be submitted to the Division in accordance with condition G4 of this permit.

(P60-Db4) GOOD AIR POLLUTION CONTROL PRACTICE [WAQSR Ch 5, Sec 2(i)(iv)]

At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate the mine water plant boiler including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.

WAQSR CHAPTER 5, SECTION 2 NEW SOURCE PERFORMANCE STANDARDS (NSPS) AND 40 CFR 60 SUBPART Y REQUIREMENTS

(Subpart Y is provided in Appendix G)

(P60-Y1) SUBPART Y REQUIREMENTS [40 CFR 60 Subpart Y]

The permittee shall meet all requirements of 40 CFR 60 Subpart Y as they apply to the facility coal preparation plant(s) including the Mono power housekeeping baghouses (NS-2A and NS-2B).

(a) The permittee shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater as specified in §60.252(c). The visible emissions limit for these units in condition F5, Table I of this permit is the limit under §60.252(c).

(b) If emissions testing is required to demonstrate compliance with this subpart, the permittee shall follow all test methods and procedures specified in §60.254.

(P60-Y2) RECORDKEEPING [WAQSR Ch 5, Sec 2(g)(ii) and (g)(v)]

(a) The permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the coal processing and conveying equipment (including breakers and crushers), coal storage systems, and coal transfer and loading systems; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative. These records shall be retained on-site at the facility for a period of at least five years from the date of such occurrences.

(b) The permittee shall maintain records of all measurements, reports, and other information required by the NSPS conditions of this permit recorded in a permanent form suitable for inspection. These records shall be retained on-site at the facility for a period of at least five years from the date such records are generated.

(P60-Y3) GOOD AIR POLLUTION CONTROL PRACTICE [WAQSR Ch 5, Sec 2(i)(iv)]

At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate the coal preparation plants including units NS-2A and NS-2B, including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.

WAQSR CHAPTER 5, SECTION 2 NEW SOURCE PERFORMANCE STANDARDS (NSPS) AND 40 CFR 60 SUBPART OOO REQUIREMENTS

(Subpart OOO is provided in Appendix H)

(P60-OOO1) SUBPART OOO REQUIREMENTS [40 CFR 60 Subpart OOO and WAQSR Ch 5, Sec 2]

The permittee shall meet all requirements of 40 CFR 60 Subpart OOO and WAQSR Ch 5, Sec 2 as they apply to the FMC facility, including the sesqui bagging (RA-28), Mono dual ore crusher (MONO 11), Mono shipping screening (MONO 12), mine water precoat bin vent (MW-2), soda ash storage housekeeping (MW-4), and bicarb product handling (BC-2).

(a) The permittee shall meet all standards for particulate matter as specified in §60.672. The particulate matter and/or opacity emission limits specified in condition F5, Table I of this permit is the particulate matter and/or opacity standards under §60.672 (a)(1) and (a)(2).

(b) For the Mono dual ore crusher (MONO 11), the permittee shall meet all monitoring requirements as specified in §60.674.

(c) The permittee shall meet all testing and procedural requirements as specified §60.675 when conducting any testing required under condition F11.

(d) The permittee shall meet all reporting and recordkeeping requirements as specified in §60.676.

(P60-OOO2) RECORDKEEPING [WAQSR Ch 5, Sec 2(g)(ii) and (g)(v)]

(a) The permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of units RA-28, MONO 11, MONO 12, MW-2, MW-4 and BC-2; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative. These records shall be retained on-site at the facility for a period of at least five years from the date of such occurrences.

(b) The permittee shall maintain records of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; reports; and other information required by the NSPS conditions of this permit recorded in a permanent form suitable for inspection. These records shall be retained on-site at the facility for a period of at least five years from the date such records are generated.

(P60-OOO3) REPORTING [40 CFR 60 Subpart OOO]

Per §60.676, for the Mono dual ore crusher (MONO 11), the permittee shall submit semiannual reports to the Administrator of occurrences when the measurements of the scrubber pressure loss (or gain) and liquid flow rate differ by more than 30 percent from the averaged determined during the most recent performance test.

(a) Compliance with the reporting requirements of condition F31(a)(iii) is considered compliance with §60.676(d).

(P60-OOO4) GOOD AIR POLLUTION CONTROL PRACTICE [WAQSR Ch 5, Sec 2(i)(iv)]

At all times, including periods of malfunction, the permittee shall, to the extent practicable, maintain and operate units RA-28, MONO 11, MONO 12, MW-2, MW-4 and BC-2, including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.

WAQSR CHAPTER 5, SECTION 3 NEW SOURCE PERFORMANCE STANDARDS (NSPS) AND 40 CFR 63 SUBPART AAAAA REQUIREMENTS

(Subpart AAAAA is provided in Appendix I)

(P63-AAAAA1) EMISSION STANDARDS [40 CFR 63 Subpart AAAAA and WAQSR Ch 5, Sec 3]

The permittee shall meet all requirements of 40 CFR 63 Subpart AAAAA and WAQSR Ch 5, Sec 3 as they apply to each affected source as indicated in §63.7082, which includes the lime kiln (SM-1) and any associated coolers.

(a) The permittee must comply with the applicable emission limitations for the existing affected source, and must have completed all applicable performance tests no later than January 5, 2007 according to the provisions in §§63.7(a)(2) and 63.7114..

(i) The permittee must meet the notification requirements in §63.7130 according to the schedule in §63.7130 and in subpart A of this part.

(ii) PM emissions must not exceed 0.60 lb/tsf (tons of stone feed). If at any time after January 5, 2004 the kiln changes to a dry control system, then the PM emission limit in item 1 of Table 1 to Subpart AAAAA applies, and the kiln is hereafter ineligible for the PM emission limit in item 2 of Table 1 to Subpart AAAAA regardless of the method of PM control.

(iii) Per Table II of Subpart AAAAA, the permittee must maintain the 3-hour block exhaust gas stream pressure drop across the wet scrubber greater than or equal to the pressure drop operating limit established during the most recent PM performance test; and maintain the 3-hour block scrubbing liquid flow rate greater than the flow rate operating limit established during the most recent performance test.

(iv) Per Table II of Subpart AAAAA, the permittee must prepare a written OM&M plan; the plan must include the items listed in §63.7100(d) and the corrective actions to be taken when required in Table 5 to this subpart.

(b) The permittee shall submit notifications required under Subpart AAAAA and Ch 5, Sec 3 to the Administrator and U.S. EPA Region VIII in accordance with condition G4 of this permit. If an initial notification is required, it shall be submitted in accordance with §63.7545(b) and (c).

(c) The permittee shall comply with all other applicable requirements of Subpart AAAAA and WAQSR Ch 5, Sec 3.

(P63-AAAAA2) TESTING [40 CFR 63 Subpart AAAAA]

The permittee shall meet all requirements of 40 CFR 63 Subpart AAAAA §§63.7110, 63.7111, 63.7112, 63.7113 and 63.7114 for any required testing.

(P63-AAAAA3) MONITORING [40 CFR 63 Subpart AAAAA]

The permittee shall meet all requirements of 40 CFR 63 Subpart AAAAA §§63.7120 and 63.7121 for any required monitoring.

(P63-AAAAA4) NOTIFICATION AND REPORTS [40 CFR 63 Subpart AAAAA]

The permittee shall meet all requirements of 40 CFR 63 Subpart AAAAA §§63.7130 and 63.7131 for any required notifications and reports.

(P63-AAAAA5) RECORDS [40 CFR 63 Subpart AAAAA]

The permittee shall meet all requirements of 40 CFR 63 Subpart AAAAA §§63.7132 and 63.7133 for any required records.

WAQSR CHAPTER 5, SECTION 3 NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAPS) SUBPART DDDDD REQUIREMENTS

(Subpart DDDDD is provided in Appendix J)

40 CFR Part 63, Subpart DDDDD was vacated June 8, 2007. WAQSR Ch 5, Sec 3, 40 CFR Part 63, Subpart DDDDD, as published in the Federal Register September 13, 2004 and attached as Appendix J, remains a state regulation.

(P63-DDDDD1) EMISSION STANDARDS [WAQSR Ch 5, Sec 3, Subpart DDDDD]

The permittee shall meet all requirements of WAQSR Ch 5, Sec 3, Subpart DDDDD as they apply to each affected source as indicated in §63.7490. The affected source is the collection of industrial, commercial and institutional boilers and process heaters as defined in §§63.7490 and 63.7575, including the Mono boilers (NS-1A and NS-1B), sesqui boilers (PH-1A, PH-1B, PH-2 and PH-3), and mine water plant boiler (MW-5).

(a) Boilers and process heaters listed in §63.7491 are not subject to Subpart DDDDD.

(b) The following affected units do not have to meet the requirements of Subpart DDDDD and of 40 CFR Part 63, Subpart A:

(i) Existing small units.

(ii) New or reconstructed small gaseous fired units.

(iii) "Small" units are those with a rated capacity less than or equal to 10 MMBtu per hour heat input.

(c) The following affected units are subject to only the initial notification requirements set forth in §63.7545 and Ch 5, Sec 3(k)(ii):

(i) Existing large and limited use gaseous and liquid fuel units.

(ii) New or reconstructed small liquid fuel units that burn only gaseous fuels or distillate oil.

(d) New or reconstructed liquid fuel boilers may be subject to limited requirements as specified in §63.7506(a).

(e) All other affected boilers and process heaters shall meet the applicable emission limits, work practice standards, and operating limits described in §§63.7500, 63.7507, and 63.7522.

(P63-DDDDD2) TESTING, FUEL ANALYSIS, AND INITIAL COMPLIANCE DEMONSTRATION [WAQSR Ch 5, Sec 3(h) and (i) and Subpart DDDDD §§63.7505 through 63.7530]

(a) The permittee shall demonstrate initial compliance with the requirements in condition P63-DDDDD1 using the test methods and procedures in §§63.7507, 63.7510, 63.7530, 63.7520, 63.7521, and 63.7522, as applicable.

(b) Subsequent performance testing and fuel analysis shall meet the requirements in §§63.7515, 63.7520, and 63.7521.

(c) The permittee may demonstrate compliance with any applicable emission limit using fuel analysis if the emission rate calculated according to §63.7530(d) is less than the applicable emission limit.

(d) Performance testing and fuel analysis shall meet all requirements for documentation, quality assurance, and other criteria in Subpart DDDDD and WAQSR Ch 5, Sec 3(h)(vii) and Sec 3(i) except as specified in Table 10 to Subpart DDDDD.

(P63-DDDDD3) MONITORING REQUIREMENTS [WAQSR Ch 5, Sec 3(j) and Subpart DDDDD §§63.7505, 63.7525, and 63.7535 through 63.7541]

(a) If the permittee demonstrates compliance with any applicable emission limit through performance testing, the permittee must develop a site-specific monitoring plan according to the requirements in §63.7505(d).

(b) Any continuous opacity monitors (COMs) and continuous monitoring systems (CMSs) required by Subpart DDDDD shall be installed, operational, and the data verified either prior to or in conjunction with conducting performance tests under condition P63-DDDDD2. Verification of operational status shall, at a minimum, include completion of the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system.

(c) Monitoring data from COMs and CMSs shall be reduced in accordance with Ch 5, Sec 3(j)(vii)(A) through (D) and §63.7535(c).

(d) The permittee shall meet all other applicable monitoring requirements as specified in §§63.7505, 63.7525, and 63.7535 through 63.7541 and WAQSR Ch 5, Sec 3(j), except as specified in Table 10 to Subpart DDDDD.

(P63-DDDDD4) OPERATION & MAINTENANCE REQUIREMENTS [WAQSR Ch 5, Sec 3(h)(iv)(A)(I) and (II), Sec 3(i)(iii), and Sec 3(j) and Subpart DDDDD §§63.7505 and 63.7535]

(a) At all times, including periods of startup, shutdown, and malfunction, the permittee shall operate and maintain affected boilers and process heaters, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by Subpart DDDDD.

(b) Malfunctions shall be corrected as soon as practicable after their occurrence in accordance with the startup, shutdown, and malfunction plan required in condition P63-DDDDD5 of this permit.

(c) The permittee must keep the necessary parts for routine repairs of the COM and CMS equipment readily available.

(d) Except for monitor malfunctions, associated repairs, and required quality assurance or control activities, (including, as applicable, calibration checks and required zero and span adjustments), the permittee must monitor continuously (or collect data at all required intervals) at all times that the affected source is operating.

(e) All COMs required by Subpart DDDDD shall complete a minimum of one cycle of sampling and analyzing for each successive ten-second period and one cycle of data recording for each successive six-minute period.

(f) The permittee shall develop and implement a COM and CMS quality control program.

(i) The permittee shall develop, and upon request submit to the Administrator in accordance with condition G4, a site-specific performance evaluation test plan for approval upon request. The plan shall be developed according to the procedures in WAQSR Ch 5 Sec 3(i)(iii)(B) and 3(j)(v).

(ii) The performance evaluation test shall be conducted as described in Ch 5 Sec 3(j)(v)(D).

(iii) Each quality control program shall include, at a minimum, a written protocol that describes procedures for each of the following operations:

(A) Initial and any subsequent calibration of the CMS/COM;

(B) Determination and adjustment of the calibration drift of the CMS/COM;

(C) Preventive maintenance of the CMS/COM, including spare parts inventory;

(D) Data recording, calculations, and reporting;

(E) Accuracy audit procedures, including sampling and analysis methods; and

(F) Program for corrective action for a malfunctioning CMS/COM.

(iv) The permittee shall keep these written procedures on record to be made available for inspection, upon request, by the Administrator for the life of the boilers or until the boilers are no longer subject to Ch 5 Sec 3. In addition, if the quality control program is revised, the permittee shall keep previous (i.e., superseded) versions on record, to be made available for inspection, upon request, by the Administrator, for a period of 5 years after each revision to the plan.

(g) Additional COM and CMS requirements are specified in Ch 5 Sec 3(j)(iii) and (iv), except as specified in Table 10 to Subpart DDDDD.

(P63-DDDDD5) STARTUP, SHUTDOWN, & MALFUNCTION PLAN
[WAQSR Ch 5, Sec 3(h)(iv)(C) and Subpart DDDDD §§63.7505]

(a) If the permittee has an applicable emission limit or work practice standard under Subpart DDDDD, then the permittee shall maintain and implement a written startup, shutdown, and malfunction plan (SSMP) that describes, in detail, procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction, and a program of corrective action for malfunctioning process and air pollution control equipment used to comply with Subpart DDDDD. The plan shall identify all routine or otherwise predictable COM and CMS malfunctions.

(b) During periods of startup, shutdown, and malfunction, the permittee shall operate and maintain affected boilers and process heaters (including associated air pollution control equipment) in accordance with the procedures specified in the SSMP developed under paragraph (a) of this condition.

(c) When actions taken by the permittee during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) are consistent with the procedures specified in the SSMP, the permittee shall keep records for that event that demonstrate the procedures specified in the plan were followed. These records may take the form of a "checklist," or other effective form of recordkeeping, that confirms conformance with the SSMP for that event.

(d) If an action taken by the permittee during a startup, shutdown, or malfunction (including an action taken to correct a malfunction) is not consistent with the procedures specified in the SSMP, the permittee shall record the actions taken for that event.

(e) The permittee shall keep the written SSMP on record to be made available for inspection, upon request, by the Administrator for the life of the boilers or until the boilers are no longer subject to the provisions of Chapter 5, Section 3. In addition, if the SSMP is revised, the permittee shall keep previous (i.e., superseded) versions of the SSMP on record, to be made available for inspection, upon request, by the Administrator, for a period of 5 years after each revision to the plan.

(f) To satisfy the requirements of this condition to develop a SSMP, the permittee may use their standard operating procedures (SOP) manual, or an Occupational Safety and Health Administration (OSHA) or other plan, provided the alternative plans meet all the requirements of Chapter 5, Section 3 and are made available for inspection when requested by the Administrator.

(g) If the SSMP fails to address or inadequately addresses an event that meets the characteristics of a malfunction but was not included in the SSMP at the time the permittee developed the plan, the permittee shall revise the SSMP within 45 days after the event to include detailed procedures for operating and maintaining the source during similar malfunction events and a program of corrective action for similar malfunctions of process or air pollution control equipment.

(P63-DDDDD6) GENERAL RECORDKEEPING REQUIREMENTS

[WAQSR Ch 5, Sec 3(l)(ii) and (iii) and Subpart DDDDD §§63.7555 and 63.7560]

(a) The permittee shall maintain files of all information (including all reports and notifications) required by Subpart DDDDD and Chapter 5, Section 3 recorded in a form suitable and readily available for expeditious inspection and review. The files shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent 2 years of data shall be retained on site at the facility. The remaining 3 years of data may be retained off site. Such files may be maintained on microfilm, on a computer, on computer floppy disks, on magnetic tape disks, or on microfiche.

(b) The permittee shall maintain relevant records for affected boilers and process heaters of the following:

(i) The occurrence and duration of each startup, shutdown, or malfunction of operation (i.e., process equipment);

(ii) The occurrence and duration of each malfunction of the air pollution control equipment;

(iii) All maintenance performed on the air pollution control equipment;

(iv) Actions taken during periods of startup, shutdown, and malfunction (including corrective actions to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation) when such actions are different from the procedures specified in the SSMP;

(v) All information necessary to demonstrate conformance with the SSMP when all actions taken during periods of startup, shutdown, and malfunction (including corrective actions to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation) are consistent with the procedures specified in such plan. (The information needed to demonstrate conformance with the SSMP may be recorded using a "checklist," or some other effective form of recordkeeping, to minimize the recordkeeping burden for conforming events);

(vi) Each period during which a COM or CMS is malfunctioning or inoperable (including out-of-control periods).

(vii) All required measurements needed to demonstrate compliance with Subpart DDDDD;

(viii) All results of performance tests, fuel analyses, other compliance demonstrations, COM or CMS performance evaluations, and opacity and visible emission observations;

(ix) All COM and CMS calibration checks;

(x) All adjustments and maintenance performed on COMs and CMSs;

(xi) All measurements as may be necessary to determine the conditions of performance tests and performance evaluations;

(xii) A copy of each notification and report that the permittee submitted to comply with Subpart DDDDD;

(xiii) All records of applicability determination, including supporting analysis;

(xiv) All other records for COMs and CMSs required by Ch 5 Sec 3(l)(iii).

(xv) All other records required by §63.7555 and Chapter 5, Section 3, except as specified in Table 10 to Subpart DDDDD.

(P63-DDDDD7) NOTIFICATION REQUIREMENTS

[WAQSR Ch 5, Sec 3(h), (i), (j) and (k) and Subpart DDDDD §63.7545]

(a) The permittee shall submit notifications required under this permit condition P63-DDDDD7, Subpart DDDDD, and Chapter 5, Section 3 to the Administrator in accordance with condition G4 of this permit.

(b) The permittee shall notify the Administrator in writing of their intention to conduct any performance test required by condition P63-DDDDD2 at least 30 calendar days before the performance test is scheduled to begin.

(c) The permittee shall notify the Administrator in writing of the date the performance evaluation required by condition P63-DDDDD4(e) is scheduled to begin, simultaneously with the notification of performance test date required by (b) above.

(d) The permittee shall, if requested, submit the site-specific performance evaluation test plan required by P63-DDDDD4(e) simultaneously with the notification required by (b) above.

(e) The permittee shall submit a report of the results of a CMS performance evaluation as follows:

(i) For any COMs required by condition P63-DDDDD3, two copies of the written report of the COM performance evaluation conducted under condition P63-DDDDD4(e) shall be submitted to the Administrator at least 15 days before any COMS performance test required under condition P63-DDDDD2.

(ii) For any CMS required by condition P63-DDDDD3, a written report of the results of the performance evaluation conducted under condition P63-DDDDD4(e) shall be submitted to the Administrator simultaneously with the performance test results required under paragraph (f) below.

(f) The permittee shall submit a Notification of Compliance Status with Subpart DDDDD upon completion of any relevant initial compliance demonstration activity, including all performance test results and fuel analyses, before the close of business on the 60th day following completion of the compliance demonstration.

(i) The Notification of Compliance Status shall contain all the information specified in §63.7545(e), as applicable.

(ii) For performance tests, the Notification of Compliance Status shall include COM data produced during the performance test, if the source tested is required to use a COM.

(g) The permittee shall submit all other notifications as required by WAQSR Ch 5 Sec 3 Subpart DDDDD.

(P63-DDDDD8) REPORTING REQUIREMENTS

[WAQSR Ch 5, Sec 3(j) and Sec 3(l)(i), (iv) and (v) and Subpart DDDDD §63.7550]

(a) The permittee shall submit reports required under this permit condition P63-DDDDD8, §63.7550, and Chapter 5, Section 3 to the Administrator in accordance with condition G4 of this permit.

(b) The permittee shall submit each report in Table 9 of Subpart DDDDD that applies, according to the timing requirements in §63.7550(b).

(i) Initial and semiannual compliance reports shall contain the information required by Table 9 and §63.7550(c) through (f).

(ii) If actions taken by the permittee during a startup, shutdown, or malfunction of affected boilers or process heaters (including actions taken to correct a malfunction) are consistent with the procedures specified in the source's SSMP, the permittee shall state such information in a startup, shutdown, and malfunction report. Reports shall only be required if a startup, shutdown, or malfunction occurred during the reporting period. The startup, shutdown, and malfunction report shall consist of a letter, containing the name, title, and signature of the responsible official who is certifying its accuracy, which shall be submitted to the Administrator semiannually. The startup, shutdown, and malfunction report shall be submitted simultaneously with the compliance reports.

(iii) Immediate startup, shutdown, and malfunction reports:

(A) Any time an action taken by a permittee during a startup, shutdown, or malfunction is not consistent with the procedures in the SSMP, the permittee shall make a report of the actions taken for the event by telephone call or facsimile (FAX) transmission within 2 working days after starting actions inconsistent with the plan. The immediate report shall be followed by a letter, delivered or postmarked within 7 working days after the end of the event, that contains the name, title, and signature of the responsible official who is certifying its accuracy, explaining the circumstances of the event, the reasons for not

following the startup, shutdown, and malfunction plan, and whether any excess emissions and/or parameter monitoring exceedances are believed to have occurred.

(B) For those malfunctions and or other events that affect a CMS/COM and are not addressed by the SSMP, the permittee shall send a follow-up report within 2 weeks after commencing actions inconsistent with the plan that either certifies that corrections have been made or includes a corrective action plan and schedule. The permittee shall provide proof that repair parts have been ordered or any other records that would indicate that the delay in making repairs is beyond their control.

(c) The permittee shall submit all other reports as required by §63.7550 and Chapter 5, Section 3.

COMPLIANCE CERTIFICATION AND SCHEDULE

Compliance Certification [WAQSR Ch 6, Sec 3(h)(iii)(E)]

(C1) (a) The permittee shall submit by January 31 each year a certification addressing compliance with the requirements of this permit. The certification shall be submitted as a stand-alone document separate from any monitoring reports required under this permit.

(b) (i) For fugitive emissions from the coal handling facilities and facility roads, the permittee shall assess compliance with condition F2 of this permit by reviewing records kept in accordance with condition F19.

(ii) For the sulfur dioxide emissions inventory, the permittee shall assess compliance with condition F3 by reviewing records kept in accordance with condition F20 and verifying reports were submitted in accordance with condition F30.

(iii) For visible and particulate emissions the permittee shall assess compliance with conditions F5, P60-Y1 and P60-OOO1, by conducting monitoring required be conditions F12, F13 and F14, and:

(A) For visible and particulate emissions from the units listed in condition F15(b), the permittee shall assess compliance with condition F5 by verifying natural gas was the sole fuel source used for the units.

(B) In addition, for visible emissions from boilers NS-1A and NS-1B, the permittee shall assess compliance with condition P60-D1(a) by conducting monitoring required by condition P60-D1(b).

(iv) For NO_X emissions the permittee shall assess compliance with conditions F6, P60-D1(a), and P60-Db1(a), as applicable:

(A) From sources NS-3, PH-1A, PH-1B, PH-2, PH-3, SM-1, RA-22A&B, RA23A&B, RA-24 and MONO 5, by conducting testing required by condition F16(a)(i), (ii), and (iii).

(B) From the baby sesqui calciner (RA-1), by reviewing records kept in accordance with condition F26.

(C) From the Mono boilers (NS-1A and NS-1B), by conducting monitoring required by condition P60-D1(b).

(D) From boiler MW-5, by conducting monitoring required by condition P60-Db1(c).

(v) For CO emissions the lime kiln (SM-1) and mine water plant boiler (MW-5), the permittee shall assess compliance with condition F7 by conducting monitoring required by condition F16(b).

(vi) For SO_2 emissions from the Mono boilers (NS-1A and NS-1B), the permittee shall assess compliance with conditions F8, P60-D1(a) and S4 of this permit by conducting monitoring required by condition P60-D1(b).

(vii) For the lime kiln (SM-1) operation, the permittee shall assess compliance with condition F9(a) by reviewing documentation submitted as required by condition F32(a)(i).

(viii) For the sesqui fluid bed calciner (RA-29) process rate limits, the permittee shall assess compliance with condition F9(b) by conducting monitoring required by condition F17(a).

(ix) For the sodium decahydrate surge pile limits, the permittee shall assess compliance with condition F9(c) of this permit by conducting monitoring required by condition F17(b).

(x) For ambient particulate monitoring, the permittee shall assess compliance with condition F18 by reviewing records kept in accordance with condition F27.

(xi) For emissions from lime kiln, the permittee shall assess compliance with condition P63-AAAAA1 by conducting monitoring and reviewing records kept in accordance conditions P63-AAAAA1 through P63-AAAAA5.

(xii) For HAP emissions from boilers and process heaters, the permittee shall assess compliance with condition P63-DDDDD1 by conducting monitoring and reviewing records kept in accordance with conditions P63-DDDDD1 through P63-DDDDD8.

(c) The compliance certification shall include:

(i) The permit condition or applicable requirement that is the basis of the certification;

(ii) The current compliance status;

(iii) Whether compliance was continuous or intermittent; and

(iv) The methods used for determining compliance.

(d) For any permit conditions or applicable requirements for which the source is not in compliance, the permittee shall submit with the compliance certification a proposed compliance plan and schedule for Division approval.

(e) The compliance certification shall be submitted to the Division in accordance with condition G4 of this permit and to the Assistant Regional Administrator, Office of Enforcement, Compliance, and Environmental Justice (8ENF-T), U.S. EPA - Region VIII, 1595 Wynkoop Street, Denver, CO 80202-1129.

(f) Determinations of compliance or violations of this permit are not restricted to the monitoring requirements listed in paragraph (b) of this condition; other credible evidence may be used.

Compliance Schedule [WAQSR Ch 6, Sec 3(h)(iii)(C) and (D)]

(C2) The permittee shall continue to comply with the applicable requirements with which the permittee has certified that it is already in compliance.

(C3) The permittee shall comply in a timely manner with applicable requirements that become effective during the term of this permit.

GENERAL PERMIT CONDITIONS

Powers of the Administrator: [W.S. 35-11-110]

(G1) (a) The Administrator may require the owner or operator of any point source to complete plans and specifications for any application for a permit required by the Wyoming Environmental Quality Act or regulations made pursuant thereto and require the submission of such reports regarding actual or potential violations of the Wyoming Environmental Quality Act or regulations thereunder.

(b) The Administrator may require the owner or operator of any point source to establish and maintain records; make reports; install, use and maintain monitoring equipment or methods; sample emissions, or provide such other information as may be reasonably required and specified.

Permit Renewal and Expiration: [WAQSR Ch 6, Sec 3(c)(i)(C), (d)(ii), (d)(iv)(B), and (h)(i)(B)] [W.S. 35-11-206(f)]

(G2) This permit is issued for a fixed term of five years. Permit expiration terminates the permittee's right to operate unless a timely and complete renewal application is submitted at least six months prior to the date of permit expiration. If the permittee submits a timely and complete application for renewal, the permittee's failure to have an operating permit is not a violation of WAQSR Chapter 6, Section 3 until the Division takes final action on the renewal application. This protection shall cease to apply after a completeness determination if the applicant fails to submit by the deadline specified in writing by the Division any additional information identified as being needed to process the application.

Duty to Supplement: [WAQSR Ch 6, Sec 3(c)(iii)]

(G3) The permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information. The permittee shall also provide additional information as necessary to address any requirements that become applicable to the facility after this permit is issued.

Submissions: [WAQSR Ch 6, Sec 3(c)(iv)] [W.S. 35-11-206(c)]

(G4) Any document submitted shall be certified as being true, accurate, and complete by a responsible official.

(a) Submissions to the Division.

(i) Any submissions to the Division including reports, certifications, and emission inventories required under this permit shall be submitted as separate, stand-alone documents and shall be sent to:

Administrator, Air Quality Division
122 West 25th Street
Cheyenne, Wyoming 82002

(ii) A copy of each submission to the Administrator under paragraph (a)(i) of this condition shall be sent to the DEQ Air Quality Contact listed on page 3 of this permit.

(b) Submissions to EPA.

(i) Each certification required under condition C1 of this permit shall also be sent to:

Assistant Regional Administrator
Office of Enforcement, Compliance, and Environmental Justice (8ENF-T)
U.S. EPA - Region VIII
1595 Wynkoop Street
Denver, CO 80202-1129.

(ii) All other required submissions to EPA shall be sent to:

Office of Partnerships and Regulatory Assistance
Air and Radiation Program (8P-AR)
U.S. EPA - Region VIII
1595 Wynkoop Street
Denver, CO 80202-1129

Changes for Which No Permit Revision Is Required: [WAQSR Ch 6, Sec 3(d)(iii)]

(G5) The permittee may change operations without a permit revision provided that:

(a) The change is not a modification under any provision of title I of the Clean Air Act;

(b) The change has met the requirements of Chapter 6, Section 2 of the WAQSR and is not a modification under Chapter 5, Section 2 or Chapter 6, Section 4 of the WAQSR and the changes do not exceed the emissions allowed under the permit (whether expressed therein as a rate of emissions or in terms of total emissions); and

(c) The permittee provides EPA and the Division with written notification at least 14 days in advance of the proposed change. The permittee, EPA, and the Division shall attach such notice to their copy of the relevant permit. For each such change, the written notification required shall include a brief description of the change within the permitted facility, the date on which the change will occur, any change in emissions, and any permit term or condition that is no longer applicable as a result of the change. The permit shield, if one exists for this permit, shall not apply to any such change made.

Transfer of Ownership or Operation: [WAQSR Ch 6, Sec 3(d)(v)(A)(IV)]

(G6) A change in ownership or operational control of this facility is treated as an administrative permit amendment if no other change in this permit is necessary and provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to the Division.

Reopening for Cause: [WAQSR Ch 6, Sec 3(d)(vii)] [W.S. 35-11-206(f)(ii) and (iv)]

(G7) The Division will reopen and revise this permit as necessary to remedy deficiencies in the following circumstances:

(a) Additional applicable requirements under the Clean Air Act or the WAQSR that become applicable to this source if the remaining permit term is three or more years. Such reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No 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 have been extended.

(b) Additional requirements (including excess emissions requirements) become applicable to an affected source under the acid rain program. Upon approval by EPA, excess emissions offset plans shall be deemed to be incorporated into the permit.

(c) The Division or 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 Division or EPA determines that the permit must be revised or revoked to assure compliance with applicable requirements.

Annual Fee Payment: [WAQSR Ch 6, Sec 3(f)(i), (ii), and (vi)] [W.S. 35-11-211]

(G8) The permittee shall, as a condition of continued operations, submit an annual fee to the Division as established in Chapter 6, Section 3 (f) of the WAQSR. The Division shall give written notice of the amount of fee to be assessed and the basis for such fee assessment annually. The assessed fee is due on receipt of the notice unless the fee assessment is appealed pursuant to W.S. 35-11-211(d). If any part of the fee assessment is not appealed it shall be paid to the Division on receipt of the written notice. Any remaining fee which may be due after completion of the appeal is immediately due and payable upon issuance of the Council's decision. Failure to pay fees owed the Division is a violation of Chapter 6, Section 3 (f) and W.S. 35-11-203 and may be cause for the revocation of this permit.

Annual Emissions Inventories: [WAQSR Ch 6, Sec 3(f)(v)(G)]

(G9) The permittee shall submit an annual emission inventory for this facility to the Division for fee assessment and compliance determinations within 60 days following the end of the calendar year. The emissions inventory shall be in a format specified by the Division.

Severability Clause: [WAQSR Ch 6, Sec 3(h)(i)(E)]

(G10) The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

Compliance: [WAQSR Ch 6, Sec 3(h)(i)(F)(I) and (II)] [W.S. 35-11-203(b)]

(G11) The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Air Act, Article 2 of the Wyoming Environmental Quality Act, and the WAQSR and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. 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.

Permit Actions: [WAQSR Ch 6, Sec 3(h)(i)(F)(III)] [W.S. 35-11-206(f)]

(G12) 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.

Property Rights: [WAQSR Ch 6, Sec 3(h)(i)(F)(IV)]

(G13) This permit does not convey any property rights of any sort, or any exclusive privilege.

Duty to Provide Information: [WAQSR Ch 6, Sec 3(h)(i)(F)(V)]

(G14) The permittee shall furnish to the Division, within a reasonable time, any information that the Division 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 Division copies of records required to be kept by the permit, including information claimed and shown to be confidential under W.S. 35-11-1101 (a) of the Wyoming Environmental Quality Act. Upon request by the Division, the permittee shall also furnish confidential information directly to EPA along with a claim of confidentiality.

Emissions Trading: [WAQSR Ch 6, Sec 3(h)(i)(H)]

(G15) There are no emissions trading provisions in this permit.

Inspection and Entry: [WAQSR Ch 6, Sec 3(h)(iii)(B)] [W.S. 35-11-206(c)]

(G16) Authorized representatives of the Division, upon presentation of credentials and other documents as may be required by law, shall be given permission to:

- (a) 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 any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
- (d) sample or monitor any substances or parameters at any location, during operating hours, for the purpose of assuring compliance with this permit or applicable requirements.

Excess Emissions Due to an Emergency: [WAQSR Ch 6, Sec 3(l)]

(G17) The permittee may seek to establish that noncompliance with a technology-based emission limitation under this permit was due to an emergency, as defined in Ch 6, Sec 3(l)(i) of the WAQSR. To do so, the permittee shall demonstrate the affirmative defense of emergency 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 emissions standards, or other requirements in this permit;

(d) The permittee submitted notice of the emergency to the Division within one working day of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

Diluting and Concealing Emissions: [WAQSR Ch 1, Sec 4]

(G18) No person shall cause or permit the installation or use of any device, contrivance, or operational schedule which, without resulting in reduction of the total amount of air contaminant released to the atmosphere, shall dilute or conceal an emission from a source. This condition shall not apply to the control of odors.

Unavoidable Equipment Malfunction: [WAQSR Ch 1, Sec 5]

(G19) (a) Any source believing that any emissions in excess of established regulation limits or standards resulted from an unavoidable equipment malfunction, shall notify the Division within 24 hours of the incident via telephone, electronic mail, fax, or other similar method. A detailed description of the circumstances of the incident as described in paragraph 5(a)(i)(A) Chapter 1, including a corrective program directed at preventing future such incidents, must be submitted within 14 days of the onset of the incident. The Administrator may extend this 14-day time period for cause.

(b) The burden of proof is on the owner or operator of the source to provide sufficient information to demonstrate that an unavoidable equipment malfunction occurred.

Fugitive Dust: [WAQSR Ch 3, Sec 2(f)]

(G20) The permittee shall minimize fugitive dust in compliance with standards in Ch 3, Sec 2(f) of WAQSR for construction/demolition activities, handling and transportation of materials, and agricultural practices.

Carbon Monoxide: [WAQSR Ch 3, Sec 5]

(G21) The emission of carbon monoxide in stack gases from any stationary source shall be limited as may be necessary to prevent ambient standards from being exceeded.

Asbestos: [WAQSR Ch 3, Sec 8]

(G22) The permittee shall comply with emission standards for asbestos during abatement, demolition, renovation, manufacturing, spraying and fabricating activities.

(a) No owner or operator shall build, erect, install, or use any article, machine, equipment, process, or method, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous dilutants to achieve compliance with a visible emissions standard, and the piecemeal carrying out of an operation to avoid coverage by a standard that applies only to operations larger than a specified size.

(b) All owners and operators conducting an asbestos abatement project, including an abatement project on a residential building, shall be responsible for complying with Federal requirements and State standards for packaging, transportation, and delivery to an approved waste disposal facility as provided in paragraph (m) of Ch 3, Sec 8.

(c) The permittee shall follow State and Federal standards for any demolition and renovation activities conducted at this facility, including:

(i) A thorough inspection of the affected facility or part of the facility where the demolition or renovation activity will occur shall be conducted to determine the presence of asbestos, including Category I and Category II non-friable asbestos containing material. The results of the inspection will determine which notification and asbestos abatement procedures are applicable to the activity.

(ii) The owner or operator shall follow the appropriate notification requirements of Ch 3, Sec 8(i)(ii).

(iii) The owner or operator shall follow the appropriate procedures for asbestos emissions control, as specified in Chapter 3, Section 8(i)(iii).

(d) No owner or operator of a facility may install or reinstall on a facility component any insulating materials that contain commercial asbestos if the materials are either molded and friable or wet-applied and friable after drying. The provisions of this paragraph do not apply to spray-applied insulating materials regulated under paragraph (j) of Ch 3, Sec 8.

(e) The permittee shall comply with all other requirements of WAQSR Ch 3, Sec 8.

Open Burning Restrictions: [WAQSR Ch 10, Sec 2]

(G23) The permittee conducting an open burn shall comply with all rules and regulations of the Wyoming Department of Environmental Quality, Division of Air Quality, and with the Wyoming Environmental Quality Act.

(a) No person shall burn prohibited materials using an open burning method, except as may be authorized by permit. ***"Prohibited materials"*** means substances including, but not limited to; natural or synthetic rubber products, including tires; waste petroleum products, such as oil or used oil filters; insulated wire; plastic products, including polyvinyl chloride ("PVC") pipe, tubing and connectors; tar, asphalt, asphalt shingles, or tar paper; railroad ties; wood, wood waste, or lumber that is painted or chemically treated; explosives or ammunition; batteries; hazardous waste products; asbestos or asbestos containing materials; or materials which cause dense smoke discharges, excluding refuse and flaring associated with oil and gas well testing, completions and well workovers.

(b) No person or organization shall conduct or cause or permit open burning for the disposal of trade wastes, for a salvage operation, for the destruction of fire hazards if so designated by a jurisdictional fire authority, or for fire fighting training, except when it can be shown by a person or organization that such open burning is absolutely necessary and in the public interest. Any person or organization intending to engage in such open burning shall file a request to do so with the Division.

Sulfur Dioxide Emission Trading and Inventory Program [WAQSR Ch 14]

(G24) Any BART (Best Available Retrofit Technology) eligible facility, or facility which has actual emissions of SO_2 greater than 100 tpy in calendar year 2000 or any subsequent year, shall comply with the applicable requirements of WAQSR Ch 14, Sections 1 through 3, with the exceptions described in sections 2(c) and 3(a).

Stratospheric Ozone Protection Requirements: [40 CFR Part 82]

(G25) The permittee shall comply with all applicable Stratospheric Ozone Protection Requirements, including but not limited to:

(a) *Standards for Appliances* [40 CFR Part 82, Subpart F]
The permittee shall comply with the standards for recycling and emission reduction pursuant to 40 CFR Part 82, Subpart F - Recycling and Emissions Reduction, except as provided for motor vehicle air conditioners (MVACs) in Subpart B:

(i) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to §82.156.

(ii) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158.

(iii) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to §82.161.

(iv) Persons disposing of small appliances, MVACs and MVAC-like appliances must comply with record keeping requirements pursuant to §82.166. ("MVAC-like appliance" as defined at §82.152).

(v) Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to §82.166.

(vi) Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.

(vii) The permittee shall comply with all other requirements of Subpart F.

(b) *Standards for Motor Vehicle Air Conditioners* [40 CFR Part 82, Subpart B]
If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or the system used on passenger buses using HCFC-22 refrigerant.

STATE ONLY PERMIT CONDITIONS

The conditions listed in this section are State only requirements and are not federally enforceable.

Ambient Standards

(S1) The permittee shall operate the emission units described in this permit such that the following ambient standards are not exceeded:

POLLUTANT	STANDARD	CONDITION	WAQSR CH. 2, SEC.
PM_{10} particulate matter	50 micrograms per cubic meter	annual arithmetic mean	2 (a)
	150 micrograms per cubic meter	24-hr avg. concentration with not more than one exceedance per year	
$PM_{2.5}$ particulate matter	15 micrograms per cubic meter	annual arithmetic mean	2 (b)
	65 micrograms per cubic meter	98th percentile 24-hour average concentration	
Sulfur oxides	60 micrograms per cubic meter	annual arithmetic mean	4
	260 micrograms per cubic meter	max 24-hr concentration with not more than one exceedance per year	
	1300 micrograms per cubic meter	max 3-hr concentration with not more than one exceedance per year	
Suspended sulfate	0.25 milligrams SO_3 per 100 square centimeters per day	maximum annual average	8
	0.50 milligrams SO_3 per 100 square centimeters per day	maximum 30-day value	
Hydrogen sulfide	70 micrograms per cubic meter	½ hour average not to be exceeded more than two times per year	7
	40 micrograms per cubic meter	½ hour average not to be exceeded more than two times in any five consecutive days	
Ozone	0.08 parts per million	daily maximum 8-hour average	6
Nitrogen dioxide	100 micrograms per cubic meter	annual arithmetic mean	3
Carbon monoxide	10 milligrams per cubic meter	max 8-hr concentration with not more than one exceedance per year	5
	40 milligrams per cubic meter	max 1-hr concentration with not more than one exceedance per year	
Lead and its compounds	1.5 micrograms per cubic meter	maximum arithmetic mean averaged over a calendar quarter	10

Hydrogen Sulfide: [WAQSR Ch 3, Sec 7]

(S2) Any exit process gas stream containing hydrogen sulfide which is discharged to the atmosphere from any source shall be vented, incinerated, flared or otherwise disposed of in such a manner that ambient sulfur dioxide and hydrogen sulfide standards are not exceeded.

Odors: [WAQSR Ch 2, Sec 11]

(S3) (a) The ambient air standard for odors from any source shall be limited to an odor emission at the property line which is undetectable at seven dilutions with odor free air as determined by a scentometer as manufactured by the Barnebey-Cheney Company or any other instrument, device, or technique designated by the Division as producing equivalent results. The occurrence of odors shall be measured so that at least two measurements can be made within a period of one hour, these determinations being separated by at least 15 minutes.

(b) Odor producing materials shall be stored, transported, and handled in a manner that odors produced from such materials are confined and that accumulation of such materials resulting from spillage or other escape is prevented.

Sulfur Oxides: [WAQSR Ch 3, Sec 4]

Source-Specific Permit Conditions

(S4) MONO COAL/GAS FIRED BOILER SO_2 EMISSIONS [WAQSR Ch 3, Sec 4(f)]
SO_2 emissions from the Mono boilers (NS-1A and NS-1B) shall be limited to 1.2 lb/MMBtu of heat input based on fixed two-hour averages.

Testing Requirements

(S5) SO_2 EMISSIONS TESTING [W.S. 35-11-110 and 40 CFR 60 Subpart D]
The Mono boilers SO_2 emissions testing requirements are described under condition F11.

Monitoring Requirements

(S6) SO_2 EMISSIONS MONITORING [WAQSR Ch 6, Sec 3(h)(i)(C)(I) and 40 CFR 60 Subpart D]
The Mono boilers SO_2 emissions monitoring requirements are described under condition P60-D1(b).

Recordkeeping Requirements

(S7) SO_2 EMISSIONS TEST RECORDS [WAQSR Ch 6, Sec 3(h)(i)(C)(II)]
Recordkeeping requirements for any SO_2 emissions testing the Division may require for the Mono boilers are described under condition F20 of this permit.

(S8) SO_2 EMISSIONS MONITORING RECORDS [WAQSR Ch 5, Sec 2(g)(ii) & (g)(v)]
Recordkeeping requirements for the Mono boilers SO_2 emissions monitoring are described under condition P60-D2.

Reporting Requirements

(S9) SO_2 EMISSIONS TEST REPORTS [WAQSR Ch 6, Sec 3(h)(i)(C)(III)]
Reporting requirements for any SO_2 emissions testing the Division may require for the Mono boilers are described under condition F30.

(S10) SO_2 EMISSIONS MONITORING REPORTS [WAQSR Ch 5, Sec 2(g)(iii) and 40 CFR 60 SubpartD]
Reporting requirements for the Mono boilers SO_2 emissions monitoring are described under condition P60-D3. The reporting of exceedances of the NSPS SO_2 emission limit as described in conditions P60-D1 and P60-D3 will be accepted in lieu of reporting on the basis of fixed two-hour averages for the state-only standard under condition S4.

SUMMARY OF SOURCE EMISSION LIMITS AND REQUIREMENTS

Source ID#: **PA-4, PA-5, RA-1, RA-22A&B, RA-23A&B, RA-24, RA-25, RA-26, RA-29, RA-33, MONO 2-6 and 8, MONO 11, NS-4, NS-6, MW-3, SM-1** Source Description: **Wet-scrubber Controlled Sources**

Pollutant	Emissions Limit / Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	Opacity and particulate limits [F5, Table I] SM-1: Natural gas firing RA-29: Operation and process rate limits [F9]	WAQSR Ch 3, Sec 2; Ch 6 Sec 2 Permits OP-265 and MD-334; 40 CFR 60 Subpart OOO	Additional testing if required [F11]	CAM monitoring, testing as indicated [F12] SM-1: Documentation of natural gas firing [F32] RA-29: Monitor process rates [F17]	Testing/monitoring records [F21] Scrubber records [F23]	Test reports [F31] Monitoring reports [F32] Report excess emissions and permit deviations [F36]
	In addition for MONO 11: comply with 40 CFR 60 Subpart OOO [P60-OOO1]	40 CFR 60 Subpart OOO	Testing if required [P60-OOO1]	Continuous scrubber monitoring [P60-OOO1]	Scrubber monitoring records [P60-OOO1 and P60-OOO2]	Scrubber monitoring reports [P60-OOO1]
NO_X	RA-1, RA-22A&B, RA-23A&B, RA-24, MONO 5, SM-1: lb/hr [F6, Table II]	WAQSR Ch 6 Sec 2 Permit CT-1045	Additional testing if required [F11]	Testing as required [F16] RA-1: Maintenance [F16]	Testing/monitoring records [F21] RA-1: Maintenance records [F26]	Test reports [F31] Monitoring reports [F32] RA-1: Maintenance records [F33] Report excess emissions and permit deviations [F36]
CO	SM-1 only: 26.1 lb/hr [F7]	WAQSR Ch 6, Sec 2 Permit OP-198	Additional testing if required [F11]	Test at least once during the permit term [F16]	Testing/monitoring records [F21]	Test reports [F31] Monitoring reports [F32] Report excess emissions and permit deviations [F36]
HAPs	SM-1 only: comply with 40 CFR 63 Subpart AAAAA	40 CFR 63 Subpart AAAAA	Additional testing if required [F11] Testing per P63-AAAAA2	Monitoring per P63-AAAAA3	Records per P63-AAAAA5	Notification and reports per P63-AAAAA4 Report excess emissions and permit deviations [F36]

These tables are intended only to highlight and summarize applicable requirements for each source. The corresponding permit conditions, listed in brackets, contain detailed descriptions of the compliance requirements. Compliance with the summary conditions in these tables may not be sufficient to meet permit requirements. These tables may not reflect all emission sources at this facility.

Source ID#: **RA-28, Mono 9, Mono 10, Mono 12, MW-1, MW-2, MW-4, NS-2A, NS-2B, NS-10, NS-11, BC-1, BC-2**

Source Description: **Baghouse Controlled Sources**

Pollutant	Emissions Limit / Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	Opacity and particulate limits [F5, Table I]	WAQSR Ch 3, Sec 2; Ch 6 Sec 2 Permits OP-197 and OP-265; 40 CFR 60 Subpart Y and Subpart OOO	Additional testing if required [F11]	CAM monitoring as indicated [F13] MW-1 and MW-2: monitoring and maintenance [F13]	Testing/monitoring records [F21] MW-1 and MW-2: Maintenance records [F26]	Monitoring reports [F32] MW-1 and MW-2: Maintenance records [F33] Report excess emissions and permit deviations [F36]
	In addition for RA-28, MONO 12, MW-2, MW-4 and BC-2: comply with 40 CFR 60 Subpart OOO [P60-OOO1]	40 CFR 60 Subpart OOO	Testing if required [P60-OOO1]		NSPS records [P60-OOO2]	
	In addition for NS-2A and NS-2B: comply with 40 CFR 60 Subpart Y [P60-Y1]	40 CFR 60 Subpart Y	Testing if required [P60-Y1]		NSPS records [P60-Y2]	

These tables are intended only to highlight and summarize applicable requirements for each source. The corresponding permit conditions, listed in brackets, contain detailed descriptions of the compliance requirements. Compliance with the summary conditions in these tables may not be sufficient to meet permit requirements. These tables may not reflect all emission sources at this facility.

Source ID#: **NS-3, NS-1A and NS-1B** Source Description: **ESP Controlled Sources (Mono 2 Calciner, Mono Boilers)**

Pollutant	Emissions Limit / Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	Opacity and particulate limits [F5, Table I]	WAQSR Ch 6, Sec 2 Permit OP-265 and Division letter 8/21/95; 40 CFR 60 Subpart D	Additional testing if required [F11]	CAM and COM, testing as indicated [F14]	Testing/monitoring records [F21] ESP records [F24]	Test reports [F31] Monitoring reports [F32] Report excess emissions and permit deviations [F36] and for NS-3 also reporting per [F35]
	In addition for NS-1A and NS-1B: comply with 40 CFR 60 Subpart D [P60-D1]	40 CFR 60 Subpart D		COM [P60-D1]	Opacity monitoring records [P60-D2]	Opacity monitoring reports [P60-D3]
NO_X	lb/hr and lb/MMBtu [F6, Table II]	WAQSR Ch 6, Sec 2 Permit CT-1045;	Additional testing if required [F11]	NS-3: Testing as indicated [F16]	Testing/monitoring records [F21]	Test reports [F31] Report excess emissions and permit deviations [F36]
	In addition for NS-1A and NS-1B: comply with 40 CFR 60 Subpart D [P60-D1]	40 CFR 60 Subpart D		NS-1A and NS-1B: CEM [P60-D1]	Emissions monitoring records [P60-D2]	Emissions monitoring reports [P60-D3]
SO_2	NS-1A and NS-1B only: lb/MMBtu and lb/hr [F8] and comply with 40 CFR 60 Subpart D [P60-D1]	WAQSR Ch 6, Sec 2 Permit CT-1045 40 CFR 60 Subpart D	Additional testing if required [F11]	NS-1A and NS-1B: CEM [P60-D1]	Monitoring records [P60-D2]	Test reports [F31] Emissions monitoring reports [P60-D3] Report excess emissions and permit deviations [F36]
HAPs	NS-1A and NS-1B only: comply with WAQSR Ch 5, Sec 3 Subpart DDDDD	WAQSR Ch 5, Sec 3 Subpart DDDDD	Testing and fuel analysis [P63-DDDDD2]	CEMS, CMS and other monitoring as applicable [P63-DDDDD3]	MACT recordkeeping as applicable [P63-DDDDD6]	Report excess emissions and permit deviations [F36] Notifications/reports as applicable [P63-DDDDD7 & DDDDD8]

These tables are intended only to highlight and summarize applicable requirements for each source. The corresponding permit conditions, listed in brackets, contain detailed descriptions of the compliance requirements. Compliance with the summary conditions in these tables may not be sufficient to meet permit requirements. These tables may not reflect all emission sources at this facility.

Source ID#: **PA-6, PA-7, PA-8, and PA-9** Source Description: **Sesqui Plant Dissolver Vents (uncontrolled)**

Pollutant	Emissions Limit / Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	40 percent opacity and 1.00 lb/hr [F5]	WAQSR Ch 3, Sec 2; Ch 6, Sec 2 Permit OP-265	Additional testing if required [F11]	None [F15]	Testing/monitoring records [F21]	Test reports if required [F31] Report excess emissions and permit deviations [F36]

Source ID#: **DECA Mining** Source Description: **Evaporation Lake Deca Mining**

Pollutant	Emissions Limit / Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	Fugitive dust control [F2] Operational and seasonal surge pile limits [F9]	WAQSR Ch 8, Sec 2; Ch 6, Sec 2 Permit MD-964	Additional testing if required [F11]	Monitor surge pile limits [F17]	Fugitive dust control records [F19] Monitoring records [F21]	Fugitive dust control reports [F29] Monitoring reports [F32] Report excess emissions and permit deviations [F36]

Source ID#: **MONO PILE, SESQUIPILE, WIND/ROAD and COAL PILE** Source Description: **Fugitive Sources**

Pollutant	Emissions Limit / Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	Fugitive dust control [F2]	WAQSR Ch 8, Sec 2	Additional testing if required [F11]	Ambient monitoring [F18]	Fugitive dust control records [F19] Ambient monitoring records [F27]	Fugitive dust control reports [F29] Monitoring reports [F32] Ambient monitoring reports [F34] Report excess emissions and permit deviations [F36]

These tables are intended only to highlight and summarize applicable requirements for each source. The corresponding permit conditions, listed in brackets, contain detailed descriptions of the compliance requirements. Compliance with the summary conditions in these tables may not be sufficient to meet permit requirements. These tables may not reflect all emission sources at this facility.

Source ID#: **PH-1A, PH-1B, PH-2 and PH-3** Source Description: **Sesqui Gas Fired Boilers (Combustion Air Control)**

Pollutant	Emissions Limit / Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	40 percent opacity, particulate limits [F5, Table I]	WAQSR Ch 3, Sec 2 and Ch 8, Sec 2	Additional testing if required [F11]	Verification of natural gas firing [F15]	Testing/monitoring records [F21]	Report type of fuel fired [F32] Report excess emissions and permit deviations [F36]
NO_X	lb/hr and lb/MMBtu [F6, Table II]	WAQSR Ch 6, Sec 2 Permit CT-1045	Additional testing if required [F11]	Testing as indicated [F16]	Testing/monitoring records [F21]	Test reports [F31] Monitoring reports [F32] Report excess emissions and permit deviations [F36]
HAPs	Comply with WAQSR Ch 5, Sec 3 Subpart DDDDD	WAQSR Ch 5, Sec 3 Subpart DDDDD	Testing and fuel analysis [P63-DDDDD2]	CEMS, CMS and other monitoring as applicable [P63-DDDDD3]	MACT recordkeeping as applicable [P63-DDDDD6]	Report excess emissions and permit deviations [F35] Notifications/reports as applicable [P63-DDDDD7 & DDDDD8]

These tables are intended only to highlight and summarize applicable requirements for each source. The corresponding permit conditions, listed in brackets, contain detailed descriptions of the compliance requirements. Compliance with the summary conditions in these tables may not be sufficient to meet permit requirements. These tables may not reflect all emission sources at this facility.

Source ID#: **MW-5** Source Description: **Mine Water Plant Boiler (Todd LoNO$_X$ Burners and Flue Gas Recirculation)**

Pollutant	Emissions Limit / Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20 percent opacity [F5, Table I]	WAQSR Ch 3, Sec 2	Additional testing if required [F11]	Verification of natural gas firing [F15]	Testing/monitoring records [F21]	Report type of fuel fired [F32] Report excess emissions and permit deviations [F36]
NO_X	0.10 lb/MMBtu and 31.50 lb/hr [F6 and P60-Db1]	WAQSR Ch 6, Sec 2 Permit CT-1045A and 40 CFR 60 Subpart Db	Additional testing if required [F11 and NSPS-Db1]	Continuous emissions monitoring [P60-Db1]	Testing/monitoring records [F21] Records [P60-Db1 and P60-Db2]	Report excess emissions and permit deviations [F35 & F36] Monitoring reports [P60-Db3]
CO	0.10 lb/MMBtu and 31.50 lb/hr [F7]	WAQSR Ch 6, Sec 2 Permit CT-1045A	Additional testing if required [F11]	Testing as indicated [F16]	Testing/monitoring records [F21]	Test reports [F31] Report excess emissions and permit deviations [F36]
HAPs	Comply with WAQSR Ch 5, Sec 3 Subpart DDDDD	WAQSR Ch 5, Sec 3 Subpart DDDDD	Testing and fuel analysis [P63-DDDDD2]	CEMS, CMS and other monitoring as applicable [P63-DDDDD3]	MACT recordkeeping as applicable [P63-DDDDD6]	Report excess emissions and permit deviations [F35] Notifications/ reports as applicable [P63-DDDDD7 & DDDDD8]

Source ID#: **MW-6** Source Description: **Mine Water Stripper Vent (Scrubbers)**

Pollutant	Emissions Limit / Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
H_2S	2.0 lb/hr and 8.8 TPY [F8]	WAQSR Ch 6, Sec 2 Permit MD-1216	Initial performance testing [F10] Additional testing if required [F11]	CAM monitoring, testing as indicated [F12]	Testing/monitoring records [F21]	Test reports [F31] Monitoring reports [F32] Report excess emissions and permit deviations [F36]

These tables are intended only to highlight and summarize applicable requirements for each source. The corresponding permit conditions, listed in brackets, contain detailed descriptions of the compliance requirements. Compliance with the summary conditions in these tables may not be sufficient to meet permit requirements. These tables may not reflect all emission sources at this facility.

ABBREVIATIONS

AQD	Air Quality Division
BACT	Best available control technology (see Definitions)
Btu	British Thermal Unit
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
C.F.R.	Code of Federal Regulations
CO	Carbon monoxide
DEQ	Wyoming Department of Environmental Quality
EPA	United States Environmental Protection Agency (see Definitions)
ESP	Electrostatic precipitator(s)
g	Gram(s)
g-cal/hr	Gram-calorie(s) per hour
g/hp-hr	Gram(s) per horsepower hour
gal	Gallon(s)
gr	Grain(s)
H_2S	Hydrogen sulfide
HAP(s)	Hazardous air pollutant(s)
hp	Horsepower
hr	Hour(s)
ID#	Identification number
lb	Pound(s)
M	Thousand
MACT	Maximum available control technology (see Definitions)
mfr	Manufacturer
mg	Milligram(s)
MM	Million
N/A	Not applicable
NMHC(s)	Non-methane hydrocarbon(s)
MVACs	Motor vehicle air conditioners
NO_X	Oxides of nitrogen
O_2	Oxygen
OPP	Operating Permit Program
PM	Particulate matter
PM_{10}	Particulate matter less than or equal to a nominal diameter of 10 micrometers
ppmv	Parts per million (by volume)
ppmw	Parts per million (by weight)
QIP	Quality Improvement Plan
RVP	Reid Vapor Pressure
SCF	Standard cubic foot (feet)
SCFD	Standard cubic foot (feet) per day
SCM	Standard cubic meter(s)
SIC	Standard Industrial Classification
SO_2	Sulfur dioxide
SO_3	Sulfur trioxide
SO_X	Oxides of sulfur
TBD	To be determined
TPY	Tons per year
U.S.C.	United States Code
µg	Microgram(s)
VOC(s)	Volatile organic compound(s)
W.S.	Wyoming Statute
WAQSR	Wyoming Air Quality Standards & Regulations (see Definitions)

DEFINITIONS

"Act" means the Clean Air Act, as amended, 42 U.S.C. 7401, *et seq.*

"Administrator" means Administrator of the Air Quality Division, Wyoming Department of Environmental Quality.

"Applicable requirement" means all of the following as they apply to emissions units at a source subject to Chapter 6, Section 3 of the WAQSR (including requirements with future effective compliance dates that have been promulgated or approved by the EPA or the State through rulemaking at the time of issuance of the operating permit):

(a) Any standard or other requirement provided for in the Wyoming implementation plan approved or promulgated by EPA under title I of the Act that implements the relevant requirements of the Act, including any revisions to the plan promulgated in 40 C.F.R. Part 52;

(b) Any standards or requirements in the WAQSR which are not a part of the approved Wyoming implementation plan and are not federally enforceable;

(c) Any term or condition of any preconstruction permits issued pursuant to regulations approved or promulgated through rulemaking under title I, including parts C or D of the Act and including Chapter 5, Section 2 and Chapter 6, Sections 2 and 4 of the WAQSR;

(d) Any standard or other requirement promulgated under Section 111 of the Act, including Section 111(d) and Chapter 5, Section 2 of the WAQSR;

(e) Any standard or other requirement under Section 112 of the Act, including any requirement concerning accident prevention under Section 112(r)(7) of the Act and including any regulations promulgated by EPA and the State pursuant to Section 112 of the Act;

(f) Any standard or other requirement of the acid rain program under title IV of the Act or the regulations promulgated thereunder;

(g) Any requirements established pursuant to Section 504(b) or Section 114(a)(3) of the Act concerning enhanced monitoring and compliance certifications;

(h) Any standard or other requirement governing solid waste incineration, under Section 129 of the Act;

(i) Any standard or other requirement for consumer and commercial products, under Section 183(e) of the Act (having to do with the release of volatile organic compounds under ozone control requirements);

(j) Any standard or other requirement of the regulations promulgated to protect stratospheric ozone under title VI of the Act, unless the EPA has determined that such requirements need not be contained in a title V permit;

(k) Any national ambient air quality standard or increment or visibility requirement under part C of title I of the Act, but only as it would apply to temporary sources permitted pursuant to Section 504(e) of the Act; and

(l) Any state ambient air quality standard or increment or visibility requirement of the WAQSR.

(m) Nothing under paragraphs (A) through (L) above shall be construed as affecting the allowance program and Phase II compliance schedule under the acid rain provision of Title IV of the Act.

"BACT" or "Best available control technology" means an emission limitation (including a visible emission standard) based on the maximum degree of reduction of each pollutant subject to regulation under the WAQSR or regulation under the Federal Clean Air Act, which would be emitted from or which results for any proposed major emitting facility or major modification which the Administrator, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application or production processes and available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. If the Administrator determines that technological or economic limitations on the application of measurement methodology to a particular class of sources would make the imposition of an emission standard infeasible, he may instead prescribe a design, equipment, work practice or operational standard or combination thereof to satisfy the requirement of Best Available Control Technology. Such standard shall, to the degree possible, set forth the emission reduction achievable by implementation of such design, equipment, work practice, or operation and shall provide for compliance by means which achieve equivalent results. Application of BACT shall not result in emissions in excess of those allowed under Chapter 5, Section 2 of the WAQSR and any other new source performance standard or national emission standards for hazardous air pollutants promulgated by EPA but not yet adopted by the state.

"Department" means the Wyoming Department of Environmental Quality or its Director.

"Director" means the Director of the Wyoming Department of Environmental Quality.

"Division" means the Air Quality Division of the Wyoming Department of Environmental Quality or its Administrator.

"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.

"EPA" means the Administrator of the U.S. Environmental Protection Agency or the Administrator's designee.

"Fuel-burning equipment" means any furnace, boiler apparatus, stack, or appurtenances thereto used in the process of burning fuel or other combustible material for the purpose of producing heat or power by indirect heat transfer.

"Fugitive emissions" means those emissions which could not reasonably pass through a stack chimney, vent, or other functionally equivalent opening.

"Insignificant activities" means those activities which are incidental to the facility's primary business activity and which result in emissions of less than one ton per year of a regulated pollutant not included in the Section 112(b) list of hazardous air pollutants or emissions less than 1000 pounds per year of a pollutant regulated pursuant to listing under Section 112(b) of the Act provided, however, such emission levels of hazardous air pollutants do not exceed exemptions based on insignificant emission levels established by EPA through rulemaking for modification under Section 112(g) of the Act.

"MACT" or "Maximum achievable control technology" means the maximum degree of reduction in emissions that is deemed achievable for new sources in a category or subcategory that shall not be less stringent than the emission control that is achieved in practice by the best controlled similar source, as determined by the Administrator. Emission standards promulgated for existing sources in a category or subcategory may be less stringent than standards for new sources in the same category or subcategory but shall not be less stringent, and may be more stringent than:

(a) the average emission limitation achieved by the best performing 12 percent of the existing sources (for which the Administrator has emission information), excluding those sources that have, within 18 months before the emission standard is proposed or within 30 months before such standard is promulgated, whichever is later, first achieved a level of emission rate or emission reduction which complies, or would comply if the source is not subject to such standard, with the lowest achievable emission rate applicable to the source category and prevailing at the time, in the category or subcategory for categories and subcategories with 30 or more sources, or

(b) the average emission limitation achieved by the best performing five sources (for which the Administrator has or could reasonably obtain emissions information) in the category or subcategory for categories or subcategories with fewer than 30 sources.

"Modification" means any physical change in, or change in the method of operation of, an affected facility which increases the amount of any air pollutant (to which any state standards applies) emitted by such facility or which results in the emission of any such air pollutant not previously emitted.

"Permittee" means the person or entity to whom a Chapter 6, Section 3 permit is issued.

"Potential to emit" means the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in title IV of the Act or the regulations promulgated thereunder.

"Regulated air pollutant" means the following:

(a) Nitrogen oxides (NO_X) or any volatile organic compound;

(b) Any pollutant for which a national ambient air quality standard has been promulgated;

(c) Any pollutant that is subject to any standard established in Chapter 5, Section 2 of the WAQSR or Section 111 of the Act;

(d) Any Class I or II substance subject to a standard promulgated under or established by title VI of the Act; or

(e) Any pollutant subject to a standard promulgated under Section 112 or other requirements established under Section 112 of the Act, including Sections 112(g), (j), and (r) of the Act, including the following:

(i) Any pollutant subject to requirements under Section 112(j) of the Act. If EPA fails to promulgate a standard by the date established pursuant to Section 112(e) of the Act, any pollutant for which a subject source would be major shall be considered to be regulated on the date 18 months after the applicable date established pursuant to Section 112(e) of the Act; and

(ii) Any pollutant for which the requirements of Section 112(g)(2) of the Act have been met, but only with respect to the individual source subject to Section 112(g)(2) requirement.

(f) Pollutants regulated solely under Section 112(r) of the Act are to be regulated only with respect to the requirements of Section 112(r) for permits issued under this Chapter 6, Section 3 of the WAQSR.

"Renewal" means the process by which a permit is reissued at the end of its term.

"Responsible official" means one of the following:

(a) For a corporation:

(i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or

(ii) A duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:

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

(B) the delegation of authority to such representative is approved in advance by the Division;

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

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

(d) For affected sources:

(i) The designated representative or alternate designated representative in so far as actions, standards, requirements, or prohibitions under title IV of the Act or the regulations promulgated thereunder are concerned; and

(ii) The designated representative, alternate designated representative, or responsible official under Chapter 6, Section 3 (b)(xxvi) of the WAQSR for all other purposes under this section.

"WAQSR" means the Wyoming Air Quality Standards and Regulations promulgated under the Wyoming Environmental Quality Act, W.S. §35-11-101, *et seq.*

APPENDIX A

Compliance Assurance Monitoring (CAM) Plan

(amended January 6, 2009)

(amended February 26, 2009)

(amended August 7, 2009)

(amended September 4, 2009)

CAM MONITORING APPROACH

Emission Units
Ore reclaim sources with dual throat venturi scrubbers
(PA-4, PA-5, Mono-2, Mono-3, Mono-8, and NS-4)

I. Description of Emission Unit & Control Device

The pollutant specific emissions unit is particulate matter/opacity from the ore reclaim sources. The dust control system is equipped with a fan that operates at a constant rpm, and an FMC Model 40K Dual Throat Venturi Scrubber with the venturi wedge set at a constant position. Capture system is enclosed ductwork and based on design, bypass of the control device is not possible.

II. Applicable Regulation, Emission Limit and Monitoring Requirements

Regulation No: WAQS&R Chap. 8 Sec. 2(b)(iii), WAQS&R Chap. 3 Sec. 2(b)
Emission Limit : See enclosed table
Monitoring Requirements : CAM for PM, Periodic Monitoring for visible emissions
Pre-control PTE: See enclosed table
Post control PTE: See enclosed table

III. Justification for Selection of Performance Indicators

The following indicator will be monitored:

- Scrubber liquor recirculation flow rate.

Because of the constant rpm fan and fixed venturi wedge, the only significant variable in the scrubber operation is the scrubber recirculation flow rate. The scrubber liquor recirculation flow rate was selected because it is indicative of the scrubber operation and adequate collection efficiency.

IV. Justification for Selection of Indicator Ranges

The manufacturer of the control equipment has determined that recirculation flow rates between 5 gpm and 10 gpm per 1000 acfm are adequate for optimum collection efficiency. On site emission testing[1] on units of this design and application has confirmed this conclusion. A minimum recirculation flow of 6 gpm per 1000 acfm was selected as the lower limit. This minimum rate will allow normal operating fluctuations in recirculation flow as well as assuring compliance with emission standards. The maximum design airflow rate through the system will not be exceeded as long as the fan rpm and venturi wedge position are constant. The minimum scrubber liquor recirculation flow for this unit was calculated using either the maximum design air flow rate or actual tested rate, whichever is larger.

[1]See attached supplementary material.

V. Indicator Range:

Acceptable liquor flow rate: See table below for gpm lower limits.[1]

Source	Scrubber Model Size	Emission limit lb/hr	Pre-control PTE tpy	Post-control PTE tpy	Maximum Airflow[1] acfm	Minimum Scrubber Flow[2] (gpm)
Mono-2	20 k	2.6	1139	11.4	20000	120
Mono-3	15 k	1.3	569	5.7	15000	90
Mono-8	20 k	1.9	832	8.3	20000	120
NS-4	30 k	1	438	4.4	30000	180
PA-4	40 k	1.25	547	5.5	40000	240
PA-5	40 k	1.25	547	5.5	40000	240

[1]Maximum possible airflow, either design or measured.

[2]Calculated a 6 gallons per 1000 cfm

VI. Monitoring report

A report will be submitted semi-annually which will include the number, duration, and cause of the episodes when the scrubber operates outside the range, along with any corrective action taken to return the indicators to acceptable levels.

VII. Implementation

Monitoring of scrubber flow will begin no later than 30 days after permit renewal.

Ore reclaim sources with dual throat venturi scrubbers

PARTICULATE MONITORING APPROACH

	Indicator
I. Indicator	*Scrubber Liquor Recirculation Flow Rate*
Measurement Approach	*Flowmeter located in recirculation line.*
II. Excursion Description & Action	*An excursion is initiated when the recorded hourly average flow falls below the indicator range. Prompt inspection and any necessary corrective action will be triggered.*
III. Performance Criteria A. Data Representativeness:	*The flow meter (minimum accuracy ± 5.0% of design flow rate) is located in the venturi liquor recirculation line.*
B. QA/QC Practices	*Magnetic flowmeter checked as needed and calibrated per manufacturer specifications.*
C. Monitoring Frequency & Data Recording	*Liquor flow measured continuously. Data recorded at minimum once per day.*
D. Data Collection Procedures	*Average liquor flow computed hourly. 50% of the data each hour must be valid to be included in the excursion determination.*
E. Averaging Period	*Hourly average.*
F. QIP Threshold	*5% of period operating hours below indicator range.*

[1] Test results and further rationale are found in Appendix A of this Plan

CAM MONITORING APPROACH
Emission Unit
RA-1

I. Description of Emission Unit & Control Device

The pollutant specific emission unit is particulate matter/opacity from the Baby Sesqui R-3 Calciner. This unit has a Ducon Multivane Model II Scrubber with a fixed scrubbing vane and the pressure drop generally fluctuates slightly due to changes in airflow caused by variable production rates. The capture system is closed ductwork and based on unit design, bypass of the control device is not possible.

II. Applicable Regulation, Emission Limit and Monitoring Requirements

Regulation No.: WAQS&R Chap. 8 Sec. 2(b)(iii), WAQS&R Chap. 3 Sec. 2(b)
Emission Limit: 10 lb/hr, 40 % Opacity
Monitoring Requirements: CAM for PM, Periodic Monitoring for visible emissions
Pre control PTE: 2190 tons/year calculated using 98% control device efficiency
Post control PTE: 43.8 tons/year

III. Justification for Selection of Performance Indicators

The following parameters will be monitored:

- Scrubber liquor recycle flow rate.
- Scrubber pressure drop

The only significant variable in the scrubber operation is the scrubber recycle flow rate. The scrubber liquor recycle flow rate was selected because it is indicative of the scrubber operation and adequate collection efficiency. Scrubber pressure drop measurements will ensure that the control unit is operating properly during normal process conditions.

IV. Justification for Selection of Indicator Ranges

The successful operation of a scrubber depends on two items, scrubber liquor recirculation flow rate and scrubber pressure drop. The liquor recirculation rate is the most critical item . This scrubber was designed to provide the optimum collection efficiencies with the proposed recirculation flow. The scrubber pressure drop is not as critical as the liquor recirculation, and has been chosen as a secondary indicator. The scrubber pressure drop will indicate that the scrubber is still operated in a manner to meet compliance.

Periods of startup and shutdown of the unit are acknowledged to be abnormal conditions and will not be considered excursions. The duration will be limited as practicable.

V. Indicator Ranges:

Acceptable liquor flow rate: 39 gpm lower limit.
Acceptable pressure drop: 3.8 in wg lower limit.

Monitoring Report

A report will be submitted semi-annually which will include the number, duration, and cause of the episodes when the scrubber operates outside of the range, along with any corrective action taken to return the indicators to acceptable levels.

VI. Implementation

Monitoring of scrubber parameters will begin no later than 30 days after permit renewal.

CAM MONITORING APPROACH
RA-1

	Indicator No.1	Indicator No. 2
I. Indicator	*Scrubber Liquor Recirculation Flow Rate*	*Scrubber Pressure Drop*
Measurement Approach	*Flowmeter*	*DP Cell or manometer*
II. Excursion Description & Action	*An excursion is initiated when the flow falls below the indicator range. Prompt inspection and any necessary corrective action will be triggered.*	*An excursion is initiated when the DP falls below the indicator range. Prompt inspection and any necessary corrective action will be triggered.*
III. Performance Criteria A. Data Representativeness:	*The flow meter (minimum accuracy ± 5.0% flow rate) is located in the scrubber liquor recirculation line.*	*Measurement of pressure drop will be done from taps across the scrubber with a device that is accurate to within ± 1 inch water gauge.*
B. QA/QC Practices	*Flowmeter checked as needed and calibrated per manufacturer specifications.*	*Pressure drop device checked as needed and calibrated per manufacturer specifications.*
C. Monitoring Frequency & Data Recording	*Liquor flow measured continuously. Data recorded on plant PI system at minimum once per day.*	*Pressure observed once per day. Data recorded on plant PI system or operator logsheet.*
D. Data Collection Procedures	*Average liquor Flow computed hourly. 50% of the data each hour must be valid to be included in excursion determination.*	*Pressure drop reading observed on plant control system, PI system, or on manometer at control device.*
E. Averaging Period	*Hourly average.*	*Once per day observation.*
F. QIP Threshold	*5% of period monitored hours below indicator range.*	*5% of period observations below indicator range.*

CAM MONITORING APPROACH
Emission Unit
RA-22-A&B

I. Description of Emission Unit & Control Device

The pollutant specific emissions unit is particulate matter/opacity from the R-9 Sesqui Gas Fired Calciner. This unit has a Twin Peabody Scrubbers with a fixed venturi design. The pressure drop generally fluctuates slightly due to changes in airflow caused by variable production rates. The capture system is closed ductwork and based on unit design, bypass of the control device is not possible.

II. Applicable Regulation, Emission Limit and Monitoring Requirements

Regulation No.: WAQS&R Chap. 8 Sec. 2(b)(iii), WAQS&R Chap. 3 Sec. 2(b)
Emission Limit: 32 lb/hr, 40% Opacity
Monitoring Requirements: CAM for PM, Periodic Monitoring for visible emissions
Pre control PTE: 7008 tons/year calculated using 98% control device efficiency
Post control PTE: 140.2 tons/year

III. Justification for Selection of Performance Indicators

The following parameters will be monitored:

- Scrubber liquor recycle flow rate.
- Scrubber pressure drop

As long as the scrubber pressure drop remains relatively constant, the only significant variable in the scrubber operation is the scrubber recycle flow rate. The scrubber liquor recycle flow rate was selected because it is indicative of the scrubber operation and adequate collection efficiency. Scrubber pressure drop measurements will ensure that the pressure drop is remaining relatively constant over all airflow and process conditions.

IV. Justification for Selection of Indicator Ranges

The best long term indicators of compliance for this unit are scrubber liquor recirculation flow rate and scrubber pressure drop. As long as these parameters are held above the indicator limits, the collection efficiency of the scrubber is virtually the same. This scrubber was designed to provide the optimum collection efficiencies with 180 gpm recirculation flow and a scrubber pressure drop of 2 in. wg. Manufacturers design specifications are attached as well as test data supporting this conclusion.

Previous mass emission testing has shown that the unit can operate well below its' allowable emission rate at the indicator ranges.

Periods of startup and shutdown of the unit are acknowledged to be abnormal conditions and will not be considered excursions. The duration will be limited as practicable.

V. Indicator Ranges:

Acceptable liquor flow rate: 180 gpm total lower limit each scrubber.
Acceptable pressure drop: 2 in wg lower limit each scrubber.

Monitoring Report

A report will be submitted semi-annually which will include the number, duration, and cause of the episodes when the scrubber operates outside of the range, along with any corrective action taken to return the indicators to acceptable levels.

