AIR QUALITY DIVISION
CHAPTER 6, SECTION 3
OPERATING PERMIT

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
200 West 17th Street
Cheyenne, Wyoming 82002

PERMIT NO. P0021849 (Legacy No. 3-2-083)

Issue Date: **April 18, 2017**
Expiration Date: **April 18, 2022**
Effective Date: **April 18, 2017**
Replaces Permit No.: **3-1-083 and 3-1-084**

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,

Tronox Alkali Wyoming Corporation
Granger Soda Ash Facility
Section 36, Township 20 North, Range 111 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.

Nancy E. Vehr, Administrator
Air Quality Division

4/18/2017
Date

Todd Parfitt, Director
Department of Environmental Quality

4/18/2017
Date

WAQSR CHAPTER 6, SECTION 3 OPERATING PERMIT

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

TABLE OF CONTENTS

GENERAL INFORMATION

Company Name: Tronox Alkali Wyoming Corporation

Mailing Address: P.O. Box 872

City: Green River State: WY Zip: 82935

Plant Name: Granger Soda Ash Facility

Plant Location: Section 36, Township 20 North, Range 111 West, Sweetwater County, Wyoming (7 miles northeast of Granger, Wyoming)

Latitude/Longitude (WGS84): 41.6738/-109.9001

Plant Mailing Address: P.O. Box 872

City: Green River State: WY Zip: 82935

Plant Manager/Contact: John Lucas Phone: (307) 872-2195

DEQ Air Quality Contact: District 5 Engineer
510 Meadowview Drive
Lander, WY 82520
Phone: (307) 335-6934

SIC Code: 1474 NAICS Code: 212391

Description of Process: Production of Sodium Carbonate (Na_2CO_3) from trona ore and/or mine water feedstock from a trona mine.

Permit Description: This is the second renewal for the Title V Operating Permit.

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
UIN-07	#1 Product Dryer	91 TPH	OP-222, MD-462A, wv-5127 & MD-12487*
UIN-08	#2 Product Dryer	91 TPH	OP-222, MD-462A, wv-5127 & MD-12487*
UIN-09	#1 Product Sizing	91 TPH	OP-222, wv-5127 & MD-12487*
UIN-10	#2 Product Sizing	91 TPH	OP-222, wv-5127 & MD-12487*
UIN-11	Product Handling	155 TPH	OP-222, wv-5127 & MD-12487*
UIN-12	Product Silos	155 TPH	wv-5127 & MD-12487*
UIN-13	Product Loadout	480 TPH	OP-222, wv-5127 & MD-12487*
UIN-14	#1 Coal-Fired Boiler	358.5 MMBtu/hr	OP-222, wv-5127 & MD-12487*
UIN-15	#2 Coal-Fired Boiler	358.5 MMBtu/hr	OP-222, wv-5127 & MD-12487*
UIN-16	Ash Handling System	38 TPH	OP-222, wv-5127 & MD-12487*
UIN-19	Emergency Fire Pump Engine	1.86 MMBtu/hr	None
UIN-20	Emergency Mine Generator	12.74 MMBtu/hr	None
UIN-21	Emergency Plant Generator	6.86 MMBtu/hr	None
UIN-22	Perlite Storage Silo	40 ton	OP-222*
UIN-23	Limestone Storage Silo	50 ton	OP-222*
UIN-24	Fluid Bed Product Dryer	18.6 TPH	OP-222, MD-462A, wv-5127 & MD-12487*
UIN-27	Lime Storage Silo – Leach	130 ton	OP-222*
UIN-28	Lime Storage Silo – Deca	90 ton	November 24, 1989 Letter
UIN-30	Coal Stockpile Activities	N/A	OP-222, wv-5127 & MD-12487*
UIN-32	Diesel Equipment Fuel Tanks (3)	15,000 gallon (1) 11,000 gallon (1) 4,000 gallon (1)	None
UIN-33	Boiler Fuel Oil Tank	30,566 gallon	None
UIN-34	Unleaded Gas Tank	12,000 gallon	None
UIN-35	Unleaded Gas Tank	9,000 gallon	None
UIN-36	Hydrochloric Acid Storage Tank	10,000 gallon	None
UIN-37	Soda Ash Cooling Tower	373 MMBtu/hr	None
UIN-45	Mine Vents		MD-12487
UIN-46	Administrative Boiler	3.35 MMBtu/hr	None
UIN-50***	H_2S Vent Absorber**		MD-12487 & MD-16379

SOURCE ID#	SOURCE DESCRIPTION	SIZE	CH. 6, SEC. 2 PERMITS
UIN-51	Mine Water Cooling Tower**		MD-12487
UIN-52	Filter Aid Silo**		None
UIN-53	Precoat Silo**		None
UIN-C01	#3 Gas-Fired Boiler	200 MMBtu/hr	OP-255, MD-462A, wv-5127 & MD-12487*
UIN-C03	Lime Silo / Bin	2000 ton	OP-255 & MD-12487*
UIN-C04	Lime Slaker	23 TPH	OP-255 & MD-12487*
UIN-C05	Cummins 1250 DQGAA Emergency Generator Engine	1,250 hp	wv-14968 Corrected
UIN-C06	Caustic Plant Cooling Tower	99 MMBtu/hr	None
SMP-01	Mine Water Degassing Tank	35,000 gallons	wv-15354
None	Fugitive emissions	N/A	MD-12487

* Upon notification of startup of the additional mine water processing equipment defined in MD-12487, the references to permit MD-12487 will become valid and will supersede conditions in all previously issued permits and waivers.