VI. Implementation

Monitoring of scrubber parameters will begin no later than 30 days after permit renewal.

CAM MONITORING APPROACH
RA-22-A&B

	Indicator No.1	Indicator No. 2
I. Indicator	*Scrubber Liquor Recirculation Flow Rate*	*Scrubber Pressure Drop*
Measurement Approach	*Flowmeter*	*DP Cell*
II. Excursion Description & Action	*An excursion is initiated when the hourly average flow falls below the indicator range. Prompt inspection and any necessary corrective action will be triggered.*	*An excursion is initiated when the hourly average DP falls below the indicator range. Prompt inspection and any necessary corrective action will be triggered.*
III. Performance Criteria A. Data Representativeness:	*The flow meter (minimum accuracy ± 5.0% flow rate) is located in the scrubber liquor recirculation line.*	*Measurement of pressure drop will be done from taps across the scrubber with a device that is accurate to within ± 1 inch water gauge.*
B. QA/QC Practices	*Flowmeter checked as needed and calibrated per manufacturer specifications.*	*Pressure drop device checked as needed and calibrated per manufacturer specifications.*
C. Monitoring Frequency & Data Recording	*Liquor flow measured continuously. Data recorded on plant PI system.*	*Pressure drop measured continuously. Data recorded on plant PI system.*
D. Data Collection Procedures	*Average liquor Flow computed hourly. 50% of the data each hour must be valid to be included in excursion determination.*	*Average pressure drop computed hourly. 50% of the data each hour must be valid to be included in excursion determination.*
E. Averaging Period	*Hourly average.*	*Hourly average.*
F. QIP Threshold	*5% of period monitored hours below indicator range.*	*5% of period monitored hours below indicator range.*

CAM MONITORING APPROACH
Emission Unit
RA-23-A&B

I. Description of Emission Unit & Control Device

The pollutant specific emissions unit is particulate matter/opacity from the R-13 Sesqui Gas Fired Calciner. This unit has a Twin FMC Mod. 50K Dual Throat Venturi Scrubbers with a fixed venturi wedge and the pressure drop generally fluctuates slightly due to changes in airflow caused by variable production rates. The capture system is closed ductwork and based on unit design, bypass of the control device is not possible.

II. Applicable Regulation, Emission Limit and Monitoring Requirements

Regulation No.: WAQS&R Chap. 8 Sec. 2(b)(iii), WAQS&R Chap. 3 Sec. 2(b)
Emission Limit: 35 lb/hr, 40% Opacity
Monitoring Requirements: CAM for PM, Periodic Monitoring for visible emissions
Pre control PTE: 15330 tons/year calculated using 99% control device efficiency
Post control PTE: 153.3 tons/year

III. Justification for Selection of Performance Indicators

The following parameters will be monitored:

- Scrubber liquor recycle flow rate.
- Scrubber pressure drop

As long as the scrubber pressure drop remains relatively constant, the only significant variable in the scrubber operation is the scrubber recycle flow rate. The scrubber liquor recycle flow rate was selected because it is indicative of the scrubber operation and adequate collection efficiency. Venturi pressure drop measurements will ensure that the pressure drop is remaining relatively constant over all airflow and process conditions.

IV. Justification for Selection of Indicator Ranges

The best long term indicators of compliance for this unit are venturi liquor recirculation flow rate and venturi pressure drop. As long as these parameters are held above the indicator limits, the collection efficiency of the scrubber is virtually the same. The venturi pressure drop limit and scrubber flow limit were selected from the attached emission test summaries with an adjustment factor of approximately -30% used because the tested value was below 50% of the allowable emission rate.

Previous mass emission testing has shown that the unit can operate well below its' allowable emission rate at the indicator ranges.

Periods of startup and shutdown of the unit are acknowledged to be abnormal conditions and will not be considered excursions. The duration will be limited as practicable.

V. Indicator Ranges: (each scrubber)

Acceptable liquor flow rate: 257 gpm lower limit.
Acceptable pressure drop: 17.7 in wg lower limit.

Monitoring Report

A report will be submitted semi-annually which will include the number, duration, and cause of the episodes when the scrubber operates outside of the range, along with any corrective action taken to return the indicators to acceptable levels.

VI. Implementation

Monitoring of scrubber parameters will begin no later than 30 days after permit renewal.

CAM MONITORING APPROACH
RA-23-A&B

	Indicator No.1	Indicator No. 2
I. Indicator	*Scrubber Liquor Recirculation Flow Rate*	*Scrubber Pressure Drop*
Measurement Approach	*Flowmeter*	*DP Cell*
II. Excursion Description & Action	*An excursion is initiated when the hourly average flow falls below the indicator range. Prompt inspection and any necessary corrective action will be triggered.*	*An excursion is initiated when the hourly average DP falls below the indicator range. Prompt inspection and any necessary corrective action will be triggered.*
III. Performance Criteria A. Data Representativeness:	*The flow meter (minimum accuracy ± 5.0% flow rate) is located in the scrubber liquor recirculation line.*	*Measurement of pressure drop will be done from taps across the scrubber with a device that is accurate to within ± 1 inch water gauge.*
B. QA/QC Practices	*Flowmeter checked as needed and calibrated per manufacturer specifications.*	*Pressure drop device checked as needed and calibrated per manufacturer specifications.*
C. Monitoring Frequency & Data Recording	*Liquor flow measured continuously. Data recorded on plant PI system.*	*Pressure drop measured continuously. Data recorded on plant PI system.*
D. Data Collection Procedures	*Average liquor Flow computed hourly. 50% of the data each hour must be valid to be included in excursion determination.*	*Average pressure drop computed hourly. 50% of the data each hour must be valid to be included in excursion determination.*
E. Averaging Period	*Hourly average.*	*Hourly average.*
F. QIP Threshold	*5% of period monitored hours below indicator range.*	*5% of period monitored hours below indicator range.*

CAM MONITORING APPROACH
Emission Unit
RA-24

I. Description of Emission Unit & Control Device

The pollutant specific emissions unit is particulate matter/opacity from the R-15 Sesqui Gas Fired Calciner. This unit has a AAT Model DTV-75K Dual Throat Venturi Scrubber with a fixed venturi wedge and the pressure drop generally fluctuates moderately due to changes in airflow caused by variable production rates. The capture system is closed ductwork and based on unit design, bypass of the control device is not possible.

II. Applicable Regulation, Emission Limit and Monitoring Requirements

Regulation No.: CT-1045, WAQS&R Chap. 3 Sec. 2(a)
Emission Limit: 10 lb/hr, 20% Opacity
Monitoring Requirements: CAM for PM, Periodic Monitoring for visible emissions
Pre control PTE: 4380 tons/year calculated using 99% control device efficiency
Post control PTE: 43.8 tons/year

III. Justification for Selection of Performance Indicators

The following parameters will be monitored:

- Scrubber liquor recycle flow rate.
- Scrubber pressure drop

As long as the scrubber pressure drop remains relatively constant, the only significant variable in the scrubber operation is the scrubber recycle flow rate. The scrubber liquor recycle flow rate was selected because it is indicative of the scrubber operation and adequate collection efficiency. Venturi pressure drop measurements will ensure that the pressure drop is remaining relatively constant over all airflow and process conditions.

IV. Justification for Selection of Indicator Ranges

As long as these parameters are held above the indicator limits, the collection efficiency of the scrubber will provide compliance. The venturi pressure drop limit was selected from the attached emission test summary with an adjustment factor of -20% used for pressure drop. Variable production rates change airflow thereby influencing pressure drop. The scrubber liquor recycle flow rate was adjusted by -10% because the test compliance at maximum rate was approximately 93% of compliance. These parameters will be verified by more emission testing within 12 months of CAM implementation.

Previous mass emission testing has shown that the unit should operate below its' allowable emission rate at the indicator ranges.

Periods of startup and shutdown of the unit are acknowledged to be abnormal conditions and will not be considered excursions. The duration will be limited as practicable.

V. Indicator Ranges:

Acceptable liquor flow rate: 552 gpm lower limit.
Acceptable pressure drop: 35.4 in wg lower limit.

Monitoring Report

A report will be submitted semi-annually which will include the number, duration, and cause of the episodes when the scrubber operates outside of the range, along with any corrective action taken to return the indicators to acceptable levels.

VI. Implementation

Monitoring of scrubber parameters will begin no later than 30 days after permit renewal.

CAM MONITORING APPROACH
RA-24

	Indicator No.1	Indicator No. 2
I. Indicator	*Scrubber Liquor Recirculation Flow Rate*	*Scrubber Pressure Drop*
Measurement Approach	*Flowmeter*	*DP Cell or manometer*
II. Excursion Description & Action	*An excursion is initiated when the hourly average flow falls below the indicator range. Prompt inspection and any necessary corrective action will be triggered.*	*An excursion is initiated when the DP falls below the indicator range. Prompt inspection and any necessary corrective action will be triggered.*
III. Performance Criteria A. Data Representativeness:	*The flow meter (minimum accuracy ± 5.0% flow rate) is located in the scrubber liquor recirculation line.*	*Measurement of pressure drop will be done from taps across the scrubber with a device that is accurate to within ± 1 inch water gauge.*
B. QA/QC Practices	*Flowmeter checked as needed and calibrated per manufacturer specifications.*	*Pressure drop device checked as needed and calibrated per manufacturer specifications.*
C. Monitoring Frequency & Data Recording	*Liquor flow measured continuously. Data recorded on plant PI system at minimum once per day.*	*Pressure observed once per day. Data recorded on plant PI system or operator logsheet.*
D. Data Collection Procedures	*Average liquor Flow computed hourly. 50% of the data each hour must be valid to be included in excursion determination.*	*Pressure drop reading observed on plant control system, PI system, or on manometer at control device.*
E. Averaging Period	*Hourly average.*	*Once per day observation.*
F. QIP Threshold	*5% of period operating hours below indicator range.*	*5% of period observations below indicator range.*

CAM MONITORING APPROACH
RA-25

I. Background

The pollutant specific emissions unit is particulate matter/opacity from the R-5 Sesqui Fluid Bed Calciner. This unit has a Ducon Multivane Model II Dual Throat Scrubber with a fixed venturi design. The pressure drop generally fluctuates slightly due to changes in airflow caused by variable production rates. As a result, the pressure drop will be the lowest when production rates are the lowest. The capture system is closed ductwork and based on unit design, bypass of the control device is not possible.

II. Applicable Regulation, Emission Limit and Monitoring Requirements

Regulation No: OP-265, WAQSR Chap. 3 Sec. 2(b), WAQSR Chap. 8 Sec. 2(b)(iii)
Emission Limit: 26.5 lb/hr PM, 40% opacity
Monitoring Requirements: CAM for PM
Pre-control PTE: 5803 tons/year calculated using 98% control device efficiency
Post-control PTE: 116.1 tons/year

III. Rationale for Selection of Performance Indicators

The following parameters will be monitored:

- Scrubber liquor recycle flow rate.
- Scrubber pressure drop

The scrubber liquor recycle flow rate was selected because it is indicative of the scrubber operation and adequate collection efficiency. Scrubber pressure drop measurements will ensure that the pressure drop is adequate over all airflow and process conditions. Minimum pressure drop values were determined at low feed rates and flow values determined at maximum feed rates.

IV. Justification for Selection of Indicator Ranges

The best long term indicators of compliance for this unit are scrubber liquor recirculation flow rate and scrubber pressure drop. As long as these parameters are held above the indicator limits, the collection efficiency of the scrubber is virtually the same. The scrubber was designed to provide the optimum collection efficiency with the proposed recirculation flow or greater. The attached emission test summary supports this value. The scrubber pressure drop limit was also selected from the attached emission test data. Previous mass emission testing has shown that the unit can operate well below its' allowable emission rate at the indicator ranges.

Periods of startup and shutdown of the unit are acknowledged to be abnormal conditions and will not be considered excursions. The duration will be limited as practicable.

V. Indicator Ranges and Measurement:

Minimum liquor flow rate: 174 gpm lower limit. The liquor flow rate is measured by a flowmeter located in the venturi liquor recirculation line. An excursion is initiated when the recorded hourly average flow falls below the indicator range. Prompt inspection and corrective action will be taken.

Minimum pressure drop: 3.30 in wg lower limit. The scrubber pressure drop is measured by a DP cell or manometer from taps across the scrubber. An excursion is initiated when the recorded DP falls below the indicator range. Prompt inspection and corrective action will be taken.

QA/QC Procedures

Both the flowmeter and pressure drop device will be checked as needed and calibrated per manufacturer specifications.

VI. Monitoring Frequency and Data Recorded

Liquor flow rate is monitored continuously and data is recorded into the plant process data computer system. At least 50% of the data each hour must be valid to be included in excursion determination. The data averaging period is hourly.

The pressure drop data is monitored continuously and data is recorded into the plant process data computer system. At least 50% of the data each hour must be valid to be included in excursion determination. The data averaging period is hourly.

CAM MONITORING APPROACH

RA-25

	Indicator No. 1	Indicator No. 2
1. Indicator	*Scrubber Liquor Recirculation Flow Rate*	*Scrubber Pressure Drop*
Measurement Approach	*Flowmeter*	*DP Cell or manometer*
II. Excursion Description & Action	*An excursion is initiated when the flow falls below the indicator range. Prompt inspection and any necessary corrective action will be triggered.*	*An excursion is initiated when the DP falls below the indicator range. Prompt inspection and any necessary corrective action will be triggered.*
III. Performance Criteria A. Data Representativeness:	*The flow meter is located in the scrubber liquor recirculation line.*	*Measurement of pressure drop will be done from taps across the scrubber.*
B. QA/QC Practices	*Flowmeter checked as needed and calibrated per manufacturer specifications.*	*Pressure drop device checked as needed and calibrated per manufacturer specifications.*
C. Monitoring Frequency & Data Recording	*Liquor flow measured continuously. Data recorded into plant process data computer system*	*DP measured continuously. Data recorded into plant process data computer system*
D. Data Collection Procedures	*Average liquor flow computed hourly. 50% of the data each hour must be valid to be included in excursion determination.*	*Average DP computed hourly. 50% of the data each hour must be valid to be included in excursion determination.*
E. Averaging Period	*Hourly Average*	*Hourly Average*
F. QIP Threshold	*5% of period monitored hours below indicator range*	*5% of period monitored hours below indicator range*

CAM MONITORING APPROACH
Emission Unit
RA-26

I. Description of Emission Unit & Control Device

The pollutant specific emissions unit is particulate matter/opacity from the R-6 Sesqui Fluid Bed Calciner. This unit has a FMC Model 120 K Dual Throat Venturi Scrubber with a fixed venturi wedge and the pressure drop generally fluctuates slightly due to changes in airflow caused by variable production rates. The capture system is closed ductwork and based on unit design, bypass of the control device is not possible.

II. Applicable Regulation, Emission Limit and Monitoring Requirements

Regulation No.: CT-1045, OP-179, WAQS&R Chap. 3 Sec. 2(a)
Emission Limit: 12 lb/hr, 20% Opacity
Monitoring Requirements: CAM for PM, Periodic Monitoring for visible emissions
Pre control PTE: 5256 tons/year calculated using 99% control device efficiency
Post control PTE: 52.6 tons/year

III. Justification for Selection of Performance Indicators

The following parameters will be monitored:

- Scrubber liquor recycle flow rate.
- Scrubber pressure drop

As long as the scrubber pressure drop remains relatively constant, the only significant variable in the scrubber operation is the scrubber recycle flow rate. The scrubber liquor recycle flow rate was selected because it is indicative of the scrubber operation and adequate collection efficiency. Venturi pressure drop measurements will ensure that the pressure drop is remaining relatively constant over all airflow and process conditions.

IV. Justification for Selection of Indicator Ranges

The best long term indicators of compliance for this unit are venturi liquor recirculation flow rate and venturi pressure drop. As long as these parameters are held above the indicator limits, the collection efficiency of the scrubber is virtually the same. The venturi pressure drop limit and scrubber flow limit were selected from the attached emission test summaries with an adjustment factor of approximately -30% used because the tested value was below 50% of the allowable emission rate.

RA-26 cont.

Periods of startup and shutdown of the unit are acknowledged to be abnormal conditions and will not be considered excursions. The duration will be limited as practicable.

V. Indicator Ranges:

Acceptable liquor flow rate: 644 gpm lower limit.
Acceptable pressure drop: 18.5 in wg lower limit.

Monitoring Report

A report will be submitted semi-annually which will include the number, duration, and cause of the episodes when the scrubber operates outside of the range, along with any corrective action taken to return the indicators to acceptable levels.

VI. Implementation

Monitoring of scrubber parameters will begin no later than 30 days after permit renewal.

CAM MONITORING APPROACH
RA-26

	Indicator No.1	Indicator No. 2
I. Indicator	*Scrubber Liquor Recirculation Flow Rate*	*Scrubber Pressure Drop*
Measurement Approach	*Flowmeter*	*DP Cell or manometer*
II. Excursion Description & Action	*An excursion is initiated when the hourly average flow falls below the indicator range. Prompt inspection and any necessary corrective action will be triggered.*	*An excursion is initiated when the DP falls below the indicator range. Prompt inspection and any necessary corrective action will be triggered.*
III. Performance Criteria A. Data Representativeness:	*The flow meter (minimum accuracy ± 5.0% flow rate) is located in the scrubber liquor recirculation line.*	*Measurement of pressure drop will be done from taps across the scrubber with a device that is accurate to within ± 1 inch water gauge.*
B. QA/QC Practices	*Flowmeter checked as needed and calibrated per manufacturer specifications.*	*Pressure drop device checked as needed and calibrated per manufacturer specifications.*
C. Monitoring Frequency & Data Recording	*Liquor flow measured continuously. Data recorded on plant PI system at minimum once per day.*	*Pressure observed once per day. Data recorded on plant PI system or operator logsheet.*
D. Data Collection Procedures	*Average liquor Flow computed hourly. 50% of the data each hour must be valid to be included in excursion determination.*	*Pressure drop reading observed on plant control system, PI system, or on manometer at control device.*
E. Averaging Period	*Hourly average.*	*Once per day observation.*
F. QIP Threshold	*5% of period operating hours below indicator range.*	*5% of period observations below indicator range.*

CAM MONITORING APPROACH
Emission Unit
RA-28

I. Description of Emission Unit & Control Device

The pollutant specific emission unit is particulate matter/opacity from the Sesqui Bagging. The dust control system is equipped with a fan that operates at a constant rpm, and a pulse-jet Mikropul Model 168s-8-TRH baghouse collection system. Capture system is enclosed ductwork and based on the unit design, bypass of the control device is not possible.

II. Applicable Regulation, Emission Limit and Monitoring Requirements

Regulation No: OP-233, WAQS&R Chap. 5, Sec. 2 Subpart OOO
Emission Limit: 1.29 lb/hr, 7% Opacity
Monitoring Requirements: CAM for PM, Periodic Monitoring for visible emissions
Pre control PTE: 565 tons/year based on 99% control efficiency.
Post control PTE: 5.7 tons/year

III. Justification for Selection of Performance Indicators

The following parameters will be monitored:

- Daily visible emission observations from the baghouse stack.

The visible emissions (opacity) was selected because it is indicative of the baghouse operation and adequate collection efficiency.

IV. Justification for Selection of Indicator Ranges

Visible emissions from the stack indicate that a serious problem may be developing in the baghouse. Prompt inspection after the observation will prevent an exceedance of emission requirements. A one minute observation period would detect a persistent problem in the baghouse which would indicate that the baghouse has deteriorated to the point of marginal compliance. An occasional puff from a baghouse may indicate future problems and, if observed, will not be classified as an excursion but will be noted and evaluated as to extent of the problem.

V. Indicator Range

Presence of visible emissions will initiate inspection and possible corrective action on the baghouse unit.

VI. Monitoring Report

A report will be submitted semi-annually and will include number, duration, the cause of the episodes when the visible emission indicated a plume, and the corrective actions taken.

VII. Implementation Plan

Daily visual observations will commence no longer than 30 days after permit renewal

RA-28
PARTICULATE MONITORING APPROACH

	Indicator No. 1
I. Indicator	*Visual Observation*
Measurement Approach	*Trained visual observer*
II. Excursion Description & Action	*An excursion is initiated when an observation yields visible opacity, and will prompt expeditious inspection and repair, if necessary.*
III. Performance Criteria A. Data Representativeness:	*Visual observers will be educated in the general procedures for determining the presence & magnitude of visible emissions but not necessarily certified to perform Method 9 observations.*
B. QA/QC Practices	*Review & training of visual observers will be done initially and as needed thereafter.*
C. Monitoring Frequency & Date Recording	*Daily visual observation. Results recorded on logsheet.*
D. Data Collection Procedures	*Observations will be classified as "no opacity observed" or "opacity observed".*
E. Averaging Period	*1 minute*
F. QIP Threshold	*9 excursions in any one reporting period.*

CAM MONITORING APPROACH
Emission Unit
RA-29

I. Description of Emission Unit & Control Device

The pollutant specific emissions unit is particulate matter/opacity from the R-2 Sesqui Fluid Bed Calciner. This unit has a AATModel 75K Dual Throat Venturi Scrubber with a fixed venturi wedge and the pressure drop generally fluctuates moderately due to changes in airflow caused by variable production rates. The capture system is closed ductwork and based on unit design, bypass of the control device is not possible.

II. Applicable Regulation, Emission Limit and Monitoring Requirements

Regulation No.: CT-1134 & MD-334, WAQS&R Chap. 3 Sec. 2(a)
Emission Limit: 3.45 lb/hr, 20% Opacity
Monitoring Requirements: CAM for PM, Periodic Monitoring for visible emissions
Pre control PTE: 1511 tons/year calculated using 99% control device efficiency
Post control PTE: 15.1 tons/year

III. Justification for Selection of Performance Indicators

The following parameters will be monitored:

- Scrubber liquor recycle flow rate.
- Scrubber pressure drop

As long as the scrubber pressure drop remains relatively constant, the only significant variable in the scrubber operation is the scrubber recycle flow rate. The scrubber liquor recycle flow rate was selected because it is indicative of the scrubber operation and adequate collection efficiency. Venturi pressure drop measurements will ensure that the pressure drop is remaining relatively constant over all airflow and process conditions.

IV. Justification for Selection of Indicator Ranges

As long as these parameters are held above the indicator limits, the collection efficiency of the scrubber will provide compliance. The venturi pressure drop limit was selected from the attached emission test summary with an adjustment factor of approximately -27% used for pressure drop. Variable production rates change airflow thereby influencing pressure drop. The Venturi wedge is fixed in this scrubber and there is no way to adjust pressure drop for varying airflow rates caused by these variable production rates. The scrubber liquor recycle flow rate was adjusted by -20% because the test compliance at maximum rate was approximately 94% of compliance. The source is operated at 75% of the maximum capacity and the PCE are less than 15 tons/year. These indicator ranges will be confirmed within 12 months of permit renewal by mass emission testing.

RA-29 cont.

Previous mass emission testing has shown that the unit can operate well below its' allowable emission rate at the indicator ranges.

Periods of startup and shutdown of the unit are acknowledged to be abnormal conditions and will not be considered excursions. The duration will be limited as practicable.

V. Indicator Ranges: (each scrubber)

Acceptable liquor flow rate: 608 gpm lower limit.
Acceptable pressure drop: 26 in wg lower limit.

Monitoring Report

A report will be submitted semi-annually which will include the number, duration, and cause of the episodes when the scrubber operates outside of the range, along with any corrective action taken to return the indicators to acceptable levels.

VI. Implementation

Monitoring of scrubber parameters will begin no later than 30 days after permit renewal.

CAM MONITORING APPROACH
RA-29

	Indicator No.1	Indicator No. 2
I. Indicator	*Scrubber Liquor Recirculation Flow Rate*	*Scrubber Pressure Drop*
Measurement Approach	*Flowmeter*	*DP Cell*
II. Excursion Description & Action	*An excursion is initiated when the hourly average flow falls below the indicator range. Prompt inspection and any necessary corrective action will be triggered.*	*An excursion is initiated when the hourly average DP falls below the indicator range. Prompt inspection and any necessary corrective action will be triggered.*
III. Performance Criteria A. Data Representativeness:	*The flow meter (minimum accuracy ± 5.0% flow rate) is located in the scrubber liquor recirculation line.*	*Measurement of pressure drop will be done from taps across the scrubber with a device that is accurate to within ± 1 inch water gauge.*
B. QA/QC Practices	*Flowmeter checked as needed and calibrated per manufacturer specifications.*	*Pressure drop device checked as needed and calibrated per manufacturer specifications.*
C. Monitoring Frequency & Data Recording	*Liquor flow measured continuously. Data recorded on plant PI system.*	*Pressure drop measured continuously. Data recorded on plant PI system.*
D. Data Collection Procedures	*Average liquor Flow computed hourly. 50% of the data each hour must be valid to be included in excursion determination.*	*Average pressure drop computed hourly. 50% of the data each hour must be valid to be included in excursion determination.*
E. Averaging Period	*Hourly average.*	*Hourly average.*
F. QIP Threshold	*5% of period monitored hours below indicator range.*	*5% of period monitored hours below indicator range.*

CAM MONITORING APPROACH
Emission Unit
RA-33

I. Description of Emission Unit & Control Device

The pollutant specific emissions unit is particulate matter/opacity from the Sesqui Silo Storage. This unit has a Ducon Type VVO Venturi Wet Scrubber with a fixed venturi wedge. The pressure drop generally fluctuates slightly due to changes in airflow caused by variable production rates. The capture system is closed ductwork and based on emission unit design, bypass of the control device is not possible.

II. Applicable Regulation, Emission Limit and Monitoring Requirements

Regulation No.: WAQS&R Chap. 8 Sec. 2(b)(iii), WAQS&R Chap. 3 Sec. 2(a)
Emission Limit: 3.0 lb/hr, 20% Opacity
Monitoring Requirements: CAM for PM, Periodic Monitoring for visible emissions
Pre control PTE: 1314 tons/year calculated using 99% control device efficiency
Post control PTE: 13.1 tons/year

III. Justification for Selection of Performance Indicators

The following parameters will be monitored:

- Scrubber liquor recycle flow rate.

This scrubber has a fixed venturi and pressure drop will only vary with airflow or scrubber liquor flow. The only significant variable in the scrubber operation is the scrubber recycle flow rate. The scrubber liquor recycle flow rate was selected because it is indicative of the scrubber operation and adequate collection efficiency.

IV. Justification for Selection of Indicator Ranges

The successful operation of this venturi scrubber depends on venturi liquor recirculation flow rate. As long as this parameter is held above the indicator limits, the collection efficiency of the scrubber is virtually the same. The scrubber flow limit was selected from the attached emission test summaries with an adjustment factor of approximately -20% used because the tested value was below 60% of the allowable emission rate.

Periods of startup and shutdown of the unit are acknowledged to be abnormal conditions and will not be considered excursions. The duration will be limited as practicable.

V. Indicator Ranges:

Acceptable liquor flow rate: 242 gpm lower limit.

Monitoring Report

A report will be submitted semi-annually which will include the number, duration, and cause of the episodes when the scrubber operates outside of the range, along with any corrective action taken to return the indicators to acceptable levels.

VI. Implementation

Monitoring of scrubber parameters will begin no later than 30 days after permit renewal.

CAM MONITORING APPROACH
RA-33

	Indicator No.1
I. Indicator	*Scrubber Liquor Recirculation Flow Rate*
Measurement Approach	*Flowmeter*
II. Excursion Description & Action	*An excursion is initiated when the hourly average flow falls below the indicator range. Prompt inspection and any necessary corrective action will be triggered.*
III. Performance Criteria A. Data Representativeness:	*The flow meter (minimum accuracy ± 5.0% flow rate) is located in the scrubber liquor recirculation line.*
B. QA/QC Practices	*Flowmeter checked as needed and calibrated per manufacturer specifications.*
C. Monitoring Frequency & Data Recording	*Liquor flow measured continuously. Data recorded on plant PI system at minimum once per day.*
D. Data Collection Procedures	*Average liquor Flow computed hourly. 50% of the data each hour must be valid to be included in excursion determination.*
E. Averaging Period	*Hourly average.*
F. QIP Threshold	*5% of period recorded hours below indicator range.*

CAM MONITORING APPROACH
Emission Unit
MONO 4

I. Description of Emission Unit & Control Device

The pollutant specific emissions unit is particulate matter/opacity from the Mono 1 Secondary Crusher. This unit has a AAF #72 Kinpactor Venturi Scrubber with a fixed venturi wedge. The pressure drop generally fluctuates slightly due to changes in airflow caused by variable production rates. The capture system is closed ductwork and based on emission unit design, bypass of the control device is not possible.

II. Applicable Regulation, Emission Limit and Monitoring Requirements

Regulation No.: WAQS&R Chap. 8 Sec. 2(b)(iii), WAQS&R Chap. 3 Sec. 2(a)
Emission Limit: 2 lb/hr, 20% Opacity
Monitoring Requirements: CAM for PM, Periodic Monitoring for visible emissions
Pre control PTE: 876 tons/year calculated using 99% control device efficiency
Post control PTE: 8.8 tons/year

III. Justification for Selection of Performance Indicators

The following parameters will be monitored:

- Scrubber liquor recycle flow rate.

This scrubber has a fixed venturi and pressure drop will only vary with airflow or scrubber liquor flow. The only significant variable in the scrubber operation is the scrubber recycle flow rate. The scrubber liquor recycle flow rate was selected because it is indicative of the scrubber operation and adequate collection efficiency.

IV. Justification for Selection of Indicator Ranges

The successful operation of this venturi scrubber depends on venturi liquor recirculation flow rate. As long as this parameter is held above the indicator limits, the collection efficiency of the scrubber is virtually the same. The scrubber flow limit was selected from the attached emission test summaries with an adjustment factor of approximately -30% used because the tested value was well below 50% of the allowable emission rate. The original test report is included with this submittal.

Periods of startup and shutdown of the unit are acknowledged to be abnormal conditions and will not be considered excursions. The duration will be limited as practicable.

MONO 4 cont.

V. Indicator Ranges:

Acceptable liquor flow rate: 175 gpm lower limit.

Monitoring Report

A report will be submitted semi-annually which will include the number, duration, and cause of the episodes when the scrubber operates outside of the range, along with any corrective action taken to return the indicators to acceptable levels.

VI. Implementation

Monitoring of scrubber parameters will begin no later than 30 days after permit renewal.

CAM MONITORING APPROACH
MONO 4

	Indicator No.1
I. Indicator	*Scrubber Liquor Recirculation Flow Rate*
Measurement Approach	*Flowmeter*
II. Excursion Description & Action	*An excursion is initiated when the hourly average flow falls below the indicator range. Prompt inspection and any necessary corrective action will be triggered.*
III. Performance Criteria A. Data Representativeness:	*The flow meter (minimum accuracy ± 5.0% flow rate) is located in the scrubber liquor recirculation line.*
B. QA/QC Practices	*Flowmeter checked as needed and calibrated per manufacturer specifications.*
C. Monitoring Frequency & Data Recording	*Liquor flow measured continuously. Data recorded on plant PI system at minimum once per day.*
D. Data Collection Procedures	*Average liquor Flow computed hourly. 50% of the data each hour must be valid to be included in excursion determination.*
E. Averaging Period	*Hourly average.*
F. QIP Threshold	*5% of period recorded hours below indicator range.*

CAM MONITORING APPROACH
Emission Unit
MONO 5

I. Description of Emission Unit & Control Device

The pollutant specific emissions unit is particulate matter/opacity from the Mono 1 Gas Fired Calciner. This unit has a Ducon Type VVO Venturi Wet Scrubber with a fixed venturi wedge and the pressure drop generally fluctuates slightly due to changes in airflow caused by variable production rates. The capture system is closed ductwork and based on unit design, bypass of the control device is not possible.

II. Applicable Regulation, Emission Limit and Monitoring Requirements

Regulation No.: WAQS&R Chap. 8 Sec. 2(b)(iii), WAQS&R Chap. 3 Sec. 2(a)
Emission Limit: 53 lb/hr, 20% Opacity
Monitoring Requirements: CAM for PM, Periodic Monitoring for visible emissions
Pre control PTE: 23214 tons/year calculated using 99% control device efficiency
Post control PTE: 232.1 tons/year

III. Justification for Selection of Performance Indicators

The following parameters will be monitored:

- Scrubber liquor recycle flow rate.
- Scrubber pressure drop

As long as the scrubber pressure drop remains relatively constant, the only significant variable in the scrubber operation is the scrubber recycle flow rate. The scrubber liquor recycle flow rate was selected because it is indicative of the scrubber operation and adequate collection efficiency. Venturi pressure drop measurements will ensure that the pressure drop is remaining relatively constant over all airflow and process conditions.

IV. Justification for Selection of Indicator Ranges

The best long term indicators of compliance for this unit are venturi liquor recirculation flow rate and venturi pressure drop. As long as these parameters are held above the indicator limits, the collection efficiency of the scrubber is virtually the same. This scrubber was tested in 2005 at various feed rates and with pressure drop and flow rates lower than normal to determine the lower CAM limits. The summary of this test is attached. It was determined that the pressure drop should not deviate below the tested value and this value was used as the lower CAM limit. The scrubber flow does fluctuate somewhat, so a factor of -15% was used to adjust the lower CAM value because the tested emission value was 78% of the limit.

MONO 5 cont.

This mass emission testing has shown that the unit can operate below its' allowable emission rate at the indicator ranges.

Periods of startup and shutdown of the unit are acknowledged to be abnormal conditions and will not be considered excursions. The duration will be limited as practicable.

V. Indicator Ranges:

Acceptable liquor flow rate: 652 gpm lower limit.
Acceptable pressure drop: 23.8 in wg lower limit.

Monitoring Report

A report will be submitted semi-annually which will include the number, duration, and cause of the episodes when the scrubber operates outside of the range, along with any corrective action taken to return the indicators to acceptable levels.

VI. Implementation

Monitoring of scrubber parameters will begin no later than 30 days after permit renewal.

CAM MONITORING APPROACH
MONO 5

	Indicator No.1	Indicator No. 2
I. Indicator	*Scrubber Liquor Recirculation Flow Rate*	*Scrubber Pressure Drop*
Measurement Approach	*Flowmeter*	*DP Cell*
II. Excursion Description & Action	*An excursion is initiated when the hourly average flow falls below the indicator range. Prompt inspection and any necessary corrective action will be triggered.*	*An excursion is initiated when the hourly average DP falls below the indicator range. Prompt inspection and any necessary corrective action will be triggered.*
III. Performance Criteria A. Data Representativeness:	*The flow meter (minimum accuracy ± 5.0% flow rate) is located in the scrubber liquor recirculation line.*	*Measurement of pressure drop will be done from taps across the scrubber with a device that is accurate to within ± 1 inch water gauge.*
B. QA/QC Practices	*Flowmeter checked as needed and calibrated per manufacturer specifications.*	*Pressure drop device checked as needed and calibrated per manufacturer specifications.*
C. Monitoring Frequency & Data Recording	*Liquor flow measured continuously. Data recorded on plant PI system.*	*Pressure drop measured continuously. Data recorded on plant PI system.*
D. Data Collection Procedures	*Average liquor Flow computed hourly. 50% of the data each hour must be valid to be included in excursion determination.*	*Average pressure drop computed hourly. 50% of the data each hour must be valid to be included in excursion determination.*
E. Averaging Period	*Hourly average.*	*Hourly average.*
F. QIP Threshold	*5% of period operating hours below indicator range.*	*5% of period operating hours below indicator range.*

CAM MONITORING APPROACH
Emission Unit
MONO 6

I. Description of Emission Unit & Control Device

The pollutant specific emissions unit is particulate matter/opacity from the Mono 1 Fluid Bed Dryer. This unit has a Ducon Type VVO Venturi Wet Scrubber with a fixed venturi design. The pressure drop generally fluctuates slightly due to changes in airflow caused by variable production rates. The capture system is closed ductwork and based on unit design, bypass of the control device is not possible.

II. Applicable Regulation, Emission Limit and Monitoring Requirements

Regulation No.: WAQS&R Chap. 8 Sec. 2(b)(iii), WAQS&R Chap. 3 Sec. 2(a)
Emission Limit: 20 lb/hr, 20% Opacity
Monitoring Requirements: CAM for PM, Periodic Monitoring for visible emissions
Pre control PTE: 8760 tons/year calculated using 98% control device efficiency
Post control PTE: 87.6 tons/year

III. Justification for Selection of Performance Indicators

The following parameters will be monitored:

- Scrubber liquor recycle flow rate.
- Scrubber pressure drop

As long as the scrubber pressure drop remains relatively constant, the only significant variable in the scrubber operation is the scrubber recycle flow rate. The scrubber liquor recycle flow rate was selected because it is indicative of the scrubber operation and adequate collection efficiency. Scrubber pressure drop measurements will ensure that the pressure drop is remaining relatively constant over all airflow and process conditions.

IV. Justification for Selection of Indicator Ranges

The best long term indicators of compliance for this unit are scrubber liquor recirculation flow rate and scrubber pressure drop. As long as these parameters are held above the indicator limits, the collection efficiency of the scrubber is virtually the same. This scrubber was designed to provide the optimum collection efficiency with the proposed recirculation flow or greater. The attached emission test summary supports this value. The scrubber pressure drop limit was also selected from the attached emission test data.

MONO 6 cont.

Previous mass emission testing has shown that the unit can operate well below its' allowable emission rate at the indicator ranges.

Periods of startup and shutdown of the unit are acknowledged to be abnormal conditions and will not be considered excursions. The duration will be limited as practicable.

V. Indicator Ranges:

Acceptable liquor flow rate: 316 gpm lower limit.
Acceptable pressure drop: 26 in wg lower limit.

Monitoring Report

A report will be submitted semi-annually which will include the number, duration, and cause of the episodes when the scrubber operates outside of the range, along with any corrective action taken to return the indicators to acceptable levels.

VI. Implementation

Monitoring of scrubber parameters will begin no later than 30 days after permit renewal.

CAM MONITORING APPROACH
MONO 6

	Indicator No.1	Indicator No. 2
I. Indicator	*Scrubber Liquor Recirculation Flow Rate*	*Scrubber Pressure Drop*
Measurement Approach	*Flowmeter*	*DP Cell*
II. Excursion Description & Action	*An excursion is initiated when the hourly average flow falls below the indicator range. Prompt inspection and any necessary corrective action will be triggered.*	*An excursion is initiated when the hourly average DP falls below the indicator range. Prompt inspection and any necessary corrective action will be triggered.*
III. Performance Criteria A. Data Representativeness:	*The flow meter (minimum accuracy ± 5.0% flow rate) is located in the scrubber liquor recirculation line.*	*Measurement of pressure drop will be done from taps across the scrubber with a device that is accurate to within ± 1 inch water gauge.*
B. QA/QC Practices	*Flowmeter checked as needed and calibrated per manufacturer specifications.*	*Pressure drop device checked as needed and calibrated per manufacturer specifications.*
C. Monitoring Frequency & Data Recording	*Liquor flow measured continuously. Data recorded on plant PI system.*	*Pressure drop measured continuously. Data recorded on plant PI system.*
D. Data Collection Procedures	*Average liquor Flow computed hourly. 50% of the data each hour must be valid to be included in excursion determination.*	*Average pressure drop computed hourly. 50% of the data each hour must be valid to be included in excursion determination.*
E. Averaging Period	*Hourly average.*	*Hourly average.*
F. QIP Threshold	*5% of period operating hours below indicator range.*	*5% of period operating hours below indicator range.*

CAM MONITORING APPROACH
Emission Unit
MONO 9

I. Description of Emission Unit & Control Device

The pollutant specific emission unit is particulate matter/opacity from the Mono Railcar Loadout. The dust control system is equipped with a fan that operates at a constant rpm, and a pulse-jet Fuller Model 48-4-200 Baghouse collection system. Capture system is enclosed ductwork and based on the unit design, bypass of the control device is not possible.

II. Applicable Regulation, Emission Limit and Monitoring Requirements

Regulation No: CT-684, OP-197, CT-1187, WAQS&R Chap. 3 Sec. 2(a)
Emission Limit: 1.51 lb/hr, 20% Opacity
Monitoring Requirements: CAM for PM, Periodic Monitoring for visible emissions
Pre control PTE: 661 tons/year based on 99% control efficiency.
Post control PTE: 6.6 tons/year

III. Justification for Selection of Performance Indicators

The following parameters will be monitored:

- Daily visible emission observations from the baghouse stack.

The visible emissions (opacity) was selected because it is indicative of the baghouse operation and adequate collection efficiency.

IV. Justification for Selection of Indicator Ranges

Visible emissions from the stack indicate that a serious problem may be developing in the baghouse. Prompt inspection after the observation will prevent an exceedance of emission requirements. A one minute observation period would detect a persistent problem in the baghouse which would indicate that the baghouse has deteriorated to the point of marginal compliance. An occasional puff from a baghouse may indicate future problems and, if observed, will not be classified as an excursion but will be noted and evaluated as to extent of the problem.

V. Indicator Range

Presence of visible emissions will initiate inspection and possible corrective action on the baghouse unit.

VI. Monitoring Report

A report will be submitted semi-annually and will include number, duration, the cause of the episodes when the visible emission indicated a plume, and the corrective actions taken.

VII. Implementation Plan

Daily visual observations will commence no longer than 30 days after permit renewal

MONO 9
PARTICULATE MONITORING APPROACH

	Indicator No. 1
I. Indicator	*Visual Observation*
Measurement Approach	*Trained visual observer*
II. Excursion Description & Action	*An excursion is initiated when an observation yields visible opacity, and will prompt expeditious inspection and repair, if necessary.*
III. Performance Criteria A. Data Representativeness:	*Visual observers will be educated in the general procedures for determining the presence & magnitude of visible emissions but not necessarily certified to perform Method 9 observations.*
B. QA/QC Practices	*Review & training of visual observers will be done initially and as needed thereafter.*
C. Monitoring Frequency & Date Recording	*Daily visual observation. Results recorded on logsheet.*
D. Data Collection Procedures	*Observations will be classified as "no opacity observed" or "opacity observed".*
E. Averaging Period	*1 minute*
F. QIP Threshold	*9 excursions in any one reporting period.*

CAM MONITORING APPROACH
Emission Unit
MONO 10

I. Description of Emission Unit & Control Device

The pollutant specific emission unit is particulate matter/opacity from the Mono Bulk Truck Loadout. The dust control system is equipped with a fan that operates at a constant rpm, and a pulse-jet Mikropul Model 320S-8 TRH Baghouse collection system. Capture system is enclosed ductwork and based on the unit design, bypass of the control device is not possible.

II. Applicable Regulation, Emission Limit and Monitoring Requirements

Regulation No: CT-448, OP-1118, WAQS&R Chap. 3 Sec. 2(a)
Emission Limit: 1.7 lb/hr, 20% Opacity
Monitoring Requirements: CAM for PM, Periodic Monitoring for visible emissions
Pre control PTE: 745 tons/year based on 99% control efficiency.
Post control PTE: 7.4 tons/year

III. Justification for Selection of Performance Indicators

The following parameters will be monitored:

- Daily visible emission observations from the baghouse stack.

The visible emissions (opacity) was selected because it is indicative of the baghouse operation and adequate collection efficiency.

IV. Justification for Selection of Indicator Ranges

Visible emissions from the stack indicate that a serious problem may be developing in the baghouse. Prompt inspection after the observation will prevent an exceedance of emission requirements. A one minute observation period would detect a persistent problem in the baghouse which would indicate that the baghouse has deteriorated to the point of marginal compliance. An occasional puff from a baghouse may indicate future problems and, if observed, will not be classified as an excursion but will be noted and evaluated as to extent of the problem.

V. Indicator Range

Presence of visible emissions will initiate inspection and possible corrective action on the baghouse unit.

VI. Monitoring Report

A report will be submitted semi-annually and will include number, duration, the cause of the episodes when the visible emission indicated a plume, and the corrective actions taken.

VII. Implementation Plan

Daily visual observations will commence no longer than 30 days after permit renewal.

MONO 10
PARTICULATE MONITORING APPROACH

	Indicator No. 1
I. Indicator	*Visual Observation*
Measurement Approach	*Trained visual observer*
II. Excursion Description & Action	*An excursion is initiated when an observation yields visible opacity, and will prompt expeditious inspection and repair, if necessary.*
III. Performance Criteria A. Data Representativeness:	*Visual observers will be educated in the general procedures for determining the presence & magnitude of visible emissions but not necessarily certified to perform Method 9 observations.*
B. QA/QC Practices	*Review & training of visual observers will be done initially and as needed thereafter.*
C. Monitoring Frequency & Date Recording	*Daily visual observation. Results recorded on logsheet.*
D. Data Collection Procedures	*Observations will be classified as "no opacity observed" or "opacity observed".*
E. Averaging Period	*1 minute*
F. QIP Threshold	*9 excursions in any one reporting period.*

CAM MONITORING APPROACH
Emission Unit
MONO 11

I. Description of Emission Unit & Control Device

The pollutant specific emissions unit is particulate matter/opacity from the Mono Dual Ore Crusher. This unit has a Ducon Type VVO Venturi Wet Scrubber with a fixed venturi wedge. The pressure drop generally fluctuates slightly due to changes in airflow caused by variable production rates. The capture system is closed ductwork and based on emission unit design, bypass of the control device is not possible.

II. Applicable Regulation, Emission Limit and Monitoring Requirements

Regulation No.: OP-237, WAQS&R Chap. 5, Sec. 2 Subpart OOO
Emission Limit: 3 lb/hr, 20% Opacity
Monitoring Requirements: CAM for PM, Periodic Monitoring for visible emissions
Pre control PTE: 1314 tons/year calculated using 99% control device efficiency
Post control PTE: 13.1 tons/year

III. Justification for Selection of Performance Indicators

The following parameters will be monitored:

- Scrubber liquor recycle flow rate.
- Scrubber pressure drop

As long as the scrubber pressure drop remains relatively constant, the only significant variable in the scrubber operation is the scrubber recycle flow rate. The scrubber liquor recycle flow rate was selected because it is indicative of the scrubber operation and adequate collection efficiency. Venturi pressure drop measurements will ensure that the pressure drop is remaining relatively constant over all airflow and process conditions.

IV. Justification for Selection of Indicator Ranges

The best long term indicators of compliance for this unit are venturi liquor recirculation flow rate and venturi pressure drop. As long as these parameters are held above the indicator limits, the collection efficiency of the scrubber is virtually the same. The venturi pressure drop limit and scrubber flow limit were selected from the attached emission test summaries with an adjustment factor of approximately -30% used because the tested value was below 44% of the allowable emission rate. These values also comply with the NSPS Subpart OOO requirements for this source.

MONO 11 cont.

Periods of startup and shutdown of the unit are acknowledged to be abnormal conditions and will not be considered excursions. The duration will be limited as practicable.

V. Indicator Ranges:

Acceptable liquor flow rate: 118 gpm lower limit.
Acceptable pressure drop: 13 in wg lower limit.

Monitoring Report

A report will be submitted semi-annually which will include the number, duration, and cause of the episodes when the scrubber operates outside of the range, along with any corrective action taken to return the indicators to acceptable levels.

VI. Implementation

Monitoring of scrubber parameters will begin no later than 30 days after permit renewal.

09-11-2006 310132

CAM MONITORING APPROACH
MONO 11

	Indicator No.1	Indicator No. 2
I. Indicator	*Scrubber Liquor Recirculation Flow Rate*	*Scrubber Pressure Drop*
Measurement Approach	*Flowmeter*	*DP Cell or manometer*
II. Excursion Description & Action	*An excursion is initiated when the recorded hourly average flow falls below the indicator range. Prompt inspection and any necessary corrective action will be triggered.*	*An excursion is initiated when the DP falls below the indicator range. Prompt inspection and any necessary corrective action will be triggered.*
III. Performance Criteria A. Data Representativeness:	*The flow meter (minimum accuracy ± 5.0% flow rate) is located in the scrubber liquor recirculation line.*	*Measurement of pressure drop will be done from taps across the scrubber with a device that is accurate to within ± 1 inch water gauge.*
B. QA/QC Practices	*Flowmeter checked as needed and calibrated per manufacturer specifications.*	*Pressure drop device checked as needed and calibrated per manufacturer specifications.*
C. Monitoring Frequency & Data Recording	*Liquor flow measured continuously. Data recorded on plant PI system at minimum once per day.*	*Pressure observed once per day. Data recorded on plant PI system or operator logsheet.*
D. Data Collection Procedures	*Average liquor Flow computed hourly. 50% of the data each hour must be valid to be included in excursion determination.*	*Pressure drop reading observed on plant control system, PI system, or on manometer at control device.*
E. Averaging Period	*Hourly average.*	*Once per day observation.*
F. QIP Threshold	*5% of period recorded hours below indicator range.*	*5% of period observations below indicator range.*

CAM MONITORING APPROACH
Emission Unit
MONO 12

I. Description of Emission Unit & Control Device

The pollutant specific emission unit is particulate matter/opacity from the Mono Shipping Screening. The dust control system is equipped with a fan that operates at a constant rpm, and a pulse-jet CPE 120TNFW361C Baghouse collection system. Capture system is enclosed ductwork and based on the unit design, bypass of the control device is not possible.

II. Applicable Regulation, Emission Limit and Monitoring Requirements

Regulation No: OP-1187, WAQS&R Chap. 5, Sec. 2 Subpart OOO
Emission Limit: 2.73 lb/hr, 7% Opacity
Monitoring Requirements: CAM for PM, Periodic Monitoring for visible emissions
Pre control PTE: 1196 tons/year based on 99% control efficiency.
Post control PTE: 12.0 tons/year

III. Justification for Selection of Performance Indicators

The following parameters will be monitored:

- Daily visible emission observations from the baghouse stack.

The visible emissions (opacity) was selected because it is indicative of the baghouse operation and adequate collection efficiency.

IV. Justification for Selection of Indicator Ranges

Visible emissions from the stack indicate that a serious problem may be developing in the baghouse. Prompt inspection after the observation will prevent an exceedance of emission requirements. A one minute observation period would detect a persistent problem in the baghouse which would indicate that the baghouse has deteriorated to the point of marginal compliance. An occasional puff from a baghouse may indicate future problems and, if observed, will not be classified as an excursion but will be noted and evaluated as to extent of the problem.

V. Indicator Range

Presence of visible emissions will initiate inspection and possible corrective action on the baghouse unit.

VI. Monitoring Report

A report will be submitted semi-annually and will include number, duration, the cause of the episodes when the visible emission indicated a plume, and the corrective actions taken.

VII. Implementation Plan

Daily visual observations will commence no longer than 30 days after permit renewal

MONO 12
PARTICULATE MONITORING APPROACH

	Indicator No. 1
I. Indicator	*Visual Observation*
Measurement Approach	*Trained visual observer*
II. Excursion Description & Action	*An excursion is initiated when an observation yields visible opacity, and will prompt expeditious inspection and repair, if necessary.*
III. Performance Criteria A. Data Representativeness:	*Visual observers will be educated in the general procedures for determining the presence & magnitude of visible emissions but not necessarily certified to perform Method 9 observations.*
B. QA/QC Practices	*Review & training of visual observers will be done initially and as needed thereafter.*
C. Monitoring Frequency & Date Recording	*Daily visual observation. Results recorded on logsheet.*
D. Data Collection Procedures	*Observations will be classified as "no opacity observed" or "opacity observed".*
E. Averaging Period	*1 minute*
F. QIP Threshold	*9 excursions in any one reporting period.*

CAM MONITORING APPROACH
Emission Unit
NS-3

I. Description of Emission Unit & Control Device

The pollutant specific emissions unit is particulate matter/opacity from the Mono 2 Gas Fired Calciner. This unit has a Research Cottrell Precipitator as the control device. The capture system is closed ductwork and based on unit design, bypass of the control device is not possible.

II. Applicable Regulation, Emission Limit and Monitoring Requirements

Regulation No.: WAQS&R Chap. 8 Sec. 2(b)(iii), WAQS&R Chap. 3 Sec. 2(a)
Emission Limit: 41.0 lb/hr, 20% Opacity
Monitoring Requirements: CAM for PM, Periodic Monitoring for visible emissions
Pre control PTE: 17958 tons/year calculated using 99% control device efficiency
Post control PTE: 179.6 tons/year

III. Justification for Selection of Performance Indicators

The following parameters will be monitored:

- Exit stack Opacity

On stack opacity, measured by the opacity meter will provide a continuous indicator of the performance of the pollution control equipment as well as opacity and emissions.

IV. Justification for Selection of Indicator Ranges

Opacity/Emission correlation tests demonstrate that mass particulate emissions are below the allowable limit when the opacity is less than 16%. Previous mass emission testing has shown that the unit can operate below its' allowable emission rate at the indicator range. Tests summaries are provided in Appendix A.

Periods of startup and shutdown of the unit are acknowledged to be abnormal conditions and will not be considered excursions. The duration will be limited as practicable.

V. Indicator Ranges:

Acceptable opacity limit: 16% hourly average.

NS-3 cont.

Monitoring Report

A report will be submitted semi-annually which will include the number, duration, and cause of the episodes when the scrubber operates outside of the range, along with any corrective action taken to return the indicators to acceptable levels.

VI. Implementation

Monitoring of parameters will begin no later than 30 days after permit renewal.

CAM MONITORING APPROACH
NS-3

	Indicator No. 1
I. Indicator	*Stack opacity*
Measurement Approach	*On stack opacity monitor*
II. Indicator range	*Corrective action will be taken when the hourly average opacity exceeds 16% for reasons other than startup, shutdown or process upsets that are already being addressed.*
III. Performance Criteria A. Data Representativeness:	*The opacity meter (minimum calibration error ±3.0%) is located on the stack.*
B. QA/QC Practices	*QA/QC practices are defined in the Quality Assurance plan submitted to the Division on October 25, 1996.*
C. Monitoring Frequency	*Continuously. Monitor scans at 10 second intervals.*
D. Data Collection Procedures	*Data recorded hourly on plant PI system.*
E. Averaging Period	*Hourly .*

CAM MONITORING APPROACH
Emission Unit
NS-6

I. Description of Emission Unit & Control Device

The pollutant specific emissions unit is particulate matter/opacity from the Mono 2 Fluid Bed Dryer. This unit has a FMC Model 120K Dual Throat Venturi Scrubber with a fixed venturi design. The pressure drop generally fluctuates slightly due to changes in airflow caused by variable production rates. The capture system is closed ductwork and based on unit design, bypass of the control device is not possible.

II. Applicable Regulation, Emission Limit and Monitoring Requirements

Regulation No.: WAQS&R Chap. 8 Sec. 2(b)(iii), WAQS&R Chap. 3 Sec. 2(a)
Emission Limit: 20 lb/hr, 20% Opacity
Monitoring Requirements: CAM for PM, Periodic Monitoring for visible emissions
Pre control PTE: 8760 tons/year calculated using 98% control device efficiency
Post control PTE: 87.6 tons/year

III. Justification for Selection of Performance Indicators

The following parameters will be monitored:

- Scrubber liquor recycle flow rate.
- Scrubber pressure drop

As long as the scrubber pressure drop remains relatively constant, the only significant variable in the scrubber operation is the scrubber recycle flow rate. The scrubber liquor recycle flow rate was selected because it is indicative of the scrubber operation and adequate collection efficiency. Scrubber pressure drop measurements will ensure that the pressure drop is remaining relatively constant over all airflow and process conditions.

IV. Justification for Selection of Indicator Ranges

The best long term indicators of compliance for this unit are scrubber liquor recirculation flow rate and scrubber pressure drop. As long as these parameters are held above the indicator limits, the collection efficiency of the scrubber is virtually the same. This scrubber was designed to provide the optimum collection efficiency with the proposed recirculation flow or greater. The attached emission test summary supports this value. The scrubber pressure drop limit was also selected from the attached emission test data.

NS-6 cont.

Previous mass emission testing has shown that the unit can operate well below its' allowable emission rate at the indicator ranges.

Periods of startup and shutdown of the unit are acknowledged to be abnormal conditions and will not be considered excursions. The duration will be limited as practicable.

V. Indicator Ranges:

Acceptable liquor flow rate: 384 gpm lower limit.
Acceptable pressure drop: 22 in wg lower limit.

Monitoring Report

A report will be submitted semi-annually which will include the number, duration, and cause of the episodes when the scrubber operates outside of the range, along with any corrective action taken to return the indicators to acceptable levels.

VI. Implementation

Monitoring of scrubber parameters will begin no later than 30 days after permit renewal.

CAM MONITORING APPROACH
NS-6

	Indicator No.1	Indicator No. 2
I. Indicator	*Scrubber Liquor Recirculation Flow Rate*	*Scrubber Pressure Drop*
Measurement Approach	*Flowmeter*	*DP Cell*
II. Excursion Description & Action	*An excursion is initiated when the hourly average flow falls below the indicator range. Prompt inspection and any necessary corrective action will be triggered.*	*An excursion is initiated when the hourly average DP falls below the indicator range. Prompt inspection and any necessary corrective action will be triggered.*
III. Performance Criteria A. Data Representativeness:	*The flow meter (minimum accuracy ± 5.0% flow rate) is located in the scrubber liquor recirculation line.*	*Measurement of pressure drop will be done from taps across the scrubber with a device that is accurate to within ± 1 inch water gauge.*
B. QA/QC Practices	*Flowmeter checked as needed and calibrated per manufacturer specifications.*	*Pressure drop device checked as needed and calibrated per manufacturer specifications.*
C. Monitoring Frequency & Data Recording	*Liquor flow measured continuously. Data recorded on plant PI system.*	*Pressure drop measured continuously. Data recorded on plant PI system.*
D. Data Collection Procedures	*Average liquor Flow computed hourly. 50% of the data each hour must be valid to be included in excursion determination.*	*Average pressure drop computed hourly. 50% of the data each hour must be valid to be included in excursion determination.*
E. Averaging Period	*Hourly average.*	*Hourly average.*
F. QIP Threshold	*5% of period operating hours below indicator range.*	*5% of period operating hours below indicator range.*

CAM MONITORING APPROACH
Emission Unit
MW-3

I. Description of Emission Unit & Control Device

The pollutant specific emissions unit is particulate matter/opacity from the Mine Water Fluid Bed Dryer. This unit has a AAT Dual Throat Venturi Scrubber #DTV-125 with a fixed venturi wedge and the pressure drop generally fluctuates slightly due to changes in airflow caused by variable production rates. The capture system is closed ductwork and based on unit design, bypass of the control device is not possible.

II. Applicable Regulation, Emission Limit and Monitoring Requirements

Regulation No.: CT-1045 & OP-1187, OP-179, WAQS&R Chap. 3 Sec. 2(a)
Emission Limit: 9.89 lb/hr, 20% Opacity
Monitoring Requirements: CAM for PM, Periodic Monitoring for visible emissions
Pre control PTE: 4332 tons/year calculated using 99% control device efficiency
Post control PTE: 43.3 tons/year

III. Justification for Selection of Performance Indicators

The following parameters will be monitored:

- Scrubber liquor recycle flow rate.
- Scrubber pressure drop

As long as the scrubber pressure drop remains relatively constant, the only significant variable in the scrubber operation is the scrubber recycle flow rate. The scrubber liquor recycle flow rate was selected because it is indicative of the scrubber operation and adequate collection efficiency. Venturi pressure drop measurements will ensure that the pressure drop is remaining relatively constant over all airflow and process conditions.

IV. Justification for Selection of Indicator Ranges

The best long term indicators of compliance for this unit are venturi liquor recirculation flow rate and venturi pressure drop. As long as these parameters are held above the indicator limits, the collection efficiency of the scrubber is virtually the same. The venturi pressure drop limit and scrubber flow limit were selected from the attached emission test summaries with an adjustment factor of approximately -30% used because the tested value was below 58% of the allowable emission rate. The unit was operating at the maximum 137.5 tph soda ash production rate during the test.

MW-3 cont.

Periods of startup and shutdown of the unit are acknowledged to be abnormal conditions and will not be considered excursions. The duration will be limited as practicable.

V. Indicator Ranges:

Acceptable liquor flow rate: 970 gpm lower limit.
Acceptable pressure drop: 21 in wg lower limit.

Monitoring Report

A report will be submitted semi-annually which will include the number, duration, and cause of the episodes when the scrubber operates outside of the range, along with any corrective action taken to return the indicators to acceptable levels.

VI. Implementation

Monitoring of scrubber parameters will begin no later than 30 days after permit renewal.

CAM MONITORING APPROACH
MW-3

	Indicator No.1	Indicator No. 2
I. Indicator	*Scrubber Liquor Recirculation Flow Rate*	*Scrubber Pressure Drop*
Measurement Approach	*Flowmeter*	*DP Cell or manometer*
II. Excursion Description & Action	*An excursion is initiated when the hourly average flow falls below the indicator range. Prompt inspection and any necessary corrective action will be triggered.*	*An excursion is initiated when the DP falls below the indicator range. Prompt inspection and any necessary corrective action will be triggered.*
III. Performance Criteria A. Data Representativeness:	*The flow meter (minimum accuracy ± 5.0% flow rate) is located in the scrubber liquor recirculation line.*	*Measurement of pressure drop will be done from taps across the scrubber with a device that is accurate to within ± 1 inch water gauge.*
B. QA/QC Practices	*Flowmeter checked as needed and calibrated per manufacturer specifications.*	*Pressure drop device checked as needed and calibrated per manufacturer specifications.*
C. Monitoring Frequency & Data Recording	*Liquor flow measured continuously. Data recorded on plant PI system at minimum once per day.*	*Pressure observed once per day. Data recorded on plant PI system or operator logsheet.*
D. Data Collection Procedures	*Average liquor Flow computed hourly. 50% of the data each hour must be valid to be included in excursion determination.*	*Pressure drop reading observed on plant control system, PI system, or on manometer at control device.*
E. Averaging Period	*Hourly average.*	*Once per day observation.*
F. QIP Threshold	*5% of period operating hours below indicator range.*	*5% of period observations below indicator range.*

CAM MONITORING APPROACH
Emission Unit
MW-4

I. Description of Emission Unit & Control Device

The pollutant specific emission unit is particulate matter/opacity from the Soda Ash Storage Housekeeping. The dust control system is equipped with a fan that operates at a constant rpm, and a pulse-jet CP Env. 100TNFW100C Baghouse collection system. Capture system is enclosed ductwork and based on the unit design, bypass of the control device is not possible.

II. Applicable Regulation, Emission Limit and Monitoring Requirements

Regulation No: CT-1045 & OP-1187, WAQS&R Chap. 5, Sec. 2 Subpart OOO
Emission Limit: 0.62 lb/hr, 7% Opacity
Monitoring Requirements: CAM for PM, Periodic Monitoring for visible emissions
Pre control PTE: 272 tons/year based on 99% control efficiency.
Post control PTE: 2.7 tons/year

III. Justification for Selection of Performance Indicators

The following parameters will be monitored:

- Daily visible emission observations from the baghouse stack.

The visible emissions (opacity) was selected because it is indicative of the baghouse operation and adequate collection efficiency.

IV. Justification for Selection of Indicator Ranges

Visible emissions from the stack indicate that a serious problem may be developing in the baghouse. Prompt inspection after the observation will prevent an exceedance of emission requirements. A one minute observation period would detect a persistent problem in the baghouse which would indicate that the baghouse has deteriorated to the point of marginal compliance. An occasional puff from a baghouse may indicate future problems and, if observed, will not be classified as an excursion but will be noted and evaluated as to extent of the problem.

V. Indicator Range

Presence of visible emissions will initiate inspection and possible corrective action on the baghouse unit.

VI. Monitoring Report

A report will be submitted semi-annually and will include number, duration, the cause of the episodes when the visible emission indicated a plume, and the corrective actions taken.

VII. Implementation Plan

Daily visual observations will commence no longer than 30 days after permit renewal.

MW-4
PARTICULATE MONITORING APPROACH

	Indicator No. 1
I. Indicator	*Visual Observation*
Measurement Approach	*Trained visual observer*
II. Excursion Description & Action	*An excursion is initiated when an observation yields visible opacity, and will prompt expeditious inspection and repair, if necessary.*
III. Performance Criteria A. Data Representativeness:	*Visual observers will be educated in the general procedures for determining the presence & magnitude of visible emissions but not necessarily certified to perform Method 9 observations.*
B. QA/QC Practices	*Review & training of visual observers will be done initially and as needed thereafter.*
C. Monitoring Frequency & Date Recording	*Daily visual observation. Results recorded on logsheet.*
D. Data Collection Procedures	*Observations will be classified as "no opacity observed" or "opacity observed".*
E. Averaging Period	*1 minute*
F. QIP Threshold	*9 excursions in any one reporting period.*

CAM MONITORING APPROACH
Emission Unit
MW-6

I. Description of Emission Unit & Control Device

The pollutant specific emissions unit is hydrogen sulfide gas from the Mine Water Stipper Vent. This unit has a Spray Tower Scrubber with an alkali solution used to absorb the hydrogen sulfide gas. The capture system is closed ductwork and based on unit design, bypass of the control device is possible but is only used in emergency situations.

II. Applicable Regulation, Emission Limit and Monitoring Requirements

Regulation No.: MD-1216,
Emission Limit: 2.0 lb/hr H_2S
Monitoring Requirements: CAM for H_2S
Pre control PTE: 547.5 tons/year calculated using 98.4% control device efficiency
Post control PTE: 8.75 tons/year

III. Justification for Selection of Performance Indicators

The following parameters will be monitored:

- Scrubber liquor recycle flow rate.

The only significant variable in the scrubber operation is the scrubber recycle flow rate. The scrubber liquor recycle flow rate was selected because it is indicative of the scrubber operation and adequate collection efficiency.

IV. Justification for Selection of Indicator Ranges

The best long term indicators of compliance for this unit is liquor recirculation flow rate. As long as this parameter is held above the indicator limit, the collection efficiency of the scrubber is virtually the same. The emissions test summary attached supports this value and shows that the unit can operate well below its' allowable emission rate at the indicator range.

Periods of startup and shutdown of the unit are acknowledged to be abnormal conditions and will not be considered excursions. The duration will be limited as practicable.

V. Indicator Ranges:

Acceptable liquor flow rate: 700 gpm lower limit.

MW-6 cont.

Monitoring Report

A report will be submitted semi-annually which will include the number, duration, and cause of the episodes when the scrubber operates outside of the range, along with any corrective action taken to return the indicators to acceptable levels.

VI. Implementation

Implementation has begun.

CAM MONITORING APPROACH
MW-6

	Indicator No.1
I. Indicator	*Scrubber Liquor Recirculation Flow Rate*
Measurement Approach	*Flowmeter*
II. Excursion Description & Action	*An excursion is initiated when the hourly average flow falls below the indicator range. Prompt inspection and any necessary corrective action will be triggered.*
III. Performance Criteria A. Data Representativeness:	*The flow meter (minimum accuracy ± 5.0% flow rate) is located in the scrubber liquor recirculation line.*
B. QA/QC Practices	*Flowmeter checked as needed and calibrated per manufacturer specifications.*
C. Monitoring Frequency & Data Recording	*Liquor flow measured continuously. Data recorded on plant PI system at minimum once per day.*
D. Data Collection Procedures	*Average liquor Flow computed hourly. 50% of the data each hour must be valid to be included in excursion determination.*
E. Averaging Period	*Hourly average.*
F. QIP Threshold	*5% of period operating hours below indicator range.*

CAM MONITORING APPROACH
NS-1A

I. Description of Emission Unit & Control Devices

The pollutant specific emissions unit is particulate matter/opacity from the Mono Coal/Gas Fired #6 Boiler. This unit has a Research Cottrell Precipitator as the control device. The capture system is closed ductwork and based on unit design, bypass of the control device is not possible.

II. Applicable Regulation, Emission Limit and Monitoring Requirements

Regulation No: CT-1045, MD-5723, WAQSR Chap. 8 Sec. 2(b)(iii) & Subpart D
Emission Limit: 45lb/hr PM, 0.05 lb\MMBTU PM, 20% opacity
Monitoring Requirements: CAM for PM
Pre-control PTE: 19710 tons/year calculated using 99% control device efficiency
Post-control PTE: 197.1 tons/year

III. Justification for Selection of Performance Indicators

In an electrostatic precipitator (ESP), electric fields are established by applying a direct-current voltage across a pair of electrodes: a discharge electrode and a collection electrode. Particulate matter suspended in the flue gas stream is electrically charged by passing through the electric field around each discharge electrode (the negatively charged electrode). The negatively charged particles then migrate toward the positively charged collection electrodes. The particulate matter is separated from the flue gas stream by retention on the collection electrodes. Particulate matter is removed from the collection plates by periodic rapping of the wires and plates.

ESP performance generally improves as the total power consumption increases. Other factors can influence performance, such as precipitator support equipment (rappers, TR sets, etc.) A malfunction in this equipment generally reveals itself in precipitator power reduction.

The secondary voltage drops when a malfunction, such as grounded electrodes, occurs in the precipitator. When the secondary voltage drops, less particulate matter is charged and collected. Also, the secondary voltage can remain high but fail to perform its function if the collection plates are not cleaned or rapped appropriately. If the collection plates are not cleaned, the current draw drops. Thus, since power consumption is the product of voltage and current values, monitoring precipitator power consumption will provide reasonable assurance that the ESP is functioning properly.

Precipitator transformer-rectifier (T/R) sets are used to convert alternating current to direct current. Each TR set can be split in two independent sections that operate independently. Direct current is used to charge the ESP discharge electrodes and collection electrodes. A minimum number of in-service electrostatic precipitator T/R sections are required to maintain sufficient particulate collection and ensure compliance with the particulate emissions standard.

IV. Justification for Selection of Indicator Ranges

Precipitator power consumption is a surrogate indicator of particulate emissions. Continuous ESP power consumption monitoring is utilized as an indicator of particulate matter emissions. In general, a decrease in precipitator power consumption indicates reduced particulate collection.

The number of T/R sections is service directly correlates to the power consumption of the ESP under normal operating conditions. A minimum number of in-service T/R sections are used as an indication of compliance with the particulate emissions standard of 45 lb/hr.

The indicator ranges for NS-1A will be chosen utilizing a minimum precipitator power consumption value as well as a maximum number of out of service T/R sections. Excursions from the NS-1A CAM plan will occur whenever the ESP power consumption falls below an acceptable power or whenever the number of in-service transformer-rectifier sets falls below an acceptable number of operational units. Note: each indicator parameter is based on a one-hour average.

Precipitator power consumption generally decreases at reduced unit load. Therefore, the number of in-service T/R sections is monitored as an additional indicator of pollution control equipment (ESP) performance. At loads below 500 klbs steam, the number of in-service TR-sections is the primary indicator of performance.

V. Indicator Ranges:

Minimum precipitator power rate: 75 kw lower limit. The total precipitator power rate is measured continuously via plant process control. An excursion is initiated when the recorded 1-hour precipitator power consumption value is less than 75 kW. Prompt inspection and corrective action will be taken.

Maximum TR sections out of service: No more than 8 of the 32 total sections. The number of in service and optional TR sections is monitored continuously by the plant process control. An excursion is initiated if more that 8 of the 32 sections are out of service. Prompt inspection and corrective action will be taken.

QA/QC Procedures

Precipitator power consumption instrumentation will be inspected and calibrated as required. The TR sections will be maintained per FMC maintenance plan.

VI. Monitoring Frequency and Data Recorded

The precipitator power consumption and number of in-service TR sections are monitored continuously and recorded by a data acquisition system. The data averaging period is hourly.

NS-1A

PARTICULATE MONITORING APPROACH

	Indicator No. 1	Indicator No. 2
I. Indicator Measurement Approach	The total electrostatic precipitator (ESP) power consumption is measured for the NS-1A precipitator as an indicator of particulate emissions compliance.	The number of in-service and operational NS-1A ESP transformer-rectifier (T/R) sections are measured as an indicator of particulate emissions compliance.
II. Indicator Range	An excursion is defined as a 1-hour precipitator power consumption value of less than 75 kW. Excursions trigger a precipitator inspection, corrective actions and a reporting requirement. Note: the precipitator inspection is used to check pollution control equipment performance and can be performed with the precipitator in service and operational.	An excursion is initiated if the 1-hour average number out of service T/R sections is more than 8 of the 32 sections. Excursions trigger a precipitator inspection, corrective actions and a reporting requirement.
III. Performance Criteria A. Data Representativeness	The precipitator power consumption is measured as an indicator of particulate matter collection and equipment performance.	The number of in-service T/R sections is monitored as an indirect indicator of precipitator power consumption.
B. Verification of Operational Status	Not Applicable	Not Applicable
C. QA/QC Practices and Criteria	Perform semi-annual inspections of the NS-1A precipitator power consumption instrumentation and calibrate as required.	Maintain the T/R sections per FMC maintenance plan
D. QIP Threshold	10% of period operating hours below indicator range.	10% of period operating hours below indicator range.

NS-1A Boiler #6

CAM Parameters

Once/term Source	Test Type	DEQ ID								Emissions – Actual s vs. Limit		
	Particulate Method 5	NS-1A								Limit:	45	lb/hr
			Stack Temp	Total Power kW	TR Sections Active	Steam MMBTU	Steam K#/Hr	ACFM	Limit: 20% Opacity %	Tested Emissions lb/hr	% of limit	% of full load
Date	NS-1A											
9/27/2007	Run #1		150	98	31	773	556	364,000	6.30	12.5	27.78%	85.54%
9/27/2007	Run #2		148	90	27	764	550	356,000	6.90	14.80	32.89%	84.62%
9/27/2007	Run #3		150	75	23	764	550	356,000	8.80	21.70	48.22%	84.62%

CAM MONITORING APPROACH
NS-1B

I. Description of Emission Unit & Control Devices

The pollutant specific emissions unit is particulate matter/opacity from the Mono Coal/Gas Fired #7 Boiler. This unit has a Research Cottrell Precipitator as the control device. The capture system is closed ductwork and based on unit design, bypass of the control device is not possible.

II. Applicable Regulation, Emission Limit and Monitoring Requirements

Regulation No: CT-1045, MD-5723, WAQSR Chap. 8 Sec. 2(b)(iii) & Subpart D
Emission Limit: 45lb/hr PM, 0.05 lb\MMBTU PM, 20% opacity
Monitoring Requirements: CAM for PM
Pre-control PTE: 19710 tons/year calculated using 99% control device efficiency
Post-control PTE: 197.1 tons/year

III. Justification for Selection of Performance Indicators

In an electrostatic precipitator (ESP), electric fields are established by applying a direct-current voltage across a pair of electrodes: a discharge electrode and a collection electrode. Particulate matter suspended in the flue gas stream is electrically charged by passing through the electric field around each discharge electrode (the negatively charged electrode). The negatively charged particles then migrate toward the positively charged collection electrodes. The particulate matter is separated from the flue gas stream by retention on the collection electrodes. Particulate matter is removed from the collection plates by periodic rapping of the wires and plates.

ESP performance generally improves as the total power consumption increases. Other factors can influence performance, such as precipitator support equipment (rappers, TR sets, etc.) A malfunction in this equipment generally reveals itself in precipitator power reduction.

The secondary voltage drops when a malfunction, such as grounded electrodes, occurs in the precipitator. When the secondary voltage drops, less particulate matter is charged and collected. Also, the secondary voltage can remain high but fail to perform its function if the collection plates are not cleaned or rapped appropriately. If the collection plates are not cleaned, the current draw drops. Thus, since power consumption is the product of voltage and current values, monitoring precipitator power consumption will provide reasonable assurance that the ESP is functioning properly.

Precipitator transformer-rectifier (T/R) sets are used to convert alternating current to direct current. Each TR set can be split in two independent sections that operate independently. Direct current is used to charge the ESP discharge electrodes and collection electrodes. A minimum number of in-service electrostatic precipitator T/R sections are required to maintain sufficient particulate collection and ensure compliance with the particulate emissions standard.

IV. Justification for Selection of Indicator Ranges

Precipitator power consumption is a surrogate indicator of particulate emissions. Continuous ESP power consumption monitoring is utilized as an indicator of particulate matter emissions. In general, a decrease in precipitator power consumption indicates reduced particulate collection.

The number of T/R sections is service directly correlates to the power consumption of the ESP under normal operating conditions. A minimum number of in-service T/R sections are used as an indication of compliance with the particulate emissions standard of 45 lb/hr.

The indicator ranges for NS-1B will be chosen utilizing a minimum precipitator power consumption value as well as a maximum number of out of service T/R sections. Excursions from the NS-1B CAM plan will occur whenever the ESP power consumption falls below an acceptable power or whenever the number of in-service transformer-rectifier sets falls below an acceptable number of operational units. Note: each indicator parameter is based on a one-hour average.

Precipitator power consumption generally decreases at reduced unit load. Therefore, the number of in-service T/R sections is monitored as an additional indicator of pollution control equipment (ESP) performance. At loads below 500 klbs steam, the number of in-service TR-sections is the primary indicator of performance.

V. Indicator Ranges and Measurement:

Acceptable precipitator power rate: 70 kw lower limit. The total precipitator power rate is measured continuously via plant process control. An excursion is initiated when the recorded 1-hour precipitator power consumption value is less than 70 kW. Prompt inspection and corrective action will be taken.

Acceptable TR sections out of service: No more than 14 of the 32 total sections. The number of in service and optional TR sections is monitored continuously by the plant process control. An excursion is initiated if more that 14 of the 32 sections are out of service. Prompt inspection and corrective action will be taken.

QA/QC Procedures

Precipitator power consumption instrumentation will be inspected and calibrated as required. The TR sections will be maintained per FMC maintenance plan.

VI. Monitoring Frequency and Data Recorded

The precipitator power consumption and number of in-service TR sections are monitored continuously and recorded by a data acquisition system. The data averaging period is hourly.

NS-1B

PARTICULATE MONITORING APPROACH

	Indicator No. 1	Indicator No. 2
I. Indicator Measurement Approach	The total electrostatic precipitator (ESP) power consumption is measured for the NS-1B precipitator as an indicator of particulate emissions compliance.	The number of in-service and operational NS-1B ESP transformer-rectifier (T/R) sections are measured as an indicator of particulate emissions compliance.
II. Indicator Range	An excursion is defined as a 1-hour precipitator power consumption value of less than 70 kW. Excursions trigger a precipitator inspection, corrective actions and a reporting requirement. Note: the precipitator inspection is used to check pollution control equipment performance and can be performed with the precipitator in service and operational.	An excursion is initiated if the 1-hour average number out of service T/R sections is more than 14 of the 32 sections. Excursions trigger a precipitator inspection, corrective actions and a reporting requirement.
III. Performance Criteria A. Data Representativeness	The precipitator power consumption is measured as an indicator of particulate matter collection and equipment performance.	The number of in-service T/R sections is monitored as an indirect indicator of precipitator power consumption.
B. Verification of Operational Status	Not Applicable	Not Applicable
C. QA/QC Practices and Criteria	Perform semi-annual inspections of the NS-1B precipitator power consumption instrumentation and calibrate as required.	Maintain the T/R sections per FMC maintenance plan
D. QIP Threshold	10% of period operating hours below indicator range.	10% of period operating hours below indicator range.

NS-1B Boiler #7

CAM Parameters

Once/term Source	Test Type	DEQ ID								Emissions – Actual s vs. Limit		
	Particulate Method 5	NS-1B										
			Stack Temp	Total Power kW	TR Sections Active	Steam MMBTU	Steam K#/Hr	ACFM	Limit: 20% Opacity %	Limit:	45	lb/hr
										Tested Emissions		% of
	Date	NS-1B								lb/hr	% of limit	full load
	10/15/2008	Run #1	149	157	30	805	595	372,000	6.80	11.4	25.33%	90.8%
	10/15/2008	Run #2	156	102	22	804	592	373,000	8.60	16.3	36.22%	90.6%
	10/15/2008	Run #3	156	70	18	804	593	378,000	10.30	19.9	44.22%	90.6%

CAM MONITORING APPROACH
Emission Unit
NS-2A

I. Description of Emission Unit & Control Device

The pollutant specific emission unit is particulate matter/opacity from the Mono Power Housekeeping. The dust control system is equipped with a fan that operates at a constant rpm, and a pulse-jet Flexkleen 100-RA-48KD Baghouse collection system. Capture system is enclosed ductwork and based on the unit design, bypass of the control device is not possible.

II. Applicable Regulation, Emission Limit and Monitoring Requirements

Regulation No: WAQS&R Chap. 8 Sec. 2(b)(iii), WAQS&R Chap. 3 Sec. 2(a)
Emission Limit: 0.25 lb/hr, 20% Opacity
Monitoring Requirements: CAM for PM, Periodic Monitoring for visible emissions
Pre control PTE: 110 tons/year based on 99% control efficiency.
Post control PTE: 1.1 tons/year

III. Justification for Selection of Performance Indicators

The following parameters will be monitored:

- Daily visible emission observations from the baghouse stack.

The visible emissions (opacity) was selected because it is indicative of the baghouse operation and adequate collection efficiency.

IV. Justification for Selection of Indicator Ranges

Visible emissions from the stack indicate that a serious problem may be developing in the baghouse. Prompt inspection after the observation will prevent an exceedance of emission requirements. A one minute observation period would detect a persistent problem in the baghouse which would indicate that the baghouse has deteriorated to the point of marginal compliance. An occasional puff from a baghouse may indicate future problems and, if observed, will not be classified as an excursion but will be noted and evaluated as to extent of the problem.

V. Indicator Range

Presence of visible emissions will initiate inspection and possible corrective action on the baghouse unit.

VI. Monitoring Report

A report will be submitted semi-annually and will include number, duration, the cause of the episodes when the visible emission indicated a plume, and the corrective actions taken.

VII. Implementation Plan

Daily visual observations will commence no longer than 30 days after startup.

NS-2A
PARTICULATE MONITORING APPROACH

	Indicator No. 1
I. Indicator	*Visual Observation*
Measurement Approach	*Trained visual observer*
II. Excursion Description & Action	*An excursion is initiated when an observation yields visible opacity, and will prompt expeditious inspection and repair, if necessary.*
III. Performance Criteria A. Data Representativeness:	*Visual observers will be educated in the general procedures for determining the presence & magnitude of visible emissions but not necessarily certified to perform Method 9 observations.*
B. QA/QC Practices	*Review & training of visual observers will be done initially and as needed thereafter.*
C. Monitoring Frequency & Date Recording	*Daily visual observation. Results recorded on logsheet.*
D. Data Collection Procedures	*Observations will be classified as "no opacity observed" or "opacity observed".*
E. Averaging Period	*1 minute*
F. QIP Threshold	*9 excursions in any one reporting period.*

CAM MONITORING APPROACH
Emission Unit
NS-2B

I. Description of Emission Unit & Control Device

The pollutant specific emission unit is particulate matter/opacity from the Mono Power Housekeeping. The dust control system is equipped with a fan that operates at a constant rpm, and a pulse-jet Flexkleen 100-RA-48KD Baghouse collection system. Capture system is enclosed ductwork and based on the unit design, bypass of the control device is not possible.

II. Applicable Regulation, Emission Limit and Monitoring Requirements

Regulation No: WAQS&R Chap. 8 Sec. 2(b)(iii), WAQS&R Chap. 3 Sec. 2(a)
Emission Limit: 0.25 lb/hr, 20% Opacity
Monitoring Requirements: CAM for PM, Periodic Monitoring for visible emissions
Pre control PTE: 110 tons/year based on 99% control efficiency.
Post control PTE: 1.1 tons/year

III. Justification for Selection of Performance Indicators

The following parameters will be monitored:

- Daily visible emission observations from the baghouse stack.

The visible emissions (opacity) was selected because it is indicative of the baghouse operation and adequate collection efficiency.

IV. Justification for Selection of Indicator Ranges

Visible emissions from the stack indicate that a serious problem may be developing in the baghouse. Prompt inspection after the observation will prevent an exceedance of emission requirements. A one minute observation period would detect a persistent problem in the baghouse which would indicate that the baghouse has deteriorated to the point of marginal compliance. An occasional puff from a baghouse may indicate future problems and, if observed, will not be classified as an excursion but will be noted and evaluated as to extent of the problem.

V. Indicator Range

Presence of visible emissions will initiate inspection and possible corrective action on the baghouse unit.

VI. Monitoring Report

A report will be submitted semi-annually and will include number, duration, the cause of the episodes when the visible emission indicated a plume, and the corrective actions taken.

VII. Implementation Plan

Daily visual observations will commence no longer than 30 days after startup.

NS-2B
PARTICULATE MONITORING APPROACH

	Indicator No. 1
I. Indicator	*Visual Observation*
Measurement Approach	*Trained visual observer*
II. Excursion Description & Action	*An excursion is initiated when an observation yields visible opacity, and will prompt expeditious inspection and repair, if necessary.*
III. Performance Criteria A. Data Representativeness:	*Visual observers will be educated in the general procedures for determining the presence & magnitude of visible emissions but not necessarily certified to perform Method 9 observations.*
B. QA/QC Practices	*Review & training of visual observers will be done initially and as needed thereafter.*
C. Monitoring Frequency & Date Recording	*Daily visual observation. Results recorded on logsheet.*
D. Data Collection Procedures	*Observations will be classified as "no opacity observed" or "opacity observed".*
E. Averaging Period	*1 minute*
F. QIP Threshold	*9 excursions in any one reporting period.*

CAM MONITORING APPROACH
Emission Unit
NS-10

I. Description of Emission Unit & Control Device

The pollutant specific emission unit is particulate matter/opacity from the Mono Power Fly Ash Silo Vent. The dust control system is equipped with a fan that operates at a constant rpm, and a pulse-jet Mikropul Model 69-8-TRH Baghouse collection system. Capture system is enclosed ductwork and based on the unit design, bypass of the control device is not possible.

II. Applicable Regulation, Emission Limit and Monitoring Requirements

Regulation No: OP-180, WAQS&R Chap. 3 Sec. 2(b)
Emission Limit: 0.34 lb/hr, 20% Opacity
Monitoring Requirements: CAM for PM, Periodic Monitoring for visible emissions
Pre control PTE: 149 tons/year based on 99% control efficiency.
Post control PTE: 1.5 tons/year

III. Justification for Selection of Performance Indicators

The following parameters will be monitored:

- Daily visible emission observations from the baghouse stack.

The visible emissions (opacity) was selected because it is indicative of the baghouse operation and adequate collection efficiency.

IV. Justification for Selection of Indicator Ranges

Visible emissions from the stack indicate that a serious problem may be developing in the baghouse. Prompt inspection after the observation will prevent an exceedance of emission requirements. A one minute observation period would detect a persistent problem in the baghouse which would indicate that the baghouse has deteriorated to the point of marginal compliance. An occasional puff from a baghouse may indicate future problems and, if observed, will not be classified as an excursion but will be noted and evaluated as to extent of the problem.

V. Indicator Range

Presence of visible emissions will initiate inspection and possible corrective action on the baghouse unit.

VI. Monitoring Report

A report will be submitted semi-annually and will include number, duration, the cause of the episodes when the visible emission indicated a plume, and the corrective actions taken.

VII. Implementation Plan

Daily visual observations will commence no longer than 30 days after startup.

03-17-2005 319172

NS-10
PARTICULATE MONITORING APPROACH

	Indicator No. 1
I. Indicator	*Visual Observation*
Measurement Approach	*Trained visual observer*
II. Excursion Description & Action	*An excursion is initiated when an observation yields visible opacity, and will prompt expeditious inspection and repair, if necessary.*
III. Performance Criteria A. Data Representativeness:	*Visual observers will be educated in the general procedures for determining the presence & magnitude of visible emissions but not necessarily certified to perform Method 9 observations.*
B. QA/QC Practices	*Review & training of visual observers will be done initially and as needed thereafter.*
C. Monitoring Frequency & Date Recording	*Daily visual observation. Results recorded on logsheet.*
D. Data Collection Procedures	*Observations will be classified as "no opacity observed" or "opacity observed".*
E. Averaging Period	*1 minute*
F. QIP Threshold	*9 excursions in any one reporting period.*

CAM MONITORING APPROACH
Emission Unit
NS-11

I. Description of Emission Unit & Control Device

The pollutant specific emission unit is particulate matter/opacity from the Mono Power Fly Ash Truck Loading. The dust control system is equipped with a fan that operates at a constant rpm, and a pulse-jet Mikropul Model 255-8 Baghouse collection system. Capture system is enclosed ductwork and based on the unit design, bypass of the control device is not possible.

II. Applicable Regulation, Emission Limit and Monitoring Requirements

Regulation No: OP-180, WAQS&R Chap. 3 Sec. 2(b)
Emission Limit: 0.34 lb/hr, 20% Opacity
Monitoring Requirements: CAM for PM, Periodic Monitoring for visible emissions
Pre control PTE: 149 tons/year based on 99% control efficiency.
Post control PTE: 1.5 tons/year

III. Justification for Selection of Performance Indicators

The following parameters will be monitored:

- Daily visible emission observations from the baghouse stack.

The visible emissions (opacity) was selected because it is indicative of the baghouse operation and adequate collection efficiency.

IV. Justification for Selection of Indicator Ranges

Visible emissions from the stack indicate that a serious problem may be developing in the baghouse. Prompt inspection after the observation will prevent an exceedance of emission requirements. A one minute observation period would detect a persistent problem in the baghouse which would indicate that the baghouse has deteriorated to the point of marginal compliance. An occasional puff from a baghouse may indicate future problems and, if observed, will not be classified as an excursion but will be noted and evaluated as to extent of the problem.

V. Indicator Range

Presence of visible emissions will initiate inspection and possible corrective action on the baghouse unit.

VI. Monitoring Report

A report will be submitted semi-annually and will include number, duration, the cause of the episodes when the visible emission indicated a plume, and the corrective actions taken.

VII. Implementation Plan

Daily visual observations will commence no longer than 30 days after startup.

NS-11
PARTICULATE MONITORING APPROACH

	Indicator No. 1
I. Indicator	*Visual Observation*
Measurement Approach	*Trained visual observer*
II. Excursion Description & Action	*An excursion is initiated when an observation yields visible opacity, and will prompt expeditious inspection and repair, if necessary.*
III. Performance Criteria A. Data Representativeness:	*Visual observers will be educated in the general procedures for determining the presence & magnitude of visible emissions but not necessarily certified to perform Method 9 observations.*
B. QA/QC Practices	*Review & training of visual observers will be done initially and as needed thereafter.*
C. Monitoring Frequency & Date Recording	*Daily visual observation. Results recorded on logsheet.*
D. Data Collection Procedures	*Observations will be classified as "no opacity observed" or "opacity observed".*
E. Averaging Period	*1 minute*
F. QIP Threshold	*9 excursions in any one reporting period.*

CAM MONITORING APPROACH
Emission Unit
SM-1

I. Description of Emission Unit & Control Device

The pollutant specific emissions unit is particulate matter/opacity from the Gas Fired Lime Kiln. This unit has a Neptune Air-Pol Venturi Scrubber with a fixed venturi wedge and the pressure drop generally fluctuates significantly due to changes in airflow caused by variable production rates. The capture system is closed ductwork and based on unit design, bypass of the control device is not possible.

II. Applicable Regulation, Emission Limit and Monitoring Requirements

Regulation No.: OP-198, WAQS&R Chap. 3 Sec. 2(a)
Emission Limit: 14 lb/hr, 20% Opacity
Monitoring Requirements: CAM for PM, Periodic Monitoring for visible emissions
Pre control PTE: 6132 tons/year calculated using 99% control device efficiency
Post control PTE: 61.3 tons/year

III. Justification for Selection of Performance Indicators

The following parameters will be monitored:

- Scrubber liquor recycle flow rate.
- Scrubber pressure drop

As long as the scrubber pressure drop remains above the lower proposed limits, the only significant variable in the scrubber operation is the scrubber recycle flow rate. The scrubber liquor recycle flow rate was selected because it is indicative of the scrubber operation and adequate collection efficiency. Venturi pressure drop measurements will ensure that the pressure drop is remaining above the proposed limit over all airflow and process conditions.

IV. Justification for Selection of Indicator Ranges

This unit has been tested at varying production rates to determine the appropriate scrubber operating values. Reduced airflow at lower production levels results in lower pressure drop values and the testing confirmed that the unit could remain well within compliance at the propose ranges. A factor of -10% was used to adjust DP limit to compensate for upsets and instrument variability. A factor of -20% was used to adjust the flow limit to compensate for operational variability. A summary of all the tests used in the analysis is enclosed.

The mass emission testing has shown that the unit can operate well below its' allowable emission rate at the proposed indicator ranges.

Periods of startup and shutdown of the unit are acknowledged to be abnormal conditions and will not be considered excursions. The duration will be limited as practicable.

V. Indicator Ranges:

Acceptable liquor flow rate: 707 gpm lower limit.
Acceptable pressure drop: 16.1 in wg lower limit.

Monitoring Report

A report will be submitted semi-annually which will include the number, duration, and cause of the episodes when the scrubber operates outside of the range, along with any corrective action taken to return the indicators to acceptable levels.

VI. Implementation

Monitoring of scrubber parameters will begin no later than 30 days after permit renewal.

CAM MONITORING APPROACH
SM-1

	Indicator No.1	Indicator No. 2
I. Indicator	*Scrubber Liquor Recirculation Flow Rate*	*Scrubber Pressure Drop*
Measurement Approach	*Flowmeter*	*DP Cell or manometer*
II. Excursion Description & Action	*An excursion is initiated when the hourly average flow falls below the indicator range. Prompt inspection and any necessary corrective action will be triggered.*	*An excursion is initiated when the DP falls below the indicator range. Prompt inspection and any necessary corrective action will be triggered.*
III. Performance Criteria A. Data Representativeness:	*The flow meter (minimum accuracy ± 5.0% flow rate) is located in the scrubber liquor recirculation line.*	*Measurement of pressure drop will be done from taps across the scrubber with a device that is accurate to within ± 1 inch water gauge.*
B. QA/QC Practices	*Flowmeter checked as needed and calibrated per manufacturer specifications.*	*Pressure drop device checked as needed and calibrated per manufacturer specifications.*
C. Monitoring Frequency & Data Recording	*Liquor flow measured continuously. Data recorded on plant PI system at minimum once per day.*	*Pressure observed once per day. Data recorded on plant PI system or operator logsheet.*
D. Data Collection Procedures	*Average liquor Flow computed hourly. 50% of the data each hour must be valid to be included in excursion determination.*	*Pressure drop reading observed on plant control system, PI system, or on manometer at control device.*
E. Averaging Period	*Hourly average.*	*Once per day observation.*
F. QIP Threshold	*5% of period operating hours below indicator range.*	*5% of period observations below indicator range.*

CAM MONITORING APPROACH
Emission Unit
BC-1

I. Description of Emission Unit & Control Device

The pollutant specific emission unit is particulate matter/opacity from the Bicarb Flash Dryer. The dust control system is equipped with a fan that operates at a constant rpm, and a pulse-jet Micropul 340-S-TRH8 Baghouse collection system. Capture system is enclosed ductwork and based on the unit design, bypass of the control device is not possible.

II. Applicable Regulation, Emission Limit and Monitoring Requirements

Regulation No: OP-234, WAQS&R Chap. 3 Sec. 2(a)
Emission Limit: 3.0 lb/hr, 20% Opacity
Monitoring Requirements: CAM for PM, Periodic Monitoring for visible emissions
Pre control PTE: 1314 tons/year based on 99% control efficiency.
Post control PTE: 13.1 tons/year

III. Justification for Selection of Performance Indicators

The following parameters will be monitored:

- Daily visible emission observations from the baghouse stack.

The visible emissions (opacity) was selected because it is indicative of the baghouse operation and adequate collection efficiency.

IV. Justification for Selection of Indicator Ranges

Visible emissions from the stack indicate that a serious problem may be developing in the baghouse. Prompt inspection after the observation will prevent an exceedance of emission requirements. A one minute observation period would detect a persistent problem in the baghouse which would indicate that the baghouse has deteriorated to the point of marginal compliance. An occasional puff from a baghouse may indicate future problems and, if observed, will not be classified as an excursion but will be noted and evaluated as to extent of the problem.

V. Indicator Range

Presence of visible emissions will initiate inspection and possible corrective action on the baghouse unit.

VI. Monitoring Report

A report will be submitted semi-annually and will include number, duration, the cause of the episodes when the visible emission indicated a plume, and the corrective actions taken.

VII. Implementation Plan

Daily visual observations will commence no longer than 30 days after startup.

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BC-1
PARTICULATE MONITORING APPROACH

	Indicator No. 1
I. Indicator	*Visual Observation*
Measurement Approach	*Trained visual observer*
II. Excursion Description & Action	*An excursion is initiated when an observation yields visible opacity, and will prompt expeditious inspection and repair, if necessary.*
III. Performance Criteria A. Data Representativeness:	*Visual observers will be educated in the general procedures for determining the presence & magnitude of visible emissions but not necessarily certified to perform Method 9 observations.*
B. QA/QC Practices	*Review & training of visual observers will be done initially and as needed thereafter.*
C. Monitoring Frequency & Date Recording	*Daily visual observation. Results recorded on logsheet.*
D. Data Collection Procedures	*Observations will be classified as "no opacity observed" or "opacity observed".*
E. Averaging Period	*1 minute*
F. QIP Threshold	*9 excursions in any one reporting period.*

CAM MONITORING APPROACH
Emission Unit
BC-2

I. Description of Emission Unit & Control Device

The pollutant specific emission unit is particulate matter/opacity from the Bicarb Product Handling. The dust control system is equipped with a fan that operates at a constant rpm, and a pulse-jet Micropul 289-S-TRH8 Baghouse collection system. Capture system is enclosed ductwork and based on the unit design, bypass of the control device is not possible.

II. Applicable Regulation, Emission Limit and Monitoring Requirements

Regulation No: OP-234, WAQS&R Chap. 5, Sec. 2 Subpart OOO
Emission Limit: 1.7 lb/hr, 7% Opacity
Monitoring Requirements: CAM for PM, Periodic Monitoring for visible emissions
Pre control PTE: 745 tons/year based on 99% control efficiency.
Post control PTE: 7.4 tons/year

III. Justification for Selection of Performance Indicators

The following parameters will be monitored:

- Daily visible emission observations from the baghouse stack.

The visible emissions (opacity) was selected because it is indicative of the baghouse operation and adequate collection efficiency.

IV. Justification for Selection of Indicator Ranges

Visible emissions from the stack indicate that a serious problem may be developing in the baghouse. Prompt inspection after the observation will prevent an exceedance of emission requirements. A one minute observation period would detect a persistent problem in the baghouse which would indicate that the baghouse has deteriorated to the point of marginal compliance. An occasional puff from a baghouse may indicate future problems and, if observed, will not be classified as an excursion but will be noted and evaluated as to extent of the problem.

V. Indicator Range

Presence of visible emissions will initiate inspection and possible corrective action on the baghouse unit.

VI. Monitoring Report

A report will be submitted semi-annually and will include number, duration, the cause of the episodes when the visible emission indicated a plume, and the corrective actions taken.

VII. Implementation Plan

Daily visual observations will commence no longer than 30 days after startup.

BC-2
PARTICULATE MONITORING APPROACH

	Indicator No. 1
I. Indicator	*Visual Observation*
Measurement Approach	*Trained visual observer*
II. Excursion Description & Action	*An excursion is initiated when an observation yields visible opacity, and will prompt expeditious inspection and repair, if necessary.*
III. Performance Criteria A. Data Representativeness:	*Visual observers will be educated in the general procedures for determining the presence & magnitude of visible emissions but not necessarily certified to perform Method 9 observations.*
B. QA/QC Practices	*Review & training of visual observers will be done initially and as needed thereafter.*
C. Monitoring Frequency & Date Recording	*Daily visual observation. Results recorded on logsheet.*
D. Data Collection Procedures	*Observations will be classified as "no opacity observed" or "opacity observed".*
E. Averaging Period	*1 minute*
F. QIP Threshold	*9 excursions in any one reporting period.*

CAM MONITORING APPROACH
PA-4

I. Description of Emission Unit & Control Device

The pollutant specific emissions unit is particulate matter/opacity from the Sesqui Plant Crusher Vent. The dust control system is equipped with a fan that operates at a constant rpm, and an FMC Model 40K Dual Throat Venturi Scrubber with the venturi wedge set at a constant position. The capture system is closed ductwork and based on unit design, bypass of the control device is not possible.

II. Applicable Regulation, Emission Limit and Monitoring Requirements

Regulation No: WAQSR Chap. 8 Sec. 2(b)(iii), WAQSR Chap. 3 Sec. 2(b)
Emission Limit: 1.25 lb/hr PM, 40% opacity
Monitoring Requirements: CAM for PM
Pre-control PTE: 547 tons/year calculated using 99.0% control device efficiency
Post-control PTE: 5.5 tons/year

III. Justification for Selection of Performance Indicators

The following parameters will be monitored:

- Scrubber liquor recirculation flow rate.

Because of the constant rpm fan and fixed venturi wedge, the only significant variable in the scrubber operation is the scrubber recirculation flow rate. The scrubber liquor recirculation flow rate was selected because it is indicative of the scrubber operation and adequate collection efficiency.

IV. Justification for Selection of Indicator Ranges

The manufacturer of the control equipment has determined that recirculation flow rates between 5 gpm and 10 gpm per 1000 acfm are adequate for optimum collection efficiency. On site emission testing on units of this design and application has confirmed this conclusion. A minimum recirculation flow of 6 gpm per 1000 acfm was selected as the lower limit. This minimum rate will allow normal operating fluctuations in recirculation flow as well as assuring compliance with emission standards. The maximum design airflow rate through the system will not be exceeded as long as the fan rpm and venturi wedge position are constant. The minimum scrubber liquor recirculation flow for this unit was calculated using either the maximum design air flow rate or actual tested rate, whichever is larger. The flow value also applies to unit PA-5 because the scrubbers are identical in design and application (fugitive dust control).

V. Indicator Ranges and Measurement:

Minimum liquor flow rate: 132 gpm lower limit. The liquor flow rate is measured by a flowmeter located in the venturi liquor recirculation line. An excursion is initiated when the recorded hourly average flow falls below the indicator range. Prompt inspection and corrective action will be taken.

QA/QC Procedures

The flowmeter will be checked as needed and calibrated per manufacturer specifications.

VI. Monitoring Frequency and Data Recorded

Liquor flow rate data is recorded at a minimum once per day. At least 50% of the data each hour must be valid to be included in excursion determination. The data averaging period is hourly.

CAM MONITORING APPROACH

PA-4

	Indicator
1. Indicator	*Scrubber Liquor Recirculation Flow Rate*
Measurement Approach	*Flowmeter*
II. Excursion Description & Action	*An excursion is initiated when the flow falls below the indicator range. Prompt inspection and any necessary corrective action will be triggered.*
III. Performance Criteria A. Data Representativeness:	*The flow meter is located in the scrubber liquor recirculation line.*
B. QA/QC Practices	*Flowmeter checked as needed and calibrated per manufacturer specifications.*
C. Monitoring Frequency & Data Recording	*Liquor flow measured continuously. Data recorded into plant process data computer system at a minimum once per day.*
D. Data Collection Procedures	*Average liquor flow computed hourly. 50% of the data each hour must be valid to be included in excursion determination.*
E. Averaging Period	*Hourly Average*

PA-5 Sesqui Plant Ore Screening Vent

Once/term Source	Test Type	DEQ ID						
	Particulate Method 5	PA-5				Emissions – Actual s vs. Limit		
			Scrubber Flow	ACFM	Feed Rate	Limit:	1.25	lb/hr
			GPM		TPH	Tested Emissions		% of
	Date	PA-5				lb/hr	% of limit	full load
	7/9/2009	Run #1	174.48	39700	214.43	1.21	96.8%	73.9%
	7/9/2009	Run #2	150.30	40000	200.39	0.509	40.7%	69.1%
	7/9/2009	Run #3	131.93	40600	210.65	0.450	36.0%	72.6%
		Average		**28500**	**208.49**	**0.723**	**57.8%**	**71.9%**

CAM parameters of 132 gpm were chosen from Run #3.

CAM MONITORING APPROACH
PA-5

I. Description of Emission Unit & Control Device

The pollutant specific emissions unit is particulate matter/opacity from the Sesqui Plant Ore Screening Vent. The dust control system is equipped with a fan that operates at a constant rpm, and an FMC Model 40K Dual Throat Venturi Scrubber with the venturi wedge set at a constant position. The capture system is closed ductwork and based on unit design, bypass of the control device is not possible.

II. Applicable Regulation, Emission Limit and Monitoring Requirements

Regulation No: WAQSR Chap. 8 Sec. 2(b)(iii), WAQSR Chap. 3 Sec. 2(b)
Emission Limit: 1.25 lb/hr PM, 40% opacity
Monitoring Requirements: CAM for PM
Pre-control PTE: 547 tons/year calculated using 99.0% control device efficiency
Post-control PTE: 5.5 tons/year

III. Justification for Selection of Performance Indicators

The following parameters will be monitored:

- Scrubber liquor recirculation flow rate.

Because of the constant rpm fan and fixed venturi wedge, the only significant variable in the scrubber operation is the scrubber recirculation flow rate. The scrubber liquor recirculation flow rate was selected because it is indicative of the scrubber operation and adequate collection efficiency.

IV. Justification for Selection of Indicator Ranges

The manufacturer of the control equipment has determined that recirculation flow rates between 5 gpm and 10 gpm per 1000 acfm are adequate for optimum collection efficiency. On site emission testing on units of this design and application has confirmed this conclusion. A minimum recirculation flow of 6 gpm per 1000 acfm was selected as the lower limit. This minimum rate will allow normal operating fluctuations in recirculation flow as well as assuring compliance with emission standards. The maximum design airflow rate through the system will not be exceeded as long as the fan rpm and venturi wedge position are constant. The minimum scrubber liquor recirculation flow for this unit was calculated using either the maximum design air flow rate or actual tested rate, whichever is larger. The flow value also applies to unit PA-4 because the scrubbers are identical in design and application (fugitive dust control).

V. Indicator Ranges and Measurement:

Minimum liquor flow rate: 132 gpm lower limit. The liquor flow rate is measured by a flowmeter located in the venturi liquor recirculation line. An excursion is initiated when the recorded hourly average flow falls below the indicator range. Prompt inspection and corrective action will be taken.

QA/QC Procedures

The flowmeter will be checked as needed and calibrated per manufacturer specifications.

VI. Monitoring Frequency and Data Recorded

Liquor flow rate is recorded at a minimum once per day. At least 50% of the data each hour must be valid to be included in excursion determination. The data averaging period is hourly.

CAM MONITORING APPROACH

PA-5

	Indicator
1. Indicator	*Scrubber Liquor Recirculation Flow Rate*
Measurement Approach	*Flowmeter*
II. Excursion Description & Action	*An excursion is initiated when the flow falls below the indicator range. Prompt inspection and any necessary corrective action will be triggered.*
III. Performance Criteria A. Data Representativeness:	*The flow meter is located in the scrubber liquor recirculation line.*
B. QA/QC Practices	*Flowmeter checked as needed and calibrated per manufacturer specifications.*
C. Monitoring Frequency & Data Recording	*Liquor flow measured continuously. Data recorded into plant process data computer system at a minimum once per day.*
D. Data Collection Procedures	*Average liquor flow computed hourly. 50% of the data each hour must be valid to be included in excursion determination.*
E. Averaging Period	*Hourly Average*

PA-5 Sesqui Plant Ore Screening Vent

Once/term Source	Test Type	DEQ ID						
	Particulate Method 5	PA-5				Emissions – Actual s vs. Limit		
			Scrubber Flow	ACFM	Feed Rate	Limit:	1.25	lb/hr
			GPM		TPH	Tested Emissions		% of
	Date	PA-5				lb/hr	% of limit	full load
	7/9/2009	Run #1	174.48	39700	214.43	1.21	96.8%	73.9%
	7/9/2009	Run #2	150.30	40000	200.39	0.509	40.7%	69.1%
	7/9/2009	Run #3	131.93	40600	210.65	0.450	36.0%	72.6%
		Average		**40100**	**208.49**	**0.723**	**57.8%**	**71.9%**

CAM parameters of 132 gpm were chosen from Run #3.

APPENDIX B

Preventative and Corrective Maintenance Plan

FMC Wyoming Corporation
Preventive and Corrective Maintenance Plans

BAGHOUSES

Weekly:

Visual Survey of stack opacity. Results of this visual observation are recorded on a logsheet and maintained for the permit term.

Quarterly:

Inspection for proper operation of baghouse system components. This will include bag cleaning devices, hopper discharge equipment and air supply equipment.

CORRECTIVE ACTION & MAINTENANCE

If control equipment problems are observed, corrective action will be taken through area personnel or through the plant work order system, whichever is appropriate. Significant actions should be logged and the Environmental Department notified. If a problem cannot be expeditiously corrected and there is evidence that an emission limit is or will be exceeded for a significant period of time, the WDEQ will be notified.

APPENDIX C

Portable Analyzer Monitoring Protocol

STATE OF WYOMING AIR QUALITY DIVISION
PORTABLE ANALYZER MONITORING PROTOCOL

Determination of Nitrogen Oxides, Carbon Monoxide and Oxygen Emissions from Natural Gas-Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
122 West 25th Street
Cheyenne, Wyoming 82002

April 21, 1999
Revised January 25, 2006

Approved By:

Dan Olson
Administrator

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1. APPLICABILITY AND PRINCIPLE

1.1 Applicability. This method is applicable to the determination of nitrogen oxides (NO and NO_2), carbon monoxide (CO), and oxygen (O_2) concentrations in controlled and uncontrolled emissions from natural gas-fired reciprocating engines, combustion turbines, boilers, and process heaters using portable analyzers with electrochemical cells. The use of reference method equivalent analyzers is acceptable provided the appropriate reference method procedures in 40 CFR 60, Appendix A are used. Due to the inherent cross sensitivities of the electrochemical cells, this method is not applicable to other pollutants.

1.2 Principle. A gas sample is continuously extracted from a stack and conveyed to a portable analyzer for determination of NO, NO_2, CO, and O_2 gas concentrations using electrochemical cells. Analyzer design specifications, performance specifications, and test procedures are provided to ensure reliable data. Additions to or modifications of vendor-supplied analyzers (e.g. heated sample line, flow meters, etc.) may be required to meet the design specifications of this test method.

2. RANGE AND SENSITIVITY

2.1 Analytical Range. The analytical range for each gas component is determined by the electrochemical cell design. A portion of the analytical range is selected to be the nominal range by choosing a span gas concentration near the flue gas concentrations or permitted emission level in accordance with Sections 2.1.1, 2.1.2 and 2.1.3.

2.1.1 CO and NO Span Gases. Choose a span gas concentration such that the average stack gas reading for each test is greater than 25 percent of the span gas concentration. Alternatively, choose the span gas such that it is not greater than 3.33 times the concentration equivalent to the emission standard. If concentration results exceed 125 percent of the span gas at any time during the test, then the test for that pollutant is invalid.

2.1.2 NO_2 Span Gas. Choose a span gas concentration such that the average stack gas reading for each test is greater than 25 percent of the span gas concentration. Alternatively, choose the span gas concentration such that it is not greater than the ppm concentration value of the NO span gas. The tester should be aware NO_2 cells are generally designed to measure much lower concentrations than NO cells and the span gas should be chosen accordingly. If concentration results exceed 125 percent of the span gas at any time during the test, then the test for that pollutant is invalid.

2.1.3 O_2 Span Gas. The O_2 span gas shall be dry ambient air at 20.9% O_2.

3. DEFINITIONS

3.1 Measurement System. The total equipment required for the determination of gas concentration. The measurement system consists of the following major subsystems:

3.1.1 Sample Interface. That portion of a system used for one or more of the following: sample acquisition, sample transport, sample conditioning, or protection of the electrochemical cells from particulate matter and condensed moisture.

3.1.2 External Interference Gas Scrubber. A tube filled with scrubbing agent used to remove interfering compounds upstream of some electrochemical cells.

3.1.3 Electrochemical (EC) Cell. That portion of the system that senses the gas to be measured and generates an output proportional to its concentration. Any cell that uses diffusion-limited oxidation and reduction reactions to produce an electrical potential between a sensing electrode and a counter electrode.

3.1.4 Data Recorder. It is recommended that the analyzers be equipped with a strip chart recorder, computer, or digital recorder for recording measurement data. However, the operator may record the test results manually in accordance with the requirements of Section 7.5.

3.2 Nominal Range. The range of concentrations over which each cell is operated (25 to 125 percent of span gas value). Several nominal ranges may be used for any given cell as long as the linearity and stability check results remain within specification.

3.3 Span Gas. The high level concentration gas chosen for each nominal range.

3.4 Zero Calibration Error. For the NO, NO_2 and CO channels, the absolute value of the difference, expressed as a percent of the span gas, between the gas concentration exhibited by the gas analyzer when a zero level calibration gas is introduced to the analyzer and the known concentration of the zero level calibration gas. For the O_2 channel, the difference, expressed as percent O_2, between the gas concentration exhibited by the gas analyzer when a zero level calibration gas is introduced to the analyzer and the known concentration of the zero level calibration gas.

3.5 Span Calibration Error. For the NO, NO_2 and CO channels, the absolute value of the difference, expressed as a percent of the span gas, between the gas concentration exhibited by the gas analyzer when a span gas is introduced to the analyzer and the known concentration of the span gas. For the O_2 channel, the difference, expressed as percent O_2, between the gas concentration exhibited by the gas analyzer when a span gas is introduced to the analyzer and the known concentration of the span gas.

3.6 Response Time. The amount of time required for the measurement system to display 95 percent of a step change in the NO or CO gas concentration on the data recorder (90 percent of a step change for NO_2).

3.7 Interference Check. A method of quantifying analytical interferences from components in

the stack gas other than the analyte.

3.8 Linearity Check. A method of demonstrating the ability of a gas analyzer to respond consistently over a range of gas concentrations.

3.9 Stability Check. A method of demonstrating an electrochemical cell operated over a given nominal range provides a stable response and is not significantly affected by prolonged exposure to the analyte.

3.10 Stability Time. As determined during the stability check; the elapsed time from the start of the gas injection until a stable reading has been achieved.

3.11 Initial NO Cell Temperature. The temperature of the NO cell during the pretest calibration error check. Since the NO cell can experience significant zero drift with cell temperature changes in some situations, the cell temperature must be monitored if the analyzer does not display negative concentration results. Alternatively, manufacturer's documentation may be submitted showing the analyzer incorporates a NO cell temperature control and temperature exceedance warning system.

3.12 Test. The collection of emissions data from a source for an equal amount of time at each sample point and for a minimum of 21 minutes total.

4. MEASUREMENT SYSTEM PERFORMANCE SPECIFICATIONS

4.1 Zero Calibration Error. Less than or equal to ±3 percent of the span gas value for NO, NO_2, and CO channels and less than or equal to ±0.3 percent O_2 for the O_2 channel.

4.2 Span Calibration Error. Less than or equal to ±5 percent of the span gas value for NO, NO_2, and CO channels and less than or equal to ±0.5 percent O_2 for the O_2 channel.

4.3 Interference Response. The CO and NO interference responses must be less than or equal to 5 percent as calculated in accordance with Section 7.7.

4.4 Linearity. For the zero, mid-level, and span gases, the absolute value of the difference, expressed as a percent of the span gas, between the gas value and the analyzer response shall not be greater than 2.5 percent for NO, CO and O_2 cells and not greater than 3.0 percent for NO_2 cells.

4.5 Stability Check Response. The analyzer responses to CO, NO, and NO_2 span gases shall not vary more than 3.0 percent of span gas value over a 30-minute period or more than 2.0 percent of the span gas value over a 15-minute period.

4.6 CO Measurement, Hydrogen (H_2) Compensation. It is recommended that CO measurements be performed using a hydrogen-compensated EC cell since CO-measuring EC cells can experience significant reaction to the presence of H_2 in the gas stream. Sampling systems equipped with a scrubbing agent prior to the CO cell to remove H_2 interferent gases may also be used.

5. APPARATUS AND REAGENTS

5.1 Measurement System. Use any measurement system that meets the performance and design specifications in Sections 4 and 5 of this method. The sampling system shall maintain the gas sample at a temperature above the dew point up to the moisture removal system. The sample conditioning system shall be designed so there are no entrained water droplets in the gas sample when it contacts the electrochemical cells. A schematic of an acceptable measurement system is shown in Figure 1. The essential components of the measurement system are described below:

5.1.1 Sample Probe. Glass, stainless steel, or other nonreactive material, of sufficient length to sample per the requirements of Section 7. If necessary to prevent condensation, the sampling probe shall be heated.

5.1.2 Heated Sample Line. Heated (sufficient to prevent condensation) nonreactive tubing such as teflon, stainless steel, glass, etc. to transport the sample gas to the moisture removal system. (Includes any particulate filters prior to the moisture removal system.)

5.1.3 Sample Transport Lines. Nonreactive tubing such as teflon, stainless steel, glass, etc. to transport the sample from the moisture removal system to the sample pump, sample flow rate control, and electrochemical cells.

5.1.4 Calibration Assembly. A tee fitting to attach to the probe tip or where the probe attaches to the sample line for introducing calibration gases at ambient pressure during the calibration error checks. The vented end of the tee should have a flow indicator to ensure sufficient calibration gas flow. Alternatively use any other method that introduces calibration gases at the probe at atmospheric pressure.

5.1.5 Moisture Removal System. A chilled condenser or similar device (e.g., permeation dryer) to remove condensate continuously from the sample gas while maintaining minimal contact between the condensate and the sample gas.

5.1.6 Particulate Filter. Filters at the probe or the inlet or outlet of the moisture removal system and inlet of the analyzer may be used to prevent accumulation of particulate material in the measurement system and extend the useful life of the components. All filters shall be fabricated of materials that are nonreactive to the gas being sampled.

5.1.7 Sample Pump. A leak-free pump to pull the sample gas through the system at a flow rate sufficient to minimize the response time of the measurement system. The pump may be constructed of any material that is nonreactive to the gas being sampled.

5.1.8 Sample Flow Rate Control. A sample flow rate control valve and rotameter, or equivalent, to maintain a constant sampling rate within 10 percent during sampling and calibration error checks. The components shall be fabricated of materials that are nonreactive to the gas being sampled.

5.1.9 Gas Analyzer. A device containing electrochemical cells to determine the NO, NO_2, CO, and O_2 concentrations in the sample gas stream and, if necessary, to correct for interference effects. The analyzer shall meet the applicable performance specifications of Section 4. A means of controlling the analyzer flow rate and a device for determining proper sample flow rate (e.g., precision rotameter, pressure gauge downstream of all flow controls, etc.) shall be provided at the analyzer. (Note: Housing the analyzer in a clean, thermally-stable, vibration-free environment will minimize drift in the analyzer calibration, but this is not a requirement of the method.)

5.1.10 Data Recorder. A strip chart recorder, computer, or digital recorder, for recording measurement data. The data recorder resolution (i.e., readability) shall be at least 1 ppm for CO, NO, and NO_2; 0.1 percent O_2 for O_2; and one degree (C or F) for temperature.

5.1.11 External Interference Gas Scrubber. Used by some analyzers to remove interfering compounds upstream of a CO electrochemical cell. The scrubbing agent should be visible and should have a means of determining when the agent is exhausted (e.g., color indication).

5.1.12 NO Cell Temperature Indicator. A thermocouple, thermistor, or other device must be used to monitor the temperature of the NO electrochemical cell. The temperature may be monitored at the surface of the cell, within the cell or in the cell compartment. Alternatively, manufacturer's documentation may be submitted showing the analyzer incorporates a NO cell temperature control and temperature exceedance warning system.

5.1.13 Dilution Systems. The use of dilution systems will be allowed with prior approval of the Air Quality Division.

5.2 Calibration Gases. The CO, NO, and NO_2 calibration gases for the gas analyzer shall be CO in nitrogen or CO in nitrogen and O_2, NO in nitrogen, and NO_2 in air or nitrogen. The mid-level O_2 gas shall be O_2 in nitrogen.

5.2.1 Span Gases. Used for calibration error, linearity, and interference checks of each nominal range of each cell. Select concentrations according to procedures in Section 2.1. Clean dry air may be used as the span gas for the O_2 cell as specified in Section 2.1.3.

5.2.2 Mid-Level Gases. Select concentrations that are 40-60 percent of the span gas concentrations.

5.2.3 Zero Gas. Concentration of less than 0.25 percent of the span gas for each component. Ambient air may be used in a well ventilated area for the CO, NO, and NO_2 zero gases.

6. MEASUREMENT SYSTEM PERFORMANCE CHECK PROCEDURES. Perform the following procedures before the measurement of emissions under Section 7.

6.1 Calibration Gas Concentration Certification. For the mid-level and span cylinder gases, use calibration gases certified according to EPA Protocol 1 procedures. Calibration gases must meet the criteria under 40 CFR 60, Appendix F, Section 5.1.2 (3). Expired Protocol 1 gases may be recertified using the applicable reference methods.

6.2 Linearity Check. Conduct the following procedure once for each nominal range to be used on each electrochemical cell (NO, NO_2, CO, and O_2). After a linearity check is completed, it remains valid for five consecutive calendar days. After the five calendar day period has elapsed, the linearity check must be reaccomplished. Additionally, reaccomplish the linearity check if the cell is replaced. (If the stack NO_2 concentration is less than 5% of the stack NO concentration as determined using the emission test procedures under Section 7, the NO_2 linearity check is not required. However, the NO_2 cell shall be calibrated in accordance with the manufacturer's instructions, the pretest calibration error check and post test calibration calibration error check shall be conducted in accordance with Section 7, and the test results shall be added to the NO test values to obtain a total NO_X concentration.)

6.2.1 Linearity Check Gases. For each cell obtain the following gases: zero (0-0.25 percent of nominal range), mid-level (40-60 percent of span gas concentration), and span gas (selected according to Section 2.1).

6.2.2 Linearity Check Procedure. If the analyzer uses an external interference gas scrubber with a color indicator, using the analyzer manufacturer's recommended procedure, verify the scrubbing agent is not depleted. After calibrating the analyzer with zero and span gases, inject the zero, mid-level, and span gases appropriate for each nominal range to be used on each cell. Gases need not be injected through the entire sample handling system. Purge the analyzer briefly with ambient air between gas injections. For each gas injection, verify the flow rate is constant and the analyzer responses have stabilized before recording the responses on Form A.

6.3 Interference Check. A CO cell response to the NO and NO_2 span gases or an NO cell response to the NO_2 span gas during the linearity check may indicate interferences. If these cell responses are observed during the linearity check, it may be desirable to quantify the CO cell response to the NO and NO_2 span gases and the NO cell response to the NO_2 span gas during the linearity check and use estimated stack gas CO, NO and NO_2 concentrations to evaluate whether or not the portable analyzer will meet the post test interference check requirements of Section 7.7. This evaluation using the linearity check data is optional. However, the interference checks

under Section 7.7 are manditory for each test.

6.4 Stability Check. Conduct the following procedure once for the maximum nominal range to be used on each electrochemical cell (NO, NO_2 and CO). After a stability check is completed, it remains valid for five consecutive calendar days. After the five calendar day period has elapsed, the stability check must be reaccomplished. Additionally, reaccomplish the stability check if the cell is replaced or if a cell is exposed to gas concentrations greater than 125 percent of the highest span gas concentration. (If the stack NO_2 concentration is less than 5% of the stack NO concentration as determined using the emission test procedures under Section 7, the NO_2 stability check is not required. However, the NO_2 cell shall be calibrated in accordance with the manufacturer's instructions, the pretest calibration error check and post test calibration calibration error check shall be conducted in accordance with Section 7, and the test results shall be added to the NO test values to obtain a total NO_X concentration.)

6.4.1 Stability Check Procedure. Inject the span gas for the maximum nominal range to be used during the emission testing into the analyzer and record the analyzer response at least once per minute until the conclusion of the stability check. One-minute average values may be used instead of instantaneous readings. After the analyzer response has stabilized, continue to flow the span gas for at least a 30-minute stability check period. Make no adjustments to the analyzer during the stability check except to maintain constant flow. Record the stability time as the number of minutes elapsed between the start of the gas injection and the start of the 30-minute stability check period. As an alternative, if the concentration reaches a peak value within five minutes, you may choose to record the data for at least a 15-minute stability check period following the peak.

6.4.2 Stability Check Calculations. Determine the highest and lowest concentrations recorded during the 30-minute period and record the results on Form B. The absolute value of the difference between the maximum and minimum values recorded during the 30-minute period must be less than 3.0 percent of the span gas concentration. Alternatively, record stability check data in the same manner for the 15-minute period following the peak concentration. The

difference between the maximum and minimum values for the 15-minute period must be less than 2.0 percent of the span gas concentration.

7. EMISSION TEST PROCEDURES. Prior to performing the following emission test procedures, calibrate/challenge all electrochemical cells in the analyzer in accordance with the manufacturer's instructions.

7.1 Selection of Sampling Site and Sampling Points.

7.1.1 Reciprocating Engines. Select a sampling site located at least two stack diameters downstream of any disturbance (e.g., turbocharger exhaust, crossover junction, or recirculation take-offs) and one half stack diameter upstream of the gas discharge to the atmosphere. Use a sampling location at a single point near the center of the duct.

7.1.2 Combustion Turbines. Select a sampling site and sample points according to the procedures in 40 CFR 60, Appendix A, Method 20. Alternatively, the tester may choose an alternative sampling location and/or sample from a single point in the center of the duct if previous test data demonstrate the stack gas concentrations of CO, NO_X, and O_2 do not vary significantly across the duct diameter.

7.1.3 Boilers/Process Heaters. Select a sampling site located at least two stack diameters downstream of any disturbance and one half stack diameter upstream of the gas discharge to the atmosphere. Use a sampling location at a single point near the center of the duct.

7.2 Warm Up Period. Assemble the sampling system and allow the analyzer and sample interface to warm up and adjust to ambient temperature at the location where the stack measurements will take place.

7.3 Pretest Calibration Error Check. Conduct a zero and span calibration error check before testing each new source. Conduct the calibration error check near the sampling location just prior to the start of an emissions test. Keep the analyzer in the same location until the post test calibration error check is conducted.

7.3.1 Scrubber Inspection. For analyzers that use an external interference gas scrubber tube, inspect the condition of the scrubbing agent and ensure it will not be exhausted during sampling. If scrubbing agents are recommended by the manufacturer, they should be in place during all sampling, calibration and performance checks.

7.3.2 Zero and Span Procedures. Inject the zero and span gases using the calibration assembly. Ensure the calibration gases flow through all parts of the sample interface. During this check, make no adjustments to the system except those necessary to achieve the correct calibration gas flow rate at the analyzer. Set the analyzer flow rate to the value recommended by the analyzer manufacturer. Allow each reading to stabilize before recording the result on Form C. The time allowed for the span gas to stabilize shall be no less than the stability time noted during the stability check. After achieving a stable response, disconnect the gas and briefly purge with ambient air.

7.3.3 Response Time Determination. Determine the NO and CO response times by observing the time required to respond to 95 percent of a step change in the analyzer response for both the zero and span gases. Note the longer of the two times as the response time. For the NO_2 span gas record the time required to respond to 90 percent of a step change.

7.3.4 Failed Pretest Calibration Error Check. If the zero and span calibration error check results are not within the specifications in Section 4, take corrective action and repeat the calibration error check until acceptable performance is achieved.

7.4 NO Cell Temperature Monitoring. Record the initial NO cell temperature during the pretest calibration error check on Form C and monitor and record the temperature regularly (at least once each 7 minutes) during the sample collection period on Form D. If at any time during sampling, the NO cell temperature is 85 degrees F or greater and has increased or decreased by more than 5 degrees F since the pretest calibration, stop sampling immediately and conduct a post test calibration error check per Section 7.6, re-zero the analyzer, and then conduct another pretest calibration error check per Section 7.3 before continuing. (It is recommended that testing be discontinued if the NO cell exceeds 85 degrees F since the design characteristics of the NO cell indicate a significant measurement error can occur as the temperature of the NO cell increases above this temperature. From a review of available data, these errors appear to result in a positive bias of the test results.)

Alternatively, manufacturer's documentation may be submitted showing the analyzer is configured with an automatic temperature control system to maintain the cell temperature below 85 degrees F (30 degrees centigrade) and provides automatic temperature reporting any time this temperature is exceeded. If automatic temperature control/exceedance reporting is used, test data collected when the NO cell temperature exceeds 85 degrees F is invalid.

7.5 Sample Collection. Position the sampling probe at the first sample point and begin sampling at the same rate used during the calibration error check. Maintain constant rate sampling (± 10 percent of the analyzer flow rate value used in Section 7.3.2) during the entire test. Sample for an equal period of time at each sample point. Sample the stack gas for at least twice the response time or the period of the stability time, whichever is greater, before collecting test data at each sample point. A 21 minute period shall be considered a test for each source. When sampling combustion turbines per Section 7.1.2, collect test data as required to meet the requirements of 40 CFR 60, Appendix A, Method 20. Data collection should be performed for

an equal amount of time at each sample point and for a minimum of 21 minutes total. The concentration data must be recorded either (1) at least once each minute, or (2) as a block average for the test using values sampled at least once each minute. Do not break any seals in the sample handling system until after the post test calibration error check (this includes opening the moisture removal system to drain condensate).

7.6 Post Test Calibration Error Check. Immediately after the test, conduct a zero and span calibration error check using the procedure in Section 7.3. Conduct the calibration error check at the sampling location. Make no changes to the sampling system or analyzer calibration until all of the calibration error check results have been recorded. If the zero or span calibration error exceeds the specifications in Section 4, then all test data collected since the previous calibration error check are invalid. If the sampling system is disassembled or the analyzer calibration is adjusted, repeat the pretest calibration error check before conducting the next test.

7.7 Interference Check. Use the post test calibration error check results and average emission concentrations for the test to calculate interference responses (I_{NO} and I_{CO}) for the CO and NO cells. If an interference response exceeds 5 percent, all emission test results since the last successful interference test for that compound are invalid.

7.7.1 CO Interference Response.

$$I_{CO} = [(\frac{R_{CO-NO}}{C_{NOG}})(\frac{C_{NOS}}{C_{COS}}) + (\frac{R_{CO-NO_2}}{C_{NO_2G}})(\frac{C_{NO_2S}}{C_{COS}})]x100$$

where:

	I_{CO}	= CO interference response (percent)
	R_{CO-NO}	= CO response to NO span gas (ppm CO)
	C_{NOG}	= concentration of NO span gas (ppm NO)
	C_{NOS}	= concentration of NO in stack gas (ppm NO)
	C_{COS}	= concentration of CO in stack gas (ppm CO)
	R_{CO-NO2}	= CO response to NO_2 span gas (ppm CO)
	C_{NO2G}	= concentration of NO_2 span gas (ppm NO_2)

C_{NO2S} = concentration of NO_2 in stack gas (ppm NO_2)

7.7.2 NO Interference Response.

$$I_{NO} = \left(\frac{R_{NO\text{-}NO_2}}{C_{NO_2G}}\right)\left(\frac{C_{NO_2S}}{C_{NO_XS}}\right)x100$$

where:

I_{NO} = NO interference response (percent)

$R_{NO\text{-}NO2}$ = NO response to NO_2 span gas (ppm NO)

C_{NO2G} = concentration of NO_2 span gas (ppm NO_2)

C_{NO2S} = concentration of NO_2 in stack gas (ppm NO_2)

C_{NOxS} = concentration of NO_X in stack gas (ppm NO_X)

7.8 Re-Zero. At least once every three hours, recalibrate the analyzer at the zero level according to the manufacturer's instructions and conduct a pretest calibration error check before resuming sampling. If the analyzer is capable of reporting negative concentration data (at least 5 percent of the span gas below zero), then the tester is not required to re-zero the analyzer.

8. DATA COLLECTION. This section summarizes the data collection requirements for this protocol.

8.1 Linearity Check Data. Using Form A, record the analyzer responses in ppm NO, NO_2, and CO, and percent O_2 for the zero, mid-level, and span gases injected during the linearity check under Section 6.2.2. To evaluate any interferences, record the analyzer responses in ppm CO to the NO and NO_2 span gases and the analyzer response in ppm NO to the NO_2 span gas. Calculate the CO and NO interference responses using the equations under Sections 7.7.1 and 7.7.2, respectively, and estimated stack gas CO, NO and NO_2 concentrations.

8.2 Stability Check Data. Record the analyzer response at least once per minute during the stability check under Section 6.4.1. Use Form B for each pollutant (NO, NO_2, and CO). One-minute average values may be used instead of instantaneous readings. Record the stability time as the number of minutes elapsed between the start of the gas injection and the start of the 30-minute stability check period. If the concentration reaches a peak value within five minutes of the gas injection, you may choose to record the data for at least a 15-minute stability check period following the peak. Use the information recorded to determine the analyzer stability under Section 6.4.2.

8.3 Pretest Calibration Error Check Data. On Form C, record the analyzer responses to the zero and span gases for NO, NO_2, CO, and O_2 injected prior to testing each new source. Record the calibration zero and span gas concentrations for NO, NO_2, CO, and O_2. For NO, NO_2 and CO, record the absolute difference between the analyzer response and the calibration gas concentration, divide by the span gas concentration, and multiply by 100 to obtain the percent of span. For O_2, record the absolute value of the difference between the analyzer response and the O_2 calibration gas concentration. Record whether the calibration is valid by comparing the percent of span or difference between the calibration gas concentration and analyzer O_2 response, as applicable, with the specifications under Section 4.1 for the zero calibrations and Section 4.2 for the span calibrations. Record the response times for the NO, CO, and NO_2 zero and span gases as described under Section 7.3.3. Select the longer of the two times for each pollutant as

the response time for that pollutant. Record the NO cell temperature during the pretest calibration.

8.4 Test Data. On Form D-1, D-2, or D-3, record the source operating parameters during the test. Record the test start and end times. Record the NO cell temperature after one third of the test (e.g., after seven minutes) and after two thirds of the test (e.g., after 14 minutes). From the analyzer responses recorded each minute during the test, obtain the average flue gas concentration of each pollutant. These are the uncorrected test results.

8.5 Post Test Calibration Error Check Data. On Form C, record the analyzer responses to the zero and span gases for NO, NO_2, CO, and O_2 injected immediately after the test. To evaluate any interferences, record the analyzer responses in ppm CO to the NO and NO_2 span gases and the analyzer response in ppm NO to the NO_2 span gas. Record the calibration zero and span gas concentrations for NO, NO_2, CO, and O_2. For NO, NO_2 and CO, record the absolute difference between the analyzer response and the calibration gas concentration, divide by the span gas concentration, and multiply by 100 to obtain the percent of span. For O_2, record the absolute value of the difference between the analyzer response and the O_2 calibration gas concentration. Record whether the calibration is valid by comparing the percent of span or difference between the calibration gas concentration and analyzer O_2 response, as applicable, with the specifications under Section 4.1 for the zero calibrations and Section 4.2 for the span calibrations. (If the pretest and post test calibration error check results are not within the limits specified in Sections 4.1 and 4.2, data collected during the test is invalid and the test must be repeated.) Record the NO cell temperature during the post test calibration. Calculate the average of the monitor readings during the pretest and post test calibration error checks for the zero and span gases for NO, NO_2, CO, and O_2. The pretest and post test calibration error check results are used to make the calibration corrections under Section 9.1. Calculate the CO and NO interference responses using the equations under Sections 7.7.1 and 7.7.2, respectively and measured stack gas CO, NO and NO_2 concentrations.

8.6 Corrected Test Results. Correct the test results using the equation under Section 9.1. Add

the corrected NO and NO_2 concentrations together to obtain the corrected NO_X concentration. Calculate the emission rates using the equations under Section 10 for comparison with the emission limits. Record the results on Form D-1, D-2, or D-3. Sign the certification regarding the accuracy and representation of the emissions from the source.

9. CALIBRATION CORRECTIONS

9.1 Emission Data Corrections. Emissions data shall be corrected for a test using the following equation. (Note: If the pretest and post test calibration error check results are not within the limits specified in Sections 4.1 and 4.2, the test results are invalid and the test must be repeated.)

$$C_{Corrected} = (C_R - C_O)\frac{C_{MA}}{C_M - C_O}$$

where: $C_{Corrected}$ = corrected flue gas concentration (ppm)
C_R = flue gas concentration indicated by gas analyzer (ppm)
C_o = average of pretest and post test analyzer readings during the zero checks (ppm)
C_M = average of pretest and post test analyzer readings during the span checks (ppm)
C_{MA} = actual concentration of span gas (ppm)

10. EMISSION CALCULATIONS

10.1 Emission Calculations for Reciprocating Engines and Combustion Turbines. Emissions shall be calculated and reported in units of the allowable emission limit as specified in the permit. The allowable may be stated in pounds per hour (lb/hr), grams per horsepower hour (gm/hp-hr), or both. EPA Reference Method 19 shall be used as the basis for calculating the emissions. As an alternative, EPA Reference Methods 1-4 may be used to obtain a stack volumetric flow rate.

10.1.1 Reciprocating Engines and Combustion Turbines Above 500 Horsepower. All reciprocating engines and combustion turbines above 500 horsepower (site-rated) should be equipped with fuel flow meters for measuring fuel consumption during the portable analyzer test.

The fuel meter shall be maintained and calibrated according to the manufacturer's recommendations. Records of all maintenance and calibrations shall be kept for five years. Reciprocating engines above 500 horsepower which are not equipped with fuel flow meters may use the site-rated horsepower and default specific fuel consumption factors, based on the higher heating value of the fuel, of 9,400 Btu/hp-hr for 4-cycle engines (controlled and uncontrolled) and 2-cycle lean burn engines and 11,000 Btu/hp-hr for 2-cycle uncontrolled (non-lean burn) engines to calculate emission rates. Emissions shall be calculated using the following methods.

10.1.1.1 Reciprocating Engines and Combustion Turbines Equipped with Fuel Meters. EPA Reference Method 19 and heat input per hour (MMBtu/hr) shall be used to calculate a pound per hour emission rate. Heat input per hour shall be based on the average hourly fuel usage rate during the test and the higher heating value of the fuel consumed. The emission rates shall be calculated using the following equations.

$$lb/hr\ NO_X = (ppm\ NO_{X_{corrected}})(1.19x10^{-7})(F\ Factor_{Note1})(\frac{20.9}{20.9 - O_2\%_{corrected}})(Heat\ Input\ Per\ Hour_{Note2})$$

$$lb/hr\ CO = (ppm\ CO_{corrected})(7.27x10^{-8})(F\ Factor_{Note1})(\frac{20.9}{20.9 - O_2\%_{corrected}})(Heat\ Input\ Per\ Hour_{Note2})$$

Note 1 - Use 8710 dscf/MMBtu unless calculated based on actual fuel gas composition and higher heating value of the fuel.

Note 2 - Heat input per hour (MMBtu/hr) shall be based on the average hourly fuel usage during the test and the higher heating value of the fuel consumed.

If the reciprocating engine or combustion turbine horsepower can be derived from operating conditions during the portable analyzer test, this derived horsepower should be used to calculate a gram per horsepower hour emission rate using the following equations. Information showing the derivation of the horsepower shall be provided with the test results.

$$gm/hp\text{ - }hr\ CO = \frac{(lb/hr\ CO)(454)}{(Tested\ Horsepower_{Note\ 1})}$$

$$gm/hp\text{ - }hr\ NO_X = \frac{(lb/hr\ NO_X)(454)}{(Tested\ Horsepower_{Note\ 1})}$$

Note 1 - Horsepower determined during the test.

If the reciprocating engine horsepower during the time of testing cannot determined from the operating data, the operating horsepower for the time of the test shall be calculated based on the heat input per hour during the test and the default values shown below for specific fuel consumption based on the higher heating value of the fuel. Heat input per hour (MMBtu/hr) shall be calculated based on the average hourly fuel usage during the test and the higher heating value of the fuel consumed. For 4-cycle engines (controlled and uncontrolled) and 2-cycle lean burn engines, use a default specific fuel consumption of 9,400 Btu/hp-hr. For 2-cycle uncontrolled (non-lean burn) engines, use a default specific fuel consumption of 11,000 Btu/hp-hr. Calculate the gram per horsepower hour emission rates using the following equations.

$$Engine\ Horsepower = \frac{(Heat\ Input\ Per\ Hour_{Note\ 1})(10^6)}{(Specific\ Fuel\ Consumption_{Note\ 2})}$$

$$gm/hp\text{ - }hr\ NO_X = \frac{(lb/hr\ NO_X)(454)}{(Engine\ Horsepower)}$$

$$gm/hp\text{ - }hr\ CO = \frac{(lb/hr\ CO)(454)}{(Engine\ Horsepower)}$$

Note 1 - Heat input per hour (MMBtu/hr) shall be based on the average hourly fuel usage during the test and the higher heating value of the fuel consumed.

Note 2 - Default Specific Fuel Consumption (Btu/hp-hr) shall be as defined above for the particular type of engine tested.

If the combustion turbine horsepower cannot be calculated during the testing, the emissions shall be reported in terms of concentration (ppm by volume, dry basis) corrected to 15 percent O_2. Compliance with the concentrations corrected to 15 percent O_2 as submitted in the air quality permit application and/or set as an allowable in the permit will demonstrate compliance with the gm/hp-hr allowable. Use the following equations to correct the concentrations to 15 percent O_2.

$$ppm\ NO_{X\ @\ 15\%\ O_2} = ppm\ NO_{X\ corrected}\left(\frac{5.9}{20.9 - O_2\%_{corrected}}\right)$$

$$ppm\ CO_{@\ 15\%\ O_2} = ppm\ CO_{corrected}\left(\frac{5.9}{20.9 - O_2\%_{corrected}}\right)$$

10.1.1.2 Reciprocating Engines Above 500 Horsepower Not Equipped with Fuel Meters. If reciprocating engines above 500 horsepower (site-rated) are not equipped with fuel flow meters during the test, emissions shall be calculated using the site-rated horsepower and default specific fuel consumption factors, based on the higher heating value of the fuel, of 9,400 Btu/hp-hr for 4-cycle engines (controlled and uncontrolled) and 2-cycle lean burn engines and 11,000 Btu/hp-hr for 2-cycle uncontrolled (non-lean burn) engines. The following equations shall be used to calculate emissions.

$$gm/hp\text{ - }hr\ NO_X = (ppm\ NO_{X\ corrected})(1.19x10^{-7})(F\ Factor_{Note\ 1})(\frac{20.9}{20.9 - O_2\%_{corrected}})$$
$$(Specific\ Fuel\ Consumption_{Note\ 2})(10^{-6})(454)$$

$$lb/hr\ NO_X = \frac{(gm/hp\text{ - }hr\ NO_X)(Engine\ Horsepower_{Note\ 3})}{454}$$

$$gm/hp\text{ - }hr\ CO = (ppm\ CO_{corrected})(7.27x10^{-8})(F\ Factor_{Note\ 1})(\frac{20.9}{20.9 - O_2\%_{corrected}})$$
$$(Specific\ Fuel\ Consumption_{Note\ 2})(10^{-6})(454)$$

$$lb/hr\ CO = \frac{(gm/hp\text{ - }hr\ CO)(Engine\ Horsepower_{Note\ 3})}{454}$$

Note 1 - Use 8710 dscf/MMBtu unless calculated based on actual fuel gas composition and higher heating value of the fuel.

Note 2 - Default Specific Fuel Consumption (Btu/hp-hr) shall be as defined above for the particular type of engine tested.

Note 3 - Site-rated engine horsepower.

10.1.2 Reciprocating Engines Below 500 Horsepower. Reciprocating engines below 500 horsepower may calculate emission rates using the derived horsepower for the operating conditions during the portable analyzer test (either from engine parameter measurements or calculated from compressor operating parameters) and the manufacturer's specific fuel consumption based on the higher heating value of the fuel consumed during the test. Information showing the derivation of the engine operating horsepower and manufacturer's specific fuel consumption shall be provided with the test results. The following equations shall be used to calculate emission rates.

$$gm/hp\text{ - }hr\ NO_X = (ppm\ NO_{X\ corrected})(1.19x10^{-7})(F\ Factor_{Note\ 1})(\frac{20.9}{20.9 - O_2\%_{corrected}})$$
$$(Specific\ Fuel\ Consumption_{Note\ 2})(10^{-6})(454)$$

$$gm/hp\text{ - }hr\ CO = (ppm\ CO_{corrected})(7.27x10^{-8})(F\ Factor_{Note\ 1})(\frac{20.9}{20.9 - O_2\%_{corrected}})$$
$$(Specific\ Fuel\ Consumption_{Note\ 2})(10^{-6})(454)$$

Note 1 - Use 8710 dscf/MMBtu unless calculated based on actual fuel gas composition and the higher heating value of the fuel.

Note 2 - Use manufacturer's specific fuel consumption based on the higher heating value of the fuel and include manufacturer's data with the test results. If the manufacturer reports the specific fuel consumption based on the lower heating value of the fuel, multiply by 1.11 to obtain the specific fuel consumption based on the higher heating value of the fuel.

Pound per hour emission rates shall be calculated using the gram per horsepower hour emission rates and the engine horsepower derived from engine or compressor operating parameter data. If engine horsepower data is not available, site-rated horsepower shall be used to calculate pound

$$lb/hr\ NO_X = \frac{(gm/hp\text{ - }hr\ NO_X)(Engine\ Horsepower_{Note\ 1})}{(454)}$$
$$lb/hr\ CO = \frac{(gm/hp\text{ - }hr\ CO)(Engine\ Horsepower_{Note\ 1})}{(454)}$$

per hour emissions. The following equations shall be used to calculate emission rates.

Note 1 - Use derived operating horsepower and include derivation method/calculations with the test results. If a derived horsepower is not available or cannot be obtained, use site-rated horsepower.

10.2 Emission Calculations for Heaters/Boilers. For heaters and boilers, pound per million Btu (lb/MMBtu) emission rates shall be calculated based on EPA Reference Method 19. The pound per million Btu emission rates shall be converted to pound per hour emission rates using heat input per hour (MMBtu/hr). The heat input per hour shall be calculated using the average hourly fuel usage rate during test and the higher heating value of the fuel consumed or the permitted maximum heat input per hour for the boiler or heater. If a fuel meter is used to obtain heat input per hour data, the fuel meter shall be maintained and calibrated according to the manufacturer's recommendations. Records of all maintenance and calibrations shall be kept for five years. As an alternative, EPA Reference Methods 1-4 may be used to obtain a stack volumetric flow rate. The following equations shall be used to calculate emission rates.

$$lb/MMBtu\ NO_X = (ppm\ NO_{X\ corrected})(1.19x10^{-7})(F\ Factor_{Note\ 1})(\frac{20.9}{20.9 - O_2\%_{corrected}})$$

$$lb/MMBtu\ CO = (ppm\ CO_{corrected})(7.27x10^{-8})(F\ Factor_{Note\ 1})(\frac{20.9}{20.9 - O_2\%_{corrected}})$$

$$lb/hr\ NO_X = (lb/MMBtu\ NO_X)(Heat\ Input_{Note\ 2})$$

$$lb/hr\ CO = (lb/MMBtu\ CO)(Heat\ Input_{Note\ 2})$$

Note 1 - Use 8710 dscf/MMBtu unless calculated based on actual fuel gas composition and the higher heating value of the fuel.

Note 2 - Heat input shall be based on the average hourly fuel usage rate during the test and the higher heating value of the fuel consumed if the boiler/heater is equipped with a fuel meter or the permitted maximum heat input if a fuel meter is not available.

11. REPORTING REQUIREMENTS AND RECORD KEEPING REQUIREMENTS

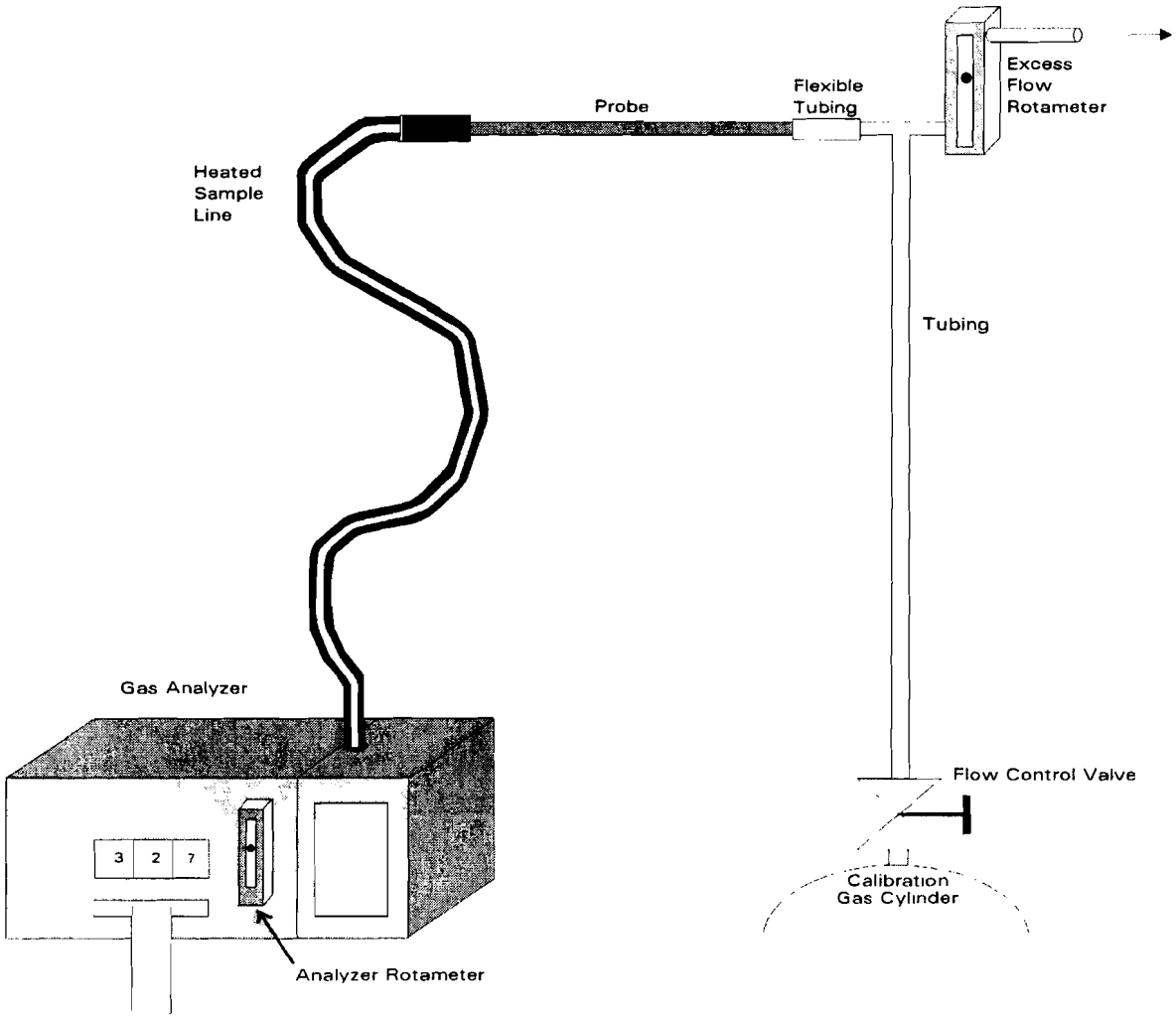
Test reports shall be submitted to the Air Quality Division within thirty (30) days of completing the test unless a specific reporting schedule is set by a condition of a permit. A separate test report shall be submitted for each emission source tested and, at a minimum, the following information shall be included:

- **Form A, Linearity Check Data Sheet,** Submit the linearity check as required by Section 6.2 for the nominal range tested.
- **Form B, Stability Check Data Sheet,** Submit the stability check as required by Section 6.4 for the nominal range tested.
- **Form C, Calibration Error Check Data Sheet**
- **Form D-1, D-2 or D-3,** Submit the appropriate test results form for type of source tested.
- If the manufacturer's specific fuel consumption is used, documentation from the manufacturer shall be submitted.
- If the horsepower is calculated during the test, information showing the derivation of the horsepower shall be included.

For sources subject to Section 30 of the Wyoming Air Quality Standards and Regulations, the submittal must be certified as truthful, accurate and complete by the facility's responsible official.

Records pertaining to the information above and supporting documentation shall be kept for five (5) years and made available upon request by this Division. Additionally, if the source is equipped with a fuel meter, records of all maintenance and calibrations of the fuel meter shall be kept for five (5) years from the date of the last maintenance or calibration.

FIGURE 1.
CALIBRATION SYSTEM SCHEMATIC



Form A

Linearity Check Data Sheet

Date:_____

Analyst:_____

Analyzer Manufacturer/Model #:_____

Analyzer Serial #:_____

LINEARITY CHECK									
Pollutant		**Calibration Gas Concentration (Indicate Units)**	**Analyzer Response ppm NO**	**Analyzer Response ppm NO_2**	**Analyzer Response ppm CO**	**Analyzer Response % O_2**	**Absolute Difference (Indicate Units)**	**Percent of Span**	**Linearity Valid (Yes or No)**
NO	**Zero**								
	Mid								
	Span								
NO_2	**Zero**								
	Mid								
	Span								
CO	**Zero**								
	Mid								
	Span								
O_2	**Zero**								
	Mid								
	Span								

Form B
Stability Check Data Sheet

Date:_____ **Analyst:**_____

Analyzer Manufacturer/Model #:_____

Analyzer Serial #:_____

Pollutant: NO, NO_2, CO (Circle One) **Span Gas Concentration (ppm):**_____

STABILITY CHECK					
Elapsed Time (Minutes)	Analyzer Response	Elapsed Time (Continued)	Analyzer Response	Elapsed Time (Continued)	Analyzer Response
1		17		33	
2		18		34	
3		19		35	
4		20		36	
5		21		37	
6		22		38	
7		23		39	
8		24		40	
9		25		41	
10		26		42	
11		27		43	
12		28		44	
13		29		45	
14		30		46	
15		31		47	
16		32		48	

For 30-minute Stability Check Period:

Maximum Concentration (ppm): _____ **Minimum Concentration (ppm):** _____

For 15-minute Stability Check Period:

Maximum Concentration (ppm): _____ **Minimum Concentration (ppm):** _____

Maximum Deviation = 100*(Max. Conc. - Min. Conc.)/Span Gas Conc. = _____ **percent**

Stability Time (minutes): _____

Form C
Calibration Error Check Data Sheet

Company:_____ **Facility:**_____

Source Tested:_____ **Date:**_____

Analyst:_____ **Analyzer Serial #:**_____

Analyzer Manufacturer/Model #:_____

PRETEST CALIBRATION ERROR CHECK								
			A	B	|A-B|	|A-B|/SG*100		
		Pump Flow Rate (Indicate Units)	Analyzer Reading (Indicate Units)	Calibration Gas Concentration (Indicate Units)	Absolute Difference (Indicate Units)	Percent of Span Note 1	Calibration Valid (Yes or No)	Response Time (Minutes)
NO	Zero							
	Span							
NO_2	Zero							
	Span							
CO	Zero							
	Span							
O_2	Zero							
	Span							
		Pretest Calibration NO Cell Temperature (°F):						

SG = Span Gas

POST TEST CALIBRATION ERROR CHECK										
			A	B	|A-B|	|A-B|/SG*100			Interference Check	
		Pump Flow Rate (Indicate Units)	Analyzer Reading (Indicate Units)	Calibration Gas Concentration (Indicate Units)	Absolute Difference (Indicate Units)	Percent of Span Note 1	Calibration Valid (Yes or No)	Average of Pretest and Post Test Analyzer Readings (Indicate Units)	NO Monitor Response (ppm)	CO Monitor Response (ppm)
NO	Zero									
	Span									
NO_2	Zero									
	Span									
CO	Zero									
	Span									
O_2	Zero									
	Span									
		Post Test Calibration NO Cell Temperature (°F):								
		CO Interference Response (I_{CO}, %):				NO Interference Response (I_{NO}, %):				

SG= Span Gas

Note 1: The percent of span calculation is applicable to the NO, NO_2 and CO channels only.