** These units collectively are referred to as the "mine water processing equipment" throughout this permit. As of November 21, 2016, these units have not been constructed.

*** The permit will refer to UIN-50 as the H_2S Vent Absorber for all emissions. This unit was referred to as the CO_2 stripping system for CO_2e emissions in permit MD-16379.

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	356
PM_{10} Particulate Matter	339
$PM_{2.5}$ Particulate Matter	157
Sulfur Dioxide (SO_2)	571
Nitrogen Oxides (NO_X)	2,122
Carbon Monoxide (CO)	604
Volatile Organic Compounds (VOCs)	64
Hydrogen Sulfide (H_2S)	16
HAZARDOUS AIR POLLUTANT (HAP) EMISSIONS	4.4
GREENHOUSE GAS EMISSIONS (CO_2e)	995,295

HAP emissions are from the operating permit application. All other emissions are from the NSR permit application analysis for MD-16379 plus potential emissions from the application boiler (unit UIN-46).

FACILITY-SPECIFIC PERMIT CONDITIONS

Facility-Wide Permit Conditions

(F1) SULFUR DIOXIDE EMISSIONS INVENTORY [WAQSR Ch 14, Sec 3]
The permittee shall comply with the requirements of WAQSR Ch 14, Sec 3, including estimating SO_2 emissions in accordance with Ch 14 Sec 3(b), and adjusting estimates in accordance with Ch 14 Sec 3(c), if necessary.

(F2) PRODUCTION AND OPERATION LIMITS
[WAQSR Ch 6, Sec 2 Permits/Waivers MD-462A & MD-12487]

(a) Maximum Soda ash production at the Granger Soda Ash Facility, through the #1 Product Dryer 1, the #2 Product Dryer and the Fluid Bed Product Dryer, (units UIN-07, -08 -24) shall be limited to 1.3 MM TPY from no more than 2.63 MM TPY of Trona ore.

(b) The dryers shall be operated at production rates that do not exceed the following:

(i) #1 and #2 Product Dryers (units UIN-07 and -08) shall be limited to 91.0 TPH each of soda ash production.

(ii) #1 and #2 Product Dryers (units UIN-07 and -08) shall be limited to 1.2 MMTPY combined dryer annual soda ash production on a calendar year basis.

(iii) The Fluid Bed Product Dryer (unit UIN-24) shall be limited to 18.6 TPH and 0.1 MMTPY of soda ash production on a calendar year basis.

(c) Upon notification of startup for the additional mine water processing equipment (units UIN-50, -51, -52, and -53), the requirements of this condition (F2) will no longer be valid.

Source-Specific Permit Conditions

(F3) BOILER EMISSIONS [EPA Permit 8A-EE, WAQSR Ch 3 Sec 2, Ch 3 Sec 3, Ch 6 Sec 2 Permits OP-222 and MD-12487; 40 CFR Part 60, Subpart D]

(a) Visible emissions from the #1 and #2 Coal-Fired Boilers (units UIN-14 and -15), are limited to 20% opacity except for one 6-minute period per hour of not more than 27% opacity.

(b) Prior to the notification of startup for the additional mine water processing equipment (units UIN-50, -51, -52, and -53), visible emissions from the #3 Gas-Fired Boiler (unit UIN-C01) shall be limited to 20% opacity except for one 6-minute period per hour of not more than 27% opacity.

(c) Upon notification of startup for the additional mine water processing equipment (units UIN-50, -51, -52, and -53), visible emissions from the #3 Gas-Fired Boiler (unit UIN-C01) shall not exceed 20% opacity.

(d) The #1 and #2 Coal-Fired Boilers (units UIN-14 and -15) shall be equipped with a scrubber system.

(e) Emissions from the #3 Gas-Fired Boiler (unit UIN-C01) shall not exceed the limits specified in Table I. These limits shall apply during all operating periods.

Table I: #3 Gas-Fired Boiler (unit UIN-C01) Emission Limits			
Prior to startup of additional mine water equipment			
Pollutant	lb/MMBtu	lb/hr	TPY
NO_X	0.14	28.0	
CO		18.15	
After startup of additional mine water equipment			
NO_X	0.14 (3-hr Rolling Average)	28.0 (3-hr Rolling Average)	122.6
CO		18.15	79.5

(f) Prior to the performance testing required within 90 days of startup of the additional mine water processing equipment (units UIN-50, -51, -52, and -53), emissions from each of the #1 and #2 Coal-Fired Boilers (units UIN-14 and -15) shall not exceed the limits specified in Table II.