Form D-1
Reciprocating Engine Test Results

Company:_____ **Facility:**_____

Source Tested:_____ **Date:**_____

Source Manufacturer/Model #:_____

Site-rated Horsepower:_____ **Source Serial #:**_____

Type of Emission Control:_____

Analyst:_____ **Analyzer Serial #:**_____

Analyzer Manufacturer/Model #:_____

Operating Conditions

Source operating at 90 percent or greater site-rated horsepower during testing? yes no

Suction/ Discharge Pressures (Indicate Units)	Engine RPM	Engine Gas Throughput (Indicate Units)	Engine Fuel Consumption (Indicate Units)	Fuel Heat Content (Btu/cf)	Engine Specific Fuel Consumption (Btu/hp-hr)[1]	Engine Tested Horsepower

[1] As reported by the Manufacturer

Test Results

Test Start Time:_____ NO Cell Temperature (°F) after 1/3 (e.g., 7 minutes) of the test:_____

Test End Time:_____ NO Cell Temperature (°F) after 2/3 (e.g., 14 minutes) of the test:_____

NO_X ($NO + NO_2$)								
Avg. Tested NO ppm	$NO_{corrected}$ ppm	Avg. Tested NO_2 ppm	$NO_{2\ corrected}$ ppm	$NO_{X\ corrected}$ ppm	Tested gm/hp-hr	Tested lb/hr	Allowable gm/hp-hr	Allowable lb/hr

O_2		CO					
Avg. Tested O_2 %	$O_{2\ corrected}$ %	Avg. Tested CO ppm	$CO_{corrected}$ ppm	Tested gm/hp-hr	Tested lb/hr	Allowable gm/hp-hr	Allowable lb/hr

I certify to the best of my knowledge the test results are accurate and representative of the emissions from this source.

_____ _____

Print Name **Signature**

Form D-2
Combustion Turbine Test Results

Company:_____ **Facility:**_____

Source Tested:_____ **Date:**_____

Source Manufacturer/Model #:_____

Site-rated Horsepower:_____ **Source Serial #:**_____

Type of Emission Control:_____

Analyst:_____ **Analyzer Serial #:**_____

Analyzer Manufacturer/Model #:_____

Operating Conditions

Source operating at 90 percent or greater site-rated horsepower during testing? yes no

Suction/ Discharge Pressures (Indicate Units)	Turbine T_5 Temperature (°F)	Turbine RPM	Turbine Gas Throughput (Indicate Units)	Turbine Fuel Consumption (Indicate Units)	Fuel Heat Content (Btu/cf)	Turbine Specific Fuel Consumption (Btu/hp-hr)[1]	Turbine Tested Horsepower

[1] As reported by the Manufacturer

Test Results

Test Start Time:_____ NO Cell Temperature (°F) after 1/3 (e.g., 7 minutes) of the test:_____

Test End Time: _____ NO Cell Temperature (°F) after 2/3 (e.g., 14 minutes) of the test:_____

NO_X ($NO + NO_2$)										
Avg. Tested NO ppm	$NO_{corrected}$ ppm	Avg. Tested NO_2 ppm	$NO_{2\ corrected}$ ppm	$NO_{X\ corrected}$ ppm	Tested gm/hp-hr	Tested lb/hr	Tested ppm @ 15% O2	Allowable gm/hp-hr	Allowable lb/hr	Allowable ppm @ 15% O2

O_2		CO							
Avg. Tested O_2 %	$O_{2\ corrected}$ %	Avg. Tested CO ppm	$CO_{corrected}$ ppm	Tested gm/hp-hr	Tested lb/hr	Tested ppm @ 15% O2	Allowable gm/hp-hr	Allowable lb/hr	Allowable ppm @ 15% O2

I certify to the best of my knowledge the test results are accurate and representative of the emissions from this source.

_____ _____

Print Name **Signature**

Form D-3
Heater/Boiler Test Results

Company:_____ **Facility:**_____

Source Tested:_____ **Date:**_____

Source Manufacturer/Model #:_____

Design Firing Rate (MMBtu/hr):_____ **Source Serial #:**_____

Type of Emission Control:_____

Analyst:_____ **Analyzer Serial #:**_____

Analyzer Manufacturer/Model #:_____

Operating Conditions

Source operating at 90 percent or greater site-rated horsepower during testing? yes no

Fuel Consumption (cf/hr)	Fuel Heat Content (Btu/cf)	Heater/Boiler Tested Firing Rate (MMBtu/hr)

Test Results

Test Start Time:_____ NO Cell Temperature (°F) after 1/3 (e.g., 7 minutes) of the test:_____

Test End Time: _____ NO Cell Temperature (°F) after 2/3 (e.g., 14 minutes) of the test:_____

NO_X ($NO + NO_2$)								
Avg. Tested NO ppm	$NO_{corrected}$ ppm	Avg. Tested NO_2 ppm	$NO_{2\ corrected}$ ppm	$NO_{X\ corrected}$ ppm	Tested lb/MMBtu	Tested lb/hr	Allowable lb/MMBtu	Allowable lb/hr

O_2		CO					
Avg. Tested O_2 %	$O_{2\ corrected}$ %	Avg. Tested CO ppm	$CO_{corrected}$ ppm	Tested lb/MMBtu	Tested lb/hr	Allowable lb/MMBtu	Allowable lb/hr

I certify to the best of my knowledge the test results are accurate and representative of the emissions from this source.

_____ _____

Print Name **Signature**

APPENDIX D

WAQSR Chapter 7, Section 3 Compliance Assurance Monitoring (CAM)

WAQSR Chapter 7, Section 3 Compliance Assurance Monitoring (CAM)

(a) Definitions. For purposes of this section:

"Act" means the Clean Air Act, as amended by Pub.L. 101-549, 42 U.S.C. 7401, et seq.

"Applicable requirement" means all of the following as they apply to emissions units at a source subject to this section (including requirements with future effective compliance dates that have been promulgated or approved by the EPA or the State through rulemaking at the time of issuance of the operating permit):

(i) Any standard or other requirement provided for in the Wyoming implementation plan approved or promulgated by the EPA under title I of the Act that implements the relevant requirements of the Act, including any revisions to the plan promulgated in 40 CFR part 52;

(ii) Any standards or requirements in the WAQSR which are not a part of the approved Wyoming implementation plan and are not federally enforceable;

(iii) Any term or condition of any preconstruction permits issued pursuant to regulations approved or promulgated through rulemaking under title I, including parts C or D of the Act and including Chapter 5, Section 2 and Chapter 6, Sections 2 and 4 of the WAQSR;

(iv) Any standard or other requirement promulgated under section 111 of the Act, including section 111(d) and Chapter 5, Section 2 of the WAQSR;

(v) Any standard or other requirement under section 112 of the Act, including any requirement concerning accident prevention under section 112(r)(7) of the Act and including any regulations promulgated by the EPA and the State pursuant to section 112 of the Act;

(vi) Any standard or other requirement of the acid rain program under title IV of the Act or the regulations promulgated thereunder;

(vii) Any requirements established pursuant to section 504(b) or section 114(a)(3) of the Act concerning enhanced monitoring and compliance certifications;

(viii) Any standard or other requirement governing solid waste incineration, under section 129 of the Act;

(ix) Any standard or other requirement for consumer and commercial products, under section 183(e) of the Act (having to do with the release of volatile organic compounds under ozone control requirements);

(x) Any standard or other requirement of the regulations promulgated to protect stratospheric ozone under title VI of the Act, unless the EPA has determined that such requirements need not be contained in a title V permit;

(xi) Any national ambient air quality standard or increment or visibility requirement under part C of title I of the Act, but only as it would apply to temporary sources permitted pursuant to section 504(e) of the Act; and

(xii) Any state ambient air quality standard or increment or visibility requirement of the WAQSR.

(xiii) Nothing under Chapter 6, Section 3(b)(v) shall be construed as affecting the allowance program and Phase II compliance schedule under the acid rain provision of title IV of the Act.

"Capture system" means the equipment (including but not limited to hoods, ducts, fans, and booths) used to contain, capture and transport a pollutant to a control device.

"Continuous compliance determination method" means a method, specified by the applicable standard or an applicable permit condition, which:

(i) Is used to determine compliance with an emission limitation or standard on a continuous basis, consistent with the averaging period established for the emission limitation or standard; and

(ii) Provides data either in units of the standard or correlated directly with the compliance limit.

"Control device" means equipment, other than inherent process equipment, that is used to destroy or remove air pollutant(s) prior to discharge to the atmosphere. The types of equipment that may commonly be used as control devices include, but are not limited to, fabric filters, mechanical collectors, electrostatic precipitators, inertial separators, afterburners, thermal or catalytic incinerators, adsorption devices (such as carbon beds), condensers, scrubbers (such as wet collection and gas absorption devices), selective catalytic or non-catalytic reduction systems, flue gas recirculation systems, spray dryers, spray towers, mist eliminators, acid plants, sulfur recovery plants, injection systems (such as water, steam, ammonia, sorbent or limestone injection), and combustion devices independent of the particular process being conducted at an emissions unit (e.g., the destruction of emissions achieved by venting process emission streams to flares, boilers or process heaters). For purposes of this part, a control device does not include passive control measures that act to prevent pollutants from forming, such as the use of seals, lids, or roofs to prevent the release of pollutants, use of low-polluting fuel or feedstocks, or the use of combustion or other process design features or characteristics. If an applicable requirement establishes that particular equipment which otherwise meets this definition of a control device does not constitute a control device as applied to a particular pollutant-specific emissions unit, then that definition shall be binding for purposes of this part.

"Data" means the results of any type of monitoring or method, including the results of instrumental or non-instrumental monitoring, emission calculations, manual sampling procedures, recordkeeping procedures, or any other form of information collection procedure used in connection with any type of monitoring or method.

"Emission limitation or standard" means any applicable requirement that constitutes an emission limitation, emission standard, standard of performance or means of emission limitation as defined under the Act. An emission limitation or standard may be expressed in terms of the pollutant, expressed either as a specific quantity, rate or concentration of emissions (e.g., pounds of SO_2 per hour, pounds of SO_2 per million British thermal units of fuel input, kilograms of VOC per liter of applied coating solids, or parts per million by volume of SO_2) or as the relationship of uncontrolled to controlled emissions (e.g., percentage capture and destruction efficiency of VOC or percentage reduction of SO_2). An emission limitation or standard may also be expressed either as a work practice, process or control device parameter, or other form of specific design, equipment, operational, or operation and maintenance requirement. For purposes of this part, an emission limitation or standard shall not include general operation requirements that an owner or operator may be required to meet, such as requirements to obtain a permit, to operate and maintain sources in accordance with good air pollution control practices, to develop and maintain a malfunction abatement plan, to keep records, submit reports, or conduct monitoring.

"Emissions unit" means any part or activity of a stationary source that emits or has the potential to emit any regulated air pollutant or any pollutant listed under section 112(b) of the Act. This term is not meant to alter or affect the definition of the term "unit" for purposes of title IV of the Act.

"Exceedence" shall mean a condition that is detected by monitoring that provides data in terms of an emission limitation or standard and that indicates that emissions (or opacity) are greater than the applicable emission limitation or standard (or less than the applicable standard in the case of a percent reduction requirement) consistent with any averaging period specified for averaging the results of the monitoring.

"Excursion" shall mean a departure from an indicator range established for monitoring under this part, consistent with any averaging period specified for averaging the results of the monitoring.

"Inherent process equipment" means equipment that is necessary for the proper or safe functioning of the process, or material recovery equipment that the owner or operator documents is installed and operated primarily for purposes other than compliance with air pollution regulations. Equipment that must be

operated at an efficiency higher than that achieved during normal process operations in order to comply with the applicable emission limitation or standard is not inherent process equipment. For the purposes of this part, inherent process equipment is not considered a control device.

"Major source" means any stationary source (or any group of stationary sources that are located on one or more contiguous or adjacent properties, and are under common control of the same person or persons under common control) belonging to a single major industrial grouping and that is described in paragraphs (i), (ii), or (iii) of this definition. For the purpose of defining "major source", a stationary source or group of stationary sources shall be considered part of a single industrial grouping if all of the pollutant emitting activities at such source or group of sources on contiguous or adjacent properties belong to the same Major Group (i.e., all have the same two-digit code) as described in the Standard Industrial Classification Manual, 1987.

(i) A major source under section 112 of the Act, which is defined as:

(A) For pollutants other than radionuclides, any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit, in the aggregate, 10 tons per year (tpy) or more of any hazardous air pollutant which has been listed pursuant to section 112(b) of the Act, 25 tpy or more of any combination of such hazardous air pollutants, or such lesser quantity as the EPA may establish by rule. Notwithstanding the preceding sentence, emissions from any oil or gas exploration or production well (with its associated equipment) and emissions from any pipeline compressor or pump station shall not be aggregated with emissions from other similar units, whether or not such units are in a contiguous area or under common control, to determine whether such units or stations are major sources; or

(B) For radionuclides, "major source" shall have the meaning specified by the EPA by rule.

(ii) A major stationary source of air pollutants, as defined in section 302 of the Act, that directly emits or has the potential to emit, 100 tpy or more of any air pollutant (including any major source of fugitive emissions of any such pollutant, as determined by rule by the EPA). Emissions of air pollutants regulated solely due to section 112(r) of the Act shall not be considered in determining whether a source is a "major source" for purposes of Chapter 6, Section 3 applicability. The fugitive emissions of a stationary source shall not be considered in determining whether it is a major stationary source unless the source belongs to one of the following categories of stationary sources:

(A) Stationary sources listed in Chapter 6, Section 4(a)(i)(a) of the WAQSR; or

(B) Any other stationary source category, which as of August 7, 1980 is being regulated under section 111 or 112 of the Act.

(iii) A major stationary source as defined in part D of title I of the Act (in reference to sources located in non-attainment areas).

"Monitoring" means any form of collecting data on a routine basis to determine or otherwise assess compliance with emission limitations or standards. Recordkeeping may be considered monitoring where such records are used to determine or assess compliance with an emission limitation or standard (such as records of raw material content and usage, or records documenting compliance with work practice requirements). The conduct of compliance method tests, such as the procedures in 40 CFR part 60, Appendix A, on a routine periodic basis may be considered monitoring (or as a supplement to other monitoring), provided that requirements to conduct such tests on a one-time basis or at such times as a regulatory authority may require on a non-regular basis are not considered monitoring requirements for purposes of this paragraph. Monitoring may include one or more than one of the following data collection techniques, where appropriate for a particular circumstance:

(i) Continuous emission or opacity monitoring systems;

(ii) Continuous process, capture system, control device or other relevant parameter monitoring systems or procedures, including a predictive emission monitoring system;

(iii) Emission estimation and calculation procedures (e.g., mass balance or stoichiometric calculations);

(iv) Maintenance and analysis of records of fuel or raw materials usage;

(v) Recording results of a program or protocol to conduct specific operation and maintenance procedures;

(vi) Verification of emissions, process parameters, capture system parameters, or control device parameters using portable or in situ measurement devices;

(vii) Visible emission observations;

(viii) Any other form of measuring, recording, or verifying on a routine basis emissions, process parameters, capture system parameters, control device parameters or other factors relevant to assessing compliance with emission limitations or standards.

"Operating permit" means any permit or group of permits covering a source under Chapter 6, Section 3, Operating Permits that is issued, renewed, amended, or revised pursuant to Chapter 6, Section 3.

"Operating permit application" shall mean an application (including any supplement to a previously submitted application) that is submitted by the owner or operator in order to obtain a Chapter 6, Section 3, operating permit.

"Owner or operator" means any person who owns, leases, operates, controls or supervises a stationary source subject to this part.

"Pollutant-specific emissions unit" means an emissions unit considered separately with respect to each regulated air pollutant.

"Potential to emit" means the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in title IV of the Act or the regulations promulgated thereunder.

"Predictive emission monitoring system (PEMS)" means a system that uses process and other parameters as inputs to a computer program or other data reduction system to produce values in terms of the applicable emission limitation or standard.

"Regulated air pollutant" means the following:

(i) Nitrogen oxides (NO_x) or any volatile organic compound;

(ii) Any pollutant for which a national ambient air quality standard has been promulgated;

(iii) Any pollutant that is subject to any standard established in Chapter 5, Section 2 of the WAQSR or section 111 of the Act;

(iv) Any Class I or II substance subject to a standard promulgated under or established by title VI of the Act; or

(v) Any pollutant subject to a standard promulgated under section 112 or other requirements established under section 112 of the Act, including sections 112(g), (j), and (r) of the Act, including the following:

(A) Any pollutant subject to requirements under section 112(j) of the Act. If the EPA fails to promulgate a standard by the date established pursuant to section 112(e) of the Act, any pollutant for which a subject source would be major shall be considered to be regulated on the date 18 months after the applicable date established pursuant to section 112(e) of the Act; and

(B) Any pollutant for which the requirements of section 112(g)(2) of the Act have been met, but only with respect to the individual source subject to section 112(g)(2) requirement.

(vi) Pollutants regulated solely under section 112(r) of the Act are to be regulated only with respect to the requirements of section 112(r)

for permits issued under Chapter 6, Section 3, Operating Permits.

"Stationary source" means any building, structure, facility, or installation that emits or may emit any regulated air pollutant or any pollutant listed under section 112(b) of the Act.

(b) Applicability.

(i) General applicability. Except for backup utility units that are exempt under paragraph (ii)(B) of this subsection (b), the requirements of this part shall apply to a pollutant-specific emissions unit at a major source that is required to obtain a Chapter 6, Section 3, operating permit if the unit satisfies all of the following criteria:

(A) The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or a surrogate thereof), other than an emission limitation or standard that is exempt under paragraph (ii)(A) of this subsection (b);

(B) The unit uses a control device to achieve compliance with any such emission limitation or standard; and

(C) The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source. For purposes of this paragraph, "potential pre-control device emissions" shall have the same meaning as "potential to emit", as defined in Chapter 7, Section 3(a), except that emission reductions achieved by the applicable control device shall not be taken into account.

(ii) Exemptions.

(A) Exempt emission limitations or standards. The requirements of this part shall not apply to any of the following emission limitations or standards:

(I) Emission limitations or standards proposed by the EPA Administrator after November 15, 1990 pursuant to section 111 or 112 of the Act;

(II) Stratospheric ozone protection requirements under title VI of the Act;

(III) Acid Rain Program requirements pursuant to sections 404, 405, 406, 407(a), 407(b), or 410 of the Act;

(IV) Emission limitations or standards or other applicable requirements that apply solely under an emissions trading program approved or promulgated by the Administrator under the Act that allows for trading emissions within a source or between sources;

(V) A federally enforceable emissions cap included in the Chapter 6, Section 3 operating permit;

(VI) Emission limitations or standards for which a Chapter 6, Section 3, operating permit specifies a continuous compliance determination method, as defined in Chapter 7, Section 3(a). The exemption provided in (b)(ii)(A)(VI) of this section shall not apply if the applicable compliance method includes an assumed control device emission reduction factor that could be affected by the actual operation and maintenance of the control device (such as a surface coating line controlled by an incinerator for which continuous compliance is determined by calculating emissions on the basis of coating records and an assumed control device efficiency factor based on an initial performance test; in this example, this part would apply to the control device and capture system, but not to the remaining elements of the coating line, such as raw material usage).

(B) Exemption for backup utility power emissions units. The requirements of this part shall not apply to a utility unit, as defined in §72.2 of Chapter 11, Section 2(b) that is municipally-owned if the owner or operator provides documentation in a Chapter 6, Section 3, operating permit application that:

(I) The utility unit is exempt from all monitoring requirements in Chapter 11, Section 2(b), Acid Rain, Continuous emission monitoring (including the appendices thereto);

(II) The utility unit is operated for the sole purpose of providing electricity during periods of peak electrical demand or emergency situations and will be operated consistent with that purpose throughout the Chapter 6, Section 3, operating permit term. The owner or operator shall provide historical operating data and relevant contractual obligations to document that this criterion is satisfied; and

(III) The actual emissions from the utility unit, based on the average annual emissions over the last three calendar years of operation (or such shorter time period that is available for units with fewer than three years of operation) are less than 50 percent of the amount in tons per year required for a source to be classified as a major source and are expected to remain so.

(c) Monitoring design criteria.

(i) General criteria. To provide a reasonable assurance of compliance with emission limitations or standards for the anticipated range of operations at a pollutant-specific emissions unit, monitoring under this part shall meet the following general criteria:

(A) The owner or operator shall design the monitoring to obtain data for one or more indicators of emission control performance for the control device, any associated capture system and, if necessary to satisfy paragraph (c)(i)(B) of this section, processes at a pollutant-specific emissions unit. Indicators of performance may include, but are not limited to, direct or predicted emissions (including visible emissions or opacity), process and control device parameters that affect control device (and capture system) efficiency or emission rates, or recorded findings of inspection and maintenance activities conducted by the owner or operator.

(B) The owner or operator shall establish an appropriate range(s) or designated condition(s) for the selected indicator(s) such that operation within the ranges provides a reasonable assurance of ongoing compliance with emission limitations or standards for the anticipated range of operating conditions. Such range(s) or condition(s) shall reflect the proper operation and maintenance of the control device (and associated capture system), in accordance with applicable design properties, for minimizing emissions over the anticipated range of operating conditions at least to the level required to achieve compliance with the applicable requirements. The reasonable assurance of compliance will be assessed by maintaining performance within the indicator range(s) or designated condition(s). The ranges shall be established in accordance with the design and performance requirements in this section and documented in accordance with the requirements in Chapter 7, Section 3(d). If necessary to assure that the control device and associated capture system can satisfy this criterion, the owner or operator shall monitor appropriate process operational parameters (such as total throughput where necessary to stay within the rated capacity for a control device). In addition, unless specifically stated otherwise by an applicable requirement, the owner or operator shall monitor indicators to detect any bypass of the control device (or capture system) to the atmosphere, if such bypass can occur based on the design of the pollutant-specific emissions unit.

(C) The design of indicator ranges or designated conditions may be:

(I) Based on a single maximum or minimum value if appropriate (e.g., maintaining condenser temperatures a certain number of degrees below the condensation temperature of the applicable compound(s) being processed) or at multiple levels that are relevant to distinctly different operating conditions (e.g., high versus low load levels);

(II) Expressed as a function of process variables (e.g., an indicator range expressed as minimum to maximum pressure drop across a venturi throat in a particulate control scrubber);

(III) Expressed as maintaining the applicable parameter in a particular operational status or designated condition (e.g., position of a damper controlling gas flow to the atmosphere through a by-pass duct);

(IV) Established as interdependent between more than one indicator.

(ii) Performance criteria. The owner or operator shall design the monitoring to meet the following performance criteria:

(A) Specifications that provide for obtaining data that are representative of the emissions or parameters being monitored (such as

detector location and installation specifications, if applicable);

(B) For new or modified monitoring equipment, verification procedures to confirm the operational status of the monitoring prior to the date by which the owner or operator must conduct monitoring under this part as specified in Chapter 7, Section 3(g)(i). The owner or operator shall consider the monitoring equipment manufacturer's requirements or recommendations for installation, calibration, and start-up operation;

(C) Quality assurance and control practices that are adequate to ensure the continuing validity of the data. The owner or operator shall consider manufacturer recommendations or requirements applicable to the monitoring in developing appropriate quality assurance and control practices;

(D) Specifications for the frequency of conducting the monitoring, the data collection procedures that will be used (e.g., computerized data acquisition and handling, alarm sensor, or manual log entries based on gauge readings), and, if applicable, the period over which discrete data points will be averaged for the purpose of determining whether an excursion or exceedance has occurred.

(I) At a minimum, the owner or operator shall design the period over which data are obtained and, if applicable, averaged consistent with the characteristics and typical variability of the pollutant-specific emissions unit (including the control device and associated capture system). Such intervals shall be commensurate with the time period over which a change in control device performance that would require actions by owner or operator to return operations within normal ranges or designated conditions is likely to be observed.

(II) For all pollutant-specific emissions units with the potential to emit, calculated including the effect of control devices, the applicable regulated air pollutant in an amount equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source, for each parameter monitored, the owner or operator shall collect four or more data values equally spaced over each hour and average the values, as applicable, over the applicable averaging period as determined in accordance with paragraph (c)(ii)(D)(I) of this section. The Division may approve a reduced data collection frequency, if appropriate, based on information presented by the owner or operator concerning the data collection mechanisms available for a particular parameter for the particular pollutant-specific emissions unit (e.g., integrated raw material or fuel analysis data, noninstrumental measurement of waste feed rate or visible emissions, use of a portable analyzer or an alarm sensor).

(III) For other pollutant-specific emissions units, the frequency of data collection may be less than the frequency specified in subparagraph (c)(ii)(D)(II) of this section but the monitoring shall include some data collection at least once per 24-hour period (e.g., a daily inspection of a carbon adsorber operation in conjunction with a weekly or monthly check of emissions with a portable analyzer).

(iii) Evaluation factors. In designing monitoring to meet the requirements in paragraphs (c)(i) and (c)(ii) of this section, the owner or operator shall take into account site-specific factors including the applicability of existing monitoring equipment and procedures, the ability of the monitoring to account for process and control device operational variability, the reliability and latitude built into the control technology, and the level of actual emissions relative to the compliance limitation.

(iv) Special criteria for the use of continuous emission, opacity or predictive monitoring systems.

(A) If a continuous emission monitoring system (CEMS), continuous opacity monitoring system (COMS) or predictive emission monitoring system (PEMS) is required pursuant to other authority under the Act or state or local law, the owner or operator shall use such system to satisfy the requirements of this section

(B) The use of a CEMS, COMS, or PEMS that satisfies any of the following monitoring requirements shall be deemed to satisfy the general design criteria in paragraphs (c)(i) and (c)(ii) of this section, provided that a COMS may be subject to the criteria for establishing indicator ranges under paragraph (c)(i) of this section:

(I) Section 51.214 and Appendix P of 40 CFR part 51,

(II) Chapter 5, Section 2(j) and Section 2(b)(i), 40 CFR part 60, Appendix B;

(III) Chapter 5, Section 3(j) and any applicable performance specifications required pursuant to the applicable subpart of Chapter 5, Section 3;

(IV) Chapter 11, Section 2b, Acid Rain, Continuous emission monitoring;

(V) 40 CFR part 266, Subpart H and appendix IX; or

(VI) If an applicable requirement does not otherwise require compliance with the requirements listed in the preceding paragraphs (c)(iv)(B)(I)-(V) of this section, comparable requirements and specifications established by the Division.

(C) The owner or operator shall design the monitoring system subject to subsection (c)(iv) to:

(I) Allow for reporting of exceedances (or excursions if applicable to a COMS used to assure compliance with a particulate matter standard), consistent with any period for reporting of exceedances in an underlying requirement. If an underlying requirement does not contain a provision for establishing an averaging period for the reporting of exceedances or excursions, the criteria used to develop an averaging period in (c)(ii)(D) of this section shall apply; and

(II) Provide an indicator range consistent with paragraph (c)(i) of this section for a COMS used to assure compliance with a particulate matter standard. If an opacity standard applies to the pollutant-specific emissions unit, such limit may be used as the appropriate indicator range unless the opacity limit fails to meet the criteria in paragraph (c)(i) of this section after considering the type of control device and other site-specific factors applicable to the pollutant-specific emissions unit.

(d) Submittal requirements.

(i) The owner or operator shall submit to the Division monitoring that satisfies the design requirements in Chapter 7, Section 3(c). The submission shall include the following information:

(A) The indicators to be monitored to satisfy Chapter 7, Section 3(c)(i)(A)-(B);

(B) The ranges or designated conditions for such indicators, or the process by which such indicator ranges or designated conditions shall be established;

(C) The performance criteria for the monitoring to satisfy Chapter 7, Section 3(c)(ii); and

(D) If applicable, the indicator ranges and performance criteria for a CEMS, COMS or PEMS pursuant to Chapter 7, Section 3(c)(iv).

(ii) As part of the information submitted, the owner or operator shall submit a justification for the proposed elements of the monitoring. If the performance specifications proposed to satisfy Chapter 7, Section 3(c)(ii)(B) or (C) include differences from manufacturer recommendations, the owner or operator shall explain the reasons for the differences between the requirements proposed by the owner or operator and the manufacturer's recommendations or requirements. The owner or operator also shall submit any data supporting the justification, and may refer to generally available sources of information used to support the justification (such as generally available air pollution engineering manuals, or EPA publications on appropriate monitoring for various types of control devices or capture systems). To justify the appropriateness of the monitoring elements proposed, the owner or operator may rely in part on existing applicable requirements that establish the monitoring for the applicable pollutant-specific emissions unit or a similar unit. If an owner or operator relies on presumptively acceptable monitoring, no further justification for the appropriateness of that monitoring should be necessary other

than an explanation of the applicability of such monitoring to the unit in question, unless data or information is brought forward to rebut the assumption. Presumptively acceptable monitoring includes:

(A) Presumptively acceptable or required monitoring approaches, established by the Division in a rule that constitutes part of the applicable implementation plan required pursuant to title I of the Act, that are designed to achieve compliance with this section for particular pollutant-specific emissions units;

(B) Continuous emission, opacity or predictive emission monitoring systems that satisfy applicable monitoring requirements and performance specifications as specified in Chapter 7, Section 3(c)(iv);

(C) Excepted or alternative monitoring methods allowed or approved pursuant to Chapter 11, Section 2(b), Acid Rain, Continuous emission monitoring;

(D) Monitoring included for standards exempt from this section pursuant to Chapter 7, Section 3(b)(ii)(A)(I) or (VI) to the extent such monitoring is applicable to the performance of the control device (and associated capture system) for the pollutant-specific emissions unit; and

(E) Presumptively acceptable monitoring identified in guidance by EPA. Such guidance will address the requirements under Chapter 7, Section 3(d)(i),(ii) and (iii) to the extent practicable.

(iii) (A) Except as provided in Chapter 7, Section 3(d)(iv), the owner or operator shall submit control device (and process and capture system, if applicable) operating parameter data obtained during the conduct of the applicable compliance or performance test conducted under conditions specified by the applicable rule. If the applicable rule does not specify testing conditions or only partially specifies test conditions, the performance test generally shall be conducted under conditions representative of maximum emissions potential under anticipated operating conditions at the pollutant-specific emissions unit. Such data may be supplemented, if desired, by engineering assessments and manufacturer's recommendations to justify the indicator ranges (or, if applicable, the procedures for establishing such indicator ranges). Emission testing is not required to be conducted over the entire indicator range or range of potential emissions.

(B) The owner or operator must document that no changes to the pollutant-specific emissions unit, including the control device and capture system, have taken place that could result in a significant change in the control system performance or the selected ranges or designated conditions for the indicators to be monitored since the performance or compliance tests were conducted.

(iv) If existing data from unit-specific compliance or performance testing specified in Chapter 7, Section 3(d)(iii) are not available, the owner or operator:

(A) Shall submit a test plan and schedule for obtaining such data in accordance with Chapter 7, Section 3(d)(v); or

(B) May submit indicator ranges (or procedures for establishing indicator ranges) that rely on engineering assessments and other data, provided that the owner or operator demonstrates that factors specific to the type of monitoring, control device, or pollutant-specific emissions unit make compliance or performance testing unnecessary to establish indicator ranges at levels that satisfy the criteria in Chapter 7, Section 3(c)(i).

(v) If the monitoring submitted by the owner or operator requires installation, testing, or other necessary activities prior to use of the monitoring for purposes of this part, the owner or operator shall include an implementation plan and schedule for installing, testing and performing any other appropriate activities prior to use of the monitoring. The implementation plan and schedule shall provide for use of the monitoring as expeditiously as practicable after approval of the monitoring in the Chapter 6, Section 3 operating permit pursuant to Chapter 7, Section 3(f), but in no case shall the schedule for completing installation and beginning operation of the monitoring exceed 180 days after approval of the permit.

(vi) If a control device is common to more than one pollutant-specific emissions unit, the owner or operator may submit monitoring for the control device and identify the pollutant-specific emissions units affected and any process or associated capture device conditions that must be maintained or monitored in accordance with Chapter 7, Section 3(c)(i) rather than submit separate monitoring for each pollutant-specific emissions unit.

(vii) If a single pollutant-specific emissions unit is controlled by more than one control device similar in design and operation, the owner or operator may submit monitoring that applies to all the control devices and identify the control devices affected and any process or associated capture device conditions that must be maintained or monitored in accordance with Chapter 7, Section 3(c)(i) rather than submit a separate description of monitoring for each control device.

(e) Deadlines for submittals.

(i) Large pollutant-specific emissions units. For all pollutant-specific emissions units with the potential to emit (taking into account control devices to the extent appropriate under the definition of this term in Chapter 7, Section 3(a) the applicable regulated air pollutant in an amount equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source, the owner or operator shall submit the information required under Chapter 7, Section 3(d) at the following times:

(A) On or after April 20, 1998, the owner or operator shall submit information as part of an application for an initial Chapter 6, Section 3 operating permit if, by that date, the application either:

(I) Has not been filed; or

(II) Has not yet been determined to be complete by the Division.

(B) On or after April 20, 1998, the owner or operator shall submit information as part of an application for a significant permit revision under Chapter 6, Section 3, but only with respect to those pollutant-specific emissions units for which the proposed permit revision is applicable.

(C) The owner or operator shall submit any information not submitted under the deadlines set forth in Chapter 7, Section 3(e)(i)(A) and (B) as part of the application for the renewal of a Chapter 6, Section 3 operating permit.

(ii) Other pollutant-specific emissions units. For all other pollutant-specific emissions units subject to this part and not subject to Chapter 7, Section 3(e)(i), the owner or operator shall submit the information required under Chapter 7, Section 3(d) as part of an application for a renewal of a Chapter 6, Section 3 operating permit.

(iii) The effective date for the requirement to submit information under Chapter 7, Section 3(d) shall be as specified pursuant to Chapter 7, Section 3(e)(i)-(iii) and a permit reopening to require the submittal of information under this section shall not be required pursuant to Chapter 6, Section 3(d)(vii)(A)(I), provided, however, that, if a Chapter 6, Section 3 operating permit is reopened for cause by EPA or the Division pursuant to Chapter 6, Section 3(d)(vii)(A)(III) or (IV), the applicable agency may require the submittal of information under this section for those pollutant-specific emissions units that are subject to this part and that are affected by the permit reopening.

(iv) Prior to approval of monitoring that satisfies this part, the owner or operator is subject to the requirements of Chapter 6, Section 3(h)(i)(C)(I)(2.).

(f) Approval of monitoring.

(i) Based on an application that includes the information submitted in accordance with Chapter 7, Section 3(e), the Division shall act to approve the monitoring submitted by the owner or operator by confirming that the monitoring satisfies the requirements in Chapter 7, Section 3(c).

(ii) In approving monitoring under this section, the Division may condition the approval on the owner or operator collecting additional data on the indicators to be monitored for a pollutant-specific emissions unit, including required compliance or performance testing, to confirm the ability of

the monitoring to provide data that are sufficient to satisfy the requirements of this part and to confirm the appropriateness of an indicator range(s) or designated condition(s) proposed to satisfy Chapter 7, Section 3(c)(i)(B) and (C) and consistent with the schedule in Chapter 7, Section 3(d)(v).

(iii) If the Division approves the proposed monitoring, the Division shall establish one or more permit terms or conditions that specify the required monitoring in accordance with Chapter 6, Section 3(h)(i)(c)(I). At a minimum, the permit shall specify:

(A) The approved monitoring approach that includes all of the following:

(I) The indicator(s) to be monitored (such as temperature, pressure drop, emissions, or similar parameter);

(II) The means or device to be used to measure the indicator(s) (such as temperature measurement device, visual observation, or CEMS); and

(III) The performance requirements established to satisfy Chapter 7, Section 3(c)(ii) or (iv), as applicable.

(B) The means by which the owner or operator will define an exceedance or excursion for purposes of responding to and reporting exceedances or excursions under Chapter 7, Section 3(g) and (h). The permit shall specify the level at which an excursion or exceedance will be deemed to occur, including the appropriate averaging period associated with such exceedance or excursion. For defining an excursion from an indicator range or designated condition, the permit may either include the specific value(s) or condition(s) at which an excursion shall occur, or the specific procedures that will be used to establish that value or condition. If the latter, the permit shall specify appropriate notice procedures for the owner or operator to notify the Division upon any establishment or reestablishment of the value.

(C) The obligation to conduct the monitoring and fulfill the other obligations specified in Chapter 7, Section 3(g) through (i).

(D) If appropriate, a minimum data availability requirement for valid data collection for each averaging period, and, if appropriate, a minimum data availability requirement for the averaging periods in a reporting period.

(iv) If the monitoring proposed by the owner or operator requires installation, testing or final verification of operational status, the Chapter 6, Section 3 operating permit shall include an enforceable schedule with appropriate milestones for completing such installation, testing, or final verification consistent with the requirements in Chapter 7, Section 3(d)(v).

(v) If the Division disapproves the proposed monitoring, the following applies:

(A) The draft or final permit shall include, at a minimum, monitoring that satisfies the requirements of Chapter 6, Section 3(h)(i)(C)(I)(2.);

(B) The Division shall include in the draft or final permit a compliance schedule for the source owner to submit monitoring that satisfies Chapter 7, Section 3(c) and (d), but in no case shall the owner or operator submit revised monitoring more than 180 days from the date of issuance of the Chapter 6, Section 3 operating permit; and

(C) If the source owner or operator does not submit the monitoring in accordance with the compliance schedule as required in Chapter 7, Section 3(f)(v)(B) or if the Division disapproves the monitoring submitted, the source owner or operator shall be deemed not in compliance with Chapter 7, Section 3, unless the source owner or operator successfully challenges the disapproval.

(g) Operation of approved monitoring.

(i) Commencement of operation. The owner or operator shall conduct the monitoring required under this part upon issuance of a Chapter 6, Section 3 operating permit that includes such monitoring, or by such later date specified in the permit pursuant to Chapter 7, Section 3(f)(v).

(ii) Proper maintenance. At all times, the owner or operator shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

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

(iv) Response to excursions or exceedances.

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

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

(v) Documentation of need for improved monitoring. After approval of monitoring under this part, if the owner or operator identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the owner or operator shall promptly notify the Division and, if necessary, submit a proposed modification to the Chapter 6, Section 3 operating permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

(h) Quality improvement plan (QIP) requirements.

(i) Based on the results of a determination made under Chapter 7, Section 3(g)(iv)(B), the Administrator or the Division may require the owner or operator to develop and implement a QIP. Consistent with Chapter 7, Section 3(f)(iii)(C), the Chapter 6, Section 3 operating permit may specify an appropriate threshold, such as an accumulation of exceedances or excursions exceeding 5 percent duration of a pollutant-specific emissions unit's operating time for a reporting period, for requiring the implementation of a QIP. The threshold may be set at a higher or lower percent or may rely on other criteria for purposes of indicating whether a pollutant-specific emissions unit is being maintained and operated in a manner consistent with good air pollution control practices.

(ii) Elements of a QIP.

(A) The owner or operator shall maintain a written QIP, if required, and have it available for inspection.

(B) The plan initially shall include procedures for evaluating the control performance problems and, based on the results of the evaluation procedures, the owner or operator shall modify the plan to include procedures for conducting one or more of the following actions, as appropriate:

(I) Improved preventive maintenance practices.

(II) Process operation changes.

(III) Appropriate improvements to control methods.

(IV) Other steps appropriate to correct control performance.

(V) More frequent or improved monitoring (only in conjunction with one or more steps under Chapter 7, Section 3(h)(ii)(B)(I) -(IV)).

(iii) If a QIP is required, the owner or operator shall develop and implement a QIP as expeditiously as practicable and shall notify the Division if the period for completing the improvements contained in the QIP exceeds 180 days from the date on which the need to implement the QIP was determined.

(iv) Following implementation of a QIP, upon any subsequent determination pursuant to Chapter 7, Section 3(g)(iv)(B), the Administrator or the Division may require that an owner or operator make reasonable changes to the QIP if the QIP is found to have:

(A) Failed to address the cause of the control device performance problems; or

(B) Failed to provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.

(v) Implementation of a QIP shall not excuse the owner or operator of a source from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act.

(i) Reporting and recordkeeping requirements.

(i) General reporting requirements.

(A) On and after the date specified in Chapter 7, Section 3(g)(i) by which the owner or operator must use monitoring that meets the requirements of this part, the owner or operator shall submit monitoring reports to the Division in accordance with Chapter 6, Section 3(h)(i)(C)(III).

(B) A report for monitoring under this part shall include, at a minimum, the information required under Chapter 6, Section 3(h)(i)(C)(III) and the following information, as applicable:

(I) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;

(II) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and

(III) A description of the actions taken to implement a QIP during the reporting period as specified in Chapter 7, Section 3(h). Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

(ii) General recordkeeping requirements.

(A) The owner or operator shall comply with the recordkeeping requirements specified in Chapter 6, Section 3(h)(i)(C)(II). The owner or operator shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to Chapter 7, Section 3(h) and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under this part (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions).

(B) Instead of paper records, the owner or operator may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements.

(j) Savings provisions.

(i) Nothing in this part shall:

(A) Excuse the owner or operator of a source from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act. The requirements of this part shall not be used to justify the approval of monitoring less stringent than the monitoring which is required under separate legal authority and are not intended to establish minimum requirements for the purpose of determining the monitoring to be imposed under separate authority under the Act, including monitoring in permits issued pursuant to Chapter 6, Section 2. The purpose of this part is to require, as part of the issuance of a permit under Chapter 6, Section 3, improved or new monitoring at those emissions units where monitoring requirements do not exist or are inadequate to meet the requirements of this part.

(B) Restrict or abrogate the authority of the Administrator or the Division to impose additional or more stringent monitoring, recordkeeping, testing, or reporting requirements on any owner or operator of a source under any provision of the Act, including but not limited to sections 114(a)(1) and 504(b), or state law, as applicable.

(C) Restrict or abrogate the authority of the Administrator or Division to take any enforcement action under the Act for any violation of an applicable requirement or of any person to take action under section 304 of the Act.

APPENDIX E

40 CFR 60 Subpart D

Subpart D – Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction Is Commenced After August 17, 1971

§ 60.40 Applicability and designation of affected facility.

(a) The affected facilities to which the provisions of this subpart apply are:

(1) Each fossil-fuel-fired steam generating unit of more than 73 megawatts heat input rate (250 million Btu per hour).

(2) Each fossil-fuel and wood-residue-fired steam generating unit capable of firing fossil fuel at a heat input rate of more than 73 megawatts (250 million Btu per hour).

(b) Any change to an existing fossil-fuel-fired steam generating unit to accommodate the use of combustible materials, other than fossil fuels as defined in this subpart, shall not bring that unit under the applicability of this subpart.

(c) Except as provided in paragraph (d) of this section, any facility under paragraph (a) of this section that commenced construction or modification after August 17, 1971, is subject to the requirements of this subpart.

(d) The requirements of §60.44 (a)(4), (a)(5), (b) and (d), and 60.45(f)(4)(vi) are applicable to lignite-fired steam generating units that commenced construction or modification after December 22, 1976.

(e) Any facility covered under subpart Da is not covered under this subpart.

[42 FR 37936, July 25, 1977, as amended at 43 FR 9278, Mar. 7, 1978; 44 FR 33612, June 17, 1979]

§ 60.41 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act, and in subpart A of this part.

(a) *Fossil-fuel fired steam generating unit* means a furnace or boiler used in the process of burning fossil fuel for the purpose of producing steam by heat transfer.

(b) *Fossil fuel* means natural gas, petroleum, coal, and any form of solid, liquid, or gaseous fuel derived from such materials for the purpose of creating useful heat.

(c) *Coal refuse* means waste-products of coal mining, cleaning, and coal preparation operations (e.g. culm, gob, etc.) containing coal, matrix material, clay, and other organic and inorganic material.

(d) *Fossil fuel and wood residue-fired steam generating unit* means a furnace or boiler used in the process of burning fossil fuel and wood residue for the purpose of producing steam by heat transfer.

(e) *Wood residue* means bark, sawdust, slabs, chips, shavings, mill trim, and other wood products derived from wood processing and forest management operations.

(f) *Coal* means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by ASTM D388-77, 90, 91, 95, or 98a (incorporated by reference--see Sec. 60.17).

[39 FR 20791, June 14, 1974, as amended at 40 FR 2803, Jan. 16, 1975; 41 FR 51398, Nov. 22, 1976; 43 FR 9278, Mar. 7, 1978; 48 FR 3736, Jan. 27, 1983; 65 FR 61752, Oct. 17, 2000]

§ 60.42 Standard for particulate matter.

(a) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases which:

(1) Contain particulate matter in excess of 43 nanograms per joule heat input (0.10 lb per million Btu) derived from fossil fuel or fossil fuel and wood residue.

(2) Exhibit greater than 20 percent opacity except for one six-minute period per hour of not more than 27 percent opacity.

(b)(1) On or after December 28, 1979, no owner or operator shall cause to be discharged into the atmosphere from the Southwestern Public Service Company's Harrington Station #1, in Amarillo, TX, any gases which exhibit greater than 35 percent opacity, except that a maximum or 42 percent opacity shall be permitted for not more than 6 minutes in any hour.

(2) Interstate Power Company shall not cause to be discharged into the atmosphere from its Lansing Station Unit No. 4 in Lansing, IA, any gases which exhibit greater than 32 percent opacity, except that a maximum of 39 percent opacity shall be permitted for not more than six minutes in any hour.

[39 FR 20792, June 14, 1974, as amended at 41 FR 51398, Nov. 22, 1976; 42 FR 61537, Dec. 5, 1977; 44 FR 76787, Dec. 28, 1979; 45 FR 36077, May 29, 1980; 45 FR 47146, July 14, 1980; 46 FR 57498, Nov. 24, 1981; 61 FR 49976, Sept. 24, 1996; 65 FR 61752, Oct. 17, 2000]

§ 60.43 Standard for sulfur dioxide.

(a) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases which contain sulfur dioxide in excess of:

(1) 340 nanograms per joule heat input (0.80 lb per million Btu) derived from liquid fossil fuel or liquid fossil fuel and wood residue.

(2) 520 nanograms per joule heat input (1.2 lb per million Btu) derived from solid fossil fuel or solid fossil fuel and wood residue, except as provided in paragraph (e) of this section.

(b) When different fossil fuels are burned simultaneously in any combination, the applicable standard (in ng/J) shall be determined by proration using the following formula:

$$PS_{SO_2} = \frac{y(340) + z(520)}{y + z}$$

where:

PS_{SO2} is the prorated standard for sulfur dioxide when burning different fuels simultaneously, in nanograms per joule heat input derived from all fossil fuels fired or from all fossil fuels and wood residue fired,

y is the percentage of total heat input derived from liquid fossil fuel, and

z is the percentage of total heat input derived from solid fossil fuel.

(c) Compliance shall be based on the total heat input from all fossil fuels burned, including gaseous fuels.

(d) [Reserved]

(e) Units 1 and 2 (as defined in appendix G) at the Newton Power Station owned or operated by the Central Illinois Public Service Company will be in compliance with paragraph (a)(2) of this section if Unit 1 and Unit 2 individually comply with paragraph (a)(2) of this section or if the combined emission rate from Units 1 and 2 does not exceed 470 nanograms per joule (1.1 lb per million Btu) combined heat input to Units 1 and 2.

[39 FR 20792, June 14, 1974, as amended at 41 FR 51398, Nov. 22, 1976; 52 FR 28954, Aug. 4, 1987]

§ 60.44 Standard for nitrogen oxides.

(a) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases which contain nitrogen oxides, expressed as NO_2 in excess of :

(1) 86 nanograms per joule heat input (0.20 lb per million Btu) derived from gaseous fossil fuel.

(2) 129 nanograms per joule heat input (0.30 lb per million Btu) derived from liquid fossil fuel, liquid fossil fuel and wood residue, or gaseous fossil fuel and wood residue.

(3) 300 nanograms per joule heat input (0.70 lb per million Btu) derived from solid fossil fuel or solid fossil fuel and wood residue (except lignite or a solid fossil fuel containing 25 percent, by weight, or more of coal refuse).

(4) 260 nanograms per joule heat input (0.60 lb per million Btu) derived from lignite or lignite and wood residue (except as provided under paragraph (a)(5) of this section).

(5) 340 nanograms per joule heat input (0.80 lb per million Btu) derived from lignite which is mined in North Dakota, South Dakota, or Montana and which is burned in a cyclone-fired unit.

(b) Except as provided under paragraphs (c) and (d) of this section, when different fossil fuels are burned simultaneously in any combination, the applicable standard (in ng/J) is determined by proration using the following formula:

$$PS_{NO_x} = \frac{w(260) + x(86) + y(130) + z(300)}{w + x + y + z}$$

where:

PS_{NOx} = is the prorated standard for nitrogen oxides when burning different fuels simultaneously, in nanograms per joule heat input derived from all fossil fuels fired or from all fossil fuels and wood residue fired;

w = is the percentage of total heat input derived from lignite;

x = is the percentage of total heat input derived from gaseous fossil fuel;

y = is the percentage of total heat input derived from liquid fossil fuel; and

z = is the percentage of total heat input derived from solid fossil fuel (except lignite).

(c) When a fossil fuel containing at least 25 percent, by weight, of coal refuse is burned in combination with gaseous, liquid, or other solid fossil fuel or wood residue, the standard for nitrogen oxides does not apply.

(d) Cyclone-fired units which burn fuels containing at least 25 percent of lignite that is mined in North Dakota, South Dakota, or Montana remain subject to paragraph (a)(5) of this section regardless of the types of fuel combusted in combination with that lignite.

[39 FR 20792, June 14, 1974, as amended at 41 FR 51398, Nov. 22, 1976; 43 FR 9278, Mar. 7, 1978; 51 FR 42797, Nov. 25, 1986]

§ 60.45 Emission and fuel monitoring.

(a) Each owner or operator shall install, calibrate, maintain, and operate continuous monitoring systems for measuring the opacity of emissions, sulfur dioxide emissions, nitrogen oxides emissions, and either oxygen or carbon dioxide except as provided in paragraph (b) of this section.

(b) Certain of the continuous monitoring system requirements under paragraph (a) of this section do not apply to owners or operators under the following conditions:

(1) For a fossil fuel-fired steam generator that burns only gaseous fossil fuel, continuous monitoring systems for measuring the opacity of emissions and sulfur dioxide emissions are not required.

(2) For a fossil fuel-fired steam generator that does not use a flue gas desulfurization device, a continuous monitoring system for measuring sulfur dioxide emissions is not required if the owner or operator monitors sulfur dioxide emissions by fuel sampling and analysis.

(3) Notwithstanding §60.13(b), installation of a continuous monitoring system for nitrogen oxides may be delayed until after the initial performance tests under §60.8 have been conducted. If the owner or operator demonstrates during the performance test that emissions of nitrogen oxides are less than 70 percent of the applicable standards in §60.44, a continuous monitoring system for measuring nitrogen oxides emissions is not required. If the initial performance test results show that nitrogen oxide emissions are greater than 70 percent of the applicable standard, the owner or operator shall install a continuous monitoring system for nitrogen oxides within one year after the date of the initial performance tests under §60.8 and comply with all other applicable monitoring requirements under this part.

(4) If an owner or operator does not install any continuous monitoring systems for sulfur oxides and nitrogen oxides, as provided under paragraphs (b)(1) and (b)(3) or paragraphs (b)(2) and (b)(3) of this section a continuous monitoring system for measuring either oxygen or carbon dioxide is not required.

(c) For performance evaluations under §60.13(c) and calibration checks under §60.13(d), the following procedures shall be used:

(1) Methods 6, 7, and 3B, as applicable, shall be used for the performance evaluations of sulfur dioxide and nitrogen oxides continuous monitoring systems. Acceptable alternative methods for Methods 6, 7, and 3B are given in §60.46(d).

(2) Sulfur dioxide or nitric oxide, as applicable, shall be used for preparing calibration gas mixtures under Performance Specification 2 of appendix B to this part.

(3) For affected facilities burning fossil fuel(s), the span value for a continuous monitoring system measuring the opacity of emissions shall be 80, 90, or 100 percent and for a continuous monitoring system measuring sulfur oxides or nitrogen oxides the span value shall be determined as follows:

[in parts per million]

Fossil Fuel	Span value for sulfur dioxide	Span value for nitrogen oxides
Gas	([1])	500
Liquid	1,000	500
Solid	1,500	1,000
Combinations.	1,000y+1,500z	500(x+y)+1,000z

([1]) Not applicable

where:

x = the fraction of total heat input derived from gaseous fossil fuel, and

y = the fraction of total heat input derived from liquid fossil fuel, and

z = the fraction of total heat input derived from solid fossil fuel.

(4) All span values computed under paragraph (c)(3) of this section for burning combinations of fossil fuels shall be rounded to the nearest 500 ppm.

(5) For a fossil fuel-fired steam generator that simultaneously burns fossil fuel and nonfossil fuel, the span value of all continuous monitoring systems shall be subject to the Administrator's approval.

(d) [Reserved]

(e) For any continuous monitoring system installed under paragraph (a) of this section, the following conversion procedures shall be used to convert the continuous monitoring data into units of the applicable standards (ng/J, lb/million Btu):

(1) When a continuous monitoring system for measuring oxygen is selected, the measurement of the pollutant concentration and oxygen concentration shall each be on a consistent basis (wet or dry). Alternative procedures approved by the Administrator shall be used when measurements are on a wet basis. When measurements are on a dry basis, the following conversion procedure shall be used:

$$E = CF\left(\frac{20.9}{20.9 - \%O_2}\right)$$

where: E, C, F, and $\%O_2$ are determined under paragraph (f) of this section.

(2) When a continuous monitoring system for measuring carbon dioxide is selected, the measurement of the pollutant concentration and carbon dioxide concentration shall each be on a consistent basis (wet or dry) and the following conversion procedure shall be used:

$$E = CF_c\left(\frac{100}{\%CO_2}\right)$$

where: E, C, F_c and $\%CO_2$ are determined under paragraph (f) of this section.

(f) The values used in the equations under paragraphs (e) (1) and (2) of this section are derived as follows:

(1) E=pollutant emissions, ng/J (lb/million Btu).

(2) C=pollutant concentration, ng/dscm (lb/dscf), determined by multiplying the average concentration (ppm) for each one-hour period by 4.15×10^{4} M ng/dscm per ppm (2.59×10^{-9} M lb/dscf per ppm) where M=pollutant molecular weight, g/g-mole (lb/lb-mole). M=64.07 for sulfur dioxide and 46.01 for nitrogen oxides.

(3) $\%O_2$, $\%CO_2$=oxygen or carbon dioxide volume (expressed as percent), determined with equipment specified under paragraph (a) of this section.

(4) F, F_c=a factor representing a ratio of the volume of dry flue gases generated to the calorific value of the fuel combusted (F), and a factor representing a ratio of the volume of carbon dioxide generated to the calorific value of the fuel combusted (F_c), respectively. Values of F and F_c are given as follows:

(i) For anthracite coal as classified according to ASTM D388-77, 90, 91, 95, or 98a (incorporated by reference-see §60.17), $F=2,723 \times 10^{-17}$ dscm/J (10,140 dscf/million

Btu and F_c=0.532x10^{-17} scm CO_2/J (1,980 scf CO_2/million Btu).

(ii) For subbituminous and bituminous coal as classified according to ASTM D388-77, 90, 91, 95, or 98a (incorporated by reference-see §60.17), F=2.637x10^{-7} dscm/J (9,820 dscf/million Btu) and F_c=0.486x10^{-7} scm CO_2/J (1,810 scf CO_2/million Btu).

(iii) For liquid fossil fuels including crude, residual, and distillate oils, F=2.476x10^{-7} dscm/J (9,220 dscf/million Btu) and F_c=0.384x10^{-7} scm CO_2/J (1,430 scf CO_2/million Btu).

(iv) For gaseous fossil fuels, F=2.347x10^{-7} dscm/J (8,740 dscf/million Btu). For natural gas, propane, and butane fuels, F_c=0.279x10^{-7} scm CO_2/J (1,040 scf CO_2/million Btu) for natural gas, 0.322x10^{-7} scm CO_2/J (1,200 scf CO_2/million Btu) for propane, and 0.338x10^{-7} scm CO_2/J (1,260 scf CO_2/million Btu) for butane.

(v) For bark F=2.589x10^{-7} dscm/J (9,640 dscf/million Btu) and F_c=0.500x10^{-7} scm CO_2/J (1,840 scf CO_2/ million Btu). For wood residue other than bark F=2.492x10^{-7} dscm/J (9,280 dscf/million Btu) and F_c=0.494x10^{-7} scm CO_2/J (1,860 scf CO_2/ million Btu).

(vi) For lignite coal as classified according to ASTM D388-77, 90, 91, 95, or 98a (incorporated by reference-see §60.17), F=2.659x10^{-7} dscm/J (9,900 dscf/million Btu) and F_c=0.516x10^{-17} scm CO_2/J (1,920 scf CO_2/million Btu).

(5) The owner or operator may use the following equation to determine an F factor (dscm/J or dscf/million Btu) on a dry basis (if it is desired to calculate F on a wet basis, consult the Administrator) or F_c factor (scm CO_2/J, or scf CO_2/million Btu) on either basis in lieu of the F or F_c factors specified in paragraph (f)(4) of this section:

$$F = 10^{-6}\,\frac{227.2(\%H)+95.5(\%C)+35.6(\%S)+8.7(\%N)-28.7(\%O)}{GCV}$$

$$F_c = \frac{2.0\times10^{-5}(\%C)}{GCV\,(\text{SI units})}$$

$$F = \frac{10^{6}\left[3.64(\%H)+1.53(\%C)+0.57(\%S)+0.14(\%N)-0.46(\%O)\right]}{GCV\,(\text{English units})}$$

$$F_c = \frac{20.0(\%C)}{GCV\,(\text{SI units})}$$

$$F_c = \frac{321\times10^{3}(\%C)}{GCV\,(\text{English units})}$$

(i) H, C, S, N, and O are content by weight of hydrogen, carbon, sulfur, nitrogen, and oxygen (expressed as percent), respectively, as determined on the same basis as GCV by ultimate analysis of the fuel fired, using ASTM method D3178-73 (Reapproved 1979), 89 or D3176-74 or 89 (solid fuels) or computed from results using ASTM method D1137-53 or 75, D1945-64, 76, 91, or 96, or D1946-77 or 90 (Reapproved 1994) (gaseous fuels) as applicable. (These five methods are incorporated by reference-see §60.17.)

(ii) GVC is the gross calorific value (kJ/kg, Btu/lb) of the fuel combusted determined by the ASTM test methods D2015-77 (Reapproved 1978), 96, or D5865-98 for solid fuels and D1826-77 or 94 for gaseous fuels as applicable. (These two methods are incorporated by reference-see §60.17.)

(iii) For affected facilities which fire both fossil fuels and nonfossil fuels, the F or F_c value shall be subject to the Administrator's approval.

(6) For affected facilities firing combinations of fossil fuels or fossil fuels and wood residue, the F or F_c factors determined by paragraphs (f)(4) or (f)(5) of this section shall be prorated in accordance with the applicable formula as follows:

$$F = \sum_{i=1}^{n} X_i F_i$$

or

$$F_c = \sum_{i=1}^{n} x_i (F_c)_i$$

where:

X_i = the fraction of total heat input derived from each type of fuel (e.g. natural gas, bituminous coal, wood residue, etc.)

F_i or $(F_c)_i$ = the applicable F or F_c factor for each fuel type determined in accordance with paragraphs (f)(4) and (f)(5) of this section.

n = the number of fuels being burned in combination.

(g) Excess emission and monitoring system performance reports shall be submitted to the Administrator for every calendar quarter. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter. Each excess emission and MSP report shall include the information required in §60.7(c). Periods of excess emissions and monitoring systems (MS) downtime that shall be reported are defined as follows:

(1) *Opacity.* Excess emissions are defined as any six-minute period during which the average opacity of emissions exceeds 20 percent opacity, except that one six-minute average per hour of up to 27 percent opacity need not be reported.

(i) For sources subject to the opacity standard of §60.42(b)(1), excess emissions are defined as any six-minute period during which the average opacity of emissions exceeds 35 percent opacity, except that one six-minute average per hour of up to 42 percent opacity need not be reported.

(ii) For sources subject to the opacity standard of §60.42(b)(2), excess emissions are defined

as any six-minute period during which the average opacity of emissions exceeds 32 percent opacity, except that one six-minute average per hour of up to 39 percent opacity need not be reported.

(iii) For sources subject to the opacity standard of §60.42(b)(3), excess emissions are defined as any six-minute period during which the average opacity of emissions exceeds 30 percent opacity, except that one six-minute average per hour of up to 37 percent opacity need not be reported.

(2) *Sulfur dioxide.* Excess emissions for affected facilities are defined as:

(i) Any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) of sulfur dioxide as measured by a continuous monitoring system exceed the applicable standard under §60.43.

(3) *Nitrogen oxides.* Excess emissions for affected facilities using a continuous monitoring system for measuring nitrogen oxides are defined as any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) exceed the applicable standards under §60.44.

[40 FR 46256, Oct. 6, 1975, 65 FR 61752, Oct. 17, 2000]

Editorial Note: For *Federal Register* citations affecting §60.45, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§ 60.46 Test methods and procedures.

(a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b). Acceptable alternative methods and procedures are given in paragraph (d) of this section.

(b) The owner or operator shall determine compliance with the particulate matter, SO_2, and NO_X standards in §60.42, 60.43, and 60.44 as follows:

(1) The emission rate (E) of particulate matter, SO_2, or NO_X shall be computed for each run using the following equation:

$$E = CF_d\left(\frac{20.9}{20.9 - \%O_2}\right)$$

E = emission rate of pollutant, ng/J (1b/million Btu).

C = concentration of pollutant, ng/dscm (1b/dscf).

$\%O_2$ = oxygen concentration, percent dry basis.

F_d = factor as determined from Method 19.

(2) Method 5 shall be used to determine the particular matter concentration (C) at affected facilities without wet flue-gas-desulfurization (FGD) systems and Method 5B shall be used to determine the particulate matter concentration (C) after FGD systems.

(i) The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30 dscf). The probe and filter holder heating systems in the sampling train shall be set to provide an average gas temperature of 160±14°C (320±25°F).

(ii) The emission rate correction factor, integrated or grab sampling and analysis procedure of Method 3B shall be used to determine the O_2 concentration ($\%O_2$). The O_2 sample shall be obtained simultaneously with, and at the same traverse points as, the particulate sample. If the grab sampling procedure is used, the O_2 concentration for the run shall be the arithmetic mean of the sample O_2 concentrations at all traverse points.

(iii) If the particulate run has more than 12 traverse points, the O_2 traverse points may be reduced to 12 provided that Method 1 is used to locate the 12 O_2 traverse points.

(3) Method 9 and the procedures in §60.11 shall be used to determine opacity.

(4) Method 6 shall be used to determine the SO_2 concentration.

(i) The sampling site shall be the same as that selected for the particulate sample. The sampling location in the duct shall be at the centroid of the cross section or at a point no closer to the walls than 1 m (3.28 ft). The sampling time and sample volume for each sample run shall be at least 20 minutes and 0.020 dscm (0.71 dscf). Two samples shall be taken during a 1-hour period, with each sample taken within a 30-minute interval.

(ii) The emission rate correction factor, integrated sampling and analysis procedure of Method 3B shall be used to determine the O_2 concentration ($\%O_2$). The O_2 sample shall be taken simultaneously with, and at the same point as, the SO_2 sample. The SO_2 emission rate shall be computed for each pair of SO_2 and O_2 samples. The SO_2 emission rate (E) for each run shall be the arithmetic mean of the results of the two pairs of samples.

(5) Method 7 shall be used to determine the NO_X concentration.

(i) The sampling site and location shall be the same as for the SO_2 sample. Each run shall consist of four grab samples, with each sample taken at about 15-minute intervals.

(ii) For each NO_X sample, the emission rate correction factor, grab sampling and analysis procedure of Method 3B shall be used to determine the O_2 concentration ($\%O_2$). The sample shall be taken simultaneously with, and at the same point as, the NO_X sample.

(iii) The NO_X emission rate shall be computed for each pair of NO_X and O_2 samples. The NO_X emission rate (E) for each run shall be the arithmetic mean of the results of the four pairs of samples.

(c) When combinations of fossil fuels or fossil fuel and wood residue are fired, the owner or operator (in order to compute the prorated standard as shown in §60.43(b) and 60.44(b)) shall determine the percentage (w, x, y, or z) of the total heat input derived from each type of fuel as follows:

(1) The heat input rate of each fuel shall be determined by multiplying the gross calorific value of each fuel fired by the rate of each fuel burned.

(2) ASTM Methods D 2015-77 (Reapproved 1978), 96, or D5865-98 (solid fuels), D240-76 or 92 (liquid fuels), or D1826-77 or 94 (gaseous fuels) (incorporated by reference-see §60.17) shall be used to determine the gross calorific values of the fuels. The method used to determine the calorific value of wood residue must be approved by the Administrator.

(3) Suitable methods shall be used to determine the rate of each fuel burned during each test period, and a material balance over the steam generating system shall be used to confirm the rate.

(d) The owner or operator may use the following as alternatives to the reference methods and procedures in this section or in other sections as specified:

(1) The emission rate (E) of particulate matter, SO_2 and NO_X may be determined by using the F_c factor, provided that the following procedure is used:

(i) The emission rate (E) shall be computed using the following equation:

$$E = CF_c\left(\frac{100}{\%CO_2}\right)$$

where:

E = emission rate of pollutant, ng/J (lb/million Btu).

C = concentration of pollutant, ng/dscm (lb/dscf).

$\%CO_2$ = carbon dioxide concentration, percent dry basis.

F_c = factor as determined in appropriate sections of Method 19.

(ii) If and only if the average F_c factor in Method 19 is used to calculate E and either E is from 0.97 to 1.00 of the emission standard or the relative accuracy of a continuous emission monitoring system is from 17 to 20 percent, then three runs of Method 3B shall be used to determine the O_2 and CO_2 concentration according to the procedures in paragraph (b) (2)(ii), (4)(ii), or (5)(ii) of this section. Then if F_o (average of three runs), as calculated from the equation in Method 3B, is more than ±3 percent than the average F_o value, as determined from the average values of F_d and F_c in Method 19, i.e., F_{oa}=0.209 (F_{da}/F_{ca}), then the following procedure shall be followed:

(A) When F_o is less than 0.97 F_{oa}, then E shall be increased by that proportion under 0.97 F_{oa}, e.g., if F_o is 0.95 F_{oa}, E shall be increased by 2 percent. This recalculated value shall be

used to determine compliance with the emission standard.

(B) When F_o is less than 0.97 F_{oa} and when the average difference (d) between the continuous monitor minus the reference methods is negative, then E shall be increased by that proportion under 0.97 F_{oa}, e.g., if F_o is 0.95 F_{oa}, E shall be increased by 2 percent. This recalculated value shall be used to determine compliance with the relative accuracy specification.

(C) When F_o is greater than 1.03 F_{oa} and when the average difference d is positive, then E shall be decreased by that proportion over 1.03 F_{oa}, e.g., if F_o is 1.05 F_{oa}, E shall be decreased by 2 percent. This recalculated value shall be used to determine compliance with the relative accuracy specification.

(2) For Method 5 or 5B, Method 17 may be used at facilities with or without wet FGD systems if the stack gas temperature at the sampling location does not exceed an average temperature of 160°C (320°F). The procedures of sections 2.1 and 2.3 of Method 5B may be used with Method 17 only if it is used after wet FGD systems. Method 17 shall not be used after wet FGD systems if the effluent gas is saturated or laden with water droplets.

(3) Particulate matter and SO_2 may be determined simultaneously with the Method 5 train provided that the following changes are made:

(i) The filter and impinger apparatus in sections 2.1.5 and 2.1.6 of Method 8 is used in place of the condenser (section 2.1.7) of Method 5.

(ii) All applicable procedures in Method 8 for the determination of SO_2 (including moisture) are used:

(4) For Method 6, Method 6C may be used. Method 6A may also be used whenever Methods 6 and 3B data are specified to determine the SO_2 emission rate, under the conditions in paragraph (d)(1) of this section.

(5) For Method 7, Method 7A, 7C, 7D, or 7E may be used. If Method 7C, 7D, or 7E is used, the sampling time for each run shall be at least 1 hour and the integrated sampling approach shall be used to determine the O_2 concentration (%O_2) for the emission rate correction factor.

(6) For Method 3, Method 3A or 3B may be used.

(7) For Method 3B, Method 3A may be used.

[54 FR 6662, Feb. 14, 1989; 54 FR 21344, May 17, 1989, as amended at 55 FR 5212, Feb. 14, 1990; 65 FR 61752, Oct. 17, 2000]

APPENDIX F

40 CFR 60 Subpart Db

Subpart Db-Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units

§ 60.40b Applicability and delegation of authority.

(a) The affected facility to which this subpart applies is each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 MW (100 million Btu/hour).

(b) Any affected facility meeting the applicability requirements under paragraph (a) of this section and commencing construction, modification, or reconstruction after June 19, 1984, but on or before June 19, 1986, is subject to the following standards:

(1) Coal-fired affected facilities having a heat input capacity between 29 and 73 MW (100 and 250 million Btu/hour), inclusive, are subject to the particulate matter and nitrogen oxides standards under this subpart.

(2) Coal-fired affected facilities having a heat input capacity greater than 73 MW (250 million Btu/hour) and meeting the applicability requirements under subpart D (Standards of performance for fossil-fuel-fired steam generators; §60.40) are subject to the particulate matter and nitrogen oxides standards under this subpart and to the sulfur dioxide standards under subpart D (§60.43).

(3) Oil-fired affected facilities having a heat input capacity between 29 and 73 MW (100 and 250 million Btu/hour), inclusive, are subject to the nitrogen oxides standards under this subpart.

(4) Oil-fired affected facilities having a heat input capacity greater than 73 MW (250 million Btu/hour) and meeting the applicability requirements under subpart D (Standards of performance for fossil-fuel-fired steam generators; §60.40) are also subject to the nitrogen oxides standards under this subpart and the particulate matter and sulfur dioxide standards under subpart D (§60.42 and §60.43).

(c) Affected facilities which also meet the applicability requirements under subpart J (Standards of performance for petroleum refineries; §60.104) are subject to the particulate matter and nitrogen oxides standards under this subpart and the sulfur dioxide standards under subpart J (§60.104).

(d) Affected facilities which also meet the applicability requirements under subpart E (Standards of performance for incinerators; §60.50) are subject to the nitrogen oxides and particulate matter standards under this subpart.

(e) Steam generating units meeting the applicability requirements under subpart Da (Standards of performance for electric utility steam generating units; §60.40Da) are not subject to this subpart.

(f) Any change to an existing steam generating unit for the sole purpose of combusting gases containing TRS as defined under §60.281 is not considered a modification under §60.14 and the steam generating unit is not subject to this subpart.

(g) In delegating implementation and enforcement authority to a State under section 111(c) of the Act, the following authorities shall be retained by the Administrator and not transferred to a State.

(1) Section 60.44b(f).

(2) Section 60.44b(g).

(3) Section 60.49b(a)(4).

(h) Affected facilities which meet the applicability requirements under subpart Eb (Standards of performance for municipal waste combustors; §60.50b) are not subject to this subpart.

(i) Heat recovery steam generators that are associated with combined cycle gas turbines and that meet the applicability requirements of subpart KKKK of this part are not subject to this subpart. This subpart will continue to apply to all other heat recovery steam generators that are capable of combusting more than 29 MW (100 MMBtu/hour) heat input of fossil fuel. If the heat recovery steam generator is subject to this subpart, only emissions resulting from combustion of fuels in the steam generating unit are subject to this subpart. (The gas turbine emissions are subject to subpart GG or KKKK, as applicable, of this part.)

(j) Any affected facility meeting the applicability requirements under paragraph (a) of this section and commencing construction, modification, or reconstruction after June 19, 1986 is not subject to Subpart D (Standards of Performance for Fossil-Fuel-Fired Steam Generators, §60.40).

(k) Any facility covered by subpart Eb or subpart AAAA of this part is not covered by this subpart.

(l) Any facility covered by an EPA approved State or Federal section 111(d)/129 plan implementing subpart Cb or subpart BBBB of this part is not covered by this subpart.

[52 FR 47842, Dec. 16, 1987, as amended at 63 FR 49454, Sept. 16, 1998; 65 FR 61752, Oct. 17, 2000; 71 FR 9881, Feb. 27, 2006; 71 FR 33400, June 9, 2006]

§ 60.41b Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A of this part.

Annual capacity factor means the ratio between the actual heat input to a steam generating unit from the fuels listed in §60.42b(a), §60.43b(a), or §60.44b(a), as applicable, during a calendar year and the potential heat input to the steam generating unit had it been operated for 8,760 hours during a calendar year at the maximum steady state design heat input capacity. In the case of steam generating units that are rented or leased, the actual heat input shall be determined based on the combined heat input from all operations of the affected facility in a calendar year.

Byproduct/waste means any liquid or gaseous substance produced at chemical manufacturing plants, petroleum refineries, or pulp and paper mills (except natural gas, distillate oil, or residual oil) and combusted in a steam generating unit for heat recovery or for disposal. Gaseous substances with carbon dioxide levels greater than 50 percent or carbon monoxide levels greater than 10 percent are not byproduct/waste for the purpose of this subpart.

Chemical manufacturing plants means industrial plants which are classified by the Department of Commerce under Standard Industrial Classification (SIC) Code 28.

Coal means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society of Testing and Materials in ASTM D388-77, 90, 91, 95, or 98a, Standard Specification for Classification of Coals by Rank (IBR-see §60.17), coal refuse, and petroleum coke. Coal-derived synthetic fuels, including but not limited to solvent refined coal, gasified coal, coal-oil mixtures, and coal-water mixtures, are also included in this definition for the purposes of this subpart.

Coal refuse means any byproduct of coal mining or coal cleaning operations with an ash content greater than 50 percent, by weight, and a heating value less than 13,900 kJ/kg (6,000 Btu/lb) on a dry basis.

Cogeneration, also known as "combined heat and power," means a steam-generating unit that simultaneously produces both electric (or mechanical) and useful thermal energy from the same primary energy source.

Combined cycle system means a system in which a separate source, such as a gas turbine, internal combustion engine, kiln, etc., provides exhaust gas to a heat recovery steam generating unit.

Conventional technology means wet flue gas desulfurization (FGD) technology, dry FGD technology, atmospheric fluidized bed combustion technology, and oil hydrodesulfurization technology.

Distillate oil means fuel oils that contain 0.05 weight percent nitrogen or less and comply with the specifications for fuel oil numbers 1 and 2, as defined by the American Society of Testing and Materials in ASTM D396-78, 89, 90, 92, 96, or 98, Standard Specifications for Fuel Oil (incorporated by reference-see §60.17).

Dry flue gas desulfurization technology means a sulfur dioxide control system that is located downstream of the steam generating unit and removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline slurry or solution and forming a dry powder material. This definition includes

devices where the dry powder material is subsequently converted to another form. Alkaline slurries or solutions used in dry flue gas desulfurization technology include but are not limited to lime and sodium.

Duct burner means a device that combusts fuel and that is placed in the exhaust duct from another source, such as a stationary gas turbine, internal combustion engine, kiln, etc., to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a heat recovery steam generating unit.

Emerging technology means any sulfur dioxide control system that is not defined as a conventional technology under this section, and for which the owner or operator of the facility has applied to the Administrator and received approval to operate as an emerging technology under §60.49b(a)(4).

Federally enforceable means all limitations and conditions that are enforceable by the Administrator, including the requirements of 40 CFR parts 60 and 61, requirements within any applicable State Implementation Plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 40 CFR 51.24.

Fluidized bed combustion technology means combustion of fuel in a bed or series of beds (including but not limited to bubbling bed units and circulating bed units) of limestone aggregate (or other sorbent materials) in which these materials are forced upward by the flow of combustion air and the gaseous products of combustion.

Fuel pretreatment means a process that removes a portion of the sulfur in a fuel before combustion of the fuel in a steam generating unit.

Full capacity means operation of the steam generating unit at 90 percent or more of the maximum steady-state design heat input capacity.

Heat input means heat derived from combustion of fuel in a steam generating unit and does not include the heat input from preheated combustion air, recirculated flue gases, or exhaust gases from other sources, such as gas turbines, internal combustion engines, kilns, etc.

Heat release rate means the steam generating unit design heat input capacity (in MW or Btu/hour) divided by the furnace volume (in cubic meters or cubic feet); the furnace volume is that volume bounded by the front furnace wall where the burner is located, the furnace side waterwall, and extending to the level just below or in front of the first row of convection pass tubes.

Heat transfer medium means any material that is used to transfer heat from one point to another point.

High heat release rate means a heat release rate greater than 730,000 J/sec-m^3 (70,000 Btu/hour-ft^3).

Lignite means a type of coal classified as lignite A or lignite B by the American Society of Testing and Materials in ASTM D388-77, 90, 91, 95, or 98a, Standard Specification for Classification of Coals by Rank (IBR-see §60.17).

Low heat release rate means a heat release rate of 730,000 J/sec-m^3 (70,000 Btu/hour-ft^3) or less.

Mass-feed stoker steam generating unit means a steam generating unit where solid fuel is introduced directly into a retort or is fed directly onto a grate where it is combusted.

Maximum heat input capacity means the ability of a steam generating unit to combust a stated maximum amount of fuel on a steady state basis, as determined by the physical design and characteristics of the steam generating unit.

Municipal-type solid waste means refuse, more than 50 percent of which is waste consisting of a mixture of paper, wood, yard wastes, food wastes, plastics, leather, rubber, and other combustible materials, and noncombustible materials such as glass and rock.

Natural gas means (1) a naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or (2) liquid petroleum gas, as defined by the American Society for Testing and Materials in ASTM D1835-82, , 86, 87, 91, or 97, Standard Specification for Liquid Petroleum Gases (IBR-see §60.17).

Noncontinental area means the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, or the Northern Mariana Islands.

Oil means crude oil or petroleum or a liquid fuel derived from crude oil or petroleum, including distillate and residual oil.

Petroleum refinery means industrial plants as classified by the Department of Commerce under Standard Industrial Classification (SIC) Code 29.

Potential sulfur dioxide emission rate means the theoretical sulfur dioxide emissions (ng/J, lb/million Btu heat input) that would result from combusting fuel in an uncleaned state and without using emission control systems.

Process heater means a device that is primarily used to heat a material to initiate or promote a chemical reaction in which the material participates as a reactant or catalyst.

Pulp and paper mills means industrial plants which are classified by the Department of Commerce under North American Industry Classification System (NAICS) Code 322 or Standard Industrial Classification (SIC) Code 26.

Pulverized coal-fired steam generating unit means a steam generating unit in which pulverized coal is introduced into an air stream that carries the coal to the combustion chamber of the steam generating unit where it is fired in suspension. This includes both conventional pulverized coal-fired and micropulverized coal-fired steam generating units.

Residual oil means crude oil, fuel oil numbers 1 and 2 that have a nitrogen content greater than 0.05 weight percent, and all fuel oil numbers 4, 5 and 6, as defined by the American Society of Testing and Materials in ASTM D396-78, Standard Specifications for Fuel Oils (IBR-see §60.17).

Spreader stoker steam generating unit means a steam generating unit in which solid fuel is introduced to the combustion zone by a mechanism that throws the fuel onto a grate from above. Combustion takes place both in suspension and on the grate.

Steam generating unit means a device that combusts any fuel or byproduct/waste to produce steam or to heat water or any other heat transfer medium. This term includes any municipal-type solid waste incinerator with a heat recovery steam generating unit or any steam generating unit that combusts fuel and is part of a cogeneration system or a combined cycle system. This term does not include process heaters as they are defined in this subpart.

Steam generating unit operating day means a 24-hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time in the steam generating unit. It is not necessary for fuel to be combusted continuously for the entire 24-hour period.

Very low sulfur oil for units constructed, reconstructed, or modified on or before February 28, 2005, means an oil that contains no more than 0.5 weight percent sulfur or that, when combusted without sulfur dioxide emission control, has a sulfur dioxide emission rate equal to or less than 215 ng/J (0.5 lb/MMBtu) heat input. For units constructed, reconstructed, or modified after February 28, 2005, *very low sulfur oil* means an oil that contains no more than 0.3 weight percent sulfur or that, when combusted without sulfur dioxide emission control, has a sulfur dioxide emission rate equal to or less than 140 ng/J (0.32 lb/MMBtu) heat input.

Wet flue gas desulfurization technology means a sulfur dioxide control system that is located downstream of the steam generating unit and removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gas with an alkaline slurry or solution and forming a liquid material. This definition applies to devices where the aqueous liquid material product of this contact is subsequently converted to other forms. Alkaline reagents used in wet flue gas desulfurization technology include, but are not limited to, lime, limestone, and sodium.

Wet scrubber system means any emission control device that mixes an aqueous stream or slurry with the exhaust gases from a steam generating unit to control emissions of particulate matter or sulfur dioxide.

Wood means wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including, but not limited to, sawdust, sander dust, wood chips, scraps, slabs, millings, shavings, and processed pellets made from wood or other forest residues.

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51819, Dec. 18, 1989; 65 FR 61752, Oct. 17, 2000; 66 FR 49834, Oct. 1, 2001; 71 FR 9881, Feb. 27, 2006]

§ 60.42b Standard for sulfur dioxide.

(a) Except as provided in paragraphs (b), (c), (d), (j), or (k) of this section, on and after the date on which the performance test is completed or required to be completed under §60.8 of this part, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts coal or oil shall cause to be discharged into the atmosphere any gases that contain sulfur dioxide in excess of 87 ng/J (0.20 lb/MMBtu) or 10 percent (0.10) of the potential sulfur dioxide emission rate (90 percent reduction) and the emission limit determined according to the following formula:

$$E_s = (K_aH_a + K_bH_b)/(H_a + H_b)$$

where:

E_s is the sulfur dioxide emission limit, in ng/J or lb/million Btu heat input,

K_a is 520 ng/J (or 1.2 lb/million Btu),

K_b is 340 ng/J (or 0.80 lb/million Btu),

H_a is the heat input from the combustion of coal, in J (million Btu),

H_b is the heat input from the combustion of oil, in J (million Btu).

Only the heat input supplied to the affected facility from the combustion of coal and oil is counted under this section. No credit is provided for the heat input to the affected facility from the combustion of natural gas, wood, municipal-type solid waste, or other fuels or heat input to the affected facility from exhaust gases from another source, such as gas turbines, internal combustion engines, kilns, etc.

(b) On and after the date on which the performance test is completed or required to be completed under §60.8 of this part, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts coal refuse alone in a fluidized bed combustion steam generating unit shall cause to be discharged into the atmosphere any gases that contain sulfur dioxide in excess of 87 ng/J (0.20 lb/MMBtu) or 20 percent (0.20) of the potential sulfur dioxide emission rate (80 percent reduction) and 520 ng/J (1.2 lb/MMBtu) heat input. If coal or oil is fired with coal refuse, the affected facility is subject to paragraph (a) or (d) of this section, as applicable.

(c) On and after the date on which the performance test is completed or is required to be completed under §60.8 of this part, whichever comes first, no owner or operator of an affected facility that combusts coal or oil, either alone or in combination with any other fuel, and that uses an emerging technology for the control of sulfur dioxide emissions, shall cause to be discharged into the atmosphere any gases that contain sulfur dioxide in excess of 50 percent of the potential sulfur dioxide emission rate (50 percent reduction) and that contain sulfur dioxide in excess of the emission limit determined according to the following formula:

$$E_s = (K_cH_c + K_dH_d)/(H_c + H_d)$$

where:

E_s is the sulfur dioxide emission limit, expressed in ng/J (lb/million Btu) heat input,

K_c is 260 ng/J (0.60 lb/million Btu),

K_d is 170 ng/J (0.40 lb/million Btu),

H_c is the heat input from the combustion of coal, J (million Btu),

H_d is the heat input from the combustion of oil, J (million Btu).

Only the heat input supplied to the affected facility from the combustion of coal and oil is counted under this section. No credit is provided for the heat input to the affected facility from the combustion of natural gas, wood, municipal-type solid waste, or other fuels, or from the heat input to the affected facility from exhaust gases from another source, such as gas turbines, internal combustion engines, kilns, etc.

(d) On and after the date on which the performance test is completed or required to be completed under §60.8 of this part, whichever comes first, no owner or operator of an affected facility listed in paragraphs (d)(1), (2), (3), or (4) of this section shall cause to be discharged into the atmosphere any gases that contain sulfur dioxide in excess of 520 ng/J (1.2 lb/million Btu) heat input if the affected facility combusts coal, or 215 ng/J (0.5 lb/million Btu) heat input if the affected facility combusts oil other than very low sulfur oil. Percent reduction requirements are not applicable to affected facilities under paragraphs (d)(1), (2), (3) or (4).

(1) Affected facilities that have an annual capacity factor for coal and oil of 30 percent (0.30) or less and are subject to a Federally enforceable permit limiting the operation of the affected facility to an annual capacity factor for coal and oil of 30 percent (0.30) or less;

(2) Affected facilities located in a noncontinental area; or

(3) Affected facilities combusting coal or oil, alone or in combination with any fuel, in a duct burner as part of a combined cycle system where 30 percent (0.30) or less of the heat input to the steam generating unit is from combustion of coal and oil in the duct burner and 70 percent (0.70) or more of the heat input to the steam generating unit is from the exhaust gases entering the duct burner; or

(4) The affected facility burns coke oven gas alone or in combination with any other gaseous fuels.

(e) Except as provided in paragraph (f) of this section, compliance with the emission limits, fuel oil sulfur limits, and/or percent reduction requirements under this section are determined on a 30-day rolling average basis.

(f) Except as provided in paragraph (j)(2) of this section, compliance with the emission limits or fuel oil sulfur limits under this section is determined on a 24-hour average basis for affected facilities that (1) have a Federally enforceable permit limiting the annual capacity factor for oil to 10 percent or less, (2) combust only very low sulfur oil, and (3) do not combust any other fuel.

(g) Except as provided in paragraph (i) of this section, the sulfur dioxide emission limits and percent reduction requirements under this section apply at all times, including periods of startup, shutdown, and malfunction.

(h) Reductions in the potential sulfur dioxide emission rate through fuel pretreatment are not credited toward the percent reduction requirement under paragraph (c) of this section unless:

(1) Fuel pretreatment results in a 50 percent or greater reduction in potential sulfur dioxide emissions and

(2) Emissions from the pretreated fuel (without combustion or post combustion sulfur dioxide control) are equal to or less than the emission limits specified in paragraph (c) of this section.

(i) An affected facility subject to paragraph (a), (b), or (c) of this section may combust very low sulfur oil or natural gas when the sulfur dioxide control system is not being operated because of malfunction or maintenance of the sulfur dioxide control system.

(j) Percent reduction requirements are not applicable to affected facilities combusting only very low sulfur oil. The owner or operator of an affected facility combusting very low sulfur oil shall demonstrate that the oil meets the definition of very low sulfur oil by: (1) Following the performance testing procedures as described in §60.45b(c) or §60.45b(d), and following the monitoring procedures as described in §60.47b(a) or §60.47b(b) to determine sulfur dioxide emission rate or fuel oil sulfur content; or (2) maintaining fuel receipts as described in §60.49b(r).

(k) On or after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences construction or reconstruction after February 28, 2005, and that combusts coal, oil, gas, a mixture of these

fuels, or a mixture of these fuels with any other fuels shall cause to be discharged into the atmosphere any gases that contain sulfur dioxide in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 8 percent (0.08) of the potential sulfur dioxide emission rate (92 percent reduction) and 520 ng/J (1.2 lb/MMBtu) heat input, except as provided in paragraphs (k)(1) or (k)(2). Affected facilities subject to this paragraph are also subject to paragraphs (e) through (g) of this section.

(1) Units firing only oil that contains no more than 0.3 weight percent sulfur or any individual fuel with a potential sulfur dioxide emission rates of 140 ng/J (0.32 lb/MMBtu) heat input or less are exempt from all other sulfur dioxide emission limits in this paragraph.

(2) Units that are located in a noncontinental area and that combust coal or oil shall not discharge any gases that contain sulfur dioxide in excess of 520 ng/J (1.2 lb/MMBtu) heat input if the affected facility combusts coal, or 230 ng/J (0.54 lb/MMBtu) heat input if the affected facility combusts oil.

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51819, Dec. 18, 1989; 65 FR 61752, Oct. 17, 2000; 71 FR 9881, Feb. 27, 2006]

§ 60.43b Standard for particulate matter.

(a) On and after the date on which the initial performance test is completed or is required to be completed under §60.8 of this part, whichever comes first, no owner or operator of an affected facility which combusts coal or combusts mixtures of coal with other fuels, shall cause to be discharged into the atmosphere from that affected facility any gases that contain particulate matter in excess of the following emission limits:

(1) 22 ng/J (0.051 lb/million Btu) heat input,

(i) If the affected facility combusts only coal, or

(ii) If the affected facility combusts coal and other fuels and has an annual capacity factor for the other fuels of 10 percent (0.10) or less.

(2) 43 ng/J (0.10 lb/million Btu) heat input if the affected facility combusts coal and other fuels and has an annual capacity factor for the other fuels greater than 10 percent (0.10) and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor greater than 10 percent (0.10) for fuels other than coal.

(3) 86 ng/J (0.20 lb/million Btu) heat input if the affected facility combusts coal or coal and other fuels and

(i) Has an annual capacity factor for coal or coal and other fuels of 30 percent (0.30) or less,

(ii) Has a maximum heat input capacity of 73 MW (250 million Btu/hour) or less,

(iii) Has a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor of 30 percent (0.30) or less for coal or coal and other solid fuels, and

(iv) Construction of the affected facility commenced after June 19, 1984, and before November 25, 1986.

(b) On and after the date on which the performance test is completed or required to be completed under 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts oil (or mixtures of oil with other fuels) and uses a conventional or emerging technology to reduce sulfur dioxide emissions shall cause to be discharged into the atmosphere from that affected facility any gases that contain particulate matter in excess of 43 ng/J (0.10 lb/million Btu) heat input.

(c) On and after the date on which the initial performance test is completed or is required to be completed under §60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts wood, or wood with other fuels, except coal, shall cause to be discharged from that affected facility any gases that contain particulate matter in excess of the following emission limits:

(1) 43 ng/J (0.10 lb/million Btu) heat input if the affected facility has an annual capacity factor greater than 30 percent (0.30) for wood.

(2) 86 ng/J (0.20 lb/million Btu) heat input if

(i) The affected facility has an annual capacity factor of 30 percent (0.30) or less for wood,

(ii) Is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor of 30 percent (0.30) or less for wood, and

(iii) Has a maximum heat input capacity of 73 MW (250 million Btu/hour) or less.

(d) On and after the date on which the initial performance test is completed or is required to be completed under §60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts municipal-type solid waste or mixtures of municipal-type solid waste with other fuels, shall cause to be discharged into the atmosphere from that affected facility any gases that contain particulate matter in excess of the following emission limits:

(1) 43 ng/J (0.10 lb/million Btu) heat input,

(i) If the affected facility combusts only municipal-type solid waste, or

(ii) If the affected facility combusts municipal-type solid waste and other fuels and has an annual capacity factor for the other fuels of 10 percent (0.10) or less.

(2) 86 ng/J (0.20 lb/million Btu) heat input if the affected facility combusts municipal-type solid waste or municipal-type solid waste and other fuels; and

(i) Has an annual capacity factor for municipal-type solid waste and other fuels of 30 percent (0.30) or less,

(ii) Has a maximum heat input capacity of 73 MW (250 million Btu/hour) or less,

(iii) Has a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor of 30 percent (0.30) for municipal-type solid waste, or municipal-type solid waste and other fuels, and

(iv) Construction of the affected facility commenced after June 19, 1984, but before November 25, 1986.

(e) For the purposes of this section, the annual capacity factor is determined by dividing the actual heat input to the steam generating unit during the calendar year from the combustion of coal, wood, or municipal-type solid waste, and other fuels, as applicable, by the potential heat input to the steam generating unit if the steam generating unit had been operated for 8,760 hours at the maximum design heat input capacity.

(f) On and after the date on which the initial performance test is completed or is required to be completed under §60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts coal, oil, wood, or mixtures of these fuels with any other fuels shall cause to be discharged into the atmosphere any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity.

(g) The particulate matter and opacity standards apply at all times, except during periods of startup, shutdown or malfunction.

(h)(1) On or after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts coal, oil, gas, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels shall cause to be discharged into the atmosphere from that affected facility any gases that contain particulate matter emissions in excess of 13 ng/J (0.030 lb/MMBtu) heat input, except as provided in paragraphs (h)(2), (h)(3), (h)(4), and (h)(5).

(2) As an alternative to meeting the requirements of paragraph (h)(1) of this section, the owner or operator of an affected facility for which modification commenced after February 28, 2005, may elect to meet the requirements of this paragraph. On and after the date on which the performance test required to be conducted under §60.8 is completed, the owner or operator subject to the provisions of this subpart shall not cause to be discharged into the atmosphere from any affected facility for which modification commenced after February 28, 2005, any gases that contain particulate matter in excess of:

(i) 22 ng/J (0.051 lb/MMBtu) heat input derived from the combustion of coal, oil, gas, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels, and

(ii) 0.2 percent of the combustion concentration (99.8 percent reduction) when combusting coal, oil, gas, wood, a mixture of

these fuels, or a mixture of these fuels with any other fuels.

(3) On or after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005, and that combusts over 30 percent wood (by heat input) on an annual basis and has a maximum heat input capacity of 73 MW (250 MMBtu/hour) or less shall cause to be discharged into the atmosphere from that affected facility any gases that contain particulate matter emissions in excess of 43 ng/J (0.10 lb/MMBtu) heat input.

(4) On or after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005, and that combusts over 30 percent wood (by heat input) on an annual basis and has a maximum heat input capacity greater than 73 MW (250 MMBtu/hour) shall cause to be discharged into the atmosphere from that affected facility any gases that contain particulate matter emissions in excess of 37 ng/J (0.085 lb/MMBtu) heat input.

(5) On or after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts only oil that contains no more than 0.3 weight percent sulfur or other liquid or gaseous fuels with potential sulfur dioxide emission rates of 140 ng/J (0.32 lb/MMBtu) heat input or less is not subject to the PM or opacity limits in this section.

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51819, Dec. 18, 1989; 65 FR 61752, Oct. 17, 2000; 71 FR 9882, Feb. 27, 2006]

§ 60.44b Standard for nitrogen oxides.

(a) Except as provided under paragraphs (k) and (l) of this section, on and after the date on which the initial performance test is completed or is required to be completed under §60.8 of this part, whichever date comes first, no owner or operator of an affected facility that is subject to the provisions of this section and that combusts only coal, oil, or natural gas shall cause to be discharged into the atmosphere from that affected facility any gases that contain nitrogen oxides (expressed as NO_2) in excess of the following emission limits:

Fuel/Steam generating unit type	Nitrogen oxide emission limits ng/J (lb/million Btu) (expressed as NO_2) heat input
(1) Natural gas and distillate oil, except (4):	
(i) Low heat release rate	43 (0.10)
(ii) High heat release rate	86 (0.20)
(2) Residual oil:	
(i) Low heat release rate	130 (0.30)
(ii) High heat release rate	170 (0.40)
(3) Coal:	
(i) Mass-feed stoker	210 (0.50)
(ii) Spreader stoker and fluidized bed combustion	260 (0.60)
(iii) Pulverized coal	300 (0.70)
(iv) Lignite, except (v)	260 (0.30)
(v) Lignite mined in North Dakota, South Dakota, or Montana and combusted in a slag tap furnace	340 (0.80)
(vi) Coal-derived synthetic fuels	210 (0.50)
(4) Duct burner used in a combined cycle system:	
(i) Natural gas and distillate oil	86 (0.20)
(ii) Residual oil	170 (0.40)

(b) Except as provided under paragraphs (k) and (l) of this section, on and after the date on which the initial performance test is completed or is required to be completed under §60.8 of this part, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts mixtures of coal, oil, or natural gas shall cause to be discharged into the atmosphere from that affected facility any gases that contain nitrogen oxides in excess of a limit determined by the use of the following formula:

$$E_n = \left[\frac{(EL_{go}H_{go}) + (EL_{ro}H_{ro}) + (EL_cH_c)}{(H_{go} + H_{ro} + H_c)} \right]$$

where:

E_n is the nitrogen oxides emission limit (expressed as NO_2), ng/J (lb/million Btu),

EL_{go} is the appropriate emission limit from paragraph (a)(1) for combustion of natural gas or distillate oil, ng/J (lb/million Btu),

H_{go} is the heat input from combustion of natural gas or distillate oil,

EL_{ro} is the appropriate emission limit from paragraph (a)(2) for combustion of residual oil,

H_{ro} is the heat input from combustion of residual oil,

EL_c is the appropriate emission limit from paragraph (a)(3) for combustion of coal, and

H_c is the heat input from combustion of coal.

(c) Except as provided under paragraph (l) of this section, on and after the date on which the initial performance test is completed or is required to be completed under §60.8 of this part, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts coal or oil, or a mixture of these fuels with natural gas, and wood, municipal-type solid waste, or any other fuel shall cause to be discharged into the atmosphere any gases that contain nitrogen oxides in excess of the emission limit for the coal or oil, or mixtures of these fuels with natural gas combusted in the affected facility, as determined pursuant to paragraph (a) or (b) of this section, unless the affected facility has an annual capacity factor for coal or oil, or mixture of these fuels with natural gas of 10 percent (0.10) or less and is subject to a federally enforceable requirement that limits operation of the affected facility to an annual capacity factor of 10 percent (0.10) or less for coal, oil, or a mixture of these fuels with natural gas.

(d) On and after the date on which the initial performance test is completed or is required to be completed under §60.8 of this part, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts natural gas with wood, municipal-type solid waste, or other solid fuel, except coal, shall cause to be discharged into the atmosphere from that affected facility any gases that contain nitrogen oxides in excess of 130 ng/J (0.30 lb/million Btu) heat input unless the affected facility has an annual capacity factor for natural gas of 10 percent (0.10) or less and is subject to a federally enforceable requirement that limits operation of the affected facility to an annual capacity factor of 10 percent (0.10) or less for natural gas.

(e) Except as provided under paragraph (l) of this section, on and after the date on which the initial performance test is completed or is required to be completed under §60.8 of this part, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts coal, oil, or natural gas with byproduct/waste shall cause to be discharged into the atmosphere from that affected facility any gases that contain nitrogen oxides in excess of an emission limit determined by the following formula unless the affected facility has an annual capacity factor for coal, oil, and natural gas of 10 percent (0.10) or less and is subject to a federally enforceable requirement which limits operation of the affected facility to an annual capacity factor of 10 percent (0.10) or less:

$$E_n = \left[\frac{(EL_{go}H_{go}) + (EL_{ro}H_{ro}) + (EL_cH_c)}{(H_{go} + H_{ro} + H_c)} \right]$$

where:

E_n is the nitrogen oxides emission limit (expressed as NO_2), ng/J (lb/million Btu)

EL_{go} is the appropriate emission limit from paragraph (a)(1) for combustion of natural gas or distillate oil, ng/J (lb/million Btu).

H_{go} is the heat input from combustion of natural gas, distillate oil and gaseous byproduct/waste, ng/J (lb/million Btu).

EL_{ro} is the appropriate emission limit from paragraph (a)(2) for combustion of residual oil, ng/J (lb/million Btu)

H_{ro} is the heat input from combustion of residual oil and/or liquid byproduct/waste.

EL_c is the appropriate emission limit from paragraph (a)(3) for combustion of coal, and

H_c is the heat input from combustion of coal.

(f) Any owner or operator of an affected facility that combusts byproduct/waste with either natural gas or oil may petition the Administrator within 180 days of the initial startup of the affected facility to establish a nitrogen oxides emission limit which shall apply specifically to that affected facility when the byproduct/waste is combusted. The petition shall include sufficient and appropriate data, as determined by the Administrator, such as nitrogen oxides emissions from the affected facility, waste composition (including nitrogen content), and combustion conditions to allow the Administrator to confirm that the affected facility is unable to comply with the emission limits in paragraph (e) of this section and to determine the appropriate emission limit for the affected facility.

(1) Any owner or operator of an affected facility petitioning for a facility-specific nitrogen oxides emission limit under this section shall:

(i) Demonstrate compliance with the emission limits for natural gas and distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) of this section, as appropriate, by conducting a 30-day performance test as provided in §60.46b(e). During the performance test only natural gas, distillate oil, or residual oil shall be combusted in the affected facility; and

(ii) Demonstrate that the affected facility is unable to comply with the emission limits for natural gas and distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) of this section, as appropriate, when gaseous or liquid byproduct/waste is combusted in the affected facility under the same conditions and using the same technological system of emission reduction applied when demonstrating compliance under paragraph (f)(1)(i) of this section.

(2) The nitrogen oxides emission limits for natural gas or distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) of this section, as appropriate, shall be applicable to the affected facility until and unless the petition is approved by the Administrator. If the petition is approved by the Administrator, a facility-specific nitrogen oxides emission limit will be established at the nitrogen oxides emission level achievable when the affected facility is combusting oil or natural gas and byproduct/waste in a manner that the Administrator determines to be consistent with minimizing nitrogen oxides emissions.

(g) Any owner or operator of an affected facility that combusts hazardous waste (as defined by 40 CFR part 261 or 40 CFR part 761) with natural gas or oil may petition the Administrator within 180 days of the initial startup of the affected facility for a waiver from compliance with the nitrogen oxides emission limit which applies specifically to that affected facility. The petition must include sufficient and appropriate data, as determined by the Administrator, on nitrogen oxides emissions from the affected facility, waste destruction efficiencies, waste composition (including nitrogen content), the quantity of specific wastes to be combusted and combustion conditions to allow the Administrator to determine if the affected facility is able to comply with the nitrogen oxides emission limits required by this section. The owner or operator of the affected facility shall demonstrate that when hazardous waste is combusted in the affected facility, thermal destruction efficiency requirements for hazardous waste specified in an applicable federally enforceable requirement preclude compliance with the nitrogen oxides emission limits of this section. The nitrogen oxides emission limits for natural gas or distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) of this section, as appropriate, are applicable to the affected facility until and unless the petition is approved by the Administrator. (See 40 CFR 761.70 for regulations applicable to the incineration of materials containing polychlorinated biphenyls (PCB's).)

(h) For purposes of paragraph (i) of this section, the nitrogen oxide standards under this section apply at all times including periods of startup, shutdown, or malfunction.

(i) Except as provided under paragraph (j) of this section, compliance with the emission limits under this section is determined on a 30-day rolling average basis.

(j) Compliance with the emission limits under this section is determined on a 24-hour average basis for the initial performance test and on a 3-hour average basis for subsequent performance tests for any affected facilities that:

(1) Combust, alone or in combination, only natural gas, distillate oil, or residual oil with a nitrogen content of 0.30 weight percent or less;

(2) Have a combined annual capacity factor of 10 percent or less for natural gas, distillate oil, and residual oil with a nitrogen content of 0.30 weight percent or less; and

(3) Are subject to a Federally enforceable requirement limiting operation of the affected facility to the firing of natural gas, distillate oil, and/or residual oil with a nitrogen content of 0.30 weight percent or less and limiting operation of the affected facility to a combined annual capacity factor of 10 percent or less for natural gas, distillate oil, and residual oil and a nitrogen content of 0.30 weight percent or less.

(k) Affected facilities that meet the criteria described in paragraphs (j) (1), (2), and (3) of this section, and that have a heat input capacity of 73 MW (250 million Btu/hour) or less, are not subject to the nitrogen oxides emission limits under this section.

(l) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility which commenced construction or reconstruction after July 9, 1997 shall cause to be discharged into the atmosphere from that affected facility any gases that contain nitrogen oxides (expressed as NO_2) in excess of the following limits:

(1) If the affected facility combusts coal, oil, or natural gas, or a mixture of these fuels, or with any other fuels: A limit of 86 ng/ JI (0.20 lb/million Btu) heat input unless the affected facility has an annual capacity factor for coal, oil, and natural gas of 10 percent (0.10) or less and is subject to a federally enforceable requirement that limits operation of the facility to an annual capacity factor of 10 percent (0.10) or less for coal, oil, and natural gas; or

(2) If the affected facility has a low heat release rate and combusts natural gas or distillate oil in excess of 30 percent of the heat input from the combustion of all fuels, a limit determined by use of the following formula:

$$E_n = [(0.10 * H_{go}) + (0.20 * H_r)]/ (H_{go} + H_r)$$

Where:

E_n is the NO_X emission limit, (lb/million Btu),

H_{go} is the heat input from combustion of natural gas or distillate oil, and

H_r is the heat input from combustion of any other fuel.

(3) After February 27, 2006, units may comply with an optional limit of 270 ng/J (2.1 lb/MWh) gross energy output, based on a 30-day rolling average. Units complying with this output-based limit must demonstrate compliance according to the procedures of §60.46a (i)(1), and must monitor emissions according to §60.47a(c)(1), (c)(2), (k), and (l).

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51825, Dec. 18, 1989; 63 FR 49454, Sept. 16, 1998; 66 FR 42610, Aug. 14, 2001; 71 FR 9882, Feb. 27, 2006]

§ 60.45b Compliance and performance test methods and procedures for sulfur dioxide.

(a) The sulfur dioxide emission standards under §60.42b apply at all times.

(b) In conducting the performance tests required under §60.8, the owner or operator shall use the methods and procedures in appendix A of this part or the methods and procedures as specified in this section, except as provided in §60.8(b). Section 60.8(f) does not apply to this section. The 30-day notice required in §60.8(d) applies only to the initial performance test unless otherwise specified by the Administrator.

(c) The owner or operator of an affected facility shall conduct performance tests to determine compliance with the percent of potential sulfur dioxide emission rate (% P_s) and the sulfur dioxide emission rate (E_s) pursuant to §60.42b following the procedures listed below, except as provided under paragraph (d) and (k) of this section.

(1) The initial performance test shall be conducted over the first 30 consecutive operating days of the steam generating unit. Compliance with the sulfur dioxide standards shall be determined using a 30-day average. The first operating day included in the initial performance test shall be scheduled within 30 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the facility.

(2) If only coal or only oil is combusted, the following procedures are used:

(i) The procedures in Method 19 are used to determine the hourly sulfur dioxide emission rate (E_{ho}) and the 30-day average emission rate (E_{ao}). The hourly averages used to compute the 30-day averages are obtained from the continuous emission monitoring system of §60.47b (a) or (b).

(ii) The percent of potential sulfur dioxide emission rate (% P_s) emitted to the atmosphere is computed using the following formula:

$$\%P_s = 100(1 - \%R_g/100)(1 - \%R_f/100)$$

where:

$\%R_g$ is the sulfur dioxide removal efficiency of the control device as determined by Method 19, in percent.

$\%R_f$ is the sulfur dioxide removal efficiency of fuel pretreatment as determined by Method 19, in percent.

(3) If coal or oil is combusted with other fuels, the same procedures required in paragraph (c)(2) of this section are used, except as provided in the following:

(i) An adjusted hourly sulfur dioxide emission rate (E_{ho}^o) is used in Equation 19-19 of Method 19 to compute an adjusted 30-day average emission rate (E_{ao}^o). The E_{ho} is computed using the following formula:

$$E_{ho}^o = [E_{ho} - E_w(1 - X_k)]/X_k$$

where:

E_{ho}^o is the adjusted hourly sulfur dioxide emission rate, ng/J (lb/million Btu).

E_{ho} is the hourly sulfur dioxide emission rate, ng/J (lb/million Btu).

E_w is the sulfur dioxide concentration in fuels other than coal and oil combusted in the affected facility, as determined by the fuel sampling and analysis procedures in Method 19, ng/J (lb/million Btu). The value E_w for each fuel lot is used for each hourly average during the time that the lot is being combusted.

X_k is the fraction of total heat input from fuel combustion derived from coal, oil, or coal and oil, as determined by applicable procedures in Method 19.

(ii) To compute the percent of potential sulfur dioxide emission rate ($\%P_s$), an adjusted $\%R_g$ ($\%R_g^o$) is computed from the adjusted E_{ao}^o from paragraph (b)(3)(i) of this section and an adjusted average sulfur dioxide inlet rate (E_{ai}^o) using the following formula:

$$\%R_g^o = 100(1.0 - E_{ao}^o/ E_{ai}^o)$$

To compute E_{ai}^o, an adjusted hourly sulfur dioxide inlet rate (E_{hi}^o) is used. The E_{hi}^o is computed using the following formula:

$$E_{hi}^o = [E_{hi} - E_w(1 - X_k)]/X_k$$

where:

E_{hi}^o is the adjusted hourly sulfur dioxide inlet rate, ng/J (lb/million Btu).

E_{hi} is the hourly sulfur dioxide inlet rate, ng/J (lb/million Btu).

(4) The owner or operator of an affected facility subject to paragraph (b)(3) of this section does not have to measure parameters E_w or X_k if the owner or operator elects to assume that X_k=1.0. Owners or operators of affected facilities who assume X_k=1.0 shall

(i) Determine % P_s following the procedures in paragraph (c)(2) of this section, and

(ii) Sulfur dioxide emissions (E_s) are considered to be in compliance with sulfur dioxide emission limits under §60.42b.

(5) The owner or operator of an affected facility that qualifies under the provisions of §60.42b(d) does not have to measure parameters E_w or X_k under paragraph (b)(3) of this section if the owner or operator of the affected facility elects to measure sulfur dioxide emission rates of the coal or oil following the fuel sampling and analysis procedures under Method 19.

(d) Except as provided in paragraph (j), the owner or operator of an affected facility that combusts only very low sulfur oil, has an annual capacity factor for oil of 10 percent (0.10) or less, and is subject to a Federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for oil of 10 percent (0.10) or less shall:

(1) Conduct the initial performance test over 24 consecutive steam generating unit operating hours at full load;

(2) Determine compliance with the standards after the initial performance test based on the arithmetic average of the hourly emissions data during each steam generating unit operating day if a continuous emission measurement system (CEMS) is used, or based on a daily average if Method 6B or fuel sampling and analysis procedures under Method 19 are used.

(e) The owner or operator of an affected facility subject to §60.42b(d)(1) shall demonstrate the maximum design capacity of the steam generating unit by operating the facility at maximum capacity for 24 hours. This demonstration will be made during the initial performance test and a subsequent demonstration may be requested at any other time. If the 24-hour average firing rate for the affected facility is less than the maximum design capacity provided by the manufacturer of the affected facility, the 24-hour average firing rate shall be used to determine the capacity utilization rate for the affected facility, otherwise the maximum design capacity provided by the manufacturer is used.

(f) For the initial performance test required under §60.8, compliance with the sulfur dioxide emission limits and percent reduction requirements under §60.42b is based on the average emission rates and the average percent reduction for sulfur dioxide for the first 30 consecutive steam generating unit operating days, except as provided under paragraph (d) of this section. The initial performance test is the only test for which at least 30 days prior notice is required unless otherwise specified by the Administrator. The initial performance test is to be scheduled so that the first steam generating unit operating day of the 30 successive steam generating unit operating days is completed within 30 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the facility. The boiler load during the 30-day period does not have to be the maximum design load, but must be representative of future operating conditions and include at least one 24-hour period at full load.

(g) After the initial performance test required under §60.8, compliance with the sulfur dioxide emission limits and percent reduction requirements under §60.42b is based on the average emission rates and the average percent reduction for sulfur dioxide for 30 successive steam generating unit operating days, except as provided under paragraph (d). A separate performance test is completed at the end of each steam generating unit operating day after the initial performance test, and a new 30-day average emission rate and percent reduction for sulfur dioxide are calculated to show compliance with the standard.

(h) Except as provided under paragraph (i) of this section, the owner or operator of an affected facility shall use all valid sulfur dioxide emissions data in calculating % P_s and E_{ho} under paragraph (c), of this section whether or not the minimum emissions data requirements under §60.46b are achieved. All valid emissions data, including valid sulfur dioxides emission data collected during periods of startup, shutdown and malfunction, shall be used in calculating % P_s and E_{ho} pursuant to paragraph (c) of this section.

(i) During periods of malfunction or maintenance of the sulfur dioxide control systems when oil is combusted as provided under §60.42b(i), emission data are not used to calculate % P_s or E_s under §60.42b (a), (b) or (c), however, the emissions data are used to

determine compliance with the emission limit under §60.42b(i).

(j) The owner or operator of an affected facility that combusts very low sulfur oil is not subject to the compliance and performance testing requirements of this section if the owner or operator obtains fuel receipts as described in §60.49b(r).

(k) Units that burn only oil that contains no more than 0.3 weight percent sulfur or fuels with potential sulfur dioxide emission rates of 140 ng/J (0.32 lb/MMBtu) heat input or less may demonstrate compliance by maintaining records of fuel supplier certifications of sulfur content of the fuels burned.

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51820, 51825, Dec. 18, 1989; 71 FR 9883, Feb. 27, 2006]

§ 60.46b Compliance and performance test methods and procedures for particulate matter and nitrogen oxides.

(a) The particulate matter emission standards and opacity limits under §60.43b apply at all times except during periods of startup, shutdown, or malfunction, and as specified in paragraphs (i) and (j) of this section. The nitrogen oxides emission standards under §60.44b apply at all times.

(b) Compliance with the particulate matter emission standards under §60.43b shall be determined through performance testing as described in paragraph (d) of this section, except as provided in paragraph (i) and (j).

(c) Compliance with the nitrogen oxides emission standards under §60.44b shall be determined through performance testing under paragraph (e) or (f), or under paragraphs (g) and (h) of this section, as applicable.

(d) To determine compliance with the particulate matter emission limits and opacity limits under §60.43b, the owner or operator of an affected facility shall conduct an initial performance test as required under §60.8 using the following procedures and reference methods:

(1) Method 3B is used for gas analysis when applying Method 5 or Method 17.

(2) Method 5, Method 5B, or Method 17 shall be used to measure the concentration of particulate matter as follows:

(i) Method 5 shall be used at affected facilities without wet flue gas desulfurization (FGD) systems; and

(ii) Method 17 may be used at facilities with or without wet scrubber systems provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). The procedures of sections 2.1 and 2.3 of Method 5B may be used in Method 17 only if it is used after a wet FGD system. Do not use Method 17 after wet FGD systems if the effluent is saturated or laden with water droplets.

(iii) Method 5B is to be used only after wet FGD systems.

(3) Method 1 is used to select the sampling site and the number of traverse sampling points. The sampling time for each run is at least 120 minutes and the minimum sampling volume is 1.7 dscm (60 dscf) except that smaller sampling times or volumes may be approved by the Administrator when necessitated by process variables or other factors.

(4) For Method 5, the temperature of the sample gas in the probe and filter holder is monitored and is maintained at 160 ± 14°C (320 ± 25°F).

(5) For determination of particulate matter emissions, the oxygen or carbon dioxide sample is obtained simultaneously with each run of Method 5, Method 5B or Method 17 by traversing the duct at the same sampling location.

(6) For each run using Method 5, Method 5B or Method 17, the emission rate expressed in nanograms per joule heat input is determined using:

(i) The oxygen or carbon dioxide measurements and particulate matter measurements obtained under this section,

(ii) The dry basis F factor, and

(iii) The dry basis emission rate calculation procedure contained in Method 19.

(7) Method 9 is used for determining the opacity of stack emissions.

(e) To determine compliance with the emission limits for nitrogen oxides required under §60.44b, the owner or operator of an affected facility shall conduct the performance test as required under §60.8 using the continuous system for monitoring nitrogen oxides under §60.48(b).

(1) For the initial compliance test, nitrogen oxides from the steam generating unit are monitored for 30 successive steam generating unit operating days and the 30-day average emission rate is used to determine compliance with the nitrogen oxides emission standards under §60.44b. The 30-day average emission rate is calculated as the average of all hourly emissions data recorded by the monitoring system during the 30-day test period.

(2) Following the date on which the initial performance test is completed or is required to be completed under §60.8 of this part, whichever date comes first, the owner or operator of an affected facility which combusts coal or which combusts residual oil having a nitrogen content greater than 0.30 weight percent shall determine compliance with the nitrogen oxides emission standards under §60.44b on a continuous basis through the use of a 30-day rolling average emission rate. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly nitrogen oxides emission data for the preceding 30 steam generating unit operating days.

(3) Following the date on which the initial performance test is completed or is required to be completed under §60.8 of this part, whichever date comes first, the owner or operator of an affected facility which has a heat input capacity greater than 73 MW (250 million Btu/hour) and which combusts natural gas, distillate oil, or residual oil having a nitrogen content of 0.30 weight percent or less shall determine compliance with the nitrogen oxides standards under §60.44b on a continuous basis through the use of a 30-day rolling average emission rate. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly nitrogen oxides emission data for the preceding 30 steam generating unit operating days.

(4) Following the date on which the initial performance test is completed or required to be completed under §60.8 of this part, whichever date comes first, the owner or operator of an affected facility which has a heat input capacity of 73 MW (250 million Btu/hour) or less and which combusts natural gas, distillate oil, or residual oil having a nitrogen content of 0.30 weight percent or less shall upon request determine compliance with the nitrogen oxides standards under §60.44b through the use of a 30-day performance test. During periods when performance tests are not requested, nitrogen oxides emissions data collected pursuant to §60.48b(g)(1) or §60.48b(g)(2) are used to calculate a 30-day rolling average emission rate on a daily basis and used to prepare excess emission reports, but will not be used to determine compliance with the nitrogen oxides emission standards. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly nitrogen oxides emission data for the preceding 30 steam generating unit operating days.

(5) If the owner or operator of an affected facility which combusts residual oil does not sample and analyze the residual oil for nitrogen content, as specified in §60.49b(e), the requirements of paragraph (iii) of this section apply and the provisions of paragraph (iv) of this section are inapplicable.

(f) To determine compliance with the emissions limits for NO_X required by §60.44b(a)(4) or §60.44b(l) for duct burners used in combined cycle systems, either of the procedures described in paragraph (f)(1) or (2) of this section may be used:

(1) The owner or operator of an affected facility shall conduct the performance test required under §60.8 as follows:

(i) The emissions rate (E) of NO_X shall be computed using Equation 1 of this section:

$$E = Esg + (Hg/Hb)(Esg - Eg) \qquad \text{(Eq. 1)}$$

Where:

E = emissions rate of NO_X from the duct burner, ng/J (lb/ million Btu) heat input

Esg = combined effluent emissions rate, in ng/J (lb/million Btu) heat input using

appropriate F-Factor as described in Method 19

Hg = heat input rate to the combustion turbine, in Joules/hour (million Btu/hour)

Hb = heat input rate to the duct burner, in Joules/hour (million Btu/ hour)

Eg = emissions rate from the combustion turbine, in ng/J (lb/million Btu) heat input calculated using appropriate F-Factor as described in Method 19.

(ii) Method 7E of appendix A of this part shall be used to determine the NO_X concentrations. Method 3A or 3B of appendix A of this part shall be used to determine oxygen concentration.

(iii) The owner or operator shall identify and demonstrate to the Administrator's satisfaction suitable methods to determine the average hourly heat input rate to the combustion turbine and the average hourly heat input rate to the affected duct burner.

(iv) Compliance with the emissions limits under §60.44b (a)(4) or §60.44b(l) is determined by the three-run average (nominal 1-hour runs) for the initial and subsequent performance tests; or

(2) The owner or operator of an affected facility may elect to determine compliance on a 30-day rolling average basis by using the continuous emission monitoring system specified under §60.48b for measuring NO_X and oxygen and meet the requirements of §60.48b. The sampling site shall be located at the outlet from the steam generating unit. The NO_X emissions rate at the outlet from the steam generating unit shall constitute the NO_X emissions rate from the duct burner of the combined cycle system.

(g) The owner or operator of an affected facility described in §60.44b(j) or §60.44b(k) shall demonstrate the maximum heat input capacity of the steam generating unit by operating the facility at maximum capacity for 24 hours. The owner or operator of an affected facility shall determine the maximum heat input capacity using the heat loss method described in sections 5 and 7.3 of the ASME Power Test Codes 4.1 (see IBR §60.17(h)). This demonstration of maximum heat input capacity shall be made during the initial performance test for affected facilities that meet the criteria of §60.44b(j). It shall be made within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial start-up of each facility, for affected facilities meeting the criteria of §60.44b(k). Subsequent demonstrations may be required by the Administrator at any other time. If this demonstration indicates that the maximum heat input capacity of the affected facility is less than that stated by the manufacturer of the affected facility, the maximum heat input capacity determined during this demonstration shall be used to determine the capacity utilization rate for the affected facility. Otherwise, the maximum heat input capacity provided by the manufacturer is used.

(h) The owner or operator of an affected facility described in §60.44b(j) that has a heat input capacity greater than 73 MW (250 million Btu/hour) shall:

(1) Conduct an initial performance test as required under §60.8 over a minimum of 24 consecutive steam generating unit operating hours at maximum heat input capacity to demonstrate compliance with the nitrogen oxides emission standards under §60.44b using Method 7, 7A, 7E, or other approved reference methods; and

(2) Conduct subsequent performance tests once per calendar year or every 400 hours of operation (whichever comes first) to demonstrate compliance with the nitrogen oxides emission standards under §60.44b over a minimum of 3 consecutive steam generating unit operating hours at maximum heat input capacity using Method 7, 7A, 7E, or other approved reference methods.

(i) Units burning only oil that contains no more than 0.3 weight percent sulfur or liquid or gaseous fuels with a potential sulfur dioxide emission rates of 140 ng/J (0.32 lb/MMBtu) heat input or less may demonstrate compliance by maintaining fuel supplier certifications of the sulfur content of the fuels burned.

(j) In place of particulate matter testing with EPA Reference Method 5, 5B, or 17, an owner or operator may elect to install, calibrate, maintain, and operate a continuous emission monitoring system for monitoring particulate matter emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility who elects to continuously monitor particulate matter emissions instead of conducting performance testing using EPA Method 5, 5B, or 17 shall comply with the requirements specified in paragraphs (j)(1) through (j)(13) of this section.

(1) Notify the Administrator one month before starting use of the system.

(2) Notify the Administrator one month before stopping use of the system.

(3) The monitor shall be installed, evaluated, and operated in accordance with §60.13 of subpart A of this part.

(4) The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the affected facility, as specified under §60.8 of subpart A of this part or within 180 days of notification to the Administrator of use of the continuous monitoring system if the owner or operator was previously determining compliance by Method 5, 5B, or 17 performance tests, whichever is later.

(5) The owner or operator of an affected facility shall conduct an initial performance test for particulate matter emissions as required under §60.8 of subpart A of this part. Compliance with the particulate matter emission limit shall be determined by using the continuous emission monitoring system specified in paragraph (j) of this section to measure particulate matter and calculating a 24-hour block arithmetic average emission concentration using EPA Reference Method 19, section 4.1.

(6) Compliance with the particulate matter emission limit shall be determined based on the 24-hour daily (block) average of the hourly arithmetic average emission concentrations using continuous emission monitoring system outlet data.

(7) At a minimum, valid continuous monitoring system hourly averages shall be obtained as specified in paragraphs (j)(7)(i) of this section for 75 percent of the total operating hours per 30-day rolling average.

(i) At least two data points per hour shall be used to calculate each 1-hour arithmetic average.

(8) The 1-hour arithmetic averages required under paragraph (j)(7) of this section shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the boiler operating day daily arithmetic average emission concentrations. The 1-hour arithmetic averages shall be calculated using the data points required under §60.13(e)(2) of subpart A of this part.

(9) All valid continuous emission monitoring system data shall be used in calculating average emission concentrations even if the minimum continuous emission monitoring system data requirements of paragraph (j)(7) of this section are not met.

(10) The continuous emission monitoring system shall be operated according to Performance Specification 11 in appendix B of this part.

(11) During the correlation testing runs of the continuous emission monitoring system required by Performance Specification 11 in appendix B of this part, particulate matter and oxygen (or carbon dioxide) data shall be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and the test methods specified in paragraphs (j)(7)(i) of this section.

(i) For particulate matter, EPA Reference Method 5, 5B, or 17 shall be used.

(ii) For oxygen (or carbon dioxide), EPA reference Method 3, 3A, or 3B, as applicable shall be used.

(12) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with procedure 2 in appendix F of this part. Relative Response Audit's must be performed annually and Response Correlation Audits must be performed every 3 years.

(13) When particulate matter emissions data are not obtained because of continuous emission monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained

by using other monitoring systems as approved by the Administrator or EPA Reference Method 19 to provide, as necessary, valid emissions data for a minimum of 75 percent of total operating hours per 30-day rolling average.

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51820, 51825, Dec. 18, 1989; 55 FR 18876, May 7, 1990; 65 FR 61752, Oct. 17, 2000; 66 FR 18553, Apr. 10, 2001; 71 FR 9883, Feb. 27, 2006]

§ 60.47b Emission monitoring for sulfur dioxide.

(a) Except as provided in paragraphs (b), (f), and (g) of this section, the owner or operator of an affected facility subject to the sulfur dioxide standards under §60.42b shall install, calibrate, maintain, and operate continuous emission monitoring systems (CEMS) for measuring sulfur dioxide concentrations and either oxygen (O_2) or carbon dioxide (CO_2) concentrations and shall record the output of the systems. The sulfur dioxide and either oxygen or carbon dioxide concentrations shall both be monitored at the inlet and outlet of the sulfur dioxide control device.

(b) As an alternative to operating CEMS as required under paragraph (a) of this section, an owner or operator may elect to determine the average sulfur dioxide emissions and percent reduction by:

(1) Collecting coal or oil samples in an as-fired condition at the inlet to the steam generating unit and analyzing them for sulfur and heat content according to Method 19. Method 19 provides procedures for converting these measurements into the format to be used in calculating the average sulfur dioxide input rate, or

(2) Measuring sulfur dioxide according to Method 6B at the inlet or outlet to the sulfur dioxide control system. An initial stratification test is required to verify the adequacy of the Method 6B sampling location. The stratification test shall consist of three paired runs of a suitable sulfur dioxide and carbon dioxide measurement train operated at the candidate location and a second similar train operated according to the procedures in section 3.2 and the applicable procedures in section 7 of Performance Specification 2. Method 6B, Method 6A, or a combination of Methods 6 and 3 or 3B or Methods 6C and 3A are suitable measurement techniques. If Method 6B is used for the second train, sampling time and timer operation may be adjusted for the stratification test as long as an adequate sample volume is collected; however, both sampling trains are to be operated similarly. For the location to be adequate for Method 6B 24-hour tests, the mean of the absolute difference between the three paired runs must be less than 10 percent.

(3) A daily sulfur dioxide emission rate, E_D, shall be determined using the procedure described in Method 6A, section 7.6.2 (Equation 6A-8) and stated in ng/J (lb/million Btu) heat input.

(4) The mean 30-day emission rate is calculated using the daily measured values in ng/J (lb/million Btu) for 30 successive steam generating unit operating days using equation 19-20 of Method 19.

(c) The owner or operator of an affected facility shall obtain emission data for at least 75 percent of the operating hours in at least 22 out of 30 successive boiler operating days. If this minimum data requirement is not met with a single monitoring system, the owner or operator of the affected facility shall supplement the emission data with data collected with other monitoring systems as approved by the Administrator or the reference methods and procedures as described in paragraph (b) of this section.

(d) The 1-hour average sulfur dioxide emission rates measured by the CEMS required by paragraph (a) of this section and required under §60.13(h) is expressed in ng/J or lb/MMBtu heat input and is used to calculate the average emission rates under §60.42(b). Each 1-hour average sulfur dioxide emission rate must be based on 30 or more minutes of steam generating unit operation. The hourly averages shall be calculated according to §60.13(h)(2). Hourly sulfur dioxide emission rates are not calculated if the affected facility is operated less than 30 minutes in a given clock hour and are not counted toward determination of a steam generating unit operating day.

(e) The procedures under §60.13 shall be followed for installation, evaluation, and operation of the CEMS.

(1) All CEMS shall be operated in accordance with the applicable procedures under Performance Specifications 1, 2, and 3 (appendix B).

(2) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 1 (appendix F).

(3) For affected facilities combusting coal or oil, alone or in combination with other fuels, the span value of the sulfur dioxide CEMS at the inlet to the sulfur dioxide control device is 125 percent of the maximum estimated hourly potential sulfur dioxide emissions of the fuel combusted, and the span value of the CEMS at the outlet to the sulfur dioxide control device is 50 percent of the maximum estimated hourly potential sulfur dioxide emissions of the fuel combusted.

(f) The owner or operator of an affected facility that combusts very low sulfur oil is not subject to the emission monitoring requirements of this section if the owner or operator obtains fuel receipts as described in §60.49b(r).

(g) Units burning any fuel with a potential sulfur dioxide emission rate of 140 ng/J (0.32 lb/MMBtu) heat input or less are not required to conduct emissions monitoring if they maintain fuel supplier certifications of the sulfur content of the fuels burned.

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51820, Dec. 18, 1989; 55 FR 5212, Feb. 14, 1990; 55 FR 18876, May 7, 1990; 71 FR 9883, Feb. 27, 2006]

§ 60.48b Emission monitoring for particulate matter and nitrogen oxides.

(a) The owner or operator of an affected facility subject to the opacity standard under §60.43b shall install, calibrate, maintain, and operate a continuous monitoring system for measuring the opacity of emissions discharged to the atmosphere and record the output of the system, except as provided in paragraphs (j) and (k) of this section.

(b) Except as provided under paragraphs (g), (h), and (i) of this section, the owner or operator of an affected facility subject to a nitrogen oxides standard under §60.44b shall comply with either paragraphs (b)(1) or (b)(2) of this section.

(1) Install, calibrate, maintain, and operate a continuous monitoring system, and record the output of the system, for measuring nitrogen oxides emissions discharged to the atmosphere; or

(2) If the owner or operator has installed a nitrogen oxides emission rate continuous emission monitoring system (CEMS) to meet the requirements of part 75 of this chapter and is continuing to meet the ongoing requirements of part 75 of this chapter, that CEMS may be used to meet the requirements of this section, except that the owner or operator shall also meet the requirements of §60.49b. Data reported to meet the requirements of §60.49b shall not include data substituted using the missing data procedures in subpart D of part 75 of this chapter, nor shall the data have been bias adjusted according to the procedures of part 75 of this chapter.

(c) The continuous monitoring systems required under paragraph (b) of this section shall be operated and data recorded during all periods of operation of the affected facility except for continuous monitoring system breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

(d) The 1-hour average nitrogen oxides emission rates measured by the continuous nitrogen oxides monitor required by paragraph (b) of this section and required under §60.13(h) shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under §60.44b. The 1-hour averages shall be calculated using the data points required under §60.13(h)(2).

(e) The procedures under §60.13 shall be followed for installation, evaluation, and operation of the continuous monitoring systems.

(1) For affected facilities combusting coal, wood or municipal-type solid waste, the span value for a continuous monitoring system for

measuring opacity shall be between 60 and 80 percent.

(2) For affected facilities combusting coal, oil, or natural gas, the span value for nitrogen oxides is determined as follows:

Fuel	Span values for nitrogen oxides (PPM)
Natural gas.....	500
Oil.....	500
Coal.....	1,000
Mixtures.....	500(x+y) + 1,000z

where:

x is the fraction of total heat input derived from natural gas,

y is the fraction of total heat input derived from oil, and

z is the fraction of total heat input derived from coal.

(3) All span values computed under paragraph (e)(2) of this section for combusting mixtures of regulated fuels are rounded to the nearest 500 ppm.

(f) When nitrogen oxides emission data are not obtained because of continuous monitoring system breakdowns, repairs, calibration checks and zero and span adjustments, emission data will be obtained by using standby monitoring systems, Method 7, Method 7A, or other approved reference methods to provide emission data for a minimum of 75 percent of the operating hours in each steam generating unit operating day, in at least 22 out of 30 successive steam generating unit operating days.

(g) The owner or operator of an affected facility that has a heat input capacity of 73 MW (250 million Btu/hour) or less, and which has an annual capacity factor for residual oil having a nitrogen content of 0.30 weight percent or less, natural gas, distillate oil, or any mixture of these fuels, greater than 10 percent (0.10) shall:

(1) Comply with the provisions of paragraphs (b), (c), (d), (e)(2), (e)(3), and (f) of this section, or

(2) Monitor steam generating unit operating conditions and predict nitrogen oxides emission rates as specified in a plan submitted pursuant to §60.49b(c).

(h) The owner or operator of a duct burner, as described in §60.41b, which is subject to the NO_X standards of §60.44b(a)(4) or §60.44b(l) is not required to install or operate a continuous emissions monitoring system to measure NO_X emissions.

(i) The owner or operator of an affected facility described in §60.44b(j) or §60.44b(k) is not required to install or operate a continuous monitoring system for measuring nitrogen oxides emissions.

(j) Units that burn only oil that contains no more than 0.3 weight percent sulfur or liquid or gaseous fuels with potential sulfur dioxide emission rates of 140 ng/J (0.32 lb/MMBtu) heat input or less are not required to conduct PM emissions monitoring if they maintain fuel supplier certifications of the sulfur content of the fuels burned.

(k) Owners or operators complying with the PM emission limit by using a PM CEMs monitor instead of monitoring opacity must calibrate, maintain, and operate a continuous monitoring system, and record the output of the system, for PM emissions discharged to the atmosphere as specified in §60.46b(j). The continuous monitoring systems specified in paragraph §60.46b(j) shall be operated and data recorded during all periods of operation of the affected facility except for continuous monitoring system breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51825, Dec. 18, 1989; 63 FR 49455, Sept. 16, 1998; 66 FR 18553, Apr. 10, 2001; 71 FR 9884, Feb. 27, 2006]

§ 60.49b Reporting and recordkeeping requirements.

(a) The owner or operator of each affected facility shall submit notification of the date of initial startup, as provided by §60.7. This notification shall include:

(1) The design heat input capacity of the affected facility and identification of the fuels to be combusted in the affected facility,

(2) If applicable, a copy of any Federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under §§60.42b(d)(1), 60.43b(a)(2), (a)(3)(iii), (c)(2)(ii), (d)(2)(iii), 60.44b(c), (d), (e), (i), (j), (k), 60.45b(d), (g), 60.46b(h), or 60.48b(i),

(3) The annual capacity factor at which the owner or operator anticipates operating the facility based on all fuels fired and based on each individual fuel fired, and,

(4) Notification that an emerging technology will be used for controlling emissions of sulfur dioxide. The Administrator will examine the description of the emerging technology and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of §60.42b(a) unless and until this determination is made by the Administrator.

(b) The owner or operator of each affected facility subject to the sulfur dioxide, particulate matter, and/or nitrogen oxides emission limits under §§60.42b, 60.43b, and 60.44b shall submit to the Administrator the performance test data from the initial performance test and the performance evaluation of the CEMS using the applicable performance specifications in appendix B. The owner or operator of each affected facility described in §60.44b(j) or §60.44b(k) shall submit to the Administrator the maximum heat input capacity data from the demonstration of the maximum heat input capacity of the affected facility.

(c) The owner or operator of each affected facility subject to the nitrogen oxides standard of §60.44b who seeks to demonstrate compliance with those standards through the monitoring of steam generating unit operating conditions under the provisions of §60.48b(g)(2) shall submit to the Administrator for approval a plan that identifies the operating conditions to be monitored under §60.48b(g)(2) and the records to be maintained under §60.49b(j). This plan shall be submitted to the Administrator for approval within 360 days of the initial startup of the affected facility. The plan shall:

(1) Identify the specific operating conditions to be monitored and the relationship between these operating conditions and nitrogen oxides emission rates (i.e., ng/J or lbs/million Btu heat input). Steam generating unit operating conditions include, but are not limited to, the degree of staged combustion (i.e., the ratio of primary air to secondary and/or tertiary air) and the level of excess air (i.e., flue gas oxygen level);

(2) Include the data and information that the owner or operator used to identify the relationship between nitrogen oxides emission rates and these operating conditions;

(3) Identify how these operating conditions, including steam generating unit load, will be monitored under §60.48b(g) on an hourly basis by the owner or operator during the period of operation of the affected facility; the quality assurance procedures or practices that will be employed to ensure that the data generated by monitoring these operating conditions will be representative and accurate; and the type and format of the records of these operating conditions, including steam generating unit load, that will be maintained by the owner or operator under §60.49b(j). If the plan is approved, the owner or operator shall maintain records of predicted nitrogen oxide emission rates and the monitored operating conditions, including steam generating unit load, identified in the plan.

(d) The owner or operator of an affected facility shall record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor individually for coal, distillate oil, residual oil, natural gas, wood, and municipal-type solid waste for the reporting period. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month.

(e) For an affected facility that combusts residual oil and meets the criteria under §§60.46b(e)(4), 60.44b (j), or (k), the owner or operator shall maintain records of the nitrogen content of the residual oil combusted in the affected facility and calculate the average fuel nitrogen content for the reporting

period. The nitrogen content shall be determined using ASTM Method D3431-80, Test Method for Trace Nitrogen in Liquid Petroleum Hydrocarbons (IBR-see §60.17), or fuel suppliers. If residual oil blends are being combusted, fuel nitrogen specifications may be prorated based on the ratio of residual oils of different nitrogen content in the fuel blend.

(f) For facilities subject to the opacity standard under §60.43b, the owner or operator shall maintain records of opacity.

(g) Except as provided under paragraph (p) of this section, the owner or operator of an affected facility subject to the nitrogen oxides standards under §60.44b shall maintain records of the following information for each steam generating unit operating day:

(1) Calendar date.

(2) The average hourly nitrogen oxides emission rates (expressed as NO_2) (ng/J or lb/million Btu heat input) measured or predicted.

(3) The 30-day average nitrogen oxides emission rates (ng/J or lb/ million Btu heat input) calculated at the end of each steam generating unit operating day from the measured or predicted hourly nitrogen oxide emission rates for the preceding 30 steam generating unit operating days.

(4) Identification of the steam generating unit operating days when the calculated 30-day average nitrogen oxides emission rates are in excess of the nitrogen oxides emissions standards under §60.44b, with the reasons for such excess emissions as well as a description of corrective actions taken.

(5) Identification of the steam generating unit operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken.

(6) Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data.

(7) Identification of "F" factor used for calculations, method of determination, and type of fuel combusted.

(8) Identification of the times when the pollutant concentration exceeded full span of the continuous monitoring system.

(9) Description of any modifications to the continuous monitoring system that could affect the ability of the continuous monitoring system to comply with Performance Specification 2 or 3.

(10) Results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1.

(h) The owner or operator of any affected facility in any category listed in paragraphs (h) (1) or (2) of this section is required to submit excess emission reports for any excess emissions which occurred during the reporting period.

(1) Any affected facility subject to the opacity standards under §60.43b(e) or to the operating parameter monitoring requirements under §60.13(i)(1).

(2) Any affected facility that is subject to the nitrogen oxides standard of §60.44b, and that

(i) Combusts natural gas, distillate oil, or residual oil with a nitrogen content of 0.3 weight percent or less, or

(ii) Has a heat input capacity of 73 MW (250 million Btu/hour) or less and is required to monitor nitrogen oxides emissions on a continuous basis under §60.48b(g)(1) or steam generating unit operating conditions under §60.48b(g)(2).

(3) For the purpose of §60.43b, excess emissions are defined as all 6-minute periods during which the average opacity exceeds the opacity standards under §60.43b(f).

(4) For purposes of §60.48b(g)(1), excess emissions are defined as any calculated 30-day rolling average nitrogen oxides emission rate, as determined under §60.46b(e), which exceeds the applicable emission limits in §60.44b.

(i) The owner or operator of any affected facility subject to the continuous monitoring requirements for nitrogen oxides under §60.48(b) shall submit reports containing the information recorded under paragraph (g) of this section.

(j) The owner or operator of any affected facility subject to the sulfur dioxide standards under §60.42b shall submit reports.

(k) For each affected facility subject to the compliance and performance testing requirements of §60.45b and the reporting requirement in paragraph (j) of this section, the following information shall be reported to the Administrator:

(1) Calendar dates covered in the reporting period.

(2) Each 30-day average sulfur dioxide emission rate (ng/J or lb/ million Btu heat input) measured during the reporting period, ending with the last 30-day period; reasons for noncompliance with the emission standards; and a description of corrective actions taken.

(3) Each 30-day average percent reduction in sulfur dioxide emissions calculated during the reporting period, ending with the last 30-day period; reasons for noncompliance with the emission standards; and a description of corrective actions taken.

(4) Identification of the steam generating unit operating days that coal or oil was combusted and for which sulfur dioxide or diluent (oxygen or carbon dioxide) data have not been obtained by an approved method for at least 75 percent of the operating hours in the steam generating unit operating day; justification for not obtaining sufficient data; and description of corrective action taken.

(5) Identification of the times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and description of corrective action taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit.

(6) Identification of "F" factor used for calculations, method of determination, and type of fuel combusted.

(7) Identification of times when hourly averages have been obtained based on manual sampling methods.

(8) Identification of the times when the pollutant concentration exceeded full span of the CEMS.

(9) Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 2 or 3.

(10) Results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1

(11) The annual capacity factor of each fired as provided under paragraph (d) of this section.

(l) For each affected facility subject to the compliance and performance testing requirements of §60.45b(d) and the reporting requirements of paragraph (j) of this section, the following information shall be reported to the Administrator:

(1) Calendar dates when the facility was in operation during the reporting period;

(2) The 24-hour average sulfur dioxide emission rate measured for each steam generating unit operating day during the reporting period that coal or oil was combusted, ending in the last 24-hour period in the quarter; reasons for noncompliance with the emission standards; and a description of corrective actions taken;

(3) Identification of the steam generating unit operating days that coal or oil was combusted for which sulfur dioxide or diluent (oxygen or carbon dioxide) data have not been obtained by an approved method for at least 75 percent of the operating hours; justification for not obtaining sufficient data; and description of corrective action taken.

(4) Identification of the times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and description of corrective action taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit.

(5) Identification of "F" factor used for calculations, method of determination, and type of fuel combusted.

(6) Identification of times when hourly averages have been obtained based on manual sampling methods.

(7) Identification of the times when the pollutant concentration exceeded full span of the CEMS.

(8) Description of any modifications to the CEMS which could affect the ability of the CEMS to comply with Performance Specification 2 or 3.

(9) Results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1.

(m) For each affected facility subject to the sulfur dioxide standards under §60.42(b) for which the minimum amount of data required under §60.47b(f) were not obtained during the reporting period, the following information is reported to the Administrator in addition to that required under paragraph (k) of this section:

(1) The number of hourly averages available for outlet emission rates and inlet emission rates.

(2) The standard deviation of hourly averages for outlet emission rates and inlet emission rates, as determined in Method 19, section 7.

(3) The lower confidence limit for the mean outlet emission rate and the upper confidence limit for the mean inlet emission rate, as calculated in Method 19, section 7.

(4) The ratio of the lower confidence limit for the mean outlet emission rate and the allowable emission rate, as determined in Method 19, section 7.

(n) If a percent removal efficiency by fuel pretreatment (i.e., % Rf) is used to determine the overall percent reduction (i.e., % Ro) under §60.45b, the owner or operator of the affected facility shall submit a signed statement with the report.

(1) Indicating what removal efficiency by fuel pretreatment (i.e., % Rf) was credited during the reporting period;

(2) Listing the quantity, heat content, and date each pre-treated fuel shipment was received during the reporting period, the name and location of the fuel pretreatment facility; and the total quantity and total heat content of all fuels received at the affected facility during the reporting period.

(3) Documenting the transport of the fuel from the fuel pretreatment facility to the steam generating unit.

(4) Including a signed statement from the owner or operator of the fuel pretreatment facility certifying that the percent removal efficiency achieved by fuel pretreatment was determined in accordance with the provisions of Method 19 (appendix A) and listing the heat content and sulfur content of each fuel before and after fuel pretreatment.

(o) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of 2 years following the date of such record.

(p) The owner or operator of an affected facility described in §60.44b(j) or (k) shall maintain records of the following information for each steam generating unit operating day:

(1) Calendar date,

(2) The number of hours of operation, and

(3) A record of the hourly steam load.

(q) The owner or operator of an affected facility described in §60.44b(j) or §60.44b(k) shall submit to the Administrator a report containing:

(1) The annual capacity factor over the previous 12 months;

(2) The average fuel nitrogen content during the reporting period, if residual oil was fired; and

(3) If the affected facility meets the criteria described in §60.44b(j), the results of any nitrogen oxides emission tests required during the reporting period, the hours of operation during the reporting period, and the hours of operation since the last nitrogen oxides emission test.

(r) The owner or operator of an affected facility who elects to demonstrate that the affected facility combusts only very low sulfur oil under §60.42b(j)(2) shall obtain and maintain at the affected facility fuel receipts from the fuel supplier which certify that the oil meets the definition of distillate oil as defined in §60.41b. For the purposes of this section, the oil need not meet the fuel nitrogen content specification in the definition of distillate oil. Reports shall be submitted to the Administrator certifying that only very low sulfur oil meeting this definition was combusted in the affected facility during the reporting period.

(s) Facility specific nitrogen oxides standard for Cytec Industries Fortier Plant's C.AOG incinerator located in Westwego, Louisiana:

(1) Definitions.

Oxidation zone is defined as the portion of the C.AOG incinerator that extends from the inlet of the oxidizing zone combustion air to the outlet gas stack.

Reducing zone is defined as the portion of the C.AOG incinerator that extends from the burner section to the inlet of the oxidizing zone combustion air.

Total inlet air is defined as the total amount of air introduced into the C.AOG incinerator for combustion of natural gas and chemical by-product waste and is equal to the sum of the air flow into the reducing zone and the air flow into the oxidation zone.

(2) Standard for nitrogen oxides.

(i) When fossil fuel alone is combusted, the nitrogen oxides emission limit for fossil fuel in §60.44b(a) applies.

(ii) When natural gas and chemical by-product waste are simultaneously combusted, the nitrogen oxides emission limit is 289 ng/J (0.67 lb/million Btu) and a maximum of 81 percent of the total inlet air provided for combustion shall be provided to the reducing zone of the C.AOG incinerator.

(3) Emission monitoring.

(i) The percent of total inlet air provided to the reducing zone shall be determined at least every 15 minutes by measuring the air flow of all the air entering the reducing zone and the air flow of all the air entering the oxidation zone, and compliance with the percentage of total inlet air that is provided to the reducing zone shall be determined on a 3-hour average basis.

(ii) The nitrogen oxides emission limit shall be determined by the compliance and performance test methods and procedures for nitrogen oxides in §60.46b(i).

(iii) The monitoring of the nitrogen oxides emission limit shall be performed in accordance with §60.48b.

(4) Reporting and recordkeeping requirements.

(i) The owner or operator of the C.AOG incinerator shall submit a report on any excursions from the limits required by paragraph (a)(2) of this section to the Administrator with the quarterly report required by paragraph (i) of this section.

(ii) The owner or operator of the C.AOG incinerator shall keep records of the monitoring required by paragraph (a)(3) of this section for a period of 2 years following the date of such record.

(iii) The owner of operator of the C.AOG incinerator shall perform all the applicable reporting and recordkeeping requirements of this section.

(t) Facility-specific nitrogen oxides standard for Rohm and Haas Kentucky Incorporated's Boiler No. 100 located in Louisville, Kentucky:

(1) Definitions.

Air ratio control damper is defined as the part of the low nitrogen oxides burner that is adjusted to control the split of total combustion air delivered to the reducing and oxidation portions of the combustion flame.

Flue gas recirculation line is defined as the part of Boiler No. 100 that recirculates a portion of the boiler flue gas back into the combustion air.

(2) Standard for nitrogen oxides.

(i) When fossil fuel alone is combusted, the nitrogen oxides emission limit for fossil fuel in §60.44b(a) applies.

(ii) When fossil fuel and chemical by-product waste are simultaneously combusted, the nitrogen oxides emission limit is 473 ng/J (1.1 lb/million Btu), and the air ratio control damper tee handle shall be at a minimum of 5 inches (12.7 centimeters) out of the boiler, and the flue gas recirculation line shall be operated at a minimum of 10 percent open as indicated by its valve opening position indicator.

(3) Emission monitoring for nitrogen oxides.

(i) The air ratio control damper tee handle setting and the flue gas recirculation line valve opening position indicator setting shall be recorded during each 8-hour operating shift.

(ii) The nitrogen oxides emission limit shall be determined by the compliance and

performance test methods and procedures for nitrogen oxides in §60.46b.

(iii) The monitoring of the nitrogen oxides emission limit shall be performed in accordance with §60.48b.

(4) Reporting and recordkeeping requirements.

(i) The owner or operator of Boiler No. 100 shall submit a report on any excursions from the limits required by paragraph (b)(2) of this section to the Administrator with the quarterly report required by §60.49b(i).

(ii) The owner or operator of Boiler No. 100 shall keep records of the monitoring required by paragraph (b)(3) of this section for a period of 2 years following the date of such record.

(iii) The owner of operator of Boiler No. 100 shall perform all the applicable reporting and recordkeeping requirements of §60.49b.

(u) Site-specific standard for Merck & Co., Inc.'s Stonewall Plant in Elkton, Virgmia.

(1) This paragraph applies only to the pharmaceutical manufacturing facility, commonly referred to as the Stonewall Plant, located at Route 340 South, in Elkton, Virginia ("site") and only to the natural gas-fired boilers installed as part of the powerhouse conversion required pursuant to 40 CFR 52.2454(g). The requirements of this paragraph shall apply, and the requirements of §§60.40b through 60.49b(t) shall not apply, to the natural gas-fired boilers installed pursuant to 40 CFR 52.2454(g).

(i) The site shall equip the natural gas-fired boilers with low nitrogen oxide (NO_X) technology.

(ii) The site shall install, calibrate, maintain, and operate a continuous monitoring and recording system for measuring NO_X emissions discharged to the atmosphere and opacity using a continuous emissions monitoring system or a predictive emissions monitoring system.

(iii) Within 180 days of the completion of the powerhouse conversion, as required by 40 CFR 52.2454, the site shall perform a stack test to quantify criteria pollutant emissions.

(2) [Reserved]

(v) The owner or operator of an affected facility may submit electronic quarterly reports for SO_2 and/or NO_X and/or opacity in lieu of submitting the written reports required under paragraphs (h), (i), (j), (k) or (l) of this section. The format of each quarterly electronic report shall be coordinated with the permitting authority. The electronic report(s) shall be submitted no later than 30 days after the end of the calendar quarter and shall be accompanied by a certification statement from the owner or operator, indicating whether compliance with the applicable emission standards and minimum data requirements of this subpart was achieved during the reporting period. Before submitting reports in the electronic format, the owner or operator shall coordinate with the permitting authority to obtain their agreement to submit reports in this alternative format.

(w) The reporting period for the reports required under this subpart is each 6 month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

(x) Facility-specific nitrogen oxides standard for Weyerhaeuser Company's No. 2 Power Boiler located in New Bern, North Carolina:

(1) Standard for nitrogen oxides.

(i) When fossil fuel alone is combusted, the nitrogen oxides emission limit for fossil fuel in §60.44b(a) applies.

(ii) When fossil fuel and chemical by-product waste are simultaneously combusted, the nitrogen oxides emission limit is 215 ng/J (0.5 lb/million Btu).

(2) Emission monitoring for nitrogen oxides.

(i) The nitrogen oxides emissions shall be determined by the compliance and performance test methods and procedures for nitrogen oxides in §60.46b.

(ii) The monitoring of the nitrogen oxides emissions shall be performed in accordance with §60.48b.

(3) Reporting and recordkeeping requirements.

(i) The owner or operator of the No. 2 Power Boiler shall submit a report on any excursions from the limits required by paragraph (x)(2) of this section to the Administrator with the quarterly report required by §60.49b(i).

(ii) The owner or operator of the No. 2 Power Boiler shall keep records of the monitoring required by paragraph (x)(3) of this section for a period of 2 years following the date of such record.

(iii) The owner or operator of the No. 2 Power Boiler shall perform all the applicable reporting and recordkeeping requirements of §60.49b.

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51820, 51825, Dec. 18, 1989; 60 FR 28062, May 30, 1995; 61 FR 14031, Mar. 29, 1996; 62 FR 52641, Oct. 8, 1997; 63 FR 49455, Sept. 16, 1998; 64 FR 7464, Feb. 12, 1999; 65 FR 13243, Mar. 13, 2000; 69 FR 40773, July 7, 2004]

APPENDIX G

40 CFR 60 Subpart Y

Subpart Y – Standards of Performance for Coal Preparation Plants

§ 60.250 Applicability and designation of affected facility.

(a) The provisions of this subpart are applicable to any of the following affected facilities in coal preparation plants which process more than 181 Mg (200 tons) per day: Thermal dryers, pneumatic coal-cleaning equipment (air tables), coal processing and conveying equipment (including breakers and crushers), coal storage systems, and coal transfer and loading systems.

(b) Any facility under paragraph (a) of this section that commences construction or modification after October 24, 1974, is subject to the requirements of this subpart.

[42 FR 37938, July 25, 1977; 42 FR 44812, Sept. 7, 1977, as amended at 65 FR 61757, Oct. 17, 2000]

§ 60.251 Definitions.

As used in this subpart, all terms not defined herein have the meaning given them in the Act and in subpart A of this part.

(a) *Coal preparation plant* means any facility (excluding underground mining operations) which prepares coal by one or more of the following processes: breaking, crushing, screening, wet or dry cleaning, and thermal drying.

(b) *Bituminous coal* means solid fossil fuel classified as bituminous coal by ASTM Designation D388-77, 90, 91, 95, or 98a (incorporated by reference-see § 60.17).

(c) *Coal* means all solid fossil fuels classified as anthracite, bituminous, subbituminous, or lignite by ASTM Designation D388-77, 90, 91, 95, or 98a (incorporated by reference-see § 60.17).

(d) *Cyclonic flow* means a spiraling movement of exhaust gases within a duct or stack.

(e) *Thermal dryer* means any facility in which the moisture content of bituminous coal is reduced by contact with a heated gas stream which is exhausted to the atmosphere.

(f) *Pneumatic coal-cleaning equipment* means any facility which classifies bituminous coal by size or separates bituminous coal from refuse by application of air stream(s).

(g) *Coal processing and conveying equipment* means any machinery used to reduce the size of coal or to separate coal from refuse, and the equipment used to convey coal to or remove coal and refuse from the machinery. This includes, but is not limited to, breakers, crushers, screens, and conveyor belts.

(h) *Coal storage system* means any facility used to store coal except for open storage piles.

(i) *Transfer and loading system* means any facility used to transfer and load coal for shipment.

[41 FR 2234, Jan. 15, 1976, as amended at 48 FR 3738, Jan. 27, 1983; 65 FR 61757, Oct. 17, 2000]

§ 60.252 Standards for particulate matter.

(a) On and after the date on which the performance test required to be conducted by § 60.8 is completed, an owner or operator subject to the provisions of this subpart shall not cause to be discharged into the atmosphere from any thermal dryer gases which:

(1) Contain particulate matter in excess of 0.070 g/dscm (0.031 gr/ dscf).

(2) Exhibit 20 percent opacity or greater.

(b) On and after the date on which the performance test required to be conducted by § 60.8 is completed, an owner or operator subject to the provisions of this subpart shall not cause to be discharged into the atmosphere from any pneumatic coal cleaning equipment, gases which:

(1) Contain particulate matter in excess of 0.040 g/dscm (0.017 gr/ dscf).

(2) Exhibit 10 percent opacity or greater.

(c) On and after the date on which the performance test required to be conducted by § 60.8 is completed, an owner or operator subject to the provisions of this subpart shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater.

[41 FR 2234, Jan. 15, 1976, as amended at 65 FR 61757, Oct. 17, 2000]

§ 60.253 Monitoring of operations.

(a) The owner or operator of any thermal dryer shall install, calibrate, maintain, and continuously operate monitoring devices as follows:

(1) A monitoring device for the measurement of the temperature of the gas stream at the exit of the thermal dryer on a continuous basis. The monitoring device is to be certified by the manufacturer to be accurate within ±1.7 °C (±3 °F).

(2) For affected facilities that use venturi scrubber emission control equipment:

(i) A monitoring device for the continuous measurement of the pressure loss through the venturi constriction of the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within ±1 inch water gauge.

(ii) A monitoring device for the continuous measurement of the water supply pressure to the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within ±5 percent of design water supply pressure. The pressure sensor or tap must be located close to the water discharge point. The Administrator may be consulted for approval of alternative locations.

(b) All monitoring devices under paragraph (a) of this section are to be recalibrated annually in accordance with procedures under § 60.13(b).

[41 FR 2234, Jan. 15, 1976, as amended at 54 FR 6671, Feb. 14, 1989; 65 FR 61757, Oct. 17, 2000]

§ 60.254 Test methods and procedures.

(a) In conducting the performance tests required in § 60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in § 60.8(b).

(b) The owner or operator shall determine compliance with the particular matter standards in § 60.252 as follows:

(1) Method 5 shall be used to determine the particulate matter concentration. The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30 dscf). Sampling shall begin no less than 30 minutes after startup and shall terminate before shutdown procedures begin.

(2) Method 9 and the procedures in § 60.11 shall be used to determine opacity.

[54 FR 6671, Feb. 14, 1989]

APPENDIX H

40 CFR 60 Subpart OOO

Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants

Source: 51 FR 31337, Aug. 1, 1985, unless otherwise noted.

§60.670 Applicability and designation of affected facility.

(a)(1) Except as provided in paragraphs (a)(2), (b), (c), and (d) of this section, the provisions of this subpart are applicable to the following affected facilities in fixed or portable nonmetallic mineral processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station. Also, crushers and grinding mills at hot mix asphalt facilities that reduce the size of nonmetallic minerals embedded in recycled asphalt pavement and subsequent affected facilities up to, but not including, the first storage silo or bin are subject to the provisions of this subpart.

(2) The provisions of this subpart do not apply to the following operations: All facilities located in underground mines; and stand-alone screening operations at plants without crushers or grinding mills.

(b) An affected facility that is subject to the provisions of subpart F or I or that follows in the plant process any facility subject to the provisions of subparts F or I of this part is not subject to the provisions of this subpart.

(c) Facilities at the following plants are not subject to the provisions of this subpart:

(1) Fixed sand and gravel plants and crushed stone plants with capacities, as defined in §60.671, of 23 megagrams per hour (25 tons per hour) or less;

(2) Portable sand and gravel plants and crushed stone plants with capacities, as defined in §60.671, of 136 megagrams per hour (150 tons per hour) or less; and

(3) Common clay plants and pumice plants with capacities, as defined in §60.671, of 9 megagrams per hour (10 tons per hour) or less.

(d)(1) When an existing facility is replaced by a piece of equipment of equal or smaller size, as defined in §60.671, having the same function as the existing facility, the new facility is exempt from the provisions of §§60.672, 60.674, and 60.675 except as provided for in paragraph (d)(3) of this section.

(2) An owner or operator complying with paragraph (d)(1) of this section shall submit the information required in §60.676(a).

(3) An owner or operator replacing all existing facilities in a production line with new facilities does not qualify for the exemption described in paragraph (d)(1) of this section and must comply with the provisions of §§60.672, 60.674 and 60.675.

(e) An affected facility under paragraph (a) of this section that commences construction, reconstruction, or modification after August 31, 1983 is subject to the requirements of this part.

(f) Table 1 of this subpart specifies the provisions of subpart A of this part 60 that apply and those that do not apply to owners and operators of affected facilities subject to this subpart.

Table 1 - Applicability of Subpart A To Subpart OOO

Subpart A reference	Applies to Subpart OOO	Comment
60.1, Applicability	Yes	
60.2, Definitions	Yes	
60.3, Units and abbreviations	Yes	
60.4, Address:		
(a)	Yes	
(b)	Yes	
60.5, Determination of construction or modification	Yes	
60.6, Review of plans	Yes	
60.7, Notification and recordkeeping	Yes	Except in (a)(2) report of anticipated date of initial startup is not required (§60.676(h)).
60.8, Performance tests	Yes	Except in (d), after 30 days notice for an initially scheduled performance test, any rescheduled performance test requires 7 days notice, not 30 days (§60.675(g)).
60.9, Availability of information	Yes	
60.10, State authority	Yes	
60.11, Compliance with standards and maintenance requirements	Yes	Except in (b) under certain conditions (§60.675 (c)(3) and (c)(4)), Method 9 observation may be reduced from 3 hours to 1 hour. Some affected facilities exempted from Method 9 tests (§60.675(h)).
60.12, Circumvention	Yes	
60.13, Monitoring requirements	Yes	
60.14, Modification	Yes	
60.15, Reconstruction	Yes	
60.16, Priority list	Yes	
60.17, Incorporations by reference	Yes	
60.18, General control device	No	Flares will not be used to comply with the emission limits.
60.19, General notification and reporting requirements	Yes	

[51 FR 31337, Aug. 1, 1985, as amended at 62 FR 31359, June 9, 1997]

§60.671 Definitions.

All terms used in this subpart, but not specifically defined in this section, shall have the meaning given them in the Act and in subpart A of this part.

Bagging operation means the mechanical process by which bags are filled with nonmetallic minerals.

Belt conveyor means a conveying device that transports material from one location to another by means of an endless belt that is carried on a series of idlers and routed around a pulley at each end.

Bucket elevator means a conveying device of nonmetallic minerals consisting of a head and foot assembly which supports and drives an endless single or double strand chain or belt to which buckets are attached.

Building means any frame structure with a roof.

Capacity means the cumulative rated capacity of all initial crushers that are part of the plant.

Capture system means the equipment (including enclosures, hoods, ducts, fans, dampers, etc.) used to capture and transport particulate matter generated by one or more process operations to a control device.

Control device means the air pollution control equipment used to reduce particulate matter emissions released to the atmosphere from one or more process operations at a nonmetallic mineral processing plant.

Conveying system means a device for transporting materials from one piece of equipment or location to another location within a plant. Conveying systems include but are not limited to the following: Feeders, belt conveyors, bucket elevators and pneumatic systems.

Crusher means a machine used to crush any nonmetallic minerals, and includes, but is not limited to, the following types: jaw, gyratory, cone, roll, rod mill, hammermill, and impactor.

Enclosed truck or railcar loading station means that portion of a nonmetallic mineral processing plant where nonmetallic minerals are loaded by an enclosed conveying system into enclosed trucks or railcars.

Fixed plant means any nonmetallic mineral processing plant at which the processing equipment specified in §60.670(a) is attached by a cable, chain, turnbuckle, bolt or other means (except electrical connections) to any anchor, slab, or structure including bedrock.

Fugitive emission means particulate matter that is not collected by a capture system and is released to the atmosphere at the point of generation.

Grinding mill means a machine used for the wet or dry fine crushing of any nonmetallic mineral. Grinding mills include, but are not limited to, the following types: hammer, roller, rod, pebble and ball, and fluid energy. The grinding mill includes the air conveying system, air separator, or air classifier, where such systems are used.

Initial crusher means any crusher into which nonmetallic minerals can be fed without prior crushing in the plant.

Nonmetallic mineral means any of the following minerals or any mixture of which the majority is any of the following minerals:

(a) Crushed and Broken Stone, including Limestone, Dolomite, Granite, Traprock, Sandstone, Quartz, Quartzite, Marl, Marble, Slate, Shale, Oil Shale, and Shell.

(b) Sand and Gravel.

(c) Clay including Kaolin, Fireclay, Bentonite, Fuller's Earth, Ball Clay, and Common Clay.

(d) Rock Salt.

(e) Gypsum.

(f) Sodium Compounds, including Sodium Carbonate, Sodium Chloride, and Sodium Sulfate.

(g) Pumice.

(h) Gilsonite.

(i) Talc and Pyrophyllite.

(j) Boron, including Borax, Kernite, and Colemanite.

(k) Barite.

(l) Fluorospar.

(m) Feldspar.

(n) Diatomite.

(o) Perlite.

(p) Vermiculite.

(q) Mica.

(r) Kyanite, including Andalusite, Sillimanite, Topaz, and Dumortierite.

Nonmetallic mineral processing plant means any combination of equipment that is used to crush or grind any nonmetallic mineral wherever located, including lime plants, power plants, steel mills, asphalt concrete plants, portland cement plants, or any other facility processing nonmetallic minerals except as provided in §60.670 (b) and (c).

Portable plant means any nonmetallic mineral processing plant that is mounted on any chassis or skids and may be moved by the application of a lifting or pulling force. In addition, there shall be no cable, chain, turnbuckle, bolt or other means (except electrical connections) by which any piece of equipment is attached or clamped to any anchor, slab, or structure, including bedrock that must be removed prior to the application of a lifting or pulling force for the purpose of transporting the unit.

Production line means all affected facilities (crushers, grinding mills, screening operations, bucket elevators, belt conveyors, bagging operations, storage bins, and enclosed truck and railcar loading stations) which are directly connected or are connected together by a conveying system.

Screening operation means a device for separating material according to size by passing undersize material through one or more mesh surfaces (screens) in series, and retaining oversize material on the mesh surfaces (screens).

Size means the rated capacity in tons per hour of a crusher, grinding mill, bucket elevator, bagging operation, or enclosed truck or railcar loading station; the total surface area of the top screen of a screening operation; the width of a conveyor belt; and the rated capacity in tons of a storage bin.

Stack emission means the particulate matter that is released to the atmosphere from a capture system.

Storage bin means a facility for storage (including surge bins) or nonmetallic minerals prior to further processing or loading.

Transfer point means a point in a conveying operation where the nonmetallic mineral is transferred to or from a belt conveyor except where the nonmetallic mineral is being transferred to a stockpile.

Truck dumping means the unloading of nonmetallic minerals from movable vehicles designed to transport nonmetallic minerals from one location to another. Movable vehicles include but are not limited to: trucks, front end loaders, skip hoists, and railcars.

Vent means an opening through which there is mechanically induced air flow for the purpose of exhausting from a building air carrying particulate matter emissions from one or more affected facilities.

Wet mining operation means a mining or dredging operation designed and operated to extract any nonmetallic mineral regulated under this subpart from deposits existing at or below the water table, where the nonmetallic mineral is saturated with water.

Wet screening operation means a screening operation at a nonmetallic mineral processing plant which removes unwanted material or which separates marketable fines from the product by a washing process which is designed and operated at all times such that the product is saturated with water.

[51 FR 31337, Aug. 1, 1985, as amended at 62 FR 31359, June 9, 1997]

§60.672 Standard for particulate matter.

(a) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any transfer point on belt conveyors or from any other affected facility any stack emissions which:

(1) Contain particulate matter in excess of 0.05 g/dscm (0.022 gr/ dscf); and

(2) Exhibit greater than 7 percent opacity, unless the stack emissions are discharged from an affected facility using a wet scrubbing control device. Facilities using a wet scrubber must comply with the reporting provisions of §60.676 (c), (d), and (e).

(b) On and after the sixtieth day after achieving the maximum production rate at which the affected facility will be operated, but

not later than 180 days after initial startup as required under §60.11 of this part, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any transfer point on belt conveyors or from any other affected facility any fugitive emissions which exhibit greater than 10 percent opacity, except as provided in paragraphs (c), (d), and (e) of this section.

(c) On and after the sixtieth day after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under §60.11 of this part, no owner or operator shall cause to be discharged into the atmosphere from any crusher, at which a capture system is not used, fugitive emissions which exhibit greater than 15 percent opacity.

(d) Truck dumping of nonmetallic minerals into any screening operation, feed hopper, or crusher is exempt from the requirements of this section.

(e) If any transfer point on a conveyor belt or any other affected facility is enclosed in a building, then each enclosed affected facility must comply with the emission limits in paragraphs (a), (b) and (c) of this section, or the building enclosing the affected facility or facilities must comply with the following emission limits:

(1) No owner or operator shall cause to be discharged into the atmosphere from any building enclosing any transfer point on a conveyor belt or any other affected facility any visible fugitive emissions except emissions from a vent as defined in §60.671.

(2) No owner or operator shall cause to be discharged into the atmosphere from any vent of any building enclosing any transfer point on a conveyor belt or any other affected facility emissions which exceed the stack emissions limits in paragraph (a) of this section.

(f) On and after the sixtieth day after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under §60.11 of this part, no owner or operator shall cause to be discharged into the atmosphere from any baghouse that controls emissions from only an individual, enclosed storage bin, stack emissions which exhibit greater than 7 percent opacity.

(g) Owners or operators of multiple storage bins with combined stack emissions shall comply with the emission limits in paragraph (a)(1) and (a)(2) of this section.

(h) On and after the sixtieth day after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup, no owner or operator shall cause to be discharged into the atmosphere any visible emissions from:

(1) Wet screening operations and subsequent screening operations, bucket elevators, and belt conveyors that process saturated material in the production line up to the next crusher, grinding mill or storage bin.

(2) Screening operations, bucket elevators, and belt conveyors in the production line downstream of wet mining operations, where such screening operations, bucket elevators, and belt conveyors process saturated materials up to the first crusher, grinding mill, or storage bin in the production line.

[51 FR 31337, Aug. 1, 1985, as amended at 62 FR 31359, June 9, 1997; 65 FR 61778, Oct. 17, 2000]

§60.673 Reconstruction.

(a) The cost of replacement of ore-contact surfaces on processing equipment shall not be considered in calculating either the "fixed capital cost of the new components" or the "fixed capital cost that would be required to construct a comparable new facility" under §60.15. Ore-contact surfaces are crushing surfaces; screen meshes, bars, and plates; conveyor belts; and elevator buckets.

(b) Under §60.15, the "fixed capital cost of the new components" includes the fixed capital cost of all depreciable components (except components specified in paragraph (a) of this section) which are or will be replaced pursuant to all continuous programs of component replacement commenced within any 2-year period following August 31, 1983.

§60.674 Monitoring of operations.

The owner or operator of any affected facility subject to the provisions of this subpart which uses a wet scrubber to control emissions shall install, calibrate, maintain and operate the following monitoring devices:

(a) A device for the continuous measurement of the pressure loss of the gas stream through the scrubber. The monitoring device must be certified by the manufacturer to be accurate within ± 250 pascals ± 1 inch water gauge pressure and must be calibrated on an annual basis in accordance with manufacturer's instructions.

(b) A device for the continuous measurement of the scrubbing liquid flow rate to the wet scrubber. The monitoring device must be certified by the manufacturer to be accurate within ± 5 percent of design scrubbing liquid flow rate and must be calibrated on an annual basis in accordance with manufacturer's instructions.

§60.675 Test methods and procedures.

(a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b). Acceptable alternative methods and procedures are given in paragraph (e) of this section.

(b) The owner or operator shall determine compliance with the particulate matter standards in §60.672(a) as follows:

(1) Method 5 or Method 17 shall be used to determine the particulate matter concentration. The sample volume shall be at least 1.70 dscm (60 dscf). For Method 5, if the gas stream being sampled is at ambient temperature, the sampling probe and filter may be operated without heaters. If the gas stream is above ambient temperature, the sampling probe and filter may be operated at a temperature high enough, but no higher than 121 °C (250 °F), to prevent water condensation on the filter.

(2) Method 9 and the procedures in §60.11 shall be used to determine opacity.

(c)(1) In determining compliance with the particulate matter standards in §60.672 (b) and (c), the owner or operator shall use Method 9 and the procedures in §60.11, with the following additions:

(i) The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).

(ii) The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (e.g., road dust). The required observer position relative to the sun (Method 9, Section 2.1) must be followed.

(iii) For affected facilities using wet dust suppression for particulate matter control, a visible mist is sometimes generated by the spray. The water mist must not be confused with particulate matter emissions and is not to be considered a visible emission. When a water mist of this nature is present, the observation of emissions is to be made at a point in the plume where the mist is no longer visible.

(2) In determining compliance with the opacity of stack emissions from any baghouse that controls emissions only from an individual enclosed storage bin under §60.672(f) of this subpart, using Method 9, the duration of the Method 9 observations shall be 1 hour (ten 6-minute averages).

(3) When determining compliance with the fugitive emissions standard for any affected facility described under §60.672(b) of this subpart, the duration of the Method 9 observations may be reduced from 3 hours (thirty 6-minute averages) to 1 hour (ten 6-minute averages) only if the following conditions apply:

(i) There are no individual readings greater than 10 percent opacity; and

(ii) There are no more than 3 readings of 10 percent for the 1-hour period.

(4) When determining compliance with the fugitive emissions standard for any crusher at which a capture system is not used as described under §60.672(c) of this subpart, the duration of the Method 9 observations may be reduced from 3 hours (thirty 6-minute averages) to 1 hour (ten 6-minute averages) only if the following conditions apply:

(i) There are no individual readings greater than 15 percent opacity; and

(ii) There are no more than 3 readings of 15 percent for the 1-hour period.

(d) In determining compliance with §60.672(e), the owner or operator shall use

Method 22 to determine fugitive emissions. The performance test shall be conducted while all affected facilities inside the building are operating. The performance test for each building shall be at least 75 minutes in duration, with each side of the building and the roof being observed for at least 15 minutes.

(e) The owner or operator may use the following as alternatives to the reference methods and procedures specified in this section:

(1) For the method and procedure of paragraph (c) of this section, if emissions from two or more facilities continuously interfere so that the opacity of fugitive emissions from an individual affected facility cannot be read, either of the following procedures may be used:

(i) Use for the combined emission stream the highest fugitive opacity standard applicable to any of the individual affected facilities contributing to the emissions stream.

(ii) Separate the emissions so that the opacity of emissions from each affected facility can be read.

(f) To comply with §60.676(d), the owner or operator shall record the measurements as required in §60.676(c) using the monitoring devices in §60.674 (a) and (b) during each particulate matter run and shall determine the averages.

(g) If, after 30 days notice for an initially scheduled performance test, there is a delay (due to operational problems, etc.) in conducting any rescheduled performance test required in this section, the owner or operator of an affected facility shall submit a notice to the Administrator at least 7 days prior to any rescheduled performance test.

(h) Initial Method 9 performance tests under §60.11 of this part and §60.675 of this subpart are not required for:

(1) Wet screening operations and subsequent screening operations, bucket elevators, and belt conveyors that process saturated material in the production line up to, but not including the next crusher, grinding mill or storage bin.

(2) Screening operations, bucket elevators, and belt conveyors in the production line downstream of wet mining operations, that process saturated materials up to the first crusher, grinding mill, or storage bin in the production line.

[54 FR 6680, Feb. 14, 1989, as amended at 62 FR 31360, June 9, 1997]

§60.676 Reporting and recordkeeping.

(a) Each owner or operator seeking to comply with §60.670(d) shall submit to the Administrator the following information about the existing facility being replaced and the replacement piece of equipment.

(1) For a crusher, grinding mill, bucket elevator, bagging operation, or enclosed truck or railcar loading station:

(i) The rated capacity in megagrams or tons per hour of the existing facility being replaced and

(ii) The rated capacity in tons per hour of the replacement equipment.

(2) For a screening operation:

(i) The total surface area of the top screen of the existing screening operation being replaced and

(ii) The total surface area of the top screen of the replacement screening operation.

(3) For a conveyor belt:

(i) The width of the existing belt being replaced and

(ii) The width of the replacement conveyor belt.

(4) For a storage bin:

(i) The rated capacity in megagrams or tons of the existing storage bin being replaced and

(ii) The rated capacity in megagrams or tons of replacement storage bins.

(b) [Reserved]

(c) During the initial performance test of a wet scrubber, and daily thereafter, the owner or operator shall record the measurements of both the change in pressure of the gas stream across the scrubber and the scrubbing liquid flow rate.

(d) After the initial performance test of a wet scrubber, the owner or operator shall submit semiannual reports to the Administrator of occurrences when the measurements of the scrubber pressure loss (or gain) and liquid flow rate differ by more than ± 30 percent from the averaged determined during the most recent performance test.

(e) The reports required under paragraph (d) shall be postmarked within 30 days following end of the second and fourth calendar quarters.

(f) The owner or operator of any affected facility shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards set forth in §60.672 of this subpart, including reports of opacity observations made using Method 9 to demonstrate compliance with §60.672(b), (c), and (f), and reports of observations using Method 22 to demonstrate compliance with §60.672(e).

(g) The owner or operator of any screening operation, bucket elevator, or belt conveyor that processes saturated material and is subject to §60.672(h) and subsequently processes unsaturated materials, shall submit a report of this change within 30 days following such change. This screening operation, bucket elevator, or belt conveyor is then subject to the 10 percent opacity limit in §60.672(b) and the emission test requirements of §60.11 and this subpart. Likewise a screening operation, bucket elevator, or belt conveyor that processes unsaturated material but subsequently processes saturated material shall submit a report of this change within 30 days following such change. This screening operation, bucket elevator, or belt conveyor is then subject to the no visible emission limit in §60.672(h).

(h) The subpart A requirement under §60.7(a)(2) for notification of the anticipated date of initial startup of an affected facility shall be waived for owners or operators of affected facilities regulated under this subpart.

(i) A notification of the actual date of initial startup of each affected facility shall be submitted to the Administrator.

(1) For a combination of affected facilities in a production line that begin actual initial startup on the same day, a single notification of startup may be submitted by the owner or operator to the Administrator. The notification shall be postmarked within 15 days after such date and shall include a description of each affected facility, equipment manufacturer, and serial number of the equipment, if available.

(2) For portable aggregate processing plants, the notification of the actual date of initial startup shall include both the home office and the current address or location of the portable plant.

(j) The requirements of this section remain in force until and unless the Agency, in delegating enforcement authority to a State under section 111(c) of the Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such States. In that event, affected facilities within the State will be relieved of the obligation to comply with the reporting requirements of this section, provided that they comply with requirements established by the State.

[51 FR 31337, Aug. 1, 1985, as amended at 54 FR 6680, Feb. 14, 1989; 62 FR 31360, June 9, 1997; 65 FR 61778, Oct. 17, 2000]

APPENDIX I

40 CFR 63 Subpart AAAAA

Subpart AAAAA--National Emission Standards for Hazardous Air Pollutants for Lime Manufacturing Plants

SOURCE: 69 FR 416, Jan. 5, 2004, unless otherwise noted.

WHAT THIS SUBPART COVERS

§63.7080 What is the purpose of this subpart?

This subpart establishes national emission standards for hazardous air pollutants (NESHAP) for lime manufacturing plants. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations.

§63.7081 Am I subject to this subpart?

(a) You are subject to this subpart if you own or operate a lime manufacturing plant (LMP) that is a major source, or that is located at, or is part of, a major source of hazardous air pollutant (HAP) emissions, unless the LMP is located at a kraft pulp mill, soda pulp mill, sulfite pulp mill, beet sugar manufacturing plant, or only processes sludge containing calcium carbonate from water softening processes.

(1) An LMP is an establishment engaged in the manufacture of lime product (calcium oxide, calcium oxide with magnesium oxide, or dead burned dolomite) by calcination of limestone, dolomite, shells or other calcareous substances.

(2) A major source of HAP is a plant site that emits or has the potential to emit any single HAP at a rate of 9.07 megagrams (10 tons) or more per year or any combination of HAP at a rate of 22.68 megagrams (25 tons) or more per year from all emission sources at the plant site.

(b) [Reserved]

§63.7082 What parts of my plant does this subpart cover?

(a) This subpart applies to each existing or new lime kiln(s) and their associated cooler(s), and processed stone handling (PSH) operations system(s) located at an LMP that is a major source.

(b) A new lime kiln is a lime kiln, and (if applicable) its associated lime cooler, for which construction or reconstruction began after December 20, 2002, if you met the applicability criteria in §63.7081 at the time you began construction or reconstruction.

(c) A new PSH operations system is the equipment in paragraph (g) of this section, for which construction or reconstruction began after December 20, 2002, if you met the applicability criteria in §63.7081 at the time you began construction or reconstruction.

(d) A lime kiln or PSH operations system is reconstructed if it meets the criteria for reconstruction defined in §63.2.

(e) An existing lime kiln is any lime kiln, and (if applicable) its associated lime cooler, that does not meet the definition of a new kiln of paragraph (b) of this section.

(f) An existing PSH operations system is any PHS operations system that does not meet the definition of a new PSH operations system in paragraph (c) of this section.

(g) A PSH operations system includes all equipment associated with PSH operations beginning at the processed stone storage bin(s) or open storage pile(s) and ending where the processed stone is fed into the kiln. It includes man-made processed stone storage bins (but not open processed stone storage piles), conveying system transfer points, bulk loading or unloading systems, screening operations, surge bins, bucket elevators, and belt conveyors. No other materials processing operations are subject to this subpart.

(h) Nuisance dust collectors on lime coolers are part of the lime materials processing operations and are not covered by this subpart.

(i) Lime hydrators are not subject to this subpart.

(j) Open material storage piles are not subject to this subpart.

§63.7083 When do I have to comply with this subpart?

(a) If you have a new affected source, you must comply with this subpart according to paragraphs (a)(1) and (2) of this section.

(1) If you start up your affected source before January 5, 2004, you must comply with the emission limitations no later than January 5, 2004, and you must have completed all applicable performance tests no later than July 5, 2004.

(2) If you start up your affected source after January 5, 2004, then you must comply with the emission limitations for new affected sources upon startup of your affected source and you must have completed all applicable performance tests no later than 180 days after startup.

(b) If you have an existing affected source, you must comply with the applicable emission limitations for the existing affected source, and you must have completed all applicable performance tests no later than January 5, 2007.

(c) If you have an LMP that is an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, the deadlines specified in paragraphs (c)(1) and (2) of this section apply.

(1) New affected sources at your LMP you must be in compliance with this subpart upon startup.

(2) Existing affected sources at your LMP must be in compliance with this subpart within 3 years after your source becomes a major source of HAP.

(d) You must meet the notification requirements in §63.7130 according to the schedule in §63.7130 and in subpart A of this part. Some of the notifications must be submitted before you are required to comply with the emission limitations in this subpart.

EMISSION LIMITATIONS

§63.7090 What emission limitations must I meet?

(a) You must meet each emission limit in Table 1 to this subpart that applies to you.

(b) You must meet each operating limit in Table 2 to this subpart that applies to you.

GENERAL COMPLIANCE REQUIREMENTS

§63.7100 What are my general requirements for complying with this subpart?

(a) After your initial compliance date, you must be in compliance with the emission limitations (including operating limits) in this subpart at all times, except during periods of startup, shutdown, and malfunction.

(b) You must be in compliance with the opacity and visible emission (VE) limits in this subpart during the times specified in §63.6(h)(1).

(c) You must always operate and maintain your affected source, including air pollution control and monitoring equipment, according to the provisions in §63.6(e)(1)(i).

(d) You must prepare and implement for each LMP, a written operations, maintenance, and monitoring (OM&M) plan. You must submit the plan to the applicable permitting authority for review and approval as part of the application for a 40 CFR part 70 or 40 CFR part 71 permit. Any subsequent changes to the plan must be submitted to the applicable permitting authority for review and approval. Pending approval by the applicable permitting authority of an initial or amended plan, you must comply with the provisions of the submitted plan. Each plan must contain the following information:

(1) Process and control device parameters to be monitored to determine compliance, along with established operating limits or ranges, as applicable, for each emission unit.

(2) A monitoring schedule for each emission unit.

(3) Procedures for the proper operation and maintenance of each emission unit and each air pollution control device used to meet the applicable emission limitations and operating limits in Tables 1 and 2 to this subpart, respectively.

(4) Procedures for the proper installation, operation, and maintenance of monitoring devices or systems used to determine compliance, including:

(i) Calibration and certification of accuracy of each monitoring device;

(ii) Performance and equipment specifications for the sample interface, parametric signal analyzer, and the data collection and reduction systems;

(iii) Ongoing operation and maintenance procedures in accordance with the general requirements of §63.8(c)(1), (3), and (4)(ii); and

(iv) Ongoing data quality assurance procedures in accordance with the general requirements of §63.8(d).

(5) Procedures for monitoring process and control device parameters.

(6) Corrective actions to be taken when process or operating parameters or add-on control device parameters deviate from the operating limits specified in Table 2 to this subpart, including:

(i) Procedures to determine and record the cause of a deviation or excursion, and the time the deviation or excursion began and ended; and

(ii) Procedures for recording the corrective action taken, the time corrective action was initiated, and the time and date the corrective action was completed.

(7) A maintenance schedule for each emission unit and control device that is consistent with the manufacturer's instructions and recommendations for routine and long-term maintenance.

(e) You must develop and implement a written startup, shutdown, and malfunction plan (SSMP) according to the provisions in §63.6(e)(3).

TESTING AND INITIAL COMPLIANCE REQUIREMENTS

§63.7110 By what date must I conduct performance tests and other initial compliance demonstrations?

(a) If you have an existing affected source, you must complete all applicable performance tests within January 5, 2007, according to the provisions in §§63.7(a)(2) and 63.7114.

(b) If you have a new affected source, and commenced construction or reconstruction between December 20, 2002, and January 5, 2004, you must demonstrate initial compliance with either the proposed emission limitation or the promulgated emission limitation no later than 180 calendar days after January 5, 2004 or within 180 calendar days after startup of the source, whichever is later, according to §§63.7(a)(2)(ix) and 63.7114.

(c) If you commenced construction or reconstruction between December 20, 2002, and January 5, 2004, and you chose to comply with the proposed emission limitation when demonstrating initial compliance, you must conduct a demonstration of compliance with the promulgated emission limitation within January 5, 2007 or after startup of the source, whichever is later, according to §§63.7(a)(2)(ix) and 63.7114.

(d) For each initial compliance requirement in Table 3 to this subpart that applies to you where the monitoring averaging period is 3 hours, the 3-hour period for demonstrating continuous compliance for emission units within existing affected sources at LMP begins at 12:01 a.m. on the compliance date for existing affected sources, that is, the day following completion of the initial compliance demonstration, and ends at 3:01 a.m. on the same day.

(e) For each initial compliance requirement in Table 3 to this subpart that applies to you where the monitoring averaging period is 3 hours, the 3-hour period for demonstrating continuous compliance for emission units within new or reconstructed affected sources at LMP begins at 12:01 a.m. on the day following completion of the initial compliance demonstration, as required in paragraphs (b) and (c) of this section, and ends at 3:01 a.m. on the same day.

§63.7111 When must I conduct subsequent performance tests?

You must conduct a performance test within 5 years following the initial performance test and within 5 years following each subsequent performance test thereafter.

§63.7112 What performance tests, design evaluations, and other procedures must I use?

(a) You must conduct each performance test in Table 4 to this subpart that applies to you.

(b) Each performance test must be conducted according to the requirements in §63.7(e)(1) and under the specific conditions specified in Table 4 to this subpart.

(c) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in §63.7(e)(1).

(d) Except for opacity and VE observations, you must conduct three separate test runs for each performance test required in this section, as specified in §63.7(e)(3). Each test run must last at least 1 hour.

(e) The emission rate of particulate matter (PM) from each lime kiln (and each lime cooler if there is a separate exhaust to the atmosphere from the lime cooler) must be computed for each run using Equation 1 of this section:

$$E = (C_k Q_k + C_c Q_c) / PK \qquad \text{(Eq. 1)}$$

Where:

E = Emission rate of PM, pounds per ton (lb/ton) of stone feed.

C_k = Concentration of PM in the kiln effluent, grain/dry standard cubic feet (gr/dscf).

Q_k = Volumetric flow rate of kiln effluent gas, dry standard cubic feet per hour (dscf/hr).

C_c = Concentration of PM in the cooler effluent, grain/dscf. This value is zero if there is not a separate cooler exhaust to the atmosphere.

Q_c = Volumetric flow rate of cooler effluent gas, dscf/hr.

This value is zero if there is not a separate cooler exhaust to the atmosphere.

P = Stone feed rate, tons per hour (ton/hr).

K = Conversion factor, 7000 grains per pound (grains/lb).

(f) (1) If you choose to meet a weighted average emission limit as specified in item 4 of Table 1 to this subpart, you must calculate a combined particulate emission rate from all kilns and coolers within your LMP using Equation 2 of this section:

$$E_T = \sum_{i=1}^{n} E_i P_i / \sum_{i=1}^{n} P_i \qquad \text{(Eq. 2)}$$

Where:

E_T = Emission rate of PM from all kilns and coolers, lb/ton of stone feed.

E_i = Emission rate of PM from kiln i, or from kiln/cooler combination i, lb/ton of stone feed.

P_i = Stone feed rate to kiln i, ton/hr.

n = Number of kilns you wish to include in averaging.

(2) You do not have to include every kiln in this calculation, only include kilns you wish to average. Kilns that have a PM emission limit of 0.60 lb/tsf are ineligible for any averaging.

(g) The weighted average PM emission limit from all kilns and coolers for which you are averaging must be calculated using Equation 3 of this section:

$$E_{TN} = \sum_{j=1}^{m} E_j P_j / \sum_{j=1}^{m} P_j \qquad \text{(Eq. 3)}$$

Where:

E_{TN} = Weighted average PM emission limit for all kilns and coolers being included in averaging at the LMP, lb/ton of stone feed.

E_j = PM emission limit (0.10 or 0.12) for kiln j, or for kiln/cooler combination j, lb/ton of stone feed.

P_j = Stone feed rate to kiln j, ton/hr

m = Number of kilns and kiln/cooler combinations you are averaging at your LMP. You must include the same kilns in the calculation of ET and ETN. Kilns that have a PM emission limit of 0.60 lb/tsf are ineligible for any averaging.

(h) Performance test results must be documented in complete test reports that contain the information required by paragraphs (h)(1) through (10) of this section, as well as all other relevant information. The plan to be followed during testing must be made available to the Administrator at least 60 days prior to testing.

(1) A brief description of the process and the air pollution control system;

(2) Sampling location description(s);

(3) A description of sampling and analytical procedures and any modifications to standard procedures;

(4) Test results, including opacity;

(5) Quality assurance procedures and results;

(6) Records of operating conditions during the test, preparation of standards, and calibration procedures;

(7) Raw data sheets for field sampling and field and laboratory analyses;

(8) Documentation of calculations;

(9) All data recorded and used to establish operating limits; and

(10) Any other information required by the test method.

(i) [Reserved]

(j) You must establish any applicable 3-hour block average operating limit indicated in Table 2 to this subpart according to the applicable requirements in Table 3 to this subpart and paragraphs (j)(1) through (4) of this section.

(1) Continuously record the parameter during the PM performance test and include the parameter record(s) in the performance test report.

(2) Determine the average parameter value for each 15-minute period of each test run.

(3) Calculate the test run average for the parameter by taking the average of all the 15-minute parameter values for the run.

(4) Calculate the 3-hour operating limit by taking the average of the three test run averages.

(k) For each building enclosing any PSH operations that is subject to a VE limit, you must conduct a VE check according to item 18 in Table 4 to this subpart, and in accordance with paragraphs (k)(1) through (3) of this section.

(1) Conduct visual inspections that consist of a visual survey of the building over the test period to identify if there are VE, other than condensed water vapor.

(2) Select a position at least 15 but not more 1,320 feet from each side of the building with the sun or other light source generally at your back.

(3) The observer conducting the VE checks need not be certified to conduct EPA Method 9 in appendix A to part 60 of this chapter, but must meet the training requirements as described in EPA Method 22 in appendix A to part 60 of this chapter.

(l) When determining compliance with the opacity standards for fugitive emissions from PSH operations in item 7 of Table 1 to this subpart, you must conduct EPA Method 9 in appendix A to part 60 of this chapter according to item 17 in Table 4 to this subpart, and in accordance with paragraphs (l)(1) through (3) of this section.

(1) The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).

(2) The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (e.g., road dust). The required observer position relative to the sun must be followed.

(3) If you use wet dust suppression to control PM from PSH operations, a visible mist is sometimes generated by the spray. The water mist must not be confused with particulate matter emissions and is not to be considered VE. When a water mist of this nature is present, you must observe emissions at a point in the plume where the mist is no longer visible.

§63.7113 What are my monitoring installation, operation, and maintenance requirements?

(a) You must install, operate, and maintain each continuous parameter monitoring system (CPMS) according to your OM&M plan required by §63.7100(d) and paragraphs (a)(1) through (5) of this section, and you must install, operate, and maintain each continuous opacity monitoring system (COMS) as required by paragraph (g) of this section

(1) The CPMS must complete a minimum of one cycle of operation for each successive 15-minute period.

(2) To calculate a valid hourly value, you must have at least four equally spaced data values (or at least two, if that condition is included to allow for periodic calibration checks) for that hour from a CPMS that is not out of control according your OM&M plan, and use all valid data.

(3) To calculate the average for each 3-hour block averaging period, you must use all valid data, and you must have at least 66 percent of the hourly averages for that period using only hourly average values that are based on valid data (i.e., not from out-of-control periods).

(4) You must conduct a performance evaluation of each CPMS in accordance with your OM&M plan.

(5) You must continuously operate and maintain the CPMS according to the OM&M plan, including, but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

(b) For each flow measurement device, you must meet the requirements in paragraphs (a)(1) through (5) and (b)(1) through (4) of this section.

(1) Use a flow sensor with a minimum tolerance of 2 percent of the flow rate.

(2) Reduce swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.

(3) Conduct a flow sensor calibration check at least semiannually.

(4) At least monthly, inspect all components for integrity, all electrical connections for continuity, and all mechanical connections for leakage.

(c) For each pressure measurement device, you must meet the requirements in paragraphs (a)(1) through (5) and (c)(1) through (7) of this section.

(1) Locate the pressure sensor(s) in or as close to as possible a position that provides a representative measurement of the pressure.

(2) Minimize or eliminate pulsating pressure, vibration, and internal and external corrosion.

(3) Use a gauge with a minimum tolerance of 0.5 inch of water or a transducer with a minimum tolerance of 1 percent of the pressure range.

(4) Check pressure tap pluggage daily.

(5) Using a manometer, check gauge calibration quarterly and transducer calibration monthly.

(6) Conduct calibration checks any time the sensor exceeds the manufacturer's specified maximum operating pressure range or install a new pressure sensor.

(7) At least monthly, inspect all components for integrity, all electrical connections for continuity, and all mechanical connections for leakage.

(d) For each bag leak detection system (BLDS), you must meet any applicable requirements in paragraphs (a)(1) through (5) and (d)(1) through (8) of this section.

(1) The BLDS must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.

(2) The sensor on the BLDS must provide output of relative PM emissions.

(3) The BLDS must have an alarm that will sound automatically when it detects an increase in relative PM emissions greater than a preset level.

(4) The alarm must be located in an area where appropriate plant personnel will be able to hear it.

(5) For a positive-pressure fabric filter (FF), each compartment or cell must have a bag leak detector (BLD). For a negative-pressure or induced-air FF, the BLD must be installed downstream of the FF. If multiple BLD are required (for either type of FF), the detectors may share the system instrumentation and alarm.

(6) Bag leak detection systems must be installed, operated, adjusted, and maintained according to the manufacturer's written specifications and recommendations. Standard operating procedures must be incorporated into the OM&M plan.

(7) At a minimum, initial adjustment of the system must consist of establishing the baseline output in both of the following ways:

(i) Adjust the range and the averaging period of the device.

(ii) Establish the alarm set points and the alarm delay time.

(8) After initial adjustment, the range, averaging period, alarm set points, or alarm delay time may not be adjusted except as specified in the OM&M plan required by §63.7100(d). In no event may the range be increased by more than 100 percent or decreased by more than 50 percent over a 365-day period unless a responsible official, as defined in §63.2, certifies in writing to the Administrator that the FF has been inspected and found to be in good operating condition.

(e) For each PM detector, you must meet any applicable requirements in paragraphs (a)(1) through (5) and (e)(1) through (8) of this section.

(1) The PM detector must be certified by the manufacturer to be capable of detecting PM

emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.

(2) The sensor on the PM detector must provide output of relative PM emissions.

(3) The PM detector must have an alarm that will sound automatically when it detects an increase in relative PM emissions greater than a preset level.

(4) The alarm must be located in an area where appropriate plant personnel will be able to hear it.

(5) For a positive-pressure electrostatic precipitator (ESP), each compartment must have a PM detector. For a negative-pressure or induced-air ESP, the PM detector must be installed downstream of the ESP. If multiple PM detectors are required (for either type of ESP), the detectors may share the system instrumentation and alarm.

(6) Particulate matter detectors must be installed, operated, adjusted, and maintained according to the manufacturer's written specifications and recommendations. Standard operating procedures must be incorporated into the OM&M plan.

(7) At a minimum, initial adjustment of the system must consist of establishing the baseline output in both of the following ways:

(i) Adjust the range and the averaging period of the device.

(ii) Establish the alarm set points and the alarm delay time.

(8) After initial adjustment, the range, averaging period, alarm set points, or alarm delay time may not be adjusted except as specified in the OM&M plan required by §63.7100(d). In no event may the range be increased by more than 100 percent or decreased by more than 50 percent over a 365-day period unless a responsible official as defined in §63.2 certifies in writing to the Administrator that the ESP has been inspected and found to be in good operating condition.

(f) For each emission unit equipped with an add-on air pollution control device, you must inspect each capture/collection and closed vent system at least once each calendar year to ensure that each system is operating in accordance with the operating requirements in item 6 of Table 2 to this subpart and record the results of each inspection.

(g) For each COMS used to monitor an add-on air pollution control device, you must meet the requirements in paragraphs (g)(1) and (2) of this section.

(1) Install the COMS at the outlet of the control device.

(2) Install, maintain, calibrate, and operate the COMS as required by 40 CFR part 63, subpart A, General Provisions and according to Performance Specification (PS)-1 of appendix B to part 60 of this chapter. Facilities that operate COMS installed on or before February 6, 2001, may continue to meet the requirements in effect at the time of COMS installation unless specifically required to re-certify the COMS by their permitting authority.

§63.7114 How do I demonstrate initial compliance with the emission limitations standard?

(a) You must demonstrate initial compliance with each emission limit in Table 1 to this subpart that applies to you, according to Table 3 to this subpart. For existing lime kilns and their associated coolers, you may perform VE measurements in accordance with EPA Method 9 of appendix A to part 60 in lieu of installing a COMS or PM detector if any of the conditions in paragraphs (a)(1) through (3) of this section exist:

(1) You use a FF for PM control, and the FF is under positive pressure and has multiple stacks; or

(2) The control device exhausts through a monovent; or

(3) The installation of a COMS in accordance with PS-1 of appendix B to part 60 is infeasible.

(b) You must establish each site-specific operating limit in Table 2 to this subpart that applies to you according to the requirements in §63.7112(j) and Table 4 to this subpart. Alternative parameters may be monitored if approval is obtained according to the procedures in §63.8(f)

(c) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.7130(e).

CONTINUOUS COMPLIANCE REQUIREMENTS

§63.7120 How do I monitor and collect data to demonstrate continuous compliance?

(a) You must monitor and collect data according to this section.

(b) Except for monitor malfunctions, associated repairs, required quality assurance or control activities (including, as applicable, calibration checks and required zero adjustments), and except for PSH operations subject to monthly VE testing, you must monitor continuously (or collect data at all required intervals) at all times that the emission unit is operating.

(c) Data recorded during the conditions described in paragraphs (c)(1) through (3) of this section may not be used either in data averages or calculations of emission or operating limits; or in fulfilling a minimum data availability requirement. You must use all the data collected during all other periods in assessing the operation of the control device and associated control system.

(1) Monitoring system breakdowns, repairs, preventive maintenance, calibration checks, and zero (low-level) and high-level adjustments;

(2) Periods of non-operation of the process unit (or portion thereof), resulting in cessation of the emissions to which the monitoring applies; and

(3) Start-ups, shutdowns, and malfunctions.

§63.7121 How do I demonstrate continuous compliance with the emission limitations standard?

(a) You must demonstrate continuous compliance with each emission limitation in Tables 1 and 2 to this subpart that applies to you according to the methods specified in Tables 5 and 6 to this subpart.

(b) You must report each instance in which you did not meet each operating limit, opacity limit, and VE limit in Tables 2 and 6 to this subpart that applies to you. This includes periods of startup, shutdown, and malfunction. These instances are deviations from the emission limitations in this subpart. These deviations must be reported according to the requirements in §63.7131.

(c) You must operate in accordance with the SSMP during periods of startup, shutdown, and malfunction.

(d) Consistent with §§63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if you demonstrate to the Administrator's satisfaction that you were operating in accordance with the SSMP. The Administrator will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in §63.6(e).

(e) For each PSH operation subject to an opacity limit as specified in Table 1 to this subpart, and any vents from buildings subject to an opacity limit, you must conduct a VE check according to item 1 in Table 6 to this subpart, and as follows:

(1) Conduct visual inspections that consist of a visual survey of each stack or process emission point over the test period to identify if there are VE, other than condensed water vapor.

(2) Select a position at least 15 but not more 1,320 feet from the affected emission point with the sun or other light source generally at your back.

(3) The observer conducting the VE checks need not be certified to conduct EPA Method 9 in appendix A to part 60 of this chapter, but must meet the training requirements as described in EPA Method 22 of appendix A to part 60 of this chapter.

(f) For existing lime kilns and their associated coolers, you may perform VE measurements in accordance with EPA Method 9 of appendix A to part 60 in lieu of installing a COMS or PM detector if any of the conditions in paragraphs (f)(1) or (3) of this section exist:

(1) You use a FF for PM control, and the FF is under positive pressure and has multiple stacks; or

(2) The control device exhausts through a monovent; or

(3) The installation of a COMS in accordance with PS-1 of appendix B to part 60 is infeasible.

NOTIFICATION, REPORTS, AND RECORDS

§63.7130 What notifications must I submit and when?

(a) You must submit all of the notifications in §§63.6(h)(4) and (5); 63.7(b) and (c); 63.8(e); (f)(4) and (6); and 63.9 (a) through (j) that apply to you, by the dates specified.

(b) As specified in §63.9(b)(2), if you start up your affected source before January 5, 2004, you must submit an initial notification not later than 120 calendar days after January 5, 2004.

(c) If you startup your new or reconstructed affected source on or after January 5, 2004, you must submit an initial notification not later than 120 calendar days after you start up your affected source.

(d) If you are required to conduct a performance test, you must submit a notification of intent to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin, as required in §63.7(b)(1).

(e) If you are required to conduct a performance test, design evaluation, opacity observation, VE observation, or other initial compliance demonstration as specified in Table 3 or 4 to this subpart, you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii).

(1) For each initial compliance demonstration required in Table 3 to this subpart that does not include a performance test, you must submit the Notification of Compliance Status before the close of business on the 30th calendar day following the completion of the initial compliance demonstration.

(2) For each compliance demonstration required in Table 5 to this subpart that includes a performance test conducted according to the requirements in Table 4 to this subpart, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th calendar day following the completion of the performance test according to §63.10(d)(2).

§63.7131 What reports must I submit and when?

(a) You must submit each report listed in Table 7 to this subpart that applies to you.

(b) Unless the Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report by the date specified in Table 7 to this subpart and according to the requirements in paragraphs (b)(1) through (5) of this section:

(1) The first compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.7083 and ending on June 30 or December 31, whichever date is the first date following the end of the first half calendar year after the compliance date that is specified for your source in §63.7083.

(2) The first compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first half calendar year after the compliance date that is specified for your affected source in §63.7083.

(3) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) Each subsequent compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(5) For each affected source that is subject to permitting regulations pursuant to part 70 or part 71 of this chapter, if the permitting authority has established dates for submitting semiannual reports pursuant to §§70.6(a)(3)(iii)(A) or 71.6(a)(3)(iii)(A) of this chapter, you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates specified in paragraphs (b)(1) through (4) of this section.

(c) The compliance report must contain the information specified in paragraphs (c)(1) through (6) of this section.

(1) Company name and address.

(2) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) If you had a startup, shutdown or malfunction during the reporting period and you took actions consistent with your SSMP, the compliance report must include the information in §63.10(d)(5)(i).

(5) If there were no deviations from any emission limitations (emission limit, operating limit, opacity limit, and VE limit) that apply to you, the compliance report must include a statement that there were no deviations from the emission limitations during the reporting period.

(6) If there were no periods during which the continuous monitoring systems (CMS) were out-of-control as specified in §63.8(c)(7), a statement that there were no periods during which the CMS were out-of-control during the reporting period.

(d) For each deviation from an emission limitation (emission limit, operating limit, opacity limit, and VE limit) that occurs at an affected source where you are not using a CMS to comply with the emission limitations in this subpart, the compliance report must contain the information specified in paragraphs (c)(1) through (4) and (d)(1) and (2) of this section. The deviations must be reported in accordance with the requirements in §63.10(d).

(1) The total operating time of each emission unit during the reporting period.

(2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(e) For each deviation from an emission limitation (emission limit, operating limit, opacity limit, and VE limit) occurring at an affected source where you are using a CMS to comply with the emission limitation in this subpart, you must include the information specified in paragraphs (c)(1) through (4) and (e)(1) through (11) of this section. This includes periods of startup, shutdown, and malfunction.

(1) The date and time that each malfunction started and stopped.

(2) The date and time that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time and duration that each CMS was out-of-control, including the information in §63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(5) A summary of the total duration of the deviations during the reporting period and the total duration as a percent of the total affected source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS downtime during the reporting period and the total duration of CMS downtime as a percent of the total emission unit operating time during that reporting period.

(8) A brief description of the process units.

(9) A brief description of the CMS.

(10) The date of the latest CMS certification or audit.

(11) A description of any changes in CMS, processes, or controls since the last reporting period.

(f) Each facility that has obtained a title V operating permit pursuant to part 70 or part 71 of this chapter must report all deviations as defined in this subpart in the semiannual monitoring report required by §§70.6(a)(3)(iii)(A) or 71.6(a)(3)(iii)(A) of this chapter. If you submit a compliance report specified in Table 7 to this subpart along with, or as part of, the semiannual monitoring report required by §§70.6(a)(3)(iii)(A) or 71.6(a)(3)(iii)(A) of this chapter, and the compliance report includes all required information concerning deviations from any emission limitation (including any operating limit), submission of the compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a compliance

report shall not otherwise affect any obligation you may have to report deviations from permit requirements to the permit authority.

§63.7132 What records must I keep?

(a) You must keep the records specified in paragraphs (a)(1) through (3) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirements in §63.10(b)(2)(xiv).

(2) The records in §63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

(3) Records of performance tests, performance evaluations, and opacity and VE observations as required in §63.10(b)(2)(viii).

(b) You must keep the records in §63.6(h)(6) for VE observations.

(c) You must keep the records required by Tables 5 and 6 to this subpart to show continuous compliance with each emission limitation that applies to you.

(d) You must keep the records which document the basis for the initial applicability determination as required under §63.7081.

§63.7133 In what form and for how long must I keep my records?

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

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

(c) You must keep each record onsite for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1). You may keep the records offsite for the remaining 3 years.

OTHER REQUIREMENTS AND INFORMATION

§63.7140 What parts of the General Provisions apply to me?

Appendix A to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you. When there is overlap between subpart A and subpart AAAAA, as indicated in the "Explanations" column in Table 8, subpart AAAAA takes precedence.

§63.7141 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by us, the U.S. EPA, or by a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the U.S. EPA) has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out if this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are as specified in paragraphs (c)(1) through (6) of this section.

(1) Approval of alternatives to the non-opacity emission limitations in §63.7090(a).

(2) Approval of alternative opacity emission limitations in §63.7090(a).

(3) Approval of alternatives to the operating limits in §63.7090(b).

(4) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f) and as defined in §63.90.

(5) Approval of major alternatives to monitoring under §63.8(f) and as defined in §63.90.

(6) Approval of major alternatives to recordkeeping and reporting under §63.10(f) and as defined in §63.90.

§63.7142 What are the requirements for claiming area source status?

(a) If you wish to claim that your LMP is an area source, you must measure the emissions of hydrogen chloride from all lime kilns, except as provided in paragraph (c) of this section, at your plant using either:

(1) EPA Method 320 of appendix A to this part,

(2) EPA Method 321 of appendix A to this part, or

(3) ASTM Method D6735-01, Standard Test Method for Measurement of Gaseous Chlorides and Fluorides from Mineral Calcining Exhaust Sources--Impinger Method, provided that the provisions in paragraphs (a)(3)(i) through (vi) of this section are followed.

(i) A test must include three or more runs in which a pair of samples is obtained simultaneously for each run according to section 11.2.6 of ASTM Method D6735-01.

(ii) You must calculate the test run standard deviation of each set of paired samples to quantify data precision, according to Equation 1 of this section:

$$RSD_a = (100)\ \text{Absolute Value}\left[\frac{C1_a - C2_a}{C1_a + C2_a}\right] \qquad \text{(Eq. 1)}$$

Where:

RSD_a = The test run relative standard deviation of sample pair a, percent.

$C1_a$ and $C2_a$ = The HCl concentrations, milligram/dry standard cubic meter(mg/dscm), from the paired samples.

(iii) You must calculate the test average relative standard deviation according to Equation 2 of this section:

$$RSD_{TA} = \frac{\sum_{a=1}^{p} RSD_a}{p} \qquad \text{(Eq. 2)}$$

Where:

RSD_{TA} = The test average relative standard deviation, percent.

RSD_a = The test run relative standard deviation for sample pair a.

p = The number of test runs, =3.

(iv) If RSD^{TA} is greater than 20 percent, the data are invalid and the test must be repeated.

(v) The post-test analyte spike procedure of section 11.2.7 of ASTM Method D6735-01 is conducted, and the percent recovery is calculated according to section 12.6 of ASTM Method D6735-01

(vi) If the percent recovery is between 70 percent and 130 percent, inclusive, the test is valid. If the percent recovery is outside of this range, the data are considered invalid, and the test must be repeated.

(b) If you conduct tests to determine the rates of emission of specific organic HAP from lime kilns at LMP for use in applicability determinations under §63.7081, you may use either:

(1) Method 320 of appendix A to this part, or

(2) Method 18 of appendix A to part 60 of this chapter, or

(3) ASTM D6420-99, Standard Test Method for Determination of

Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry (GC/MS), provided that the provisions of paragraphs (b)(3)(i) through (iv) of this section are followed:

(i) The target compound(s) are those listed in section 1.1 of ASTM D6420-99;

(ii) The target concentration is between 150 parts per billion by volume and 100 parts per million by volume;

(iii) For target compound(s) not listed in Table 1.1 of ASTM D6420-99, but potentially detected by mass spectrometry, the additional system continuing calibration check after each run, as detailed in section 10.5.3 of ASTM D6420-99, is conducted, met, documented, and submitted with the data report, even if there is no moisture condenser used or the compound is not considered water soluble; and

(iv) For target compound(s) not listed in Table 1.1 of ASTM D6420-99, and not amenable to detection by mass spectrometry, ASTM D6420-99 may not be used.

(c) It is left to the discretion of the permitting authority whether or not idled kilns must be tested for (HCl) to claim area source status. If the facility has kilns that use common feed materials and fuel, are essentially identical in design, and use essentially identical emission controls, the permitting authority may also determine if one kiln can be tested, and the HCl emissions for the other essentially identical kilns be estimated from that test.

§63.7143 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act, in §63.2, and in this section as follows:

Bag leak detector system (BLDS) is a type of PM detector used on FF to identify an increase in PM emissions resulting from a broken filter bag or other malfunction and sound an alarm.

Belt conveyor means a conveying device that transports processed stone from one location to another by means of an endless belt that is carried on a series of idlers and routed around a pulley at each end.

Bucket elevator means a processed stone conveying device consisting of a head and foot assembly which supports and drives an endless single or double strand chain or belt to which buckets are attached.

Building means any frame structure with a roof.

Capture system means the equipment (including enclosures, hoods, ducts, fans, dampers, etc.) used to capture and transport PM to a control device.

Control device means the air pollution control equipment used to reduce PM emissions released to the atmosphere from one or more process operations at an LMP.

Conveying system means a device for transporting processed stone from one piece of equipment or location to another location within a plant. Conveying systems include but are not limited to feeders, belt conveyors, bucket elevators and pneumatic systems.

Deviation means any instance in which an affected source, subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation (including any operating limit);

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation (including any operating limit) in this subpart during startup, shutdown, or malfunction, regardless of whether or not such failure is allowed by this subpart.

Emission limitation means any emission limit, opacity limit, operating limit, or VE limit.

Emission unit means a lime kiln, lime cooler, storage bin, conveying system transfer point, bulk loading or unloading operation, bucket elevator or belt conveyor at an LMP.

Fugitive emission means PM that is not collected by a capture system.

Hydrator means the device used to produce hydrated lime or calcium hydroxide via the chemical reaction of the lime product with water.

Lime cooler means the device external to the lime kiln (or part of the lime kiln itself) used to reduce the temperature of the lime produced by the kiln.

Lime kiln means the device, including any associated preheater, used to produce a lime product from stone feed by calcination. Kiln types include, but are not limited to, rotary kiln, vertical kiln, rotary hearth kiln, double-shaft vertical kiln, and fluidized bed kiln.

Lime manufacturing plant (LMP) means any plant which uses a lime kiln to produce lime product from limestone or other calcareous material by calcination.

Lime product means the product of the lime kiln calcination process including, calcitic lime, dolomitic lime, and dead-burned dolomite.

Limestone means the material comprised primarily of calcium carbonate (referred to sometimes as calcitic or high calcium limestone), magnesium carbonate, and/or the double carbonate of both calcium and magnesium (referred to sometimes as dolomitic limestone or dolomite).

Monovent means an exhaust configuration of a building or emission control device (e.g., positive pressure FF) that extends the length of the structure and has a width very small in relation to its length (i.e., length-to-width ratio is typically greater than 5:1). The exhaust may be an open vent with or without a roof, louvered vents, or a combination of such features.

Particulate matter (PM) detector means a system that is continuously capable of monitoring PM loading in the exhaust of FF or ESP in order to detect bag leaks, upset conditions, or control device malfunctions and sounds an alarm at a preset level. A PM detector system includes, but is not limited to, an instrument that operates on triboelectric, light scattering, light transmittance, or other effects to continuously monitor relative particulate loadings. A BLDS is a type of PM detector.

Positive pressure FF or ESP means a FF or ESP with the fan(s) on the upstream side of the control device.

Process stone handling operations means the equipment and transfer points between the equipment used to transport processed stone, and includes, storage bins, conveying system transfer points, bulk loading or unloading systems, screening operations, bucket elevators, and belt conveyors.

Processed stone means limestone or other calcareous material that has been processed to a size suitable for feeding into a lime kiln.

Screening operation means a device for separating material according to size by passing undersize material through one or more mesh surfaces (screens) in series and retaining oversize material on the mesh surfaces (screens).

Stack emissions means the PM that is released to the atmosphere from a capture system or control device.

Storage bin means a manmade enclosure for storage (including surge bins) of processed stone prior to the lime kiln.

Transfer point means a point in a conveying operation where the material is transferred to or from a belt conveyor.

Vent means an opening through which there is mechanically induced air flow for the purpose of exhausting from a building air carrying PM emissions from one or more emission units.

TABLE 1 TO SUBPART AAAAA OF PART 63.—EMISSION LIMITS

As required in §63.7090(a), you must meet each emission limit in the following table that applies to you.

For	You must meet the following emission limit
1. Existing lime kilns and their associated lime coolers that did not have a wet scrubber installed and operating prior to January 5, 2004.	PM emissions must not exceed 0.12 pounds per ton of stone feed (lb/tsf).
2. Existing lime kilns and their associated lime coolers that have a wet scrubber, where the scrubber itself was installed and operating prior to January 5, 2004.	PM emissions must not exceed 0.60 lb/tsf. If at any time after January 5, 2004 the kiln changes to a dry control system, then the PM emission limit in item 1 of this Table 1 applies, and the kiln is hereafter ineligible for the PM emission limit in item 2 of this Table 1 regardless of the method of PM control.
3. New lime kilns and their associated lime coolers	PM emissions must not exceed 0.10 lb/tsf.
4. All existing and new lime kilns and their associated coolers at your LMP, and you choose to average PM emissions, except that any kiln that is allowed to meet the 0.60 lb/tsf PM emission limit is ineligible for averaging.	Weighted average PM emissions calculated according to Eq. 2 in §63.7112 must not exceed 0.12 lb/tsf (if you are averaging only existing kilns) or 0.10 lb/tsf (if you are averaging only new kilns). If you are averaging existing and new kilns, your weighted average PM emissions must not exceed the weighted average emission limit calculated according to Eq. 3 in §63.7112, except that no new kiln and its associated cooler considered alone may exceed an average PM emissions limit of 0.10 lb/tsf.
5. Stack emissions from all PSH operations at a new or existing affected source.	PM emissions must not exceed 0.05 grams per dry standard cubic meter (g/dscm).
6. Stack emissions from all PSH operations at a new or existing affected source, unless the stack emissions are discharged through a wet scrubber control device.	Emissions must not exceed 7 percent opacity.
7. Fugitive emissions from all PSH operations at a new or existing affected source, except as provided by item 8 of this Table 1	Emissions must not exceed 10 percent opacity.
8. All PSH operations at a new or existing affected source enclosed in a building.	All of the individually affected PSH operations must comply with the applicable PM and opacity emission limitations in items 5 through 7 of this Table 1, or the building must comply with the following: There must be no VE from the building, except from a vent; and vent emissions must not exceed the stack emissions limitations in items 5 and 6 of this Table 1.
9. Each FF that controls emissions from only an individual, enclosed storage bin.	Emissions must not exceed 7 percent opacity.
10. Each set of multiple storage bins at a new or existing affected source, with combined stack emissions.	You must comply with the emission limits in items 5 and 6 of this Table 1.

TABLE 2 TO SUBPART AAAAA OF PART 63.—OPERATING LIMITS

As required in §63.7090(b), you must meet each operating limit in the following table that applies to you.

For	You must
1. Each lime kiln and each lime cooler (if there is a separate exhaust to the atmosphere from the associated lime cooler) equipped with an FF.	Maintain and operate the FF such that the BLDS or PM detector alarm condition does not exist for more than 5 percent of the total operating time in a 6-month period; and comply with the requirements in §63.7113(d) through (f) and Table 5 to this subpart. In lieu of a BLDS or PM detector maintain the FF such that the 6-minute average opacity for any 6-minute block period does not exceed 15 percent; and comply with the requirements in §63.7113(f) and (g) and Table 5 to this subpart.
2. Each lime kiln equipped with a wet scrubber	Maintain the 3-hour block exhaust gas stream pressure drop across the wet scrubber greater than or equal to the pressure drop operating limit established during the most recent PM performance test; and maintain the 3-hour block scrubbing liquid flow rate greater than the flow rate operating limit established during the most recent performance test.
3. Each lime kiln equipped with an electrostatic precipitator	Install a PM detector and maintain and operate the ESP such that the PM detector alarm is not activated and alarm condition does not exist for more than 5 percent of the total operating time in a 6-month period, and comply with §63.7113(e); or, maintain the ESP such that the 6-minute average opacity for any 6-minute block period does not exceed 15 percent, and comply with the requirements in §63.7113(g); and comply with the requirements in §63.7113(f) and Table 5 to this subpart.
4. Each PSH operation subject to a PM limit which uses a wet scrubber	Maintain the 3-hour block average exhaust gas stream pressure drop across the wet scrubber greater than or equal to the pressure drop operating limit established during the PM performance test; and maintain the 3-hour block average scrubbing liquid flow rate greater than or equal to the flow rate operating limit established during the performance test.
5. All affected sources	Prepare a written OM&M plan; the plan must include the items listed in §63.7100(d) and the corrective actions to be taken when required in Table 5 to this subpart.
6. Each emission unit equipped with an add-on air pollution control device.	a. Vent captured emissions through a closed system, except that dilution air may be added to emission streams for the purpose of controlling temperature at the inlet to an FF; and b. Operate each capture/collection system according to the procedures and requirements in the OM&M plan.

TABLE 3 TO SUBPART AAAAA OF PART 63.—INITIAL COMPLIANCE WITH EMISSION LIMITS

As required in §63.7114, you must demonstrate initial compliance with each emission limitation that applies to you, according to the following table.

For	For the following emission unit	You have demonstrated initial compliance, if after following the requirements in §63.7112
1. All new or existing lime kilns and their associated lime coolers (kilns/coolers).	PM emissions must not exceed 0.12 lb/tsf for all existing kilns/coolers with dry controls, 0.60 lb/tsf for existing kilns/coolers with wet scrubbers, 0.10 lb/tsf for all new kilns/coolers, or a weighted average calculated according to Eq. 3 in §63.7112.	The kiln outlet PM emissions (and if applicable, summed with the separate cooler PM emissions), based on the PM emissions measured using Method 5 in appendix A to part 60 of this chapter and the stone feed rate measurement over the period of initial performance test, do not exceed the emission limit; if the lime kiln is controlled by an FF or ESP and you are opting to monitor PM emissions with a BLDS or PM detector, you have installed and are operating the monitoring device according to the requirements in §63.7113(d) or (e), respectively; and if the lime kiln is controlled by an FF or ESP and you are opting to monitor PM emissions using a COMS, you have installed and are operating the COMS according to the requirements in §63.7113(g).
2. Stack emissions from all PHS operations at a new or existing affected source.	PM emissions must not exceed 0.05 g/dscm	The outlet PM emissions, based on Method 5 or Method 17 in appendix A to part 60 of this chapter, over the period of the initial performance test do not exceed 0.05 g/dscm; and if the emission unit is controlled with a wet scrubber, you have a record of the scrubber's pressure drop and liquid flow rate operating parameters over the 3-hour performance test during which emissions did not exceed the emissions limitation.
3. Stack emissions from all PSH operations at a new or existing affected source, unless the stack emissions are discharged through a wet scrubber control device.	Emissions must not exceed 7 percent opacity	Each of the thirty 6-minute opacity averages during the initial compliance period, using Method 9 in appendix A to part 60 of this chapter, does not exceed the 7 percent opacity limit. At least thirty 6-minute averages must be obtained.
4. Fugitive emissions from all PSH operations at a new or existing affected source.	Emissions must not exceed 10 percent opacity.	Each of the 6-minute opacity averages during the initial compliance period, using Method 9 in appendix A to part 60 of this chapter, does not exceed the 10 percent opacity limit.
5. All PSH operations at a new or existing affected source, enclosed in building.	All of the individually affected PSH operations must comply with the applicable PM and opacity emission limitations for items 2 through 4 of this Table 3, or the building must comply with the following: There must be no VE from the building, except from a vent, and vent emissions must not exceed the emission limitations in items 2 and 3 of this Table 3.	All the PSH operations enclosed in the building, have demonstrated initial compliance according to the applicable requirements for items 2 through 4 of this Table 3; or if you are complying with the building emission limitations, there are no VE from the building according to item 18 of Table 4 to this subpart and §63.7112(k), and you demonstrate initial compliance with applicable building vent emissions limitations according to the requirements in items 2 and 3 of this Table 3.
6. Each FF that controls emissions from only an individual storage bin.	Emissions must not exceed 7 percent opacity	Each of the ten 6-minute averages during the 1-hour initial compliance period, using Method 9 in appendix A to part 60 of this chapter, does not exceed the 7 percent opacity limit.
7. Each set of multiple storage bins with combined stack emissions.	You must comply with emission limitations in items 2 and 3 of this Table 3.	You demonstrate initial compliance according to the requirements in items 2 and 3 of this Table 3.

TABLE 4 TO SUBPART AAAAA OF PART 63.—REQUIREMENTS FOR PERFORMANCE TESTS

As required in §63.7112, you must conduct each performance test in the following table that applies to you.

For	You must	Using	According to the following requirements
1. Each lime kiln and each associated lime cooler, if there is a separate exhaust to the atmosphere from the associated lime cooler.	Select the location of the sampling port and the number of traverse ports.	Method 1 or 1A of appendix A to part 60 of this chapter; and §63.6(d)(1)(i).	Sampling sites must be located at the outlet of the control device(s) and prior to any releases to the atmosphere.
2. Each lime kiln and each associated lime cooler, if there is a separate exhaust to the atmosphere from the associated lime cooler.	Determine velocity and volumetric flow rate.	Method 2, 2A, 2C, 2D, 2F, or 2G in appendix A to part 60 of this chapter.	Not applicable.
3. Each lime kiln and each associated lime cooler, if there is a separate exhaust to the atmosphere from the associated lime cooler.	Conduct gas molecular weight analysis.	Method 3, 3A, or 3B in appendix A to part 60 of this chapter.	Not applicable.
4. Each lime kiln and each associated lime cooler, if there is a separate exhaust to the atmosphere from the associated lime cooler.	Measure moisture content of the stack gas.	Method 4 in appendix A to part 60 of this chapter.	Not applicable.
5. Each lime kiln and each associated lime cooler, if there is a separate exhaust to the atmosphere from the associated lime cooler, and which uses a negative pressure PM control device.	Measure PM emissions	Method 5 in appendix A to part 60 of this chapter.	Conduct the test(s) when the source is operating at representative operating conditions in accordance with §63.7(e); the minimum sampling volume must be 0.85 dry standard cubic meter (dscm) (30 dry standard cubic foot (dscf)); if there is a separate lime cooler exhaust to the atmosphere, you must conduct the Method 5 test of the cooler exhaust concurrently with the kiln exhaust test.
6. Each lime kiln and each associated lime cooler, if there is a separate exhaust to the atmosphere from the associated lime cooler, and which uses a positive pressure FF or ESP.	Measure PM emissions	Method 5D in appendix A to part 60 of this chapter.	Conduct the test(s) when the source is operating at representative operating conditions in accordance with §63.7(e); if there is a separate lime cooler exhaust to the atmosphere, you must conduct the Method 5 test of the separate cooler exhaust concurrently with the kiln exhaust test.
7. Each lime kiln	Determine the mass rate of stone feed to the kiln during the kiln PM emissions test.	Any suitable device	Calibrate and maintain the device according to manufacturer's instructions; the measuring device used must be accurate to within ±5 percent of the mass rate of stone feed over its operating range.
8. Each lime kiln equipped with a wet scrubber.	Establish the operating limit for the average gas stream pressure drop across the wet scrubber.	Data for the gas stream pressure drop measurement device during the kiln PM performance test.	The continuous pressure drop measurement device must be accurate within plus or minus 1 percent; you must collect the pressure drop data during the period of the performance test and determine the operating limit according to §63.7112(j).
9. Each lime kiln equipped with a wet scrubber.	Establish the operating limit for the average liquid flow rate to the scrubber.	Data from the liquid flow rate measurement device during the kiln PM performance test.	The continuous scrubbing liquid flow rate measuring device must be accurate within plus or minus 1 percent; you must collect the flow rate data during the period of the performance test and determine the operating limit according to §63.7112(j).
10. Each lime kiln equipped with a FF or ESP that is monitored with a PM detector	Have installed and have operating the BLDS or PM detector prior to the performance test.	Standard operating procedures incorporated into the OM&M plan.	According to the requirements in §63.7113(d) or (e), respectively.

TABLE 4 TO SUBPART AAAAA OF PART 63 — CONTINUED			
For	**You must**	**Using**	**According to the following requirements**
11. Each lime kiln equipped with a FF or ESP that is monitored with a COMS.	Have installed and have operating the COMS prior to the performance test.	Standard operating procedures incorporated into the OM&M plan and as required by 40 CFR part 63, subpart A, General Provisions and according to PS–1 of appendix B to part 60 of this chapter, except as specified in §63.7113(g)(2).	According to the requirements in §63.7113(g).
12. Each stack emission from a PSH operation, vent from a building enclosing a PSH operation, or set of multiple storage bins with combined stack emissions, which is subject to a PM emission limit.	Measure PM emissions	Method 5 or Method 17 in appendix A to part 60 of this chapter.	The sample volume must be at least 1.70 dscm (60 dscf); for Method 5, if the gas stream being sampled is at ambient temperature, the sampling probe and filter may be operated without heaters; and if the gas stream is above ambient temperature, the sampling probe and filter may be operated at a temperature high enough, but no higher than 121 °C (250 °F), to prevent water condensation on the filter (Method 17 may be used only with exhaust gas temperatures of not more than 250 °F).
13. Each stack emission from a PSH operation, vent from a building enclosing a PSH operation, or set of multiple storage bins with combined stack emissions, which is subject to an opacity limit.	Conduct opacity observations	Method 9 in appendix A to part 60 of this chapter.	The test duration must be for at least 3 hours and you must obtain at least thirty, 6-minute averages.
14. Each stack emissions source from a PSH operation subject to a PM or opacity limit, which uses a wet scrubber.	Establish the average gas stream pressure drop across the wet scrubber.	Data for the gas stream pressure drop measurement device during the PSH operation stack PM performance test.	The pressure drop measurement device must be accurate within plus or minus 1 percent; you must collect the pressure drop data during the period of the performance test and determine the operating limit according to §63.7112(j).
15. Each stack emissions source from a PSH operation subject to a PM or opacity limit, which uses a wet scrubber.	Establish the operating limit for the average liquid flow rate to the scrubber.	Data from the liquid flow rate measurement device during the PSH operation stack PM performance test.	The continuous scrubbing liquid flow rate measuring device must be accurate within plus or minus 1 percent; you must collect the flow rate data during the period of the performance test and determine the operating limit according to §63.7112(j).
16. Each FF that controls emissions from only an individual, enclosed, new or existing storage bin.	Conduct opacity observations	Method 9 in appendix A to part 60 of this chapter.	The test duration must be for at least 1 hour and you must obtain ten 6-minute averages.
17. Fugitive emissions from any PSH operation subject to an opacity limit.	Conduct opacity observations	Method 9 in appendix A to part 60 of this chapter.	The test duration must be for at least 3 hours, but the 3-hour test may be reduced to 1 hour if, during the first 1-hour period, there are no individual readings greater than 10 percent opacity and there are no more than three readings of 10 percent during the first 1-hour period.
18. Each building enclosing any PSH operation, that is subject to a VE limit.	Conduct VE check	The specifications in §63.7112(k)	The performance test must be conducted while all affected PSH operations within the building are operating; the performance test for each affected building must be at least 75 minutes, with each side of the building and roof being observed for at least 15 minutes.

TABLE 5 TO SUBPART AAAAA OF PART 63.—CONTINUOUS COMPLIANCE WITH OPERATING LIMITS

As required in §63.7121, you must demonstrate continuous compliance with each operating limit that applies to you, according to the following table.

For	For the following operating limit	You must demonstrate continuous compliance by
1. Each lime kiln controlled by a wet scrubber	Maintain the 3-hour block average exhaust gas stream pressure drop across the wet scrubber greater than or equal to the pressure drop operating limit established during the PM performance test; and maintain the 3-hour block average scrubbing liquid flow rate greater than or equal to the flow rate operating limit established during the performance test.	Collecting the wet scrubber operating data according to all applicable requirements in §63.7113 and reducing the data according to §63.7113(a); maintaining the 3-hour block average exhaust gas stream pressure drop across the wet scrubber greater than or equal to the pressure drop operating limit established during the PM performance test; and maintaining the 3-hour block average scrubbing liquid flow rate greater than or equal to the flow rate operating limit established during the performance test (the continuous scrubbing liquid flow rate measuring device must be accurate within ±1% and the continuous pressure drop measurement device must be accurate within ±1%).
2. Each lime kiln or lime cooler equipped with a FF and using a BLDS, and each lime kiln equipped with an ESP or FF using a PM detector.	a. Maintain and operate the FF or ESP such that the bag leak or PM detector alarm, is not activated and alarm condition does not exist for more than 5 percent of the total operating time in each 6-month period.	(i) Operating the FF or ESP so that the alarm on the bag leak or PM detection system is not activated and an alarm condition does not exist for more than 5 percent of the total operating time in each 6-month reporting period; and continuously recording the output from the BLD or PM detection system; and (ii) Each time the alarm sounds and the owner or operator initiates corrective actions within 1 hour of the alarm, 1 hour of alarm time will be counted (if the owner or operator takes longer than 1 hour to initiate corrective actions, alarm time will be counted as the actual amount of time taken by the owner or operator to initiate corrective actions); if inspection of the FF or ESP system demonstrates that no corrective actions are necessary, no alarm time will be counted.
3. Each stack emissions source from a PSH operation subject to an opacity limit, which is controlled by a wet scrubber.	Maintain the 3-hour block average exhaust gas stream pressure drop across the wet scrubber greater than or equal to the pressure drop operating limit established during the PM performance test; and maintain the 3-hour block average scrubbing liquid flow rate greater than or equal to the flow rate operating limit established during the performance test.	Collecting the wet scrubber operating data according to all applicable requirements in §63.7113 and reducing the data according to §63.7113(a); maintaining the 3-hour block average exhaust gas stream pressure drop across the wet scrubber greater than or equal to the pressure drop operating limit established during the PM performance test; and maintaining the 3-hour block average scrubbing liquid flow rate greater than or equal to the flow rate operating limit established during the performance test (the continuous scrubbing liquid flow rate measuring device must be accurate within ±1% and the continuous pressure drop measurement device must be accurate within ±1%).
4. For each lime kiln or lime cooler equipped with a FF or an ESP that uses a COMS as the monitoring device.	a. Maintain and operate the FF or ESP such that the average opacity for any 6-minute block period does not exceed 15 percent.	i. Installing, maintaining, calibrating and operating a COMS as required by 40 CFR part 63, subpart A, General Provisions and according to PS–1 of appendix B to part 60 of this chapter, except as specified in §63.7113(g)(2); and ii. Collecting the COMS data at a frequency of at least once every 15 seconds, determining block averages for each 6-minute period and demonstrating for each 6-minute block period the average opacity does not exceed 15 percent.

TABLE 6 TO SUBPART AAAAA OF PART 63.—PERIODIC MONITORING FOR COMPLIANCE WITH OPACITY & VISIBLE EMISSIONS LIMITS

As required in §63.7121 you must periodically demonstrate compliance with each opacity and VE limit that applies to you, according to the following table:

For	For the following emission limitation	You must demonstrate ongoing compliance
1. Each PSH operation subject to an opacity limitation as required in Table 1 to this subpart, or any vents from buildings subject to an opacity limitation.	a. 7–10 percent opacity, depending on the PSH operation, as required in Table 1 to this subpart.	(i) Conducting a monthly 1-minute VE check of each emission unit in accordance with §63.7121(e); the check must be conducted while the affected source is in operation; (ii) If no VE are observed in 6 consecutive monthly checks for any emission unit, you may decrease the frequency of VE checking from monthly to semi-annually for that emission unit; if VE are observed during any semiannual check, you must resume VE checking of that emission unit on a monthly basis and maintain that schedule until no VE are observed in 6 consecutive monthly checks; (iii) If no VE are observed during the semiannual check for any emission unit, you may decrease the frequency of VE checking from semi-annually to annually for that emission unit; if VE are observed during any annual check, you must resume VE checking of that emission unit on a monthly basis and maintain that schedule until no VE are observed in 6 consecutive monthly checks; and (iv) If VE are observed during any VE check, you must conduct a 6-minute test of opacity in accordance with Method 9 of appendix A to part 60 of this chapter; you must begin the Method 9 test within 1 hour of any observation of VE and the 6-minute opacity reading must not exceed the applicable opacity limit.
2. Any building subject to a VE limit, according to item 8 of Table 1 to this subpart.	a. No VE	(i) Conducting a monthly VE check of the building, in accordance with the specifications in §63.7112(k); the check must be conducted while all the enclosed PSH operations are operating; (ii) The check for each affected building must be at least 5 minutes, with each side of the building and roof being observed for at least 1 minute; (iii) If no VE are observed in 6 consecutive monthly checks of the building, you may decrease the frequency of checking from monthly to semi-annually for that affected source; if VE are observed during any semiannual check, you must resume checking on a monthly basis and maintain that schedule until no VE are observed in 6 consecutive monthly checks; and (iv) If no VE are observed during the semi-annual check, you may decrease the frequency of checking from semi-annually to annually for that affected source; and if VE are observed during any annual check, you must resume checking of that emission unit on a monthly basis and maintain that schedule until no VE are observed in 6 consecutive monthly checks (the source is in compliance if no VE are observed during any of these checks).

TABLE 7 TO SUBPART AAAAA OF PART 63.—REQUIREMENTS FOR REPORTS

As required in §63.7131, you must submit each report in this table that applies to you.

You must submit a	The report must contain	You must submit the report
1. Compliance report	a. If there are no deviations from any emission limitations (emission limit, operating limit, opacity limit, and VE limit) that applies to you, a statement that there were no deviations from the emission limitations during the reporting period;	Semiannually according to the requirements in §63.7131(b).
	b. If there were no periods during which the CMS, including any operating parameter monitoring system, was out-of-control as specified in §63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period;	Semiannually according to the requirements in §63.7131(b).
	c. If you have a deviation from any emission limitation (emission limit, operating limit, opacity limit, and VE limit) during the reporting period, the report must contain the information in §63.7131(d);	Semiannually according to the requirements in §63.7131(b).
	d. If there were periods during which the CMS, including any operating parameter monitoring system, was out-of-control, as specified in §63.8(c)(7), the report must contain the information in §63.7131(e); and	Semiannually according to the requirements in §63.7131(b).
	e. If you had a startup, shutdown or malfunction during the reporting period and you took actions consistent with your SSMP, the compliance report must include the information in §63.10(d)(5)(i).	Semiannually according to the requirements in §63.7131(b).
2. An immediate startup, shutdown, and malfunction report if you had a startup, shutdown, or malfunction during the reporting period that is not consistent with your SSMP.	Actions taken for the event	By fax or telephone within 2 working days after starting actions inconsistent with the SSMP.
3. An immediate startup, shutdown, and malfunction report if you had a startup, shutdown, or malfunction during the reporting period that is not consistent with your SSMP.	The information in §63.10(d)(5)(ii)	By letter within 7 working days after the end of the event unless you have made alternative arrangements with the permitting authority. See §63.10(d)(5)(ii).

TABLE 8 TO SUBPART AAAAA OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART AAAAA

As required in §63.7140, you must comply with the applicable General Provisions requirements according to the following table:

Citation	Summary of requirement	Am I subject to this requirement?	Explanations
§63.1(a)(1)–(4)	Applicability	Yes.	
§63.1(a)(5)		No.	
§63.1(a)(6)	Applicability	Yes.	
§63.1(a)(7)–(a)(9)		No.	
§63.1(a)(10)–(a)(14)	Applicability	Yes.	
§63.1(b)(1)	Initial Applicability Determination.	Yes	§§63.7081 and 63.7142 specify additional applicability determination requirements.
§63.1(b)(2)		No.	
§63.1(b)(3)	Initial Applicability Determination.	Yes.	
§63.1(c)(1)	Applicability After Standard Established.	Yes	
§63.1(c)(2)	Permit Requirements	No.	Area sources not subject to subpart AAAAA, except all sources must make initial applicability determination.
§63.1(c)(3)		No.	
§63.1(c)(4) (5)	Extensions, Notifications	Yes.	
§63.1(d)		No.	
§63.1(e)	Applicability of Permit Program.	Yes	
§63.2	Definitions		Additional definitions in §63.7143.
§63.3(a)–(c)	Units and Abbreviations	Yes	
§63.4(a)(1)–(a)(2)	Prohibited Activities	Yes	

Citation	Summary of requirement	Am I subject to this requirement?	Explanations
§3.4(a)(3)–(a)(5)		No.	
§63.4(b)–(c)	Circumvention, Severability	Yes.	
§63.5(a)(1)–(2)	Construction/Reconstruction	Yes.	
§63.5(b)(1)	Compliance Dates	Yes.	
§63.5(b)(2)		No.	
§63.5(b)(3)–(4)	Construction Approval, Applicability.	Yes.	
§63.5(b)(5)		No.	
§63.5(b)(6)	Applicability	Yes.	
§63.5(c)		No.	
§63.5(d)(1)–(4)	Approval of Construction/ Reconstruction.	Yes.	
§63.5(e)	Approval of Construction/ Reconstruction.	Yes.	
§63.5(f)(1)–(2)	Approval of Construction/ Reconstruction.	Yes.	
§63.6(a)	Compliance for Standards and Maintenance.	Yes.	
§63.6(b)(1)–(5)	Compliance Dates	Yes.	
§63.6(b)(6)		No.	
§63.6(b)(7)	Compliance Dates	Yes.	
§63.6(c)(1)–(2)	Compliance Dates	Yes.	
§63.6(c)(3)–(c)(4)		No.	
§63.6(c)(5)	Compliance Dates	Yes.	
§63.6(d)		No.	
§63.6(e)(1)	Operation & Maintenance	Yes	See §63.7100 for OM&M requirements.
§63.6(e)(2)		No.	
§63.6(e)(3)	Startup, Shutdown Malfunction Plan	Yes.	
§63.6(f)(1)–(3)	Compliance with Emission Standards.	Yes.	
§63.6(g)(1)–(g)(3)	Alternative Standard	Yes.	
§63.6(h)(1)–(2)	Opacity/VE Standards	Yes.	
§63.6(h)(3)		No.	
§63.6(h)(4)–(h)(5)(i)	Opacity/VE Standards	Yes	This requirement only applies to opacity and VE performance checks required in Table 4 to subpart AAAAA.
§63.6(h)(5) (ii)–(iii)	Opacity/VE Standards	No	Test durations are specified in subpart AAAAA; subpart AAAAA takes precedence.
§63.6(h)(5)(iv)	Opacity/VE Standards	No.	
§63.6(h)(5)(v)	Opacity/VE Standards	Yes.	
§63.6(h)(6)	Opacity/VE Standards	Yes.	
§63.6(h)(7)	COM Use	Yes.	
§63.6(h)(8)	Compliance with Opacity and VE.	Yes.	
§63.6(h)(9)	Adjustment of Opacity Limit	Yes.	
§63.6(i)(1)–(i)(14)	Extension of Compliance	Yes.	
§63.6(i)(15)		No.	
§63.6(i)(16	Extension of Compliance	Yes.	
§63.6(j)	Exemption from Compliance	Yes.	
§63.7(a)(1)–(a)(3)	Performance Testing Requirements.	Yes	§63.7110 specifies deadlines; §63.7112 has additional specific requirements.
§63.7(b)	Notification	Yes.	
§63.7(c)	Quality Assurance/Test Plan	Yes.	
§63.7(d)	Testing Facilities	Yes.	
§63.7(e)(1)–(4)	Conduct of Tests	Yes.	
§63.7(f)	Alternative Test Method	Yes.	

Citation	Summary of requirement	Am I subject to this requirement?	Explanations
§63.7(g)	Data Analysis	Yes.	
§63.7(h)	Waiver of Tests	Yes.	
§63.8(a)(1)	Monitoring Requirements	Yes	See §63.7113.
§63.8(a)(2)	Monitoring	Yes.	
§63.8(a)(3)		No.	
§63.8(a)(4)	Monitoring	No	Flares not applicable.
§63.8(b)(1)–(3)	Conduct of Monitoring	Yes.	
§63.8(c)(1)–(3)	CMS Operation/Maintenance	Yes.	
§63.8(c)(4)	CMS Requirements	No	See §63.7121.
§63.8(c)(4)(i)–(ii)	Cycle Time for COM and CEMS.	Yes	No CEMS are required under subpart AAAAA; see §63.7113 for CPMS requirements.
§63.8(c)(5)	Minimum COM procedures	Yes	COM not required.
§63.8(c)(6)	CMS Requirements	No	See §63.7113.
§63.8(c)(7)–(8)	CMS Requirements	Yes.	
§63.8(d)	Quality Control	No	See §63.7113.
§63.8(e)	Performance Evaluation for CMS.	No.	
§63.8(f)(1)–(f)(5)	Alternative Monitoring Method	Yes.	
§63.8(f)(6)	Alternative to Relative Accuracy test.	No.	
§63.8(g)(1)–(g)(5)	Data Reduction; Data That Cannot Be Used.	No	See data reduction requirements in §§63.7120 and 63.7121
§63.9(a)	Notification Requirements	Yes	See §63.7130.
§63.9(b)	Initial Notifications	Yes.	
§63.9(c)	Request for Compliance Extension.	Yes.	
§63.9(d)	New Source Notification for Special Compliance Requirements.	Yes.	
§63.9(e)	Notification of Performance Test	Yes.	
§63.9(f)	Notification of VE/Opacity Test.	Yes	This requirement only applies to opacity and VE performance tests required in Table 4 to subpart AAAAA. Notification not required for VE/ opacity test under Table 6 to subpart AAAAA.
§63.9(g)	Additional CMS Notifications	No	Not required for operating parameter monitoring.
§63.9(h)(1)–(h)(3)	Notification of Compliance Status.	Yes.	
§63.9(h)(4)		No.	
§63.9(h)(5)–(h)(6)	Notification of Compliance Status.	Yes.	
§63.9(i)	Adjustment of Deadlines	Yes.	
§63.9(j)	Change in Previous Information.	Yes.	
§63.10(a)	Recordkeeping/Reporting General Requirements.	Yes	See §§63.7131 through 63.7133.
§63.10(b)(1)–(b)(2)(xii)	Records	Yes.	
§63.10(b)(2)(xiii)	Records for Relative Accuracy Test.	No.	
§63.10(b)(2)(xiv)	Records for Notification	Yes.	
§63.10(b)(3)	Applicability Determinations	Yes.	
§63.10(c)	Additional CMS Recordkeeping.	No	See §63.7132.
§63.10(d)(1)	General Reporting Requirements.	Yes.	
§63.10(d)(2)	Performance Test Results	Yes.	
§63.10(d)(3)	Opacity or VE Observations	Yes	For the periodic monitoring requirements in Table 6 to subpart AAAAA, report according to §63.10(d)(3) only if VE observed and subsequent visual opacity test is required.
§63.10(d)(4)	Progress Reports	Yes.	
§63.10(d)(5)	Startup, Shutdown, Malfunction Reports.	Yes.	
§63.10(e)	Additional CMS Reports	No	See specific requirements in subpart AAAAA, see §63.7131

Citation	Summary of requirement	Am I subject to this requirement?	Explanations
§63.10(f)	Waiver for Recordkeeping/ Reporting.	Yes.	
§63.11(a)–(b)	Control Device Requirements	No	Flares not applicable.
§63.12(a)–(c)	State Authority and Delegations.	Yes.	
§63.13(a)–(c)	State/Regional Addresses	Yes.	
§63.14(a)–(b)	Incorporation by Reference	No.	
§63.15(a)–(b)	Availability of Information	Yes.	

APPENDIX J

WAQSR Chapter 5, Sec 3 Subpart DDDDD

Subpart DDDDD—National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters

SOURCE: 69 FR 55253, September 13, 2004, unless otherwise noted.

What This Subpart Covers

§63.7480 What is the purpose of this subpart?

This subpart establishes national emission limits and work practice standards for hazardous air pollutants (HAP) emitted from industrial, commercial, and institutional boilers and process heaters. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limits and work practice standards.

§63.7485 Am I subject to this subpart?

You are subject to this subpart if you own or operate an industrial, commercial, or institutional boiler or process heater as defined in §63.7575 that is located at, or is part of, a major source of HAP as defined in §63.2 or §63.761 (40 CFR part 63, subpart HH, National Emission Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities), except as specified in §63.7491.

§63.7490 What is the affected source of this subpart?

(a) This subpart applies to new, reconstructed, or existing affected sources as described in paragraphs (a)(1) and (2) of this section.

(1) The affected source of this subpart is the collection of all existing industrial, commercial, and institutional boilers and process heaters within a subcategory located at a major source as defined in §63.7575.

(2) The affected source of this subpart is each new or reconstructed industrial, commercial, or institutional boiler or process heater located at a major source as defined in §63.7575.

(b) A boiler or process heater is new if you commence construction of the boiler or process heater after January 13, 2003, and you meet the applicability criteria at the time you commence construction.

(c) A boiler or process heater is reconstructed if you meet the reconstruction criteria as defined in §63.2, you commence reconstruction after January 13, 2003, and you meet the applicability criteria at the time you commence reconstruction.

(d) A boiler or process heater is existing if it is not new or reconstructed.

§63.7491 Are any boilers or process heaters not subject to this subpart?

The types of boilers and process heaters listed in paragraphs (a) through (o) of this section are not subject to this subpart.

(a) A municipal waste combustor covered by 40 CFR part 60, subpart AAAA, subpart BBBB, subpart Cb or subpart Eb.

(b) A hospital/medical/infectious waste incinerator covered by 40 CFR part 60, subpart Ce or subpart Ec.

(c) An electric utility steam generating unit that is a fossil fuel-fired combustion unit of more than 25 megawatts that serves a generator that produces electricity for sale. A fossil fuel-fired unit that cogenerates steam and electricity, and supplies more than one-third of its potential electric output capacity, and more than 25 megawatts electrical output to any utility power distribution system for sale is considered an electric utility steam generating unit.

(d) A boiler or process heater required to have a permit under section 3005 of the Solid Waste Disposal Act or covered by 40 CFR part 63, subpart EEE (*e.g.*, hazardous waste boilers).

(e) A commercial and industrial solid waste incineration unit covered by 40 CFR part 60, subpart CCCC or subpart DDDD.

(f) A recovery boiler or furnace covered by 40 CFR part 63, subpart MM.

(g) A boiler or process heater that is used specifically for research and development. This does not include units that only provide heat or steam to a process at a research and development facility.

(h) A hot water heater as defined in this subpart.

(i) A refining kettle covered by 40 CFR part 63, subpart X.

(j) An ethylene cracking furnace covered by 40 CFR part 63, subpart YY.

(k) Blast furnace stoves as described in the EPA document, entitled "National Emission Standards for Hazardous Air Pollutants (NESHAP) for Integrated Iron and Steel Plants— Background Information for Proposed Standards," (EPA–453/R–01–005).

(l) Any boiler and process heater specifically listed as an affected source in another standard(s) under 40 CFR part 63.

(m) Any boiler and process heater specifically listed as an affected source in another standard(s) established under section 129 of the Clean Air Act (CAA).

(n) Temporary boilers as defined in this subpart.

(o) Blast furnace gas fuel-fired boilers and process heaters as defined in this subpart.

§63.7495 When do I have to comply with this subpart?

(a) If you have a new or reconstructed boiler or process heater, you must comply with this subpart by November 12, 2004 or upon startup of your boiler or process heater, whichever is later.

(b) If you have an existing boiler or process heater, you must comply with this subpart no later than September 13, 2007.

(c) If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, paragraphs (c)(1) and (2) of this section apply to you.

(1) Any new or reconstructed boiler or process heater at the existing facility must be in compliance with this subpart upon startup.

(2) Any existing boiler or process heater at the existing facility must be in compliance with this subpart within 3 years after the facility becomes a major source.

(d) You must meet the notification requirements in §63.7545 according to the schedule in §63.7545 and in subpart A of this part. Some of the notifications must be submitted before you are required to comply with the emission limits and work practice standards in this subpart.

Emission Limits and Work Practice Standards

§63.7499 What are the subcategories of boilers and process heaters?

The subcategories of boilers and process heaters are large solid fuel, limited use solid fuel, small solid fuel, large liquid fuel, limited use liquid fuel, small liquid fuel, large gaseous fuel, limited use gaseous fuel, and small gaseous fuel. Each subcategory is defined in §63.7575.

§63.7500 What emission limits, work practice standards, and operating limits must I meet?

(a) You must meet the requirements in paragraphs (a)(1) and (2) of this section.

(1) You must meet each emission limit and work practice standard in Table 1 to this subpart that applies to your boiler or process heater, except as provided under §63.7507.

(2) You must meet each operating limit in Tables 2 through 4 to this subpart that applies to your boiler or process heater. If you use a control device or combination of control devices not covered in Tables 2 through 4 to this subpart, or you wish to establish and monitor an alternative operating limit and alternative monitoring parameters, you must apply to the United States Environmental Protection Agency (EPA) Administrator for approval of alternative monitoring under §63.8(f).

(b) As provided in §63.6(g), EPA may approve use of an alternative to the work practice standards in this section.

General Compliance Requirements

§63.7505 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limits (including operating limits) and the work practice standards in this subpart at all times, except during periods of startup, shutdown, and malfunction.

(b) You must always operate and maintain your affected source, including air pollution control and monitoring equipment, according to the provisions in §63.6(e)(1)(i).

(c) You can demonstrate compliance with any applicable emission limit using fuel analysis if the emission rate calculated according to §63.7530(d) is less than the applicable emission limit. Otherwise, you must demonstrate compliance using performance testing.

(d) If you demonstrate compliance with any applicable emission limit through performance testing, you must develop a site-specific monitoring plan according to the requirements in paragraphs (d)(1) through (4) of this section. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under §63.8(f).

(1) For each continuous monitoring system (CMS) required in this section, you must develop and submit to the EPA Administrator for approval a site-specific monitoring plan that addresses paragraphs (d)(1)(i) through (iii) of this section. You must submit this site-specific monitoring plan at least 60 days before your initial performance evaluation of your CMS.

(i) Installation of the CMS sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (*e.g.*, on or downstream of the last control device);

(ii) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems; and

(iii) Performance evaluation procedures and acceptance criteria (*e.g.*, calibrations).

(2) In your site-specific monitoring plan, you must also address paragraphs (d)(2)(i) through (iii) of this section.

(i) Ongoing operation and maintenance procedures in accordance with the general requirements of §63.8(c)(1), (c)(3), and (c)(4)(ii);

(ii) Ongoing data quality assurance procedures in accordance with the general requirements of §63.8(d); and

(iii) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of §63.10(c), (e)(1), and (e)(2)(i).

(3) You must conduct a performance evaluation of each CMS in accordance with your site-specific monitoring plan.

(4) You must operate and maintain the CMS in continuous operation according to the site-specific monitoring plan.

(e) If you have an applicable emission limit or work practice standard, you must develop and implement a written startup, shutdown, and malfunction plan (SSMP) according to the provisions in §63.6(e)(3).

§63.7506 Do any boilers or process heaters have limited requirements?

(a) New or reconstructed boilers and process heaters in the large liquid fuel subcategory or the limited use liquid fuel subcategory that burn only fossil fuels and other gases and do not burn any residual oil are subject to the emission limits and applicable work practice standards in Table 1 to this subpart. You are not required to conduct a performance test to demonstrate compliance with the emission limits. You are not required to set and maintain operating limits to demonstrate continuous compliance with the emission limits. However, you must meet the requirements in paragraphs (a)(1) and (2) of this section and meet the CO work practice standard in Table 1 to this subpart.

(1) To demonstrate initial compliance, you must include a signed statement in the Notification of Compliance Status report required in §63.7545(e) that indicates you burn only liquid fossil fuels other than residual oils, either alone or in combination with gaseous fuels.

(2) To demonstrate continuous compliance with the applicable emission limits, you must also keep records that demonstrate that you burn only liquid fossil fuels other than residual oils, either alone or in combination with gaseous fuels. You must also include a signed statement in each semiannual compliance report required in §63.7550 that indicates you burned only liquid fossil fuels other than residual oils, either alone or in combination with gaseous fuels, during the reporting period.

(b) The affected boilers and process heaters listed in paragraphs (b)(1) through (3) of this section are subject to only the initial notification requirements in §63.9(b) (*i.e.*, they are not subject to the emission limits, work practice standards, performance testing, monitoring, SSMP, site-specific monitoring plans, recordkeeping and reporting requirements of this subpart or any other requirements in subpart A of this part).

(1) Existing large and limited use gaseous fuel units.

(2) Existing large and limited use liquid fuel units.

(3) New or reconstructed small liquid fuel units that burn only gaseous fuels or distillate oil. New or reconstructed small liquid fuel boilers and process heaters that commence burning of any other type of liquid fuel must comply with all applicable requirements of this subpart and subpart A of this part upon startup of burning the other type of liquid fuel.

(c) The affected boilers and process heaters listed in paragraphs (c)(1) through (4) of this section are not subject to the initial notification requirements in §63.9(b) and are not subject to any requirements in this subpart or in subpart A of this part (*i.e.*, they are not subject to the emission limits, work practice standards, performance testing, monitoring, SSM plans, site-specific monitoring plans, recordkeeping and reporting requirements of this subpart, or any other requirements in subpart A of this part.

(1) Existing small solid fuel boilers and process heaters.

(2) Existing small liquid fuel boilers and process heaters.

(3) Existing small gaseous fuel boilers and process heaters.

(4) New or reconstructed small gaseous fuel units.

§63.7507 What are the health-based compliance alternatives for the hydrogen chloride (HCl) and total selected metals (TSM) standards?

(a) As an alternative to the requirement for large solid fuel boilers located at a single facility to demonstrate compliance with the HCl emission limit in Table 1 to this subpart, you may demonstrate eligibility for the health-based compliance alternative for HCl emissions under the procedures prescribed in appendix A to this subpart.

(b) In lieu of complying with the TSM emission standards in Table 1 to this subpart based on the sum of emissions for the eight selected metals, you may demonstrate eligibility for complying with the TSM emission standards in Table 1 based on the sum of emissions for seven selected metals (by excluding manganese emissions from the summation of TSM emissions) under the procedures prescribed in appendix A to this subpart.

Testing, Fuel Analyses, and Initial Compliance Requirements

§63.7510 What are my initial compliance requirements and by what date must I conduct them?

(a) For affected sources that elect to demonstrate compliance with any of the emission limits of this subpart through performance testing, your initial compliance requirements include conducting performance tests according to §63.7520 and Table 5 to this subpart, conducting a fuel analysis for each type of fuel burned in your boiler or process heater according to §63.7521 and Table 6 to this subpart, establishing operating limits according to §63.7530 and Table 7 to this subpart, and conducting CMS performance evaluations according to §63.7525.

(b) For affected sources that elect to demonstrate compliance with the emission limits for HCl, mercury, or TSM through fuel analysis, your initial compliance requirement is to conduct a fuel analysis for each type of fuel burned in your boiler or process heater according to §63.7521 and Table 6 to this subpart and establish operating limits according to §63.7530 and Table 8 to this subpart.

(c) For affected sources that have an applicable work practice standard, your initial compliance requirements depend on the subcategory and rated capacity of your boiler or process heater. If your boiler or process heater is in any of the limited use subcategories or has a heat input capacity less than 100 MMBtu per hour, your initial compliance demonstration is conducting a performance test for carbon monoxide

according to Table 5 to this subpart. If your boiler or process heater is in any of the large subcategories and has a heat input capacity of 100 MMBtu per hour or greater, your initial compliance demonstration is conducting a performance evaluation of your continuous emission monitoring system for carbon monoxide according to §63.7525(a).

(d) For existing affected sources, you must demonstrate initial compliance no later than 180 days after the compliance date that is specified for your source in §63.7495 and according to the applicable provisions in §63.7(a)(2) as cited in Table 10 to this subpart.

(e) If your new or reconstructed affected source commenced construction or reconstruction between January 13, 2003 and November 12, 2004, you must demonstrate initial compliance with either the proposed emission limits and work practice standards or the promulgated emission limits and work practice standards no later than 180 days after November 12, 2004 or within 180 days after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(f) If your new or reconstructed affected source commenced construction or reconstruction between January 13, 2003, and November 12, 2004, and you chose to comply with the proposed emission limits and work practice standards when demonstrating initial compliance, you must conduct a second compliance demonstration for the promulgated emission limits and work practice standards within 3 years after November 12, 2004 or within 3 years after startup of the affected source, whichever is later.

(g) If your new or reconstructed affected source commences construction or reconstruction after November 12, 2004, you must demonstrate initial compliance with the promulgated emission limits and work practice standards no later than 180 days after startup of the source.

§63.7515 When must I conduct subsequent performance tests or fuel analyses?

(a) You must conduct all applicable performance tests according to §63.7520 on an annual basis, unless you follow the requirements listed in paragraphs (b) through (d) of this section. Annual performance tests must be completed between 10 and 12 months after the previous performance test, unless you follow the requirements listed in paragraphs (b) through (d) of this section.

(b) You can conduct performance tests less often for a given pollutant if your performance tests for the pollutant (particulate matter, HCl, mercury, or TSM) for at least 3 consecutive years show that you comply with the emission limit. In this case, you do not have to conduct a performance test for that pollutant for the next 2 years. You must conduct a performance test during the third year and no more than 36 months after the previous performance test.

(c) If your boiler or process heater continues to meet the emission limit for particulate matter, HCl, mercury, or TSM, you may choose to conduct performance tests for these pollutants every third year, but each such performance test must be conducted no more than 36 months after the previous performance test.

(d) If a performance test shows noncompliance with an emission limit for particulate matter, HCl, mercury, or TSM, you must conduct annual performance tests for that pollutant until all performance tests over a consecutive 3-year period show compliance.

(e) If you have an applicable work practice standard for carbon monoxide and your boiler or process heater is in any of the limited use subcategories or has a heat input capacity less than 100 MMBtu per hour, you must conduct annual performance tests for carbon monoxide according to §63.7520. Each annual performance test must be conducted between 10 and 12 months after the previous performance test.

(f) You must conduct a fuel analysis according to §63.7521 for each type of fuel burned no later than 5 years after the previous fuel analysis for each fuel type. If you burn a new type of fuel, you must conduct a fuel analysis before burning the new type of fuel in your boiler or process heater. You must still meet all applicable continuous compliance requirements in §63.7540.

(g) You must report the results of performance tests and fuel analyses within 60 days after the completion of the performance tests or fuel analyses. This report should also verify that the operating limits for your affected source have not changed or provide documentation of revised operating parameters established according to §63.7530 and Table 7 to this subpart, as applicable. The reports for all subsequent performance tests and fuel analyses should include all applicable information required in §63.7550.

§63.7520 What performance tests and procedures must I use?

(a) You must conduct all performance tests according to §63.7(c), (d), (f), and (h). You must also develop a site-specific test plan according to the requirements in §63.7(c) if you elect to demonstrate compliance through performance testing.

(b) You must conduct each performance test according to the requirements in Table 5 to this subpart.

(c) New or reconstructed boilers or process heaters in one of the liquid fuel subcategories that burn only fossil fuels and other gases and do not burn any residual oil must demonstrate compliance according to §63.7506(a).

(d) You must conduct each performance test under the specific conditions listed in Tables 5 and 7 to this subpart. You must conduct performance tests at the maximum normal operating load while burning the type of fuel or mixture of fuels that have the highest content of chlorine, mercury, and total selected metals, and you must demonstrate initial compliance and establish your operating limits based on these tests. These requirements could result in the need to conduct more than one performance test.

(e) You may not conduct performance tests during periods of startup, shutdown, or malfunction.

(f) You must conduct three separate test runs for each performance test required in this section, as specified in §63.7(e)(3). Each test run must last at least 1 hour.

(g) To determine compliance with the emission limits, you must use the F-Factor methodology and equations in sections 12.2 and 12.3 of EPA Method 19 of appendix A to part 60 of this chapter to convert the measured particulate matter concentrations, the measured HCl concentrations, the measured TSM concentrations, and the measured mercury concentrations that result from the initial performance test to pounds per million Btu heat input emission rates using F-factors.

§63.7521 What fuel analyses and procedures must I use?

(a) You must conduct fuel analyses according to the procedures in paragraphs (b) through (e) of this section and Table 6 to this subpart, as applicable.

(b) You must develop and submit a site-specific fuel analysis plan to the EPA Administrator for review and approval according to the following procedures and requirements in paragraphs (b)(1) and (2) of this section.

(1) You must submit the fuel analysis plan no later than 60 days before the date that you intend to demonstrate compliance.

(2) You must include the information contained in paragraphs (b)(2)(i) through (vi) of this section in your fuel analysis plan.

(i) The identification of all fuel types anticipated to be burned in each boiler or process heater.

(ii) For each fuel type, the notification of whether you or a fuel supplier will be conducting the fuel analysis.

(iii) For each fuel type, a detailed description of the sample location and specific procedures to be used for collecting and preparing the composite samples if your procedures are different from paragraph (c) or (d) of this section. Samples should be collected at a location that most accurately represents the fuel type, where possible, at a point prior to mixing with other dissimilar fuel types.

(iv) For each fuel type, the analytical methods, with the expected minimum detection levels, to be used for the measurement of selected total metals, chlorine, or mercury.

(v) If you request to use an alternative analytical method other than those required by Table 6 to this subpart, you must also include a detailed description of the methods and procedures that will be used.

(vi) If you will be using fuel analysis from a fuel supplier in lieu of site-specific sampling

and analysis, the fuel supplier must use the analytical methods required by Table 6 to this subpart.

(c) At a minimum, you must obtain three composite fuel samples for each fuel type according to the procedures in paragraph (c)(1) or (2) of this section.

(1) If sampling from a belt (or screw) feeder, collect fuel samples according to paragraphs (c)(1)(i) and (ii) of this section.

(i) Stop the belt and withdraw a 6-inch wide sample from the full cross-section of the stopped belt to obtain a minimum two pounds of sample. Collect all the material (fines and coarse) in the full cross-section. Transfer the sample to a clean plastic bag.

(ii) Each composite sample will consist of a minimum of three samples collected at approximately equal intervals during the testing period.

(2) If sampling from a fuel pile or truck, collect fuel samples according to paragraphs (c)(2)(i) through (iii) of this section.

(i) For each composite sample, select a minimum of five sampling locations uniformly spaced over the surface of the pile.

(ii) At each sampling site, dig into the pile to a depth of 18 inches. Insert a clean flat square shovel into the hole and withdraw a sample, making sure that large pieces do not fall off during sampling.

(iii) Transfer all samples to a clean plastic bag for further processing.

(d) Prepare each composite sample according to the procedures in paragraphs (d)(1) through (7) of this section.

(1) Thoroughly mix and pour the entire composite sample over a clean plastic sheet.

(2) Break sample pieces larger than 3 inches into smaller sizes.

(3) Make a pie shape with the entire composite sample and subdivide it into four equal parts.

(4) Separate one of the quarter samples as the first subset.

(5) If this subset is too large for grinding, repeat the procedure in paragraph (d)(3) of this section with the quarter sample and obtain a one-quarter subset from this sample.

(6) Grind the sample in a mill.

(7) Use the procedure in paragraph (d)(3) of this section to obtain a one-quarter subsample for analysis. If the quarter sample is too large, subdivide it further using the same procedure.

(e) Determine the concentration of pollutants in the fuel (mercury, chlorine, and/or total selected metals) in units of pounds per million Btu of each composite sample for each fuel type according to the procedures in Table 6 to this subpart.

§63.7522 Can I use emission averaging to comply with this subpart?

(a) As an alternative to meeting the requirements of §63.7500, if you have more than one existing large solid fuel boiler located at your facility, you may demonstrate compliance by emission averaging according to the procedures in this section in a State that does not choose to exclude emission averaging.

(b) For each existing large solid fuel boiler in the averaging group, the emission rate achieved during the initial compliance test for the HAP being averaged must not exceed the emission level that was being achieved on November 12, 2004 or the control technology employed during the initial compliance test must not be less effective for the HAP being averaged than the control technology employed on November 12, 2004.

(c) You may average particulate matter or TSM, HCl, and mercury emissions from existing large solid fuel boilers to demonstrate compliance with the limits in Table 1 to this subpart if you satisfy the requirements in paragraphs (d), (e), and (f) of this section.

(d) The weighted average emissions from the existing large solid fuel boilers participating in the emissions averaging option must be in compliance with the limits in Table 1 to this subpart at all times following the compliance date specified in §63.7495.

(e) You must demonstrate initial compliance according to paragraphs (e)(1) or (2) of this section.

(1) You must use Equation 1 of this section to demonstrate that the particulate matter or TSM, HCl, and mercury emissions from all existing large solid fuel boilers participating in the emissions averaging option do not exceed the emission limits in Table 1 to this subpart.

$$\text{AveWeighted Emissions} = \sum_{i=1}^{n} (Er \times Hm) \div \sum_{i=1}^{n} Hm \qquad \text{(Eq.1)}$$

Where:

AveWeighted = Average weighted emissions for particulate matter or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.

Er = Emission rate (as calculated according to Table 5 to this subpart) or fuel analysis (as calculated by the applicable equation in §63.7530(d)) for boiler, i, for particulate matter of TSM, HCl, or mercury, in units of pounds per million Btu of heat input.

Hm = Maximum rated heat input capacity of boiler, i, in units of million Btu per hour

n = Number of large solid fuel boilers participating in the emissions averaging option.

(2) If you are not capable of monitoring heat input, you can use Equation 2 of this section as an alternative to using Equation 1 of this section to demonstrate that the particulate matter or TSM, HCl, and mercury emissions from all existing large solid fuel boilers participating in the emissions averaging option do not exceed the emission limits in Table 1 to this subpart.

$$\text{AveWeighted Emissions} = \sum_{i=1}^{n} (Er \times Sm \times Cf) \div \sum_{i=1}^{n} Sm \times Cf \qquad \text{(Eq. 2)}$$

Where:

AveWeighted = Average weighted emission level for PM or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.

Er = Emission rate (as calculated according to Table 5 to this subpart) or fuel analysis (as calculated by the applicable equation in §63.7530(d)) for boiler, i, for particulate matter of TSM, HCl, or mercury, in units of pounds per million Btu of heat input.

Sm = Maximum steam generation by boiler, i, in units of pounds.

Cf = Conversion factor, calculated from the most recent compliance test, in units of million Btu of heat input per pounds of stream generated.

(f) You must demonstrate continuous compliance on a 12-month rolling average basis determined at the end of every month (12 times per year) according to paragraphs (f)(1) and (2). The first 12-month rolling average period begins on the compliance date specified in §63.7495.

(1) For each calendar month, you must use Equation 3 of this section to calculate the 12-month rolling average weighted emission limit using the actual heat capacity for each existing large solid fuel boiler participating in the missions averaging option.

$$\text{AveWeighted Emissions} = \sum_{i=1}^{n} (Er \times Hb) \div \sum_{i=1}^{n} Hb \qquad \text{(Eq. 3)}$$

Where:

AveWeighted Emissions = 12-month rolling average weighted emission level for particulate matter or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.

Er = Emission rate, calculated during the most recent compliance test, (as calculated according to Table 5 to this subpart) or fuel analysis (as calculated by the applicable equation in §63.7530(d)) for boiler, i, for particulate matter of TSM, HCl, or mercury, in units of pounds per million Btu of heat input.

Hb = The average heat input for each calendar month of boiler, i, in units of million Btu.

n = Number of large solid fuel boilers participating in the emissions averaging option.

(2) If you are not capable of monitoring the heat input, you can use Equation 4 of this section as an alternative to using Equation 3 of the section to calculate the 12-month rolling average weighted emission limit using the actual steam generation from the large solid fuel boilers participating in the emissions averaging option.

$$\text{AveWeighted Emissions} = \sum_{i=1}^{n} (Er \times Sa \times Cf) \div \sum_{i=1}^{n} Sa \times Cf \qquad \text{(Eq. 4)}$$

Where:

AveWeighted Emissions = 12-month rolling average weighted emission level for PM or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.

Er = Emission rate, calculated during the most recent compliance test, (as calculated according to Table 5 to this subpart) or fuel analysis (as calculated by the applicable equation in §63.7530(d)) for boiler, i, for particulate matter or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.

Sa = Actual steam generation for each calendar month by boiler, i, in units of pounds.

Cf = Conversion factor, as calculated during the most recent compliance test, in units of million Btu of heat input per pounds of stream generated.

(g) You must develop and submit an implementation plan for emission averaging to the applicable regulatory authority for review and approval according to the following procedures and requirements in paragraphs (g)(1) through (4).

(1) You must submit the implementation plan no later than 180 days before the date that the facility intends to demonstrate compliance using the emission averaging option.

(2) You must include the information contained in paragraphs (g)(2)(i) through (vii) of this section in your implementation plan for all emission sources included in an emissions average:

(i) The identification of all existing large solid fuel boilers in the averaging group, including for each either the applicable HAP emission level or the control technology installed on;

(ii) The process parameter (heat input or steam generated) that will be monitored for each averaging group of large solid fuel boilers;

(iii) The specific control technology or pollution prevention measure to be used for each emission source in the averaging group and the date of its installation or application. If the pollution prevention measure reduces or eliminates emissions from multiple sources, the owner or operator must identify each source;

(iv) The test plan for the measurement of particulate matter (or TSM), HCl, or mercury emissions in accordance with the requirements in §63.7520;

(v) The operating parameters to be monitored for each control system or device and a description of how the operating limits will be determined;

(vi) If you request to monitor an alternative operating parameter pursuant to §63.7525, you must also include:

(A) A description of the parameter(s) to be monitored and an explanation of the criteria used to select the parameter(s); and

(B) A description of the methods and procedures that will be used to demonstrate that the parameter indicates proper operation of the control device; the frequency and content of monitoring, reporting, and recordkeeping requirements; and a demonstration, to the satisfaction of the applicable regulatory authority, that the proposed monitoring frequency is sufficient to represent control device operating conditions; and

(vii) A demonstration that compliance with each of the applicable emission limit(s) will be achieved under representative operating conditions.

(3) Upon receipt, the regulatory authority shall review and approve or disapprove the plan according to the following criteria:

(i) Whether the content of the plan includes all of the information specified in paragraph (g)(2) of this section; and

(ii) Whether the plan presents sufficient information to determine that compliance will be achieved and maintained.

(4) The applicable regulatory authority shall not approve an emission averaging implementation plan containing any of the following provisions:

(i) Any averaging between emissions of differing pollutants or between differing sources; or

(ii) The inclusion of any emission source other than an existing large solid fuel boiler.

§63.7525 What are my monitoring, installation, operation, and maintenance requirements?

(a) If you have an applicable work practice standard for carbon monoxide, and your boiler or process heater is in any of the large subcategories and has a heat input capacity of 100 MMBtu per hour or greater, you must install, operate, and maintain a continuous emission monitoring system (CEMS) for carbon monoxide according to the procedures in paragraphs (a)(1) through (6) of this section by the compliance date specified in §63.7495.

(1) Each CEMS must be installed, operated, and maintained according to Performance Specification (PS) 4A of 40 CFR part 60, appendix B, and according to the site-specific monitoring plan developed according to §63.7505(d).

(2) You must conduct a performance evaluation of each CEMS according to the requirements in §63.8 and according to PS 4A of 40 CFR part 60, appendix B.

(3) Each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

(4) The CEMS data must be reduced as specified in §63.8(g)(2).

(5) You must calculate and record a 30-day rolling average emission rate on a daily basis. A new 30-day rolling average emission rate is calculated as the average of all of the hourly CO emission data for the preceding 30 operating days.

(6) For purposes of calculating data averages, you must not use data recorded during periods of monitoring malfunctions, associated repairs, out-of-control periods, required quality assurance or control activities, or when your boiler or process heater is operating at less than 50 percent of its rated capacity. You must use all the data collected during all other periods in assessing compliance. Any period for which the monitoring system is out of control and data are not available for required calculations constitutes a deviation from the monitoring requirements.

(b) If you have an applicable opacity operating limit, you must install, operate, certify and maintain each continuous opacity monitoring system (COMS) according to the procedures in paragraphs (b)(1) through (7) of this section by the compliance date specified in §63.7495.

(1) Each COMS must be installed, operated, and maintained according to PS 1 of 40 CFR part 60, appendix B.

(2) You must conduct a performance evaluation of each COMS according to the

requirements in §63.8 and according to PS 1 of 40 CFR part 60, appendix B.

(3) As specified in §63.8(c)(4)(i), each COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(4) The COMS data must be reduced as specified in §63.8(g)(2).

(5) You must include in your site-specific monitoring plan procedures and acceptance criteria for operating and maintaining each COMS according to the requirements in §63.8(d). At a minimum, the monitoring plan must include a daily calibration drift assessment, a quarterly performance audit, and an annual zero alignment audit of each COMS.

(6) You must operate and maintain each COMS according to the requirements in the monitoring plan and the requirements of §63.8(e). Identify periods the COMS is out of control including any periods that the COMS fails to pass a daily calibration drift assessment, a quarterly performance audit, or an annual zero alignment audit.

(7) You must determine and record all the 6-minute averages (and 1-hour block averages as applicable) collected for periods during which the COMS is not out of control.

(c) If you have an operating limit that requires the use of a CMS, you must install, operate, and maintain each continuous parameter monitoring system (CPMS) according to the procedures in paragraphs (c)(1) through (5) of this section by the compliance date specified in §63.7495.

(1) The CPMS must complete a minimum of one cycle of operation for each successive 15-minute period. You must have a minimum of four successive cycles of operation to have a valid hour of data.

(2) Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), you must conduct all monitoring in continuous operation at all times that the unit is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

(3) For purposes of calculating data averages, you must not use data recorded during monitoring malfunctions, associated repairs, out of control periods, or required quality assurance or control activities. You must use all the data collected during all other periods in assessing compliance. Any period for which the monitoring system is out-of-control and data are not available for required calculations constitutes a deviation from the monitoring requirements.

(4) Determine the 3-hour block average of all recorded readings, except as provided in paragraph (c)(3) of this section.

(5) Record the results of each inspection, calibration, and validation check.

(d) If you have an operating limit that requires the use of a flow measurement device, you must meet the requirements in paragraphs (c) and (d)(1) through (4) of this section.

(1) Locate the flow sensor and other necessary equipment in a position that provides a representative flow.

(2) Use a flow sensor with a measurement sensitivity of 2 percent of the flow rate.

(3) Reduce swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.

(4) Conduct a flow sensor calibration check at least semiannually.

(e) If you have an operating limit that requires the use of a pressure measurement device, you must meet the requirements in paragraphs (c) and (e)(1) through (6) of this section.

(1) Locate the pressure sensor(s) in a position that provides a representative measurement of the pressure.

(2) Minimize or eliminate pulsating pressure, vibration, and internal and external corrosion.

(3) Use a gauge with a minimum tolerance of 1.27 centimeters of water or a transducer with a minimum tolerance of 1 percent of the pressure range.

(4) Check pressure tap pluggage daily.

(5) Using a manometer, check gauge calibration quarterly and transducer calibration monthly.

(6) Conduct calibration checks any time the sensor exceeds the manufacturer's specified maximum operating pressure range or install a new pressure sensor.

(f) If you have an operating limit that requires the use of a pH measurement device, you must meet the requirements in paragraphs (c) and (f)(1) through (3) of this section.

(1) Locate the pH sensor in a position that provides a representative measurement of scrubber effluent pH.

(2) Ensure the sample is properly mixed and representative of the fluid to be measured.

(3) Check the pH meter's calibration on at least two points every 8 hours of process operation.

(g) If you have an operating limit that requires the use of equipment to monitor voltage and secondary current (or total power input) of an electrostatic precipitator (ESP), you must use voltage and secondary current monitoring equipment to measure voltage and secondary current to the ESP.

(h) If you have an operating limit that requires the use of equipment to monitor sorbent injection rate (*e.g.*, weigh belt, weigh hopper, or hopper flow measurement device), you must meet the requirements in paragraphs (c) and (h)(1) through (3) of this section.

(1) Locate the device in a position(s) that provides a representative measurement of the total sorbent injection rate.

(2) Install and calibrate the device in accordance with manufacturer's procedures and specifications.

(3) At least annually, calibrate the device in accordance with the manufacturer's procedures and specifications.

(i) If you elect to use a fabric filter bag leak detection system to comply with the requirements of this subpart, you must install, calibrate, maintain, and continuously operate a bag leak detection system as specified in paragraphs (i)(1) through (8) of this section.

(1) You must install and operate a bag leak detection system for each exhaust stack of the fabric filter.

(2) Each bag leak detection system must be installed, operated, calibrated, and maintained in a manner consistent with the manufacturer's written specifications and recommendations and in accordance with the guidance provided in EPA-454/R-98-015, September 1997.

(3) The bag leak detection system must be certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 10 milligrams per actual cubic meter or less.

(4) The bag leak detection system sensor must provide output of relative or absolute particulate matter loadings.

(5) The bag leak detection system must be equipped with a device to continuously record the output signal from the sensor.

(6) The bag leak detection system must be equipped with an alarm system that will sound automatically when an increase in relative particulate matter emissions over a preset level is detected. The alarm must be located where it is easily heard by plant operating personnel.

(7) For positive pressure fabric filter systems that do not duct all compartments of cells to a common stack, a bag leak detection system must be installed in each baghouse compartment or cell.

(8) Where multiple bag leak detectors are required, the system's instrumentation and alarm may be shared among detectors.

§63.7530 How do I demonstrate initial compliance with the emission limits and work practice standards?

(a) You must demonstrate initial compliance with each emission limit and work practice standard that applies to you by either conducting initial performance tests and establishing operating limits, as applicable, according to §63.7520, paragraph (c) of this section, and Tables 5 and 7 to this subpart OR conducting initial fuel analyses to determine emission rates and establishing operating limits, as applicable, according to §63.7521, paragraph (d) of this section, and Tables 6 and 8 to this subpart.

(b) New or reconstructed boilers or process heaters in one of the liquid fuel subcategories

that burn only fossil fuels and other gases and do not burn any residual oil must demonstrate compliance according to §63.7506(a).

(c) If you demonstrate compliance through performance testing, you must establish each site-specific operating limit in Tables 2 through 4 to this subpart that applies to you according to the requirements in §63.7520, Table 7 to this subpart, and paragraph (c)(4) of this section, as applicable. You must also conduct fuel analyses according to §63.7521 and establish maximum fuel pollutant input levels according to paragraphs (c)(1) through (3) of this section, as applicable.

(1) You must establish the maximum chlorine fuel input (Cinput) during the initial performance testing according to the procedures in paragraphs (c)(1)(i) through (iii) of this section.

(i) You must determine the fuel type or fuel mixture that you could burn in your boiler or process heater that has the highest content of chlorine.

(ii) During the performance testing for HCl, you must determine the fraction of the total heat input for each fuel type burned (Qi) based on the fuel mixture that has the highest content of chlorine, and the average chlorine concentration of each fuel type burned (Ci).

(iii) You must establish a maximum chlorine input level using Equation 5 of this section.

$$Cl_{input} = \sum_{i=1}^{n} [(C_i)(Q_i)] \quad \text{(Eq. 5)}$$

Where:

Cl_{input} = Maximum amount of chlorine entering the boiler or process heater through fuels burned in units of pounds per million Btu.

C_i = Arithmetic average concentration of chlorine in fuel type, i, analyzed according to §63.7521, in units of pounds per million Btu.

Q_i = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of chlorine. If you do not burn multiple fuel types during the performance testing, it is not necessary to determine the value of this term. Insert a value of "1" for Q_i.

n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of chlorine.

(2) If you choose to comply with the alternative TSM emission limit instead of the particulate matter emission limit, you must establish the maximum TSM fuel input level (TSM_{input}) during the initial performance testing according to the procedures in paragraphs (c)(2)(i) through (iii) of this section.

(i) You must determine the fuel type or fuel mixture that you could burn in your boiler or process heater that has the highest content of TSM.

(ii) During the performance testing for TSM, you must determine the fraction of total heat input from each fuel burned (Q_i) based on the fuel mixture that has the highest content of total selected metals, and the average TSM concentration of each fuel type burned (M_i).

(iii) You must establish a baseline TSM input level using Equation 6 of this section.

$$TSM_{input} = \sum_{i=1}^{n} [(M_i)(Q_i)] \quad \text{(Eq. 6)}$$

Where:

TSM_{input} = Maximum amount of TSM entering the boiler or process heater through fuels burned in units of pounds per million Btu.

M_i = Arithmetic average concentration of TSM in fuel type, i, analyzed according to §63.7521, in units of pounds per million Btu.

Q_i = Fraction of total heat input from based fuel type, i, based on the fuel mixture that has the highest content of TSM. If you do not burn multiple fuel types during the performance test, it is not necessary to determine the value of this term. Insert a value of "1" for Q_i.

n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of TSM.

(3) You must establish the maximum mercury fuel input level ($Mercury_{input}$) during the initial performance testing using the procedures in paragraphs (c)(3)(i) through (iii) of this section.

(i) You must determine the fuel type or fuel mixture that you could burn in your boiler or process heater that has the highest content of mercury.

(ii) During the compliance demonstration for mercury, you must determine the fraction of total heat input for each fuel burned (Qi) based on the fuel mixture that has the highest content of mercury, and the average mercury concentration of each fuel type burned (HGi).

(iii) You must establish a maximum mercury input level using Equation 7 of this section.

$$Mercury_{input} = \sum_{i=1}^{n} [(HG_i)(Q_i)] \quad \text{(Eq. 7)}$$

Where:

$Mercury_{input}$ = Maximum amount of mercury entering the boiler or process heater through fuels burned in units of pounds per million Btu.

HG_i = Arithmetic average concentration of mercury in fuel type, i, analyzed according to §63.7521, in units of pounds per million Btu.

Q_i = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest mercury content. If you do not burn multiple fuel types during the performance test, it is not necessary to determine the value of this term. Insert a value of "1" for Q_i.

n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of mercury.

(4) You must establish parameter operating limits according to paragraphs (c)(4)(i) through (iv) of this section.

(i) For a wet scrubber, you must establish the minimum scrubber effluent pH, liquid flowrate, and pressure drop as defined in §63.7575, as your operating limits during the three-run performance test. If you use a wet scrubber and you conduct separate performance tests for particulate matter, HCl, and mercury emissions, you must establish one set of minimum scrubber effluent pH, liquid flowrate, and pressure drop operating limits. The minimum scrubber effluent pH operating limit must be established during the HCl performance test. If you conduct multiple performance tests, you must set the minimum liquid flowrate and pressure drop operating limits at the highest minimum values established during the performance tests.

(ii) For an electrostatic precipitator, you must establish the minimum voltage and secondary current (or total power input), as defined in §63.7575, as your operating limits during the three-run performance test.

(iii) For a dry scrubber, you must establish the minimum sorbent injection rate, as defined in §63.7575, as your operating limit during the three-run performance test.

(iv) The operating limit for boilers or process heaters with fabric filters that choose to demonstrate continuous compliance through bag leak detection systems is that a bag leak

detection system be installed according to the requirements in §63.7525, and that each fabric filter must be operated such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month period.

(d) If you elect to demonstrate compliance with an applicable emission limit through fuel analysis, you must conduct fuel analyses according to §63.7521 and follow the procedures in paragraphs (d)(1) through (5) of this section.

(1) If you burn more than one fuel type, you must determine the fuel mixture you could burn in your boiler or process heater that would result in the maximum emission rates of the pollutants that you elect to demonstrate compliance through fuel analysis.

(2) You must determine the 90th percentile confidence level fuel pollutant concentration of the composite samples analyzed for each fuel type using the one-sided z-statistic test described in Equation 8 of this section.

$$P_{90} = \text{mean} + (SD \times t) \quad \text{(Eq. 8)}$$

Where:

P_{90} = 90th percentile confidence level pollutant concentration, in pounds per million Btu.

mean = Arithmetic average of the fuel pollutant concentration in the fuel samples analyzed according to §63.7521, in units of pounds per million Btu.

SD = Standard deviation of the pollutant concentration in the fuel samples analyzed according to §63.7521, in units of pounds per million Btu.

t = t distribution critical value for 90th percentile (0.1) probability for the appropriate degrees of freedom (number of samples minus one) as obtained from a Distribution Critical Value Table.

(3) To demonstrate compliance with the applicable emission limit for HCl, the HCl emission rate that you calculate for your boiler or process heater using Equation 9 of this section must be less than the applicable emission limit for HCl.

$$HCl = \sum_{i=1}^{n} \left[(C_{i90})(Q_i)(1.028)\right] \quad \text{(Eq. 9)}$$

Where:

HCl = HCl emission rate from the boiler or process heater in units of pounds per million Btu.

C_{i90} = 90th percentile confidence level concentration of chlorine in fuel type, i, in units of pounds per million Btu as calculated according to Equation 8 of this section.

Q_i = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of chlorine. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of "1" for Q_i.

n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of chlorine.

1.028 = Molecular weight ratio of HCl to chlorine.

(4) To demonstrate compliance with the applicable emission limit for TSM, the TSM emission rate that you calculate for your boiler or process heater using Equation 10 of this section must be less than the applicable emission limit for TSM.

$$TSM = \sum_{i=1}^{n} \left[(M_{i90})(Q_i)\right] \quad \text{(Eq. 10)}$$

Where:

TSM = TSM emission rate from the boiler or process heater in units of pounds per million Btu.

M_{i90} = 90th percentile confidence level concentration of TSM in fuel, i, in units of pounds per million Btu as calculated according to Equation 8 of this section.

Q_i = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of total selected metals. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of "1" for Q_i.

n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of TSM.

(5) To demonstrate compliance with the applicable emission limit for mercury, the mercury emission rate that you calculate for your boiler or process heater using Equation 11 of this section must be less than the applicable emission limit for mercury.

$$Mercury = \sum_{i=1}^{n} \left[(HG_{i90})(Q_i)\right] \quad \text{(Eq. 11)}$$

Where:

Mercury = Mercury emission rate from the boiler or process heater in units of pounds per million Btu.

HG_{i90} = 90th percentile confidence level concentration of mercury in fuel, i, in units of pounds per million Btu as calculated according to Equation 8 of this section.

Q_i = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest mercury content. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of "1" for Q_i.

n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest mercury content.

(e) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.7545(e).

Continuous Compliance Requirements

§63.7535 How do I monitor and collect data to demonstrate continuous compliance?

(a) You must monitor and collect data according to this section and the site-specific monitoring plan required by §63.7505(d).

(b) Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), you must monitor continuously (or collect data at all required intervals) at all times that the affected source is operating.

(c) You may not use data recorded during monitoring malfunctions, associated repairs, or required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must use all the data collected during all other periods in assessing the operation of the control device and associated control system. Boilers and process heaters that have an applicable carbon monoxide work practice standard and are required to install and operate a CEMS, may not use data recorded during periods when the boiler or process heater is operating at less than 50 percent of its rated capacity.

§63.7540 How do I demonstrate continuous compliance with the emission limits and work practice standards?

(a) You must demonstrate continuous compliance with each emission limit, operating limit, and work practice standard in Tables 1 through 4 to this subpart that applies to you according to the methods specified in Table 8 to this subpart and paragraphs (a)(1) through (10) of this section.

(1) Following the date on which the initial performance test is completed or is required to be completed under §§63.7 and 63.7510, whichever date comes first, you must not operate above any of the applicable maximum operating limits or below any of the applicable minimum operating limits listed in Tables 2 through 4 to this subpart at all times except during periods of startup, shutdown and malfunction. Operating limits do not apply during performance tests. Operation above the established maximum or below the established minimum operating limits shall constitute a deviation of established operating limits.

(2) You must keep records of the type and amount of all fuels burned in each boiler or process heater during the reporting period to demonstrate that all fuel types and mixtures of fuels burned would either result in lower emissions of TSM, HCl, and mercury, than the applicable emission limit for each pollutant (if you demonstrate compliance through fuel analysis), or result in lower fuel input of TSM, chlorine, and mercury than the maximum values calculated during the last performance tests (if you demonstrate compliance through performance testing).

(3) If you demonstrate compliance with an applicable HCl emission limit through fuel analysis and you plan to burn a new type of fuel, you must recalculate the HCl emission rate using Equation 9 of §63.7530 according to paragraphs (a)(3)(i) through (iii) of this section.

(i) You must determine the chlorine concentration for any new fuel type in units of pounds per million Btu, based on supplier data or your own fuel analysis, according to the provisions in your site-specific fuel analysis plan developed according to §63.7521(b).

(ii) You must determine the new mixture of fuels that will have the highest content of chlorine.

(iii) Recalculate the HCl emission rate from your boiler or process heater under these new conditions using Equation 9 of §63.7530. The recalculated HCl emission rate must be less than the applicable emission limit.

(4) If you demonstrate compliance with an applicable HCl emission limit through performance testing and you plan to burn a new type of fuel type or a new mixture of fuels, you must recalculate the maximum chlorine input using Equation 5 of §63.7530. If the results of recalculating the maximum chlorine input using Equation 5 of §63.7530 are higher than the maximum chlorine input level established during the previous performance test, then you must conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to the procedures in §63.7520 to demonstrate that the HCl emissions do not exceed the emission limit. You must also establish new operating limits based on this performance test according to the procedures in §63.7530(c).

(5) If you demonstrate compliance with an applicable TSM emission limit through fuel analysis, and you plan to burn a new type of fuel, you must recalculate the TSM emission rate using Equation 10 of §63.7530 according to the procedures specified in paragraphs (a)(5)(i) through (iii) of this section.

(i) You must determine the TSM concentration for any new fuel type in units of pounds per million Btu, based on supplier data or your own fuel analysis, according to the provisions in your site-specific fuel analysis plan developed according to §63.7521(b).

(ii) You must determine the new mixture of fuels that will have the highest content of TSM.

(iii) Recalculate the TSM emission rate from your boiler or process heater under these new conditions using Equation 10 of §63.7530. The recalculated TSM emission rate must be less than the applicable emission limit.

(6) If you demonstrate compliance with an applicable TSM emission limit through performance testing, and you plan to burn a new type of fuel or a new mixture of fuels, you must recalculate the maximum TSM input using Equation 6 of §63.7530. If the results of recalculating the maximum total selected metals input using Equation 6 of §63.7530 are higher than the maximum TSM input level established during the previous performance test, then you must conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to the procedures in §63.7520 to demonstrate that the TSM emissions do not exceed the emission limit. You must also establish new operating limits based on this performance test according to the procedures in §63.7530(c).

(7) If you demonstrate compliance with an applicable mercury emission limit through fuel analysis, and you plan to burn a new type of fuel, you must recalculate the mercury emission rate using Equation 11 of §63.7530 according to the procedures specified in paragraphs (a)(7)(i) through (iii) of this section.

(i) You must determine the mercury concentration for any new fuel type in units of pounds per million Btu, based on supplier data or your own fuel analysis, according to the provisions in your site-specific fuel analysis plan developed according to §63.7521(b).

(ii) You must determine the new mixture of fuels that will have the highest content of mercury.

(iii) Recalculate the mercury emission rate from your boiler or process heater under these new conditions using Equation 11 of §63.7530. The recalculated mercury emission rate must be less than the applicable emission limit.

(8) If you demonstrate compliance with an applicable mercury emission limit through performance testing, and you plan to burn a new type of fuel or a new mixture of fuels, you must recalculate the maximum mercury input using Equation 7 of §63.7530. If the results of recalculating the maximum mercury input using Equation 7 of §63.7530 are higher than the maximum mercury input level established during the previous performance test, then you must conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to the procedures in §63.7520 to demonstrate that the mercury emissions do not exceed the emission limit. You must also establish new operating limits based on this performance test according to the procedures in §63.7530(c).

(9) If your unit is controlled with a fabric filter, and you demonstrate continuous compliance using a bag leak detection system, you must initiate corrective action within 1 hour of a bag leak detection system alarm and complete corrective actions according to your SSMP, and operate and maintain the fabric filter system such that the alarm does not sound more than 5 percent of the operating time during a 6-month period. You must also keep records of the date, time, and duration of each alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken. You must also record the percent of the operating time during each 6-month period that the alarm sounds. In calculating this operating time percentage, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm shall be counted as a minimum of 1 hour. If you take longer than 1 hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken to initiate corrective action.

(10) If you have an applicable work practice standard for carbon monoxide, and you are required to install a CEMS according to §63.7525(a), then you must meet the requirements in paragraphs (a)(10)(i) through (iii) of this section.

(i) You must continuously monitor carbon monoxide according to §§63.7525(a) and 63.7535.

(ii) Maintain a carbon monoxide emission level below your applicable carbon monoxide work practice standard in Table 1 to this subpart at all times except during periods of startup, shutdown, malfunction, and when your boiler or process heater is operating at less than 50 percent of rated capacity.

(iii) Keep records of carbon monoxide levels according to §63.7555(b).

(b) You must report each instance in which you did not meet each emission limit, operating limit, and work practice standard in Tables 1 through 4 to this subpart that apply to you. You must also report each instance during a startup, shutdown, or malfunction when you did not meet each applicable emission limit, operating limit, and work practice standard. These instances are deviations from the emission limits and work practice standards in this subpart. These deviations must be reported according to the requirements in §63.7550.

(c) During periods of startup, shutdown, and malfunction, you must operate in accordance with the SSMP as required in §63.7505(e).

(d) Consistent with §§63.6(e)and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if you demonstrate to the EPA Administrator's satisfaction that you were operating in accordance with your SSMP. The EPA Administrator will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in §63.6(e).

§63.7541 How do I demonstrate continuous compliance under the emission averaging provision?

(a) Following the compliance date, the owner or operator must demonstrate compliance with this subpart on a continuous basis by meeting the requirements of paragraphs (a)(1) through (4) of this section.

(1) For each calendar month, demonstrate compliance with the average weighted emissions limit for the existing large solid fuel boilers participating in the emissions averaging option as determined in §63.7522(f) and (g);

(2) For each existing solid fuel boiler participating in the emissions averaging option that is equipped with a dry control system, maintain opacity at or below the applicable limit;

(3) For each existing solid fuel boiler participating in the emissions averaging option that is equipped with a wet scrubber, maintain the 3-hour average parameter values at or below the operating limits established during the most recent performance test; and

(4) For each existing solid fuel boiler participating in the emissions averaging option that has an approved alternative operating plan, maintain the 3-hour average parameter values at or below the operating limits established in the most recent performance test.

(b) Any instance where the owner or operator fails to comply with the continuous monitoring requirements in paragraphs (a)(1) through (4) of this section, except during periods of startup, shutdown, and malfunction, is a deviation.

Notification, Reports, and Records

§63.7545 What notifications must I submit and when?

(a) You must submit all of the notifications in §§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) As specified in §63.9(b)(2), if you startup your affected source before November 12, 2004, you must submit an Initial Notification not later than 120 days after November 12, 2004. The Initial Notification must include the information required in paragraphs (b)(1) and (2) of this section, as applicable.

(1) If your affected source has an annual capacity factor of greater than 10 percent, your Initial Notification must include the information required by §63.9(b)(2).

(2) If your affected source has a federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent such that the unit is in one of the limited use subcategories (the limited use solid fuel subcategory, the limited use liquid fuel subcategory, or the limited use gaseous fuel subcategory), your Initial Notification must include the information required by §63.9(b)(2) and also a signed statement indicating your affected source has a federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent.

(c) As specified in §63.9(b)(4) and (b)(5), if you startup your new or reconstructed affected source on or after November 12, 2004, you must submit an Initial Notification not later than 15 days after the actual date of startup of the affected source.

(d) If you are required to conduct a performance test you must submit a Notification of Intent to conduct a performance test at least 30 days before the performance test is scheduled to begin.

(e) If you are required to conduct an initial compliance demonstration as specified in §63.7530(a), you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii). For each initial compliance demonstration, you must submit the Notification of Compliance Status, including all performance test results and fuel analyses, before the close of business on the 60th day following the completion of the performance test and/or other initial compliance demonstrations according to §63.10(d)(2). The Notification of Compliance Status report must contain all the information specified in paragraphs (e)(1) through (9), as applicable.

(1) A description of the affected source(s) including identification of which subcategory the source is in, the capacity of the source, a description of the add-on controls used on the source description of the fuel(s) burned, and justification for the fuel(s) burned during the performance test.

(2) Summary of the results of all performance tests, fuel analyses, and calculations conducted to demonstrate initial compliance including all established operating limits

(3) Identification of whether you are complying with the particulate matter emission limit or the alternative total selected metals emission limit.

(4) Identification of whether you plan to demonstrate compliance with each applicable emission limit through performance testing or fuel analysis.

(5) Identification of whether you plan to demonstrate compliance by emissions averaging.

(6) A signed certification that you have met all applicable emission limits and work practice standards.

(7) A summary of the carbon monoxide emissions monitoring data and the maximum carbon monoxide emission levels recorded during the performance test to show that you have met any applicable work practice standard in Table 1 to this subpart.

(8) If your new or reconstructed boiler or process heater is in one of the liquid fuel subcategories and burns only liquid fossil fuels other than residual oil either alone or in combination with gaseous fuels, you must submit a signed statement certifying this in your Notification of Compliance Status report.

(9) If you had a deviation from any emission limit or work practice standard, you must also submit a description of the deviation, the duration of the deviation, and the corrective action taken in the Notification of Compliance Status report.

§63.7550 What reports must I submit and when?

(a) You must submit each report in Table 9 to this subpart that applies to you.

(b) Unless the EPA Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report by the date in Table 9 to this subpart and according to the requirements in paragraphs (b)(1) through (5) of this section.

(1) The first compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.7495 and ending on June 30 or December 31, whichever date is the first date that occurs at least 180 days after the compliance date that is specified for your source in §63.7495.

(2) The first compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in §63.7495.

(3) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) Each subsequent compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(5) For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (4) of this section.

(c) The compliance report must contain the information required in paragraphs (c)(1) through (11) of this section.

(1) Company name and address.

(2) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) The total fuel use by each affected source subject to an emission limit, for each calendar month within the semiannual reporting period, including, but not limited to, a description of the fuel and the total fuel usage amount with units of measure.

(5) A summary of the results of the annual performance tests and documentation of any operating limits that were reestablished during this test, if applicable.

(6) A signed statement indicating that you burned no new types of fuel. Or, if you did burn a new type of fuel, you must submit the calculation of chlorine input, using Equation 5 of §63.7530, that demonstrates that your source is still within its maximum chlorine input level established during the previous performance testing (for sources that demonstrate compliance through performance testing) or you must submit the calculation of HCl emission rate using Equation 9 of §63.7530 that demonstrates that your source is still meeting the emission limit for HCl emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel, you must submit the calculation of TSM input, using Equation 6 of §63.7530, that demonstrates that your source is still within its maximum TSM input level established during the previous performance testing (for sources that demonstrate compliance through performance testing), or you must submit the calculation of TSM emission rate using Equation 10 of §63.7530 that demonstrates that your source is still meeting the emission limit for TSM emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel, you must submit the calculation of mercury input, using Equation 7 of §63.7530, that demonstrates that your source is still within its maximum mercury input level established during the previous performance testing (for sources that demonstrate compliance through performance testing), or you must submit the calculation of mercury emission rate using Equation 11 of §63.7530 that demonstrates that your source is still meeting the emission limit for mercury emissions (for boilers or process heaters that demonstrate compliance through fuel analysis).

(7) If you wish to burn a new type of fuel and you can not demonstrate compliance with the maximum chlorine input operating limit using Equation 5 of §63.7530, the maximum TSM input operating limit using Equation 6 of §63.7530, or the maximum mercury input operating limit using Equation 7 of §63.7530, you must include in the compliance report a statement indicating the intent to conduct a new performance test within 60 days of starting to burn the new fuel.

(8) The hours of operation for each boiler and process heater that is subject to an emission limit for each calendar month within the semiannual reporting period. This requirement applies only to limited use boilers and process heaters.

(9) If you had a startup, shutdown, or malfunction during the reporting period and you took actions consistent with your SSMP, the compliance report must include the information in §63.10(d)(5)(i).

(10) If there are no deviations from any emission limits or operating limits in this subpart that apply to you, and there are no deviations from the requirements for work practice standards in this subpart, a statement that there were no deviations from the emission limits, operating limits, or work practice standards during the reporting period.

(11) If there were no periods during which the CMSs, including CEMS, COMS, and CPMS, were out of control as specified in §63.8(c)(7), a statement that there were no periods during which the CMSs were out of control during the reporting period.

(d) For each deviation from an emission limit or operating limit in this subpart and for each deviation from the requirements for work practice standards in this subpart that occurs at an affected source where you are not using a CMSs to comply with that emission limit, operating limit, or work practice standard, the compliance report must contain the information in paragraphs (c)(1) through (10) of this section and the information required in paragraphs (d)(1) through (4) of this section. This includes periods of startup, shutdown, and malfunction.

(1) The total operating time of each affected source during the reporting period.

(2) A description of the deviation and which emission limit, operating limit, or work practice standard from which you deviated.

(3) Information on the number, duration, and cause of deviations (including unknown cause), as applicable, and the corrective action taken.

(4) A copy of the test report if the annual performance test showed a deviation from the emission limit for particulate matter or the alternative TSM limit, a deviation from the HCl emission limit, or a deviation from the mercury emission limit.

(e) For each deviation from an emission limitation and operating limit or work practice standard in this subpart occurring at an affected source where you are using a CMS to comply with that emission limit, operating limit, or work practice standard, you must include the information in paragraphs (c) (1) through (10) of this section and the information required in paragraphs (e) (1) through (12) of this section. This includes periods of startup, shutdown, and malfunction and any deviations from your site-specific monitoring plan as required in §63.7505(d).

(1) The date and time that each malfunction started and stopped and description of the nature of the deviation (*i.e.*, what you deviated from).

(2) The date and time that each CMS was inoperative, except for zero (low level) and high-level checks.

(3) The date, time, and duration that each CMS was out of control, including the information in §63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(5) A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMSs downtime during the reporting period and the total duration of CMS downtime as a percent of the total source operating time during that reporting period.

(8) An identification of each parameter that was monitored at the affected source for which there was a deviation, including opacity, carbon monoxide, and operating parameters for wet scrubbers and other control devices.

(9) A brief description of the source for which there was a deviation.

(10) A brief description of each CMS for which there was a deviation.

(11) The date of the latest CMS certification or audit for the system for which there was a deviation.

(12) A description of any changes in CMSs, processes, or controls since the last reporting period for the source for which there was a deviation.

(f) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 40 CFR part 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a compliance report pursuant to Table

9 to this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the compliance report includes all required information concerning deviations from any emission limit, operating limit, or work practice requirement in this subpart, submission of the compliance report satisfies any obligation to report the same deviations in the semiannual monitoring report. However, submission of a compliance report does not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

(g) If you operate a new gaseous fuel unit that is subject to the work practice standard specified in Table 1 to this subpart, and you intend to use a fuel other than natural gas or equivalent to fire the affected unit, you must submit a notification of alternative fuel use within 48 hours of the declaration of a period of natural gas curtailment or supply interruption, as defined in §63.7575. The notification must include the information specified in paragraphs (g)(1) through (5) of this section.

(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.

§63.7555 What records must I keep?

(a) You must keep records according to paragraphs (a)(1) through (3) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that you submitted, according to the requirements in §63.10(b)(2)(xiv).

(2) The records in §63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

(3) Records of performance tests, fuel analyses, or other compliance demonstrations, performance evaluations, and opacity observations as required in §63.10(b)(2)(viii).

(b) For each CEMS, CPMS, and COMS, you must keep records according to paragraphs (b)(1) through (5) of this section.

(1) Records described in §63.10(b)(2)(vi) through (xi).

(2) Monitoring data for continuous opacity monitoring system during a performance evaluation as required in §63.6(h)(7)(i) and (ii).

(3) Previous (*i.e.*, superseded) versions of the performance evaluation plan as required in §63.8(d)(3).

(4) Request for alternatives to relative accuracy test for CEMS as required in §63.8(f)(6)(i).

(5) Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(c) You must keep the records required in Table 8 to this subpart including records of all monitoring data and calculated averages for applicable operating limits such as opacity, pressure drop, carbon monoxide, and pH to show continuous compliance with each emission limit, operating limit, and work practice standard that applies to you.

(d) For each boiler or process heater subject to an emission limit, you must also keep the records in paragraphs (d)(1) through (5) of this section.

(1) You must keep records of monthly fuel use by each boiler or process heater, including the type(s) of fuel and amount(s) used.

(2) You must keep records of monthly hours of operation by each boiler or process heater. This requirement applies only to limited-use boilers and process heaters.

(3) A copy of all calculations and supporting documentation of maximum chlorine fuel input, using Equation 5 of §63.7530, that were done to demonstrate continuous compliance with the HCl emission limit, for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of HCl emission rates, using Equation 9 of §63.7530, that were done to demonstrate compliance with the HCl emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum chlorine fuel input or HCl emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate chlorine fuel input, or HCl emission rate, for each boiler and process heater

(4) A copy of all calculations and supporting documentation of maximum TSM fuel input, using Equation 6 of §63.7530, that were done to demonstrate continuous compliance with the TSM emission limit for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of TSM emission rates, using Equation 10 of §63.7530, that were done to demonstrate compliance with the TSM emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum TSM fuel input or TSM emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate TSM fuel input, or TSM emission rates, for each boiler and process heater

(5) A copy of all calculations and supporting documentation of maximum mercury fuel input, using Equation 7 of §63.7530, that were done to demonstrate continuous compliance with the mercury emission limit for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of mercury emission rates, using Equation 11 of §63.7530, that were done to demonstrate compliance with the mercury emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum mercury fuel input or mercury emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate mercury fuel input, or mercury emission rates, for each boiler and process heater.

(e) If your boiler or process heater is subject to an emission limit or work practice standard in Table 1 to this subpart and has a federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent such that the unit is in one of the limited use subcategories, you must keep the records in paragraphs (e)(1) and (2) of this section.

(1) A copy of the federally enforceable permit that limits the annual capacity factor of the source to less than or equal to 10 percent.

(2) Fuel use records for the days the boiler or process heater was operating.

§63.7560 In what form and how long must I keep my records?

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

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

(c) You must keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1). You can keep the records off site for the remaining 3 years.

Other Requirements and Information

§63.7565 What parts of the General Provisions apply to me?

Table 10 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you.

§63.7570 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by U.S. EPA, or a delegated authority such as your State, local, or tribal agency. If the EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the U.S. EPA) has the authority to implement and

enforce this subpart. You should contact your EPA Regional Office to find out if this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities listed in paragraphs (b)(1) through (5) of this section are retained by the EPA Administrator and are not transferred to the State, local, or tribal agency, however, the U.S. EPA retains oversight of this subpart and can take enforcement actions, as appropriate.

(1) Approval of alternatives to the non-opacity emission limits and work practice standards in §63.7500(a) and (b) under §63.6(g).

(2) Approval of alternative opacity emission limits in §63.7500(a) under §63.6(h)(9).

(3) Approval of major change to test methods in Table 5 to this subpart under §63.7(e)(2)(ii) and (f) and as defined in §63.90.

(4) Approval of major change to monitoring under §63.8(f) and as defined in §63.90.

(5) Approval of major change to recordkeeping and reporting under §63.10(f) and as defined in §63.90.

§63.7575 What definitions apply to this subpart?

Terms used in this subpart are defined in the CAA, in §63.2 (the General Provisions), and in this section as follows:

Annual capacity factor means the ratio between the actual heat input to a boiler or process heater from the fuels burned during a calendar year, and the potential heat input to the boiler or process heater had it been operated for 8,760 hours during a year at the maximum steady state design heat input capacity.

Bag leak detection system means an instrument that is capable of monitoring particulate matter loadings in the exhaust of a fabric filter (*i.e.*, baghouse) in order to detect bag failures. A bag leak detection system includes, but is not limited to, an instrument that operates on electrodynamic, triboelectric, light scattering, light transmittance, or other principle to monitor relative particulate matter loadings.

Biomass fuel means unadulterated wood as defined in this subpart, wood residue, and wood products (*e.g.*, trees, tree stumps, tree limbs, bark, lumber, sawdust, sanderdust, chips, scraps, slabs, millings, and shavings); animal litter; vegetative agricultural and silvicultural materials, such as logging residues (slash), nut and grain hulls and chaff (*e.g.*, almond, walnut, peanut, rice, and wheat), bagasse, orchard prunings, corn stalks, coffee bean hulls and grounds.

Blast furnace gas fuel-fired boiler or process heater means an industrial/commercial/ institutional boiler or process heater that receives 90 percent or more of its total heat input (based on an annual average) from blast furnace gas.

Boiler means an enclosed device using controlled flame combustion and having the primary purpose of recovering thermal energy in the form of steam or hot water. Waste heat boilers are excluded from this definition.

Coal means all solid fuels classifiable as anthracite, bituminous, sub-bituminous, or lignite by the American Society for Testing and Materials in ASTM D388–991 \1\, "Standard Specification for Classification of Coals by Rank \1\" (incorporated by reference, see §63.14(b)), coal refuse, and petroleum coke. Synthetic fuels derived from coal for the purpose of creating useful heat including but not limited to, solvent-refined coal, coal-oil mixtures, and coal-water mixtures, for the purposes of this subpart. Coal derived gases are excluded from this definition.

Coal refuse means any by-product of coal mining or coal cleaning operations with an ash content greater than 50 percent (by weight) and a heating value less than 13,900 kilojoules per kilogram (6,000 Btu per pound) on a dry basis.

Commercial/institutional boiler means a boiler used in commercial establishments or institutional establishments such as medical centers, research centers, institutions of higher education, hotels, and laundries to provide electricity, steam, and/or hot water.

Construction/demolition material means waste building material that result from the construction or demolition operations on houses and commercial and industrial buildings.

Deviation. (1) Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(i) Fails to meet any requirement or obligation established by this subpart including, but not limited to, any emission limit, operating limit, or work practice standard;

(ii) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(iii) Fails to meet any emission limit, operating limit, or work practice standard in this subpart during startup, shutdown, or malfunction, regardless or whether or not such failure is permitted by this subpart.

(2) A deviation is not always a violation. The determination of whether a deviation constitutes a violation of the standard is up to the discretion of the entity responsible for enforcement of the standards.

Distillate oil means fuel oils, including recycled oils, that comply with the specifications for fuel oil numbers 1 and 2, as defined by the American Society for Testing and Materials in ASTM D396–02a, "Standard Specifications for Fuel Oils 1" (incorporated by reference, see §63.14(b)).

Dry scrubber means an add-on air pollution control system that injects dry alkaline sorbent (dry injection) or sprays an alkaline sorbent (spray dryer) to react with and neutralize acid gas in the exhaust stream forming a dry powder material. Sorbent injection systems in fluidized bed boilers and process heaters are included in this definition.

Electric utility steam generating unit means a fossil fuel-fired combustion unit of more than 25 megawatts that serves a generator that produces electricity for sale. A fossil fuel-fired unit that cogenerates steam and electricity and supplies more than one-third of its potential electric output capacity and more than 25 megawatts electrical output to any utility power distribution system for sale is considered an electric utility steam generating unit.

Electrostatic precipitator means an add-on air pollution control device used to capture particulate matter by charging the particles using an electrostatic field, collecting the particles using a grounded collecting surface, and transporting the particles into a hopper.

Fabric filter means an add-on air pollution control device used to capture particulate matter by filtering gas streams through filter media, also known as a baghouse.

Federally enforceable means all limitations and conditions that are enforceable by the EPA Administrator, including the requirements of 40 CFR parts 60 and 61, requirements within any applicable State implementation plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 40 CFR 51.24.

Firetube boiler means a boiler in which hot gases of combustion pass through the tubes and water contacts the outside surfaces of the tubes.

Fossil fuel means natural gas, petroleum, coal, and any form of solid, liquid, or gaseous fuel derived from such materials.

Fuel type means each category of fuels that share a common name or classification. Examples include, but are not limited to, bituminous coal, sub-bituminous coal, lignite, anthracite, biomass, construction/demolition material, salt water laden wood, creosote treated wood, tires, residual oil. Individual fuel types received from different suppliers are not considered new fuel types except for construction/ demolition material.

Gaseous fuel includes, but is not limited to, natural gas, process gas, landfill gas, coal derived gas, refinery gas, and biogas. Blast furnace gas is exempted from this definition.

Heat input means heat derived from combustion of fuel in a boiler or process heater and does not include the heat input from preheated combustion air, recirculated flue gases, or exhaust gases from other sources such as gas turbines, internal combustion engines, kilns, etc.

Hot water heater means a closed vessel with a capacity of no more than 120 U.S. gallons in which water is heated by combustion of gaseous or liquid fuel and is withdrawn for use external to the vessel at pressures not exceeding 160 psig, including the apparatus

by which the heat is generated and all controls and devices necessary to prevent water temperatures from exceeding 210°F (99°C).

Industrial boiler means a boiler used in manufacturing, processing, mining, and refining or any other industry to provide steam, hot water, and/or electricity.

Large gaseous fuel subcategory includes any watertube boiler or process heater that burns gaseous fuels not combined with any solid fuels, burns liquid fuel only during periods of gas curtailment or gas supply emergencies, has a rated capacity of greater than 10 MMBtu per hour heat input, and has an annual capacity factor of greater than 10 percent.

Large liquid fuel subcategory includes any watertube boiler or process heater that does not burn any solid fuel and burns any liquid fuel either alone or in combination with gaseous fuels, has a rated capacity of greater than 10 MMBtu per hour heat input, and has an annual capacity factor of greater than 10 percent. Large gaseous fuel boilers and process heaters that burn liquid fuel during periods of gas curtailment or gas supply emergencies are not included in this definition.

Large solid fuel subcategory includes any watertube boiler or process heater that burns any amount of solid fuel either alone or in combination with liquid or gaseous fuels, has a rated capacity of greater than 10 MMBtu per hour heat input, and has an annual capacity factor of greater than 10 percent.

Limited use gaseous fuel subcategory includes any watertube boiler or process heater that burns gaseous fuels not combined with any liquid or solid fuels, burns liquid fuel only during periods of gas curtailment or gas supply emergencies, has a rated capacity of greater than 10 MMBtu per hour heat input, and has a federally enforceable annual average capacity factor of equal to or less than 10 percent.

Limited use liquid fuel subcategory includes any watertube boiler or process heater that does not burn any solid fuel and burns any liquid fuel either alone or in combination with gaseous fuels, has a rated capacity of greater than 10 MMBtu per hour heat input, and has a federally enforceable annual average capacity factor of equal to or less than 10 percent. Limited use gaseous fuel boilers and process heaters that burn liquid fuel during periods of gas curtailment or gas supply emergencies are not included in this definition.

Limited use solid fuel subcategory includes any watertube boiler or process heater that burns any amount of solid fuel either alone or in combination with liquid or gaseous fuels, has a rated capacity of greater than 10 MMBtu per hour heat input, and has a federally enforceable annual average capacity factor of equal to or less than 10 percent.

Liquid fossil fuel means petroleum, distillate oil, residual oil and any form of liquid fuel derived from such material.

Liquid fuel includes, but is not limited to, distillate oil, residual oil, waste oil, and process liquids.

Minimum pressure drop means 90 percent of the lowest test-run average pressure drop measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limit.

Minimum scrubber effluent pH means 90 percent of the lowest test-run average effluent pH measured at the outlet of the wet scrubber according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable hydrogen chloride emission limit.

Minimum scrubber flow rate means 90 percent of the lowest test-run average flow rate measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limit.

Minimum sorbent flow rate means 90 percent of the lowest test-run average sorbent (or activated carbon) flow rate measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limits.

Minimum voltage or amperage means 90 percent of the lowest test-run average voltage or amperage to the electrostatic precipitator measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limits.

Natural gas means:

(1) A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or

(2) Liquid petroleum gas, as defined by the American Society for Testing and Materials in ASTM D1835-03a, "Standard Specification for Liquid Petroleum Gases" (incorporated by reference, see §63.14(b)).

Opacity means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background.

Particulate matter means any finely divided solid or liquid material, other than uncombined water, as measured by the test methods specified under this subpart, or an alternative method.

Period of natural gas curtailment or supply interruption means a period of time during which the supply of natural gas to an affected facility is halted for reasons beyond the control of the facility. An increase in the cost or unit price of natural gas does not constitute a period of natural gas curtailment or supply interruption

Process heater means an enclosed device using controlled flame, that is not a boiler, and the unit's primary purpose is to transfer heat indirectly to a process material (liquid, gas, or solid) or to a heat transfer material for use in a process unit, instead of generating steam. Process heaters are devices in which the combustion gases do not directly come into contact with process materials. Process heaters do not include units used for comfort heat or space heat, food preparation for on-site consumption, or autoclaves.

Residual oil means crude oil, and all fuel oil numbers 4, 5 and 6, as defined by the American Society for Testing and Materials in ASTM D396–02a, "Standard Specifications for Fuel Oils [1]" (incorporated by reference, see §63.14(b)).

Responsible official means responsible official as defined in 40 CFR 70.2.

Small gaseous fuel subcategory includes any firetube boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment or gas supply emergencies, and any boiler or process heater that burns gaseous fuels not combined with any solid fuels, burns liquid fuel only during periods of gas curtailment or gas supply emergencies, and has a rated capacity of less than or equal to 10 MMBtu per hour heat input.

Small liquid fuel subcategory includes any firetube boiler that does not burn any solid fuel and burns any liquid fuel either alone or in combination with gaseous fuels, and any boiler or process heater that does not burn any solid fuel and burns any liquid fuel either alone or in combination with gaseous fuels, and has a rated capacity of less than or equal to 10 MMBtu per hour heat input. Small gaseous fuel boilers and process heaters that burn liquid fuel during periods of gas curtailment or gas supply emergencies are not included in this definition.

Small solid fuel subcategory includes any firetube boiler that burns any amount of solid fuel either alone or in combination with liquid or gaseous fuels, and any other boiler or process heater that burns any amount of solid fuel either alone or in combination with liquid or gaseous fuels and has a rated capacity of less than or equal to 10 MMBtu per hour heat input.

Solid fuel includes, but is not limited to, coal, wood, biomass, tires, plastics, and other nonfossil solid materials.

Temporary boiler means any gaseous or liquid fuel boiler that is designed to, and is capable of, being carried or moved from one location to another A temporary boiler that remains at a location for more than 180 consecutive days is no longer considered to be a temporary boiler. Any temporary boiler that replaces a temporary boiler at a location and is intended to perform the same or similar function will be included in calculating the consecutive time period.

Total selected metals means the combination of the following metallic HAP: arsenic, beryllium, cadmium, chromium, lead, manganese, nickel and selenium.

Unadulterated wood means wood or wood products that have not been painted, pigment-stained, or pressure treated with compounds such as chromate copper arsenate,

pentachlorophenol, and creosote. Plywood, particle board, oriented strand board, and other types of wood products bound by glues and resins are included in this definition.

Waste heat boiler means a device that recovers normally unused energy and converts it to usable heat. Waste heat boilers incorporating duct or supplemental burners that are designed to supply 50 percent or more of the total rated heat input capacity of the waste heat boiler are not considered waste heat boilers, but are considered boilers. Waste heat boilers are also referred to as heat recovery steam generators.

Watertube boiler means a boiler in which water passes through the tubes and hot gases of combustion pass over the outside surfaces of the tubes.

Wet scrubber means any add-on air pollution control device that mixes an aqueous stream or slurry with the exhaust gases from a boiler or process heater to control emissions of particulate matter and/or to absorb and neutralize acid gases, such as hydrogen chloride.

Work practice standard means any design, equipment, work practice, or operational standard, or combination thereof, that is promulgated pursuant to section 112(h) of the CAA.

Tables to Subpart DDDDD of Part 63

TABLE 1 TO SUBPART DDDDD OF PART 63.—EMISSION LIMITS AND WORK PRACTICE STANDARDS

As stated in §63.7500, you must comply with the following applicable emission limits and work practice standards:

If your boiler or process heater is in this subcategory...	For the following pollutants...	You must meet the following emission limits and work practice standards...
1. New or reconstructed large solid fuel	a. Particulate Matter (or Total Selected Metals)	0.025 lb per MMBtu of heat input; or (0.0003 lb per MMBtu of heat input).
	b. Hydrogen Chloride	0.02 lb per MMBtu of heat input.
	c. Mercury	0.000003 lb per MMBtu of heat input.
	d. Carbon Monoxide	400 ppm by volume on a dry basis corrected to 7 percent oxygen (30-day rolling average for units 100 MMBtu/hr or greater, 3-run average for units less than 100 MMBtu/hr).
2. New or reconstructed limited use solid fuel	a. Particulate Matter (or Total Selected Metals)	0.025 lb per MMBtu of heat input; or (0.0003 lb per MMBtu of heat input).
	b. Hydrogen Chloride	0.02 lb per MMBtu of heat input.
	c. Mercury	0.000003 lb per MMBtu of heat input.
	d. Carbon Monoxide	400 ppm by volume on a dry basis corrected to 7 percent oxygen (3-run average).
3. New or reconstructed small solid fuel	a. Particulate Matter (or Total Selected Metals)	0.025 lb per MMBtu of heat input; or (0.0003 lb per MMBtu of heat input).
	b. Hydrogen Chloride	0.02 lb per MMBtu of heat input.
	c. Mercury	0.000003 lb per MMBtu of heat input.
4. New reconstructed large liquid fuel	a. Particulate Matter	0.03 lb per MMBtu of heat input.
	b. Hydrogen Chloride	0.0005 lb per MMBtu of heat input.
	c. Carbon Monoxide	400 ppm by volume on a dry basis corrected to 3 percent oxygen (30-day rolling average for units 100 MMBtu/hr or greater, 3-run average for units less than 100 MMBtu/hr).
5. New or reconstructed limited use liquid fuel	a. Particulate Matter	0.03 lb per MMBtu of heat input.
	b. Hydrogen Chloride	0.0009 lb per MMBtu of heat input.
	c. Carbon Monoxide	400 ppm by volume on a dry basis liquid corrected to 3 percent oxygen (3-run average).
6. New or reconstructed small liquid fuel	a. Particulate Matter	0.03 lb per MMBtu of heat input.
	b. Hydrogen Chloride	0.0009 lb per MMBtu of heat input.
7. New reconstructed large gaseous fuel	Carbon Monoxide	400 ppm by volume on a dry basis corrected to 3 percent oxygen (30-day rolling average for units 100 MMBtu/hr or greater, 3-run average for units less than 100 MMBtu/hr).
8. New or reconstructed limited use gaseous fuel	Carbon Monoxide	400 ppm by volume on a dry basis corrected to 3 percent oxygen (3-run average).
9. Existing large solid fuel	a. Particulate Matter (or Total Selected Metals)	0.07 lb per MMBtu of heat input; or (0.001 lb per MMBtu of heat input).
	b. Hydrogen Chloride	0.09 lb per MMBtu of heat input.
	c. Mercury	0.000009 lb per MMBtu of heat input.
10. Existing limited use solid fuel	Particulate Matter (or Total Selected Metals)	0.21 lb per MMBtu of heat input; or (0.004 lb per MMBtu of heat input).

TABLE 2 TO SUBPART DDDDD OF PART 63. — OPERATING LIMITS FOR BOILERS AND PROCESS HEATERS WITH PARTICULATE MATTER EMISSION LIMITS

As stated in §63.7500, you must comply with the applicable operating limits:

If you demonstrate compliance with applicable particulate matter emission limits using...	You must meet these operating limits...
1. Wet scrubber control.....	a. Maintain the minimum pressure drop and liquid flow-rate at or above the operating levels established during the performance test according to §63.7530(c) and Table 7 to this subpart that demonstrated compliance with the applicable emission limit for particulate matter.
2. Fabric filter control	a. Install and operate a bag leak detection system according to §63.7525 and operate the fabric filter such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during each 6-month period; or
	b. This option is for boilers and process heaters that operate dry control systems. Existing boilers and process heaters must maintain opacity to less than or equal to 20 percent (6-minute average) except for one 6-minute period per hour of not more than 27 percent. New boilers and process heaters must maintain opacity to less than or equal to 10 percent opacity (1-hour block average).
3. Electrostatic precipitator control.....	a. This option is for boilers and process heaters that operate dry control systems. Existing boilers and process heaters must maintain opacity to less than or equal to 20 percent (6-minute average) except for one 6-minute period per hour of not more than 27 percent. New boilers and process heaters must maintain opacity to less than or equal to 10 percent opacity (1-hour block average); or
	b. This option is only for boilers and process heaters that operate additional wet control systems. Maintain the minimum voltage and secondary current or total power input of the electrostatic precipitator at or above the operating limits established during the performance test according to §63.7530(c) and Table 7 to this subpart that demonstrated compliance with the applicable emission limit for particulate matter.
4. Any other control type.....	This option is for boilers and process heaters that operate dry control systems. Existing boilers and process heaters must maintain opacity to less than or equal to 20 percent (6-minute average) except for one 6-minute period per hour of not more than 27 percent. New boilers and process heaters must maintain opacity to less than or equal to 10 percent opacity (1-hour block average).

TABLE 3 TO SUBPART DDDDD OF PART 63. — OPERATING LIMITS FOR BOILERS AND PROCESS HEATERS WITH MERCURY EMISSION LIMITS AND BOILERS AND PROCESS HEATERS THAT CHOOSE TO COMPLY WITH THE ALTERNATIVE TOTAL SELECTED METALS EMISSION LIMITS

As stated in §63.7500, you must comply with the applicable operating limits:

If you demonstrate compliance with applicable mercury and/or total selected metals emission limits using..	You must meet these operating limits..
1. Wet scrubber control.....	Maintain the minimum pressure drop and liquid flow-rate at or above the operating levels established during the performance test according to §63.7530(c) and Table 7 to this subpart that demonstrated compliance with the applicable emission limits for mercury and/or total selected metals.
2. Fabric filter control	a. Install and operate a bag leak detection system according to §63.7525 and operate the fabric filter such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month period; or
	b. This option is for boilers and process heaters that operate dry control systems. Existing sources must maintain opacity to less than or equal to 20 percent (6-minute average) except for one 6-minute period per hour of not more than 27 percent. New sources must maintain opacity to less than or equal to 10 percent opacity (1-hour block average).
3. Electrostatic precipitator control	a. This option is for boilers and process heaters that operate dry control systems. Existing sources must maintain opacity to less than or equal to 20 percent (6-minute average) except for one 6-minute period per hour of not more than 27 percent. New sources must maintain opacity to less than or equal to 10 percent opacity (1-hour block average); or
	b. This option is only for boilers and process heaters that operate additional wet control systems. Maintain the minimum voltage and secondary current or total power input of the electrostatic precipitator at or above the operating limits established during the performance test according to §63.7530(c) and Table 7 to this subpart that demonstrated compliance with the applicable emission limits for mercury and/or total selected metals.
4. Dry scrubber or carbon injection control.....	Maintain the minimum sorbent or carbon injection rate at or above the operating levels established during the performance test according to §63.7530(c) and Table 7 to this subpart that demonstrated compliance with the applicable emission limit for mercury.
5. Any other control type.....	This option is only for boilers and process heaters that operate dry control systems. Existing sources must maintain opacity to less than or equal to 20 percent (6-minute average) except for one 6-minute period per hour of not more than 27 percent. New sources must maintain opacity to less than or equal to 10 percent opacity (1-hour block average).
6. Fuel analysis.....	Maintain the fuel type or fuel mixture such that the mercury and/or total selected metals emission rates calculated according to §63.7530(d)(4) and/or (5) is less than the applicable emission limits for mercury and/or total selected metals.

TABLE 4 TO SUBPART DDDDD OF PART 63. — OPERATING LIMITS FOR BOILERS AND PROCESS HEATERS WITH HYDROGEN CHLORIDE EMISSION LIMITS

As stated in §63.7500, you must comply with the following applicable operating limits:

If you demonstrate compliance with applicable hydrogen chloride emission limits using...	You must meet these operating limits...
1. Wet scrubber control	Maintain the minimum scrubber effluent pH, pressure drop, and liquid flow-rate at or above the operating levels established during the performance test according to §63.7530(c) and Table 7 to this subpart that demonstrated compliance with the applicable emission limit for hydrogen chloride.
2. Dry scrubber control	Maintain the minimum sorbent injection rate at or above the operating levels established during the performance test according to §63.7530(c) and Table 7 to this subpart that demonstrated compliance with the applicable emission limit for hydrogen chloride.
3. Fuel analysis	Maintain the fuel type or fuel mixture such that the hydrogen chloride emission rate calculated according to §63.7530(d)(3) is less than the applicable emission limit for hydrogen chloride.

TABLE 5 TO SUBPART DDDDD OF PART 63. — PERFORMANCE TESTING REQUIREMENTS

As stated in §63.7520, you must comply with the following requirements for performance test for existing, new or reconstructed affected sources:

To conduct a performance test for the following pollutant...	You must...	Using...
1. Particulate Matter	a. Select sampling ports location and the number of traverse points.	Method 1 in appendix A to part 60 of this chapter.
	b. Determine velocity and volumetric flow-rate of the stack gas.	Method 2, 2F, or 2G in appendix A to part 60 of this chapter.
	c. Determine oxygen and carbon dioxide concentrations of the stack gas.	Method 3A or 3B in appendix A to part 60 of this chapter, or ASME PTC 19, Part 10 (1981) (IBR, see §63.14(i)).
	d. Measure the moisture content of the stack gas.	Method 4 in appendix A to part 60 of this chapter.
	e. Measure the particulate matter emission concentration.	Method 5 or 17 (positive pressure fabric filters must use Method 5D) in appendix A to part 60 of this chapter.
	f. Convert emissions concentration to lb per MMBtu emission rates.	Method 19 F-factor methodology in appendix A to part 60 of this chapter.
2. Total selected metals	a. Select sampling ports location and the number of traverse points.	Method 1 in appendix A to part 60 of this chapter.
	b. Determine velocity and volumetric flow-rate of the stack gas.	Method 2, 2F, or 2G in appendix A to part 60 of this chapter.
	c. Determine oxygen and carbon dioxide concentrations of the stack gas.	Method 3A or 3B in appendix A to part 60 of this chapter, or ASME PTC 19, Part 10 (1981) (IBR, see §63.14(i)).
	d. Measure the moisture content of the stack gas.	Method 4 in appendix A to part 60 of this chapter.
	e. Measure the total selected metals emission concentration.	Method 29 in appendix A to part 60 of this chapter.
	f. Convert emissions concentration to lb per MMBtu emission rates.	Method 19 F-factor methodology in appendix A to part 60 of this chapter.
3. Hydrogen Chloride	a. Select sampling ports location and the number of traverse points.	Method 1 in appendix A to part 60 of this chapter.
	b. Determine velocity and volumetric flow-rate of the stack gas.	Method 2, 2F, or 2G in appendix A to part 60 of this chapter.
	c. Determine oxygen and carbon dioxide concentrations of the stack gas.	Method 3A or 3B in appendix A to part 60 of this chapter, or ASME PTC 19, Part 10 (1981) (IBR, see §63.14(i)).
	d. Measure the moisture content of the stack gas.	Method 4 in appendix A to part 60 of this chapter.
	e. Measure the hydrogen chloride emission concentration.	Method 26 or 26A in appendix A to part 60 of this chapter.
	f. Convert emissions concentration to lb per MMBtu emission rates.	Method 19 F-factor methodology in appendix A to part 60 of this chapter.
4. Mercury	a. Select sampling ports location and the number of traverse points.	Method 1 in appendix A to part 60 of this chapter.
	b. Determine velocity and volumetric flow-rate of the stack gas.	Method 2, 2F, or 2G in appendix A to part 60 of this chapter.
	c. Determine oxygen and carbon dioxide concentrations of the stack gas.	Method 3A or 3B in appendix A to part 60 of this chapter, or ASME PTC 19, Part 10 (1981) (IBR, see §62.14(i)).
	d. Measure the moisture content of the stack gas.	Method 4 in appendix A to part 60 of this chapter.

To conduct a performance test for the following pollutant..	You must...	Using...
	e. Measure the mercury emission concentration.	Method 29 in appendix A to part 60 of this chapter or Method 101A in appendix B to part 61 of this chapter or ASTM Method D6784–02 (IBR, see §63.14(b)).
	f. Convert emissions concentration to lb per MMBtu emission rates.	Method 19 F-factor methodology in appendix A to part 60 of this chapter.
5. Carbon Monoxide	a. Select the sampling ports location and the number of traverse points.	Method 1 in appendix A to part 60 of this chapter.
	b. Determine oxygen and carbon dioxide concentrations of the stack gas.	Method 3A or 3B in appendix A to part 60 of this chapter, or ASTM D6522–00 (IBR, see §63.14(b)), or ASME PTC 19, Part 10 (1981) (IBR, see §63.14(i)).
	c. Measure the moisture content of the stack gas.	Method 4 in appendix A to part 60 of this chapter.
	d. Measure the carbon monoxide emission concentration.	Method 10, 10A, or 10B in appendix A to part 60 of this chapter, or ASTM D6522–00 (IBR, see §63.14(b)) when the fuel is natural gas.

TABLE 6 TO SUBPART DDDDD OF PART 63.—FUEL ANALYSIS REQUIREMENTS

As stated in §63.7521, you must comply with the following requirements for fuel analysis testing for existing, new or reconstructed affected sources:

To conduct a performance test for the following pollutant...	You must...	Using..
1. Mercury	a. Collect fuel samples	Procedure in §63.7521(c) or ASTM D2234–00 \1\ (for coal)(IBR, see §63.14(b)) or ASTM D6323–98 (2003)(for biomass)(IBR, see §63.14(b)) or equivalent.
	b. Composite fuel samples	Procedure in §63.7521(d) or equivalent.
	c. Prepare composited fuel sample	SW–846–3050B (for solid samples) or SW– 846–3020A (for liquid samples) or ASTM D2013–01 (for coal) (IBR, see §63.14(b)) or ASTM D5198–92 (2003) (for bio-mass)(IBR, see §63.14(b)) or equivalent.
	d. Determine heat content of the fuel type	ASTM D5865–03a (for coal)(IBR, see §63.14(b)) or ASTM E711–87 (1996) (for biomass)(IBR, see §63.14(b)) or equivalent.
	e. Determine moisture content of the fuel type	ASTM D3173–02 (IBR, see §63.14(b)) or ASTM E871–82 (1998)(IBR, see §63.14(b)) or equivalent.
	f. Measure mercury concentration in fuel sample.	ASTM D3684–01 (for coal)(IBR, see §63.14(b)) or SW–846–7471A (for solid samples) or SW–846 7470A (for liquid samples).
	g. Convert concentrations into units of pounds of pollutant per MMBtu of heat content.	
2. Total selected metals	a. Collect fuel samples.	Procedure in §63.7521(c) or ASTM D2234–00 \1\ (for coal)(IBR, see §63.14(b)) or ASTM D6323–98 (2003) (for biomass)(IBR, see §63.14(b)) or equivalent.
	b. Composite fuel samples	Procedure in §63.7521(d) or equivalent.
	c. Prepare composited fuel samples	SW–846–3050B (for solid samples) or SW–846–3020A (for liquid samples) or ASTM D2013–01 (for coal)(IBR, see §63.14(b)) or ASTM D5198–92 (2003)(for biomass)(IBR, see §63.14(b)) or equivalent.
	d. Determine heat content of the fuel type	ASTM D5865–03a (for coal)(IBR, see §63.14(b)) or ASTM E711–87 (for bio-mass)(IBR, see §63.14(b)) or equivalent.
	e. Determine moisture content of the fuel type	ASTM D3173–02 (IBR, see §63.14(b)) or ASTM E871 (IBR, see §63.14(b)) or equivalent.
	f. Measure total selected metals concentration in fuel sample.	SW–846–6010B or ASTM D3683–94 (2000) (for coal) (IBR, see §63.14(b)) or ASTM E885–88 (1996) (for biomass)(IBR, see §63.14(b)).
	g. Convert concentrations into units of pounds of pollutant per MMBtu of heat content.	
3. Hydrogen chloride	a. Collect fuel samples	Procedure in §63.7521(c) or ASTM D2234–00 \1\ (for coal)(IBR, see §63.14(b)) or ASTM D6323–98 (2003) (for biomass)(IBR, see §63.14(b)) or equivalent.
	b. Composite fuel samples	Procedure in §63.7521(d) or equivalent.

To conduct a performance test for the following pollutant…	You must…	Using…
	c. Prepare composited fuel samples	SW–846–3050B (for solid samples) or SW– 846–3020A (for liquid samples) or ASTM D2013–01 (for coal)(IBR, see §63.14(b)) or ASTM D5198–92 (2003) (for biomass) (IBR, see §63.14(b)) or equivalent.
	d. Determine heat content of the fuel type	ASTM D5865–03a (for coal)(IBR, see §63.14(b)) or ASTM E711–87 (1996) (for biomass)(IBR, see §63.14(b)) or equivalent.
	e. Determine moisture content of the fuel type	ASTM D3173–02 (IBR, see §63.14(b)) or ASTM E871–82 (1998)(IBR, see §63.14(b)) or equivalent.
	f. Measure chlorine concentration in fuel sample.	SW-846-9250 or ASTM E776-87 (1996) (for biomass) (IBR, see §63.14(b)) or equivalent.
	g. Convert concentrations into units of pounds of pollutant per MMBtu of heat content.	

TABLE 7 TO SUBPART DDDDD OF PART 63. — ESTABLISHING OPERATING LIMITS

As stated in §63.7520, you must comply with the following requirements for establishing operating limits:

If you have an applicable emission limit for	And your operating limits are based on…	You must…	Using…	According to the following requirements…
1. Particulate matter, mercury, or total selected metals.	a. Wet scrubber operating parameters.	i. Establish a site-specific minimum pressure drop and minimum flow rate operating limit according to §63.7530(c).	(1) Data from the pressure drop and liquid flow rate monitors and the particulate matter, mercury, or total selected metals performance test.	(a) You must collect pressure drop and liquid flow-rate data every 15 minutes during the entire period of the performance tests; (b) Determine the average pressure drop and liquid flow-rate for each individual test run in the three-run performance test by computing the average of all the 15-minute readings taken during each test run.
	b. Electrostatic precipitator operating parameters (option only for units with additional wet scrubber control).	i. Establish a site-specific minimum voltage and secondary current or total power input according to §63.7530(c).	(1) Data from the pressure drop and liquid flow rate monitors and the particulate matter, mercury, or total selected metals performance test.	(a) You must collect voltage and secondary current or total power input data every 15 minutes during the entire period of the performance tests; (b) Determine the average voltage and secondary current or total power input for each individual test run in the three-run performance test by computing the average of all the 15-minute readings taken during each test run.
2. Hydrogen Chloride.	a. Wet scrubber operating parameters.	i. Establish a site-specific minimum pressure drop and minimum flow rate operating limit according to §63.7530(c).	(1) Data from the pH, pressure drop, and liquid flow-rate monitors and the hydrogen chloride performance test.	(a) You must collect pH, pressure drop, and liquid flow-rate data every 15 minutes during the entire period of the performance tests; (b) Determine the average pH, pressure drop, and liquid flow-rate for each individual test run in the three-run performance test by computing the average of all the 15-minute readings taken during each test run.
	b. Dry scrubber operating parameters.	i. Establish a site-specific minimum sorbent injection rate operating limit according to §63.7530(c).	(1) Data from the sorbent injection rate monitors and hydrogen chloride performance test.	(a) You must collect sorbent injection rate data every 15 minutes during the entire period of the performance tests; (b) Determine the average sorbent injection rate for each individual test run in the three-run performance test by computing the average of all the 15 minute readings taken during each test run.

TABLE 8 TO SUBPART DDDDD OF PART 63. — DEMONSTRATING CONTINUOUS COMPLIANCE

As stated in §63.7540, you must show continuous compliance with the emission limitations for affected sources according to the following:

If you must meet the following operating limits or work practice standards...	You must demonstrate continuous compliance by...
1. Opacity	a. Collecting the opacity monitoring system data according to §§63.7525(b) and 63.7535; and b. Reducing the opacity monitoring data to 6-minute averages; and c. Maintaining opacity to less than or equal to 20 percent (6-minute average) except for one 6-minute period per hour of not more than 27 percent for existing sources; or maintaining opacity to less than or equal to 10 percent (1-hour block average) for new sources.
2. Fabric Filter Bag Leak Detection Operation	Installing and operating a bag leak detection system according to §63.7525 and operating the fabric filter such that the requirements in §63.7540(a)(9) are met.
3. Wet Scrubber Pressure Drop and Liquid Flow-rate	a. Collecting the pressure drop and liquid flow rate monitoring system data according to §§63.7525 and 63.7535; and b. Reducing the data to 3-hour block averages; and c. Maintaining the 3-hour average pressure drop and liquid flow-rate at or above the operating limits established during the performance test according to §63.7530(c).
4. Wet Scrubber pH	a. Collecting the pH monitoring system data according to §§63.7525 and 63.7535; and b. Reducing the data to 3-hour block averages; and c. Maintaining the 3-hour average pH at or above the operating limit established during the performance test according to §63.7530(c).
5. Dry Scrubber Sorbent or Carbon Injection Rate	a. Collecting the sorbent or carbon injection rate monitoring system data for the dry scrubber according to §§63.7525 and 63.7535; and b. Reducing the data to 3-hour block averages; and c. Maintaining the 3-hour average sorbent or carbon injection rate at or above the operating limit established during the performance test according to §§63.7530(c).
6. Electrostatic Precipitator Secondary Current and Voltage or Total Power Input	a. Collecting the secondary current and voltage or total power input monitoring system data for the electrostatic precipitator according to §§63.7525 and 63.7535; and b. Reducing the data to 3-hour block averages; and c. Maintaining the 3-hour average secondary current and voltage or total power input at or above the operating limits established during the performance test according to §§63.7530(c).
7. Fuel Pollutant Content.	a. Only burning the fuel types and fuel mixtures used to demonstrate compliance with the applicable emission limit according to §63.7530(c) or (d) as applicable; and b. Keeping monthly records of fuel use according to §63.7540(a).

TABLE 9 TO SUBPART DDDDD OF PART 63. — REPORTING REQUIREMENTS

As stated in §63.7550, you must comply with the following requirements for reports:

You must submit a(n)	The report must contain . . .	You must submit the report...
1. Compliance report	a. Information required in §63.7550(c)(1) through (11); and b. If there are no deviations from any emission limitation (emission limit and operating limit) that applies to you and there are no deviations from the requirements for work practice standards in Table 8 to this subpart that apply to you, a statement that there were no deviations from the emission limitations and work practice standards during the reporting period. If there were no periods during which the CMSs, including continuous emissions monitoring system, continuous opacity monitoring system, and operating parameter monitoring systems, were out-of-control as specified in §63.8(c)(7), a statement that there were no periods during which the CMSs were out-of-control during the reporting period; and c. If you have a deviation from any emission limitation (emission limit and operating limit) or work practice standard during the reporting period, the report must contain the information in §63.7550(d). If there were periods during which the CMSs, including continuous emissions monitoring system, continuous opacity monitoring system, and operating parameter monitoring systems, were out-of-control, as specified in §63.8(c)(7), the report must contain the information in §63.7550(e); and d. If you had a startup, shutdown, or malfunction during the reporting period and you took actions consistent with your startup, shutdown, and malfunction plan, the compliance report must include the information in §63.10(d)(5)(i)	Semiannually according to the requirements in §63.7550(b).

You must submit a(n)	The report must contain . . .	You must submit the report...
2. An immediate startup, shutdown, and malfunction report if you had a startup, shutdown, or malfunction during the reporting period that is not consistent with your startup, shutdown, and malfunction plan, and the source exceeds any applicable emission limitation in the relevant emission standard.	a. Actions taken for the event; and	i. By fax or telephone within 2 working days after starting actions inconsistent with the plan; and
	b. The information in §63.10(d)(5)(ii)	ii. By letter within 7 working days after the end of the event unless you have made alternative arrangements with the permitting authority.

TABLE 10 TO SUBPART DDDDD OF PART 63. — APPLICABILITY OF GENERAL PROVISIONS TO SUBPART DDDDD

As stated in §63.7565, you must comply with the applicable General Provisions according to the following:

Citation	Subject	Brief description	Applicable
§63.1	Applicability	Initial Applicability Determination; Applicability After Standard Established; Permit Requirements; Extensions, Notifications.	Yes.
§63.2	Definitions	Definitions for part 63 standards.	Yes.
§63.3	Units and Abbreviations	Units and abbreviations for part 63 standards.	Yes.
§63.4	Prohibited Activities	Prohibited Activities; Compliance date; Circumvention, Severability.	Yes.
§63.5	Construction/Reconstruction	Applicability; applications; approvals.	Yes.
§63.6(a)	Applicability	GP apply unless compliance extension; and GP apply to area sources that become major.	Yes.
§63.6(b)(1)–(4)	Compliance Dates for New and Reconstructed sources	Standards apply at effective date; 3 years after effective date; upon startup; 10 years after construction or reconstruction commences for 112(f).	Yes.
§63.6(b)(5)	Notification	Must notify if commenced construction or reconstruction after proposal.	Yes.
§63.6(b)(6)	[Reserved]		
§63.6(b)(7)	Compliance Dates for New and Reconstructed Area Sources That Become Major	Area sources that become major must comply with major source standards immediately upon becoming major, regardless of whether required to comply when they were an area source.	Yes.
§63.6(c)(1)–(2)	Compliance Dates for Existing Sources	Comply according to date in subpart, which must be no later than 3 years after effective date; and for 112(f) standards, comply within 90 days of effective date unless compliance extension.	Yes.
§63.6(c)(3)–(4)	[Reserved]		
§63.6(c)(5)	Compliance Dates for Existing Area Sources That Become Major.	Area sources that become major must comply with major source standards by date indicated in subpart or by equivalent time period (for example, 3 years).	Yes.
§63.6(d)	[Reserved].		
§63.6(e)(1)–(2)	Operation & Maintenance	Operate to minimize emissions at all times; and Correct malfunctions as soon as practicable; and Operation and maintenance requirements independently enforceable; information Administrator will use to determine if operation and maintenance requirements were met.	Yes.
§63.6(e)(3)	Startup, Shutdown, and Malfunction Plan (SSMP).	Requirement for SSM and startup, shutdown, malfunction plan; and content of SSMP.	Yes.
§63.6(f)(1)	Compliance Except During SSM	Comply with emission standards at all times except during SSM.	Yes.
§63.6(f)(2)–(3)	Methods for Determining Compliance	Compliance based on performance test, operation and maintenance plans, records, inspection.	Yes.
§63.6(g)(1)–(3)	Alternative Standard	Procedures for getting an alternative standard.	Yes.
§63.6(h)(1)	Compliance with Opacity/VE Standards	Comply with opacity/VE emission limitations at all times except during SSM.	Yes.
§63.6(h)(2)(i)	Determining Compliance with Opacity/ Visible Emission (VE) Standards.	If standard does not state test method, use Method 9 for opacity and Method 22 for VE.	No.
§63.6(h)(2)(ii)	[Reserved].		
§63.6(h)(2)(iii)	Using Previous Tests to Demonstrate Compliance with Opacity/VE Standards	Criteria for when previous opacity/VE testing can be used to show compliance with this subpart.	Yes.
§63.6(h)(3)	[Reserved].		

Citation	Subject	Brief description	Applicable
§63.6(h)(4)	Notification of Opacity/VE Observation Date.	Notify Administrator of anticipated date of observation.	No.
§63.6(h)(5)(i),(iii)–(v)	Conducting Opacity/VE Observations	Dates and Schedule for conducting opacity/VE observations.	No.
§63.6(h)(5)(ii)	Opacity Test Duration and Averaging Times.	Must have at least 3 hours of observation with thirty, 6-minute averages.	No.
§63.6(h)(6)	Records of Conditions During Opacity/VE observations.	Keep records available and allow Administrator to inspect.	No.
§63.6(h)(7)(i)	Report continuous opacity monitoring system Monitoring Data from Performance Test.	Submit continuous opacity monitoring system data with other performance test data.	Yes.
§63.6(h)(7)(ii)	Using continuous opacity monitoring system instead of Method 9.	Can submit continuous opacity monitoring system data instead of Method 9 results even if subpart requires Method 9, but must notify Administrator before performance test.	No.
§63.6(h)(7)(iii)	Averaging time for continuous opacity monitoring system during performance test.	To determine compliance, must reduce continuous opacity monitoring system data to 6-minute averages.	Yes.
§63.6(h)(7)(iv)	Continuous opacity monitoring system requirements.	Demonstrate that continuous opacity monitoring system performance evaluations are conducted according to §§63.8(e), continuous opacity monitoring systems are properly maintained and operated according to §63.8(c) and data quality as §63.8(d).	Yes.
§63.6(h)(7)(v)	Determining Compliance with Opacity/VE Standards.	Continuous opacity monitoring system is probative but not conclusive evidence of compliance with opacity standard, even if Method 9 observation shows otherwise. Requirements for continuous opacity monitoring system to be probative evidence-proper maintenance, meeting PS 1, and data have not been altered.	Yes.
§63.6(h)(8)	Determining Compliance with Opacity/VE Standards.	Administrator will use all continuous opacity monitoring system, Method 9, and Method 22 results, as well as information about operation and maintenance to determine compliance.	Yes.
§63.6(h)(9)	Adjusted Opacity Standard	Procedures for Administrator to adjust an opacity standard.	Yes.
§63.6(i)(1)-(14)	Compliance Extension	Procedures and criteria for Administrator to grant compliance extension.	Yes.
§63.6(j)	Presidential Compliance Exemption.	President may exempt source category from requirement to comply with rule.	Yes.
§63.7(a)(1)	Performance Test Dates	Dates for conducting Initial Performance Testing and Other Compliance Demonstrations.	Yes.
§63.7(a)(2)	Performance Test Dates	New source with initial startup date before effective date has 180 days after effective date to demonstrate compliance	Yes.
§63.7(a)(2)(ii–viii)	[Reserved].		
§63.7(a)(2)(ix)	Performance Test Dates	1. New source that commenced construction between proposal and promulgation dates, when promulgated standard is more stringent than proposed standard, has 180 days after effective date or 180 days after startup of source, whichever is later, to demonstrate compliance; and,	Yes.
		2. If source initially demonstrates compliance with less stringent proposed standard, it has 3 years and 180 days after the effective date of the standard or 180 days after startup of source, whichever is later, to demonstrate compliance with promulgated standard.	No.
§63.7(a)(3)	Section 114 Authority	Administrator may require a performance test under CAA Section 114 at any time.	Yes.
§63.7(b)(1)	Notification of Performance Test	Must notify Administrator 60 days before the test.	No.
§63.7(b)(2)	Notification of Rescheduling	If rescheduling a performance test is necessary, must notify Administrator 5 days before scheduled date of rescheduled date.	Yes.
§63.7(c)	Quality Assurance/Test Plan	Requirement to submit site-specific test plan 60 days before the test or on date Administrator agrees with: test plan approval procedures; and performance audit requirements; and internal and external QA procedures for testing.	Yes
§63.7(d)	Testing Facilities	Requirements for testing facilities	Yes.

Citation	Subject	Brief description	Applicable
§63.7(e)(1)	Conditions for Conducting Performance Tests.	1. Performance tests must be conducted under representative conditions; and	No.
		2. Cannot conduct performance tests during SSM; and	Yes.
		3. Not a deviation to exceed standard during SSM; and	Yes.
		4. Upon request of Administrator, make available records necessary to determine conditions of performance tests.	Yes.
§63.7(e)(2)	Conditions for Conducting Performance Tests.	Must conduct according to rule and EPA test methods unless Administrator approves alternative.	Yes.
§63.7(e)(3)	Test Run Duration	Must have three separate test runs; and Compliance is based on arithmetic mean of three runs; and conditions when data from an additional test run can be used.	Yes.
§63.7(e)(4)	Interaction with other sections of the Act	Nothing in §63.7(e)(1) through (4) can abrogate the Administrator's authority to require testing under Section 114 of the Act.	Yes.
§63.7(f)	Alternative Test Method	Procedures by which Administrator can grant approval to use an alternative test method.	Yes.
§63.7(g)	Performance Test Data Analysis	Must include raw data in performance test report; and must submit performance test data 60 days after end of test with the Notification of Compliance Status; and keep data for 5 years.	Yes.
§63.7(h)	Waiver of Tests	Procedures for Administrator to waive performance test.	Yes.
§63.8(a)(1)	Applicability of Monitoring Requirements	Subject to all monitoring requirements in standard.	Yes.
§63.8(a)(2)	Performance Specifications	Performance Specifications in appendix B of part 60 apply.	Yes.
§63.8(a)(3)	[Reserved].		
§63.8(a)(4)	Monitoring with Flares	Unless your rule says otherwise, the requirements for flares in §63.11 apply.	No.
§63.8(b)(1)(i)–(ii)	Monitoring	Must conduct monitoring according to standard unless Administrator approves alternative.	Yes.
§63.8(b)(1)(iii)	Monitoring	Flares not subject to this section unless otherwise specified in relevant standard.	No.
§63.8(b)(2)–(3)	Multiple Effluents and Multiple Monitoring Systems	Specific requirements for installing monitoring systems; and must install on each effluent before it is combined and before it is released to the atmosphere unless Administrator approves otherwise; and if more than one monitoring system on an emission point, must report all monitoring system results, unless one monitoring system is a backup.	Yes.
§63.8(c)(1)	Monitoring System Operation and Maintenance.	Maintain monitoring system in a manner consistent with good air pollution control practices.	Yes.
§63.8(c)(1)(i)	Routine and Predictable SSM	Maintain and operate CMS according to §63.6(e)(1).	Yes.
§63.8(c)(1)(ii)	SSM not in SSMP	Must keep necessary parts available for routine repairs of CMSs.	Yes.
§63.8(c)(1)(iii)	Compliance with Operation and Maintenance Requirements.	Must develop and implement an SSMP for CMSs.	Yes.
§63.8(c)(2)–(3)	Monitoring System Installation	Must install to get representative emission and parameter measurements; and must verify operational status before or at performance test.	Yes.
§63.8(c)(4)	Continuous Monitoring System (CMS) Requirements.	CMSs must be operating except during breakdown, out-of-control, repair, maintenance, and high-level calibration drifts.	No.
§63.8(c)(4)(i)	Continuous Monitoring System (CMS) Requirements.	Continuous opacity monitoring system must have a minimum of one cycle of sampling and analysis for each successive 10-second period and one cycle of data recording for each successive 6 minute period.	Yes.
§63.8(c)(4)(ii)	Continuous Monitoring System (CMS) Requirements.	Continuous emissions monitoring system must have a minimum of one cycle of operation for each successive 15 minute period.	No.
§63.8(c)(5)	Continuous Opacity Monitoring system (COMS) Requirements.	Must do daily zero and high level calibrations.	Yes.
§63.8(c)(6)	Continuous Monitoring System (CMS) Requirements.	Must do daily zero and high level calibrations.	No.
§63.8(c)(7)–(8)	Continuous Monitoring Systems Requirements.	Out-of-control periods, including reporting.	Yes.

Citation	Subject	Brief description	Applicable
§63.8(d)	Continuous Monitoring Systems Quality Control.	Requirements for continuous monitoring systems quality control, including calibration, etc.; and must keep quality control plan on record for the life of the affected source. Keep old versions for 5 years after revisions.	Yes.
§63.8(e)	Continuous monitoring systems Performance Evaluation.	Notification, performance evaluation test plan, reports.	Yes.
§63.8(f)(1)–(5)	Alternative Monitoring Method	Procedures for Administrator to approve alternative monitoring.	Yes.
§63.8(f)(6)	Alternative to Relative Accuracy Test	Procedures for Administrator to approve alternative relative accuracy tests for continuous emissions monitoring system.	No.
§63.8(g)(1)–(4)	Data Reduction	Continuous opacity monitoring system 6 minute averages calculated over at least 36 evenly spaced data points; and continuous emissions monitoring system 1-hour averages computed over at least 4 equally spaced data points.	Yes.
§63.8(g)(5)	Data Reduction	Data that cannot be used in computing averages for continuous emissions monitoring system and continuous opacity monitoring system.	No.
§63.9(a)	Notification Requirements	Applicability and State Delegation	Yes.
§63.9(b)(1)–(5)	Initial Notifications	Submit notification 120 days after effective date; and Notification of intent to construct/reconstruct; and Notification of commencement of construct/reconstruct; Notification of startup; and Contents of each.	Yes.
§63.9(c)	Request for Compliance Extension	Can request if cannot comply by date or if installed BACT/LAER.	Yes.
§63.9(d)	Notification of Special Compliance Requirements for New Source.	For sources that commence construction between proposal and promulgation and want to comply 3 years after effective date.	Yes.
§63.9(e)	Notification of Performance Test	Notify Administrator 60 days prior	No.
§63.9(f)	Notification of VE/Opacity Test	Notify Administrator 30 days prior	No.
§63.9(g)	Additional Notifications When Using Continuous Monitoring Systems.	Notification of performance evaluation; and notification using continuous opacity monitoring system data; and notification that exceeded criterion for relative accuracy.	Yes.
§63.9(h)(1)–(6)	Notification of Compliance Status	Contents; and due 60 days after end of performance test or other compliance demonstration, and when to submit to Federal vs. State authority.	Yes.
§63.9(i)	Adjustment of Submittal Deadlines	Procedures for Administrator to approve change in when notifications must be submitted.	Yes
§63.9(j)	Change in Previous Information	Must submit within 15 days after the change.	Yes.
§63.10(a)	Recordkeeping/Reporting	Applies to all, unless compliance extension; and when to submit to Federal vs. State authority; and procedures for owners of more than 1 source.	Yes
§63.10(b)(1)	Recordkeeping/Reporting	General Requirements; and keep all records readily available and keep for 5 years.	Yes.
§63.10(b)(2)(i)–(v)	Records related to Startup, Shutdown, and Malfunction.	Occurrence of each of operation (process, equipment); and occurrence of each malfunction of air pollution equipment; and maintenance of air pollution control equipment; and actions during startup, shutdown, and malfunction.	Yes.
§63.10(b)(2)(vi) and (x–xi)	Continuous monitoring systems Records	Malfunctions, inoperative, out-of-control; and calibration checks; and adjustments, maintenance.	Yes.
§63.10(b)(2)(vii)–(ix)	Records	Measurements to demonstrate compliance with emission limitations; and performance test, performance evaluation, and visible emission observation results; and measurements to determine conditions of performance tests and performance evaluations.	Yes.
§63.10(b)(2)(xii)	Records	Records when under waiver	Yes.
§63.10(b)(2)(xiii)	Records	Records when using alternative to relative accuracy test.	No.
§63.10(b)(2)(xiv)	Records	All documentation supporting Initial Notification and Notification of Compliance Status.	Yes.
§63.10(b)(3)	Records	Applicability Determinations	Yes.
§63.10(c)(1),(5)–(8),(10)–(15)	Records	Additional Records for continuous monitoring systems.	Yes.
§63.10(c)(7)–(8)	Records	Records of excess emissions and parameter monitoring exceedances for continuous monitoring systems.	No.
§63.10(d)(1)	General Reporting Requirements	Requirement to report	Yes.

Citation	Subject	Brief description	Applicable
§63.10(d)(2)	Report of Performance Test Results.	When to submit to Federal or State authority.	Yes.
§63.10(d)(3)	Reporting Opacity or VE Observations	What to report and when	Yes.
§63.10(d)(4)	Progress Reports	Must submit progress reports on schedule if under compliance extension.	Yes.
§63.10(d)(5)	Startup, Shutdown, and Malfunction Reports.	Contents and submission	Yes.
§63.10(e)(1)(2)	Additional continuous monitoring systems Reports.	Must report results for each CEM on a unit; and written copy of performance evaluation; and 3 copies of continuous opacity monitoring system performance evaluation.	Yes.
§63.10(e)(3)	Reports	Excess Emission Reports	No.
§63.10(e)(3)(i–iii)	Reports	Schedule for reporting excess emissions and parameter monitor exceedance (now defined as deviations).	No.
§63.10(e)(3)(iv–v)	Excess Emissions Reports	Requirement to revert to quarterly submission if there is an excess emissions and parameter monitor exceedance (now defined as deviations); and provision to request semiannual reporting after compliance for one year; and submit report by 30th day following end of quarter or calendar half; and if there has not been an exceedance or excess emission (now defined as deviations), report contents is a statement that there have been no deviations.	No.
§63.10(e)(3)(iv–v)	Excess Emissions Reports	Must submit report containing all of the information in §63.10(c)(5–13), §63.8(c)(7–8).	No.
§63.10(e)(3)(vi–viii)	Excess Emissions Report and Summary Report	Requirements for reporting excess emissions for continuous monitoring systems (now called deviations); Requires all of the information in §63.10(c)(5– 13), §63.8(c)(7–8).	No.
§63.10(e)(4)	Reporting continuous opacity monitoring system data.	Must submit continuous opacity monitoring system data with performance test data.	Yes.
§63.10(f)	Waiver for Recordkeeping/Reporting	Procedures for Administrator to waive	Yes.
§63.11	Flares	Requirements for flares	No.
§63.12	Delegation	State authority to enforce standards	Yes.
§63.13	Addresses	Addresses where reports, notifications, and requests are sent.	Yes
§63.14	Incorporation by Reference	Test methods incorporated by reference	Yes.
§63.15	Availability of Information	Public and confidential Information	Yes.

Appendix A to Subpart DDDDD—Methodology and Criteria for Demonstrating Eligibility for the Health-Based Compliance Alternatives Specified for the Large Solid Fuel Subcategory

1. Purpose/Introduction

This appendix provides the methodology and criteria for demonstrating that your affected source is eligible for the compliance alternative for the HCl emission limit and/or the total selected metals (TSM) emission limit. This appendix specifies emissions testing methods that you must use to determine HCl, chlorine, and manganese emissions from the affected units and what parts of the affected source facility must be included in the eligibility demonstration. You must demonstrate that your affected source is eligible for the health-based compliance alternatives using either a lookup table analysis (based on the look-up tables included in this appendix) or a site-specific compliance demonstration performed according to the criteria specified in this appendix. This appendix also specifies how and when you file any eligibility demonstrations for your affected source and how to show that your affected source remains eligible for the health-based compliance alternatives in the future.

2. Who Is Eligible To Demonstrate That They Qualify for the Health-Based Compliance Alternatives?

Each new, reconstructed, or existing affected source may demonstrate that they are eligible for the health-based compliance alternatives. Section 63.7490 of subpart DDDDD defines the affected source and explains which affected sources are new, existing, or reconstructed.

3. What Parts of My Facility Have To Be Included in the Health-Based Eligibility Demonstration?

If you are attempting to determine your eligibility for the compliance alternative for HCl, you must include every emission point subject to subpart DDDDD that emits either HCl or Cl_2 in the eligibility demonstration.

If you are attempting to determine your eligibility for the compliance alternative for TSM, you must include every emission point subject to subpart DDDDD that emits manganese in the eligibility demonstration.

4. How Do I Determine HAP Emissions From My Affected Source?

(a) You must conduct HAP emissions tests or fuel analysis for every emission point covered under subpart DDDDD within the affected source facility according to the requirements in paragraphs (b) through (f) of this section and the methods specified in Table 1 of this appendix.

(1) If you are attempting to determine your eligibility for the compliance alternative for HCl, you must test the subpart DDDDD units.

at your facility for both HCl and Cl_2. When conducting fuel analysis, you must assume any chlorine detected will be emitted as Cl_2.

(2) If you are attempting to determine your eligibility for the compliance alternative for TSM, you must test the subpart DDDDD units at your facility for manganese.

(b) *Periods when emissions tests must be conducted.*

(1) You must not conduct emissions tests during periods of startup, shutdown, or malfunction, as specified in §63.7(e)(1).

(2) You must test under worst-case operating conditions as defined in this appendix. You must describe your worst-case operating

conditions in your performance test report for the process and control systems (if applicable) and explain why the conditions are worst-case.

(c) *Number of test runs.* You must conduct three separate test runs for each test required in this section, as specified in §63.7(e)(3). Each test run must last at least 1 hour.

(d) *Sampling locations.* Sampling sites must be located at the outlet of the control device and prior to any releases to the atmosphere.

(e) *Collection of monitoring data for HAP control devices.* During the emissions test, you must collect operating parameter monitoring system data at least every 15 minutes during the entire emissions test and establish the site-specific operating requirements in Tables 3 or 4, as appropriate, of subpart DDDDD using data from the monitoring system and the procedures specified in §63.7530 of subpart DDDDD.

(f) *Nondetect data.* You may treat emissions of an individual HAP as zero if all of the test runs result in a nondetect measurement and the condition in paragraph (f)(1) of this section is met for the manganese test method. Otherwise, nondetect data for individual HAP must be treated as one-half of the method detection limit.

(1) For manganese measured using Method 29 in appendix A to 40 CFR part 60, you analyze samples using atomic absorption spectroscopy (AAS).

(g) You must determine the maximum hourly emission rate for each appropriate emission point according to Equation 1 of this appendix.

$$\text{Max Hourly Emissions} = \sum_{i=1}^{n} (Er \times Hm) \quad \text{(Eq. 1)}$$

Where:

Max Hourly Emissions = Maximum hourly emissions for hydrogen chloride, chlorine, or manganese, in units of pounds per hour.

Er = Emission rate (the 3-run average as determined according to Table 1 of this appendix or the pollutant concentration in the fuel samples analyzed according to §63.7521) for hydrogen chloride, chlorine, or manganese, in units of pounds per million Btu of heat input.

Hm = Maximum rated heat input capacity of appropriate emission point, in units of million Btu per hour.

5. What Are the Criteria for Determining If My Facility Is Eligible for the Health-Based Compliance Alternatives?

(a) Determine the HAP emissions from each appropriate emission point within the affected source facility using the procedures specified in section 4 of this appendix.

(b) Demonstrate that your facility is eligible for either of the health-based compliance alternatives using either the methods described in section 6 of this appendix (look-up table analysis) or section 7 of this appendix (site-specific compliance demonstration).

(c) Your facility is eligible for the health-based compliance alternative for HCl if one of the following two statements is true:

(1) The calculated HCl-equivalent emission rate is below the appropriate value in the look-up table;

(2) Your site-specific compliance demonstration indicates that your maximum HI for HCl and Cl_2 at a location where people live is less than or equal to 1.0;

(d) Your facility is eligible for the health-based compliance alternative for TSM if one of the following two statements is true:

(1) The manganese emission rate for all your subpart DDDDD sources is below the appropriate value in the look-up table;

(2) Your site-specific compliance demonstration indicates that your maximum HQ for manganese at a location where people live is less than or equal to 1.0.

6. How Do I Conduct a Look-Up Table Analysis?

You may use look-up tables to demonstrate that your facility is eligible for either the compliance alternative for the HCl emission limit or the compliance alternative for TSM emission limit.

(a) *HCl health-based compliance alternative.* (1) To calculate the total toxicity-weighted HCl-equivalent emission rate for your facility, first calculate the total affected source emission rate of HCl by summing the maximum hourly HCl emission rates from all your subpart DDDDD sources. Then, similarly, calculate the total affected source emission rate for Cl_2. Finally, calculate the toxicity-weighted emission rate (expressed in HCl equivalents) according to Equation 2 of this appendix.

$$ER_{tw} = \sum \left(ER_i \times \left(RfC_{HCl}/RfC_i\right)\right) \quad \text{(Eq. 2)}$$

Where:

ER_{tw} is the HCl-equivalent emission rate, lb/hr.

ER_i is the emission rate of HAP i in lbs/hr

RfC_i is the reference concentration of HAP i

RfC_{HCl} is the reference concentration of HCl (RfCs for HCl and Cl_2 can be found at *http://www.epa.gov/ttn/atw/toxsource/summary.html).*

(2) The calculated HCl-equivalent emission rate will then be compared to the appropriate allowable emission rate in Table 2 of this appendix. To determine the correct value from the table, an average value for the appropriate subpart DDDDD emission points should be used for stack height and the minimum distance between any appropriate subpart DDDDD stack at the facility and the property boundary should be used for property boundary distance. Appropriate emission points and stacks are those that emit HCl and/or Cl_2. If one or both of these values does not match the exact values in the lookup tables, then use the next lowest table value. (**Note:** If your average stack height is less than 5 meters, you must use the 5 meter row.) Your facility is eligible to comply with the health-based alternative HCl emission limit if your toxicity-weighted HCl equivalent emission rate, determined using the methods specified in this appendix, does not exceed the appropriate value in Table 2 of this appendix.

(b) *TSM Compliance Alternative.* To calculate the total manganese emission rate for your affected source, sum the maximum hourly manganese emission rates for all your subpart DDDDD sources. The calculated manganese emission rate will then be compared to the allowable emission rate in the Table 3 of this appendix. To determine the correct value from the table, an average value for the appropriate subpart DDDDD emission points should be used for stack height and the minimum distance between any appropriate subpart DDDDD stack at the facility and the property boundary should be used for property boundary distance. Appropriate emission points and stacks are those that emit manganese. If one or both of these values does not match the exact values in the lookup tables, then use the next lowest table value. (**Note:** If your average stack height is less than 5 meters, you must use the 5 meter row.) Your facility may exclude manganese when demonstrating compliance with the TSM emission limit if your manganese emission rate, determined using the methods specified in this appendix, does not exceed the appropriate value specified in Table 3 of this appendix.

7. How Do I Conduct a Site-Specific Compliance Demonstration?

If you fail to demonstrate that your facility is able to comply with one or both of the alternative health-based emission standards using the look-up table approach, you may choose to perform a site-specific compliance demonstration for your facility. You may use any scientifically-accepted peer-reviewed risk assessment methodology for your site-specific

compliance demonstration. An example of one approach for performing a site-specific compliance demonstration for air toxics can be found in the EPA's "Air Toxics Risk Assessment Reference Library, Volume 2, Site-Specific Risk Assessment Technical Resource Document", which may be obtained through the EPA's Air Toxics Web site at *http://www.epa.gov/ttn/fera/ risk_atoxic.html*

(a) Your facility is eligible for the HCl alternative compliance option if your site-specific compliance demonstration shows that the maximum HI for HCl and Cl_2 from your subpart DDDDD sources is less than or equal to 1.0.

(b) Your facility is eligible for the TSM alternative compliance option if your site-specific compliance demonstration shows that the maximum HQ for manganese from your subpart DDDDD sources is less than or equal to 1.0.

(c) At a minimum, your site-specific compliance demonstration must:

(1) Estimate long-term inhalation exposures through the estimation of annual or multi-year average ambient concentrations;

(2) Estimate the inhalation exposure for the individual most exposed to the facility's emissions;

(3) Use site-specific, quality-assured data wherever possible;

(4) Use health-protective default assumptions wherever site-specific data are not available, and;

(5) Contain adequate documentation of the data and methods used for the assessment so that it is transparent and can be reproduced by an experienced risk assessor and emissions measurement expert.

(d) Your site-specific compliance demonstration need not:

(1) Assume any attenuation of exposure concentrations due to the penetration of outdoor pollutants into indoor exposure areas;

(2) Assume any reaction or deposition of the emitted pollutants during transport from the emission point to the point of exposure.

8. What Must My Health-Based Eligibility Demonstration Contain?

(a) Your health-based eligibility demonstration must contain, at a minimum, the information specified in paragraphs (a)(1) through (6) of this section.

(1) Identification of each appropriate emission point at the affected source facility, including the maximum rated capacity of each appropriate emission point.

(2) Stack parameters for each appropriate emission point including, but not limited to, the parameters listed in paragraphs (a)(2)(i) through (iv) below:

(i) Emission release type.

(ii) Stack height, stack area, stack gas temperature, and stack gas exit velocity.

(iii) Plot plan showing all emission points, nearby residences, and fenceline.

(iv) Identification of any control devices used to reduce emissions from each appropriate emission point.

(3) Emission test reports for each pollutant and appropriate emission point which has been tested using the test methods specified in Table 1 of this appendix, including a description of the process parameters identified as being worst case. Fuel analyses for each fuel and emission point which has been conducted including collection and analytical methods used.

(4) Identification of the RfC values used in your look-up table analysis or site-specific compliance demonstration.

(5) Calculations used to determine the HCl-equivalent or manganese emission rates according to sections 6(a) or (b) of this appendix.

(6) Identification of the controlling process factors (including, but not limited to, fuel type, heat input rate, type of control devices, process parameters reflecting the emissions rates used for your eligibility demonstration) that will become Federally enforceable permit conditions used to show that your facility remains eligible for the health-based compliance alternatives.

(b) If you use the look-up table analysis in section 6 of this appendix to demonstrate that your facility is eligible for either health-based compliance alternative, your eligibility demonstration must contain, at a minimum, the information in paragraphs (a) and (b)(1) through (3) of this section.

(1) Calculations used to determine the average stack height of the subpart DDDDD emission points that emit either manganese or HCl and Cl_2.

(2) Identification of the subpart DDDDD emission point, that emits either manganese or HCl and Cl_2, with the minimum distance to the property boundary of the facility.

(3) Comparison of the values in the look-up tables (Tables 2 and 3 of this appendix) to your maximum HCl-equivalent or manganese emission rates.

(c) If you use a site-specific compliance demonstration as described in section 7 of this appendix to demonstrate that your facility is eligible, your eligibility demonstration must contain, at a minimum, the information in paragraphs (a) and (c)(1) through (7) of this section:

(1) Identification of the risk assessment methodology used.

(2) Documentation of the fate and transport model used.

(3) Documentation of the fate and transport model inputs, including the information described in paragraphs (a)(1) through (5) of this section converted to the dimensions required for the model and all of the following that apply: meteorological data; building, land use, and terrain data; receptor locations and population data; and other facility-specific parameters input into the model.

(4) Documentation of the fate and transport model outputs.

(5) Documentation of any exposure assessment and risk characterization calculations.

(6) Comparison of the HQ HI to the limit of 1.0.

9. When Do I Have to Complete and Submit My Health-Based Eligibility Demonstration?

(a) If you have an existing affected source, you must complete and submit your eligibility demonstration to your permitting authority, along with a signed certification that the demonstration is an accurate depiction of your facility, no later than the date one year prior to the compliance date of subpart DDDDD. A separate copy of the eligibility demonstration must be submitted to: U.S. EPA, Risk and Exposure Assessment Group, Emission Standards Division (C404– 01), Attn: Group Leader, Research Triangle Park, North Carolina 27711, electronic mail address *REAG@epa.gov.*

(b) If you have a new or reconstructed affected source that starts up before the effective date of subpart DDDDD, or an affected source that is an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP before the effective date of subpart DDDDD, then you must comply with the requirements of subpart DDDDD until your eligibility demonstration is completed and submitted to your permitting authority.

(c) If you have a new or reconstructed affected source that starts up after the effective date of subpart DDDDD, or an affected source that is an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP after the effective date for subpart DDDDD, then you must follow the schedule in paragraphs (c)(1) and (2) of this section.

(1) You must complete and submit a preliminary eligibility demonstration based on the information (*e.g.*, equipment types, estimated emission rates, etc.) used to obtain your title V permit. You must base your preliminary eligibility demonstration on the maximum emissions allowed under your title V permit. If the preliminary eligibility demonstration indicates that your affected source facility is eligible for either compliance alternative, then you may start up your new affected source and your new affected source will be considered in compliance with the alternative HCl standard and subject to the compliance requirements in this appendix or, in the case of manganese, your compliance demonstration with the TSM emission limit is based on 7 metals (excluding manganese).

(2) You must conduct the emission tests or fuel analysis specified in section 4 of this appendix upon initial startup and use the results of these emissions tests to complete and submit your eligibility demonstration within 180 days following your initial startup

date. To be eligible, you must meet the criteria in section 11 of this appendix within 18 months following initial startup of your affected source.

10. When Do I Become Eligible for the Health-Based Compliance Alternatives?

To be eligible for either health-based compliance alternative, the parameters that defined your affected source as eligible for the health-based compliance alternatives (including, but not limited to, fuel type, fuel mix (annual average), type of control devices, process parameters reflecting the emissions rates used for your eligibility demonstration) must be submitted for incorporation as Federally enforceable limits into your title V permit. If you do not meet these criteria, then your affected source is subject to the applicable emission limits, operating limits, and work practice standards in Subpart DDDDD.

11. How Do I Ensure That My Facility Remains Eligible for the Health-Based Compliance Alternatives?

(a) You must update your eligibility demonstration and resubmit it each time you have a process change, such that any of the parameters that defined your affected source changes in a way that could result in increased HAP emissions (including, but not limited to, fuel type, fuel mix (annual average), change in type of control device, changes in process parameters documented as worst-case conditions during the emissions testing used for your approved eligibility demonstration).

(b) If you are updating your eligibility demonstration to account for an action in paragraph (a) of this section, then you must perform emission testing or fuel analysis according to section 4 of this appendix for the subpart DDDDD emission points that may have increased HAP emissions beyond the levels reflected in your previously approved eligibility demonstration due to the process change. You must submit your revised eligibility demonstration to the permitting authority prior to revising your permit to incorporate the process change. If your updated eligibility demonstration indicates that your affected source is no longer eligible for the health-based compliance alternatives, then you must comply with the applicable emission limits, operating limits, and compliance requirements in Subpart DDDDD prior to making the process change and revising your permit.

12. What Records Must I Keep?

You must keep records of the information used in developing the eligibility demonstration for your affected source, including all of the information specified in section 8 of this appendix.

13. Definitions

The definitions in §63.7575 of subpart DDDDD apply to this appendix. Additional definitions applicable for this appendix are as follows:

Hazard Index (HI) means the sum of more than one hazard quotient for multiple substances and/or multiple exposure pathways.

Hazard Quotient (HQ) means the ratio of the predicted media concentration of a pollutant to the media concentration at which no adverse effects are expected. For inhalation exposures, the HQ is calculated as the air concentration divided by the RfC.

Look-up table analysis means a risk screening analysis based on comparing the HAP or HAP-equivalent emission rate from the affected source to the appropriate maximum allowable HAP or HAP-equivalent emission rates specified in Tables 2 and 3 of this appendix.

Reference Concentration (RfC) means an estimate (with uncertainty spanning perhaps an order of magnitude) of a continuous inhalation exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime. It can be derived from various types of human or animal data, with uncertainty factors generally applied to reflect limitations of the data used.

Worst-case operating conditions means operation of an affected unit during emissions testing under the conditions that result in the highest HAP emissions or that result in the emissions stream composition (including HAP and non-HAP) that is most challenging for the control device if a control device is used. For example, worst-case conditions could include operation of an affected unit firing solid fuel likely to produce the most HAP.

TABLE 1 TO APPENDIX B OF SUBPART DDDDD—EMISSION TEST METHODS

For ...	You must ...	Using ...
(1) Each subpart DDDDD emission point for which you choose to use a compliance alternative.	Select sampling ports' location and the number of traverse points.	Method 1 of 40 CFR part 60, appendix A.
(2) Each subpart DDDDD emission point for which you choose to use a compliance alternative.	Determine velocity and volumetric flow rate; ...	Method 2, 2F, or 2G in appendix A to 40 CFR part 60.
(3) Each subpart DDDDD emission point for which you choose to use a compliance alternative.	Conduct gas molecular weight analysis	Method 3A or 3B in appendix A to 40 CFR part 60.
(4) Each subpart DDDDD emission point for which you choose to use a compliance alternative.	Measure moisture content of the stack gas	Method 4 in appendix A to 40 CFR part 60.
(5) Each subpart DDDDD emission point for which you choose to use the HCl compliance alternative.	Measure the hydrogen chloride and chlorine emission concentrations.	Method 26 or 26A in appendix A to 40 CFR part 60.
(6) Each subpart DDDDD emission point for which you choose to use the TSM compliance alternative.	Measure the manganese emission concentration.	Method 29 in appendix A to 40 CFR part 60.
(7) Each subpart DDDDD emission point for which you choose to use a compliance alternative.	Convert emissions concentration to lb per MMBtu emission rates.	Method 19 F-factor methodology in appendix A to part 60 of this chapter.

TABLE 2 TO APPENDIX A OF SUBPART DDDDD—ALLOWABLE TOXICITY-WEIGHTED EMISSION RATE EXPRESSED IN HCl EQUIVALENTS (lbs/hr)

Stack ht.	Distance to property boundary (m)											
(m)	0	50	100	150	200	250	500	1000	1500	2000	3000	5000
5	114.9	114.9	114.9	114.9	114.9	114.9	144.3	287.3	373.0	373.0	373.0	373.0
10	188.5	188.5	188.5	188.5	188.5	188.5	195.3	328.0	432.5	432.5	432.5	432.5
20	386.1	386.1	386.1	386.1	386.1	386.1	386.1	425.4	580.0	602.7	602.7	602.7
30	396.1	396.1	396.1	396.1	396.1	396.1	396.1	436.3	596.2	690.6	807.8	816.5

40	408.1	408.1	408.1	408.1	408.1	408.1	408.1	448.2	613.3	715.5	832.2	966.0
50	421.4	421.4	421.4	421.4	421.4	421.4	421.4	460.6	631.0	746.3	858.2	1002.8
60	435.5	435.5	435.5	435.5	435.5	435.5	435.5	473.4	649.0	778.6	885.0	1043.4
70	450.2	450.2	450.2	450.2	450.2	450.2	450.2	486.6	667.4	813.8	912.4	1087.4
80	465.5	465.5	465.5	465.5	465.5	465.5	465.5	500.0	685.9	849.8	940.9	1134.8
100	497.5	497.5	497.5	497.5	497.5	497.5	497.5	527.4	723.6	917.1	1001.2	1241.3
200	677.3	677.3	677.3	677.3	677.3	677.3	677.3	682.3	919.8	1167.1	1390.4	1924.6

TABLE 3 TO APPENDIX A OF SUBPART DDDDD—ALLOWABLE MANGANESE EMISSION RATE (lbs/hr)

Stack ht. (m)	Distance to property boundary (m)											
	0	50	100	150	200	250	500	1000	1500	2000	3000	5000
5	0.29	0.29	0.29	0.29	0.29	0.29	0.36	0.72	0.93	0.93	0.93	0.94
10	0.47	0.47	0.47	0.47	0.47	0.47	0.49	0.82	1.08	1.08	1.08	1.08
20	0.97	0.97	0.97	0.97	0.97	0.97	0.97	1.06	1.45	1.51	1.51	1.51
30	0.99	0.99	0.99	0.99	0.99	0.99	0.99	1.09	1.49	1.72	2.02	2.04
40	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.12	1.53	1.79	2.08	2.42
50	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.15	1.58	1.87	2.15	2.51
60	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.18	1.62	1.95	2.21	2.61
70	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.22	1.67	2.03	2.28	2.72
80	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.25	1.71	2.12	2.35	2.84
100	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.32	1.81	2.29	2.50	3.10
200	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.71	2.30	2.92	3.48	4.81