Table II: #1 and #2 Coal-Fired Boilers (units UIN-14 and -15) Emission Limits	
Pollutant	lb/hr
NO_X	250.95
SO_2	71.70
PM (filterable only)	35.85

(g) Effective on and after the date of performance testing required within 90 days of startup of the additional mine water processing equipment (units UIN-50, -51, -52, and -53), emissions from each of the #1 and #2 Coal-Fired Boilers (units UIN-14 and -15) shall not exceed the limits specified in Table III. These limits apply during all operating periods.

Table III: #1 and #2 Coal-Fired Boilers (units UIN-14 and -15) Emission Limits			
Pollutant	lb/MMBtu	lb/hr	TPY
NO_X	0.7 (3-hr Rolling Average)	225.0 (3-hr Rolling Average)	985.5
SO_2	0.2 (2-hr Block Average)	65.0 (2-hr Block Average)	284.7
PM/PM_{10}[1]	0.1	27.0	118.3
$PM_{2.5}$[1]		12.9	56.3

[1] PM_{10} and $PM_{2.5}$ limits are for filterable plus condensable particulate matter

(h) Visible emissions for the Administrative Boiler (unit UIN-46) shall not exceed 20% opacity.

(i) NO_X emissions from the Administrative Boiler (unit UIN-46) shall not exceed 0.30 lb/MMBtu heat input.

(F4) OTHER VISIBLE AND PARTICULATE MATTER EMISSIONS [EPA Permit 8A-EE, WAQSR Ch 3, Sec 2; Ch 6, Sec 2 Permits/Waivers OP-222, OP-255, MD-12487]

(a) Visible emissions from the Emergency Fire Pump Engine (unit UIN-19), Emergency Mine Generator (unit UIN-20), Emergency Plant Generator (unit UIN-21), and Emergency Generator Engine (unit UIN-C05) shall not exceed 30 percent opacity except for periods not exceeding ten consecutive seconds.

(b) Visible emissions of any contaminant discharged into the atmosphere from any other single emission point source not listed in conditions F3 and F4(a) 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.

(i) Upon notification of startup of the additional mine water processing equipment (units UIN-50, -51, -52, and -53), visible emissions from the units controlled by baghouses/fabric filters listed in Table V shall be limited to 20% opacity at all times.

(c) The #1 and #2 Product Dryers (units UIN-07 and -08) shall be equipped with a scrubber system.

(d) Prior to the performance testing required within 90 days of startup of the additional mine water processing equipment (units UIN-50, -51, -52, and -53), particulate matter emissions shall not exceed the limits specified in Table IV.

Table IV: Particulate Matter Emission Limits (Filterable Only)		
Unit ID	Source	PM lb/hr
UIN-07	#1 Product Dryer	3.94
UIN-08	#2 Product Dryer	3.94
UIN-09	#1 Product Sizing	2.57

Table IV: Particulate Matter Emission Limits (Filterable Only)		
Unit ID	Source	PM lb/hr
UIN-10	#2 Product Sizing	2.57
UIN-11	Product Handling	2.57
UIN-12	Product Silos	2.57
UIN-13	Product Loadout	1.31
UIN-16	Ash Handling System	0.43
UIN-22	Perlite Storage Silo	0.07
UIN-23	Limestone Storage Silo	0.07
UIN-24	Fluid Bed Product Dryer	1.00
UIN-27	Lime Storage Silo - Leach	0.07
UIN-C03	Lime Silo/Bin	0.67
UIN-C04	Lime Slaker	0.43

(e) Effective on and after the date on which the performance test required by condition F10(d) is conducted:
(i) The limits in Table IV for units UIN-22, UIN-23, and UIN-27 shall no longer apply.
(ii) Emissions from the following emission points shall not exceed the limits in Table V and will supersede the limits in Table IV, as applicable.

Table V: Particulate Matter Emission Limits (Filterable plus Condensable)			
Units controlled by baghouses/fabric filters			
Unit ID	Source	PM/PM_{10} lb/hr	$PM_{2.5}$ lb/hr
UIN-09	#1 Product Sizing	1.5	0.8
UIN-10	#2 Product Sizing	1.5	1.2
UIN-11	Product Handling	1.5	1.4
UIN-12	Product Silos	1.5	1.1
UIN-13	Product Loadout	1.3	1.0
UIN-16	Ash Handling System	0.4	0.1
UIN-C03	Lime Silo/Bin	0.7	0.2
Units controlled by venturi scrubber or wet scrubber			
Unit ID	Source	PM/PM_{10} lb/hr	$PM_{2.5}$ lb/hr
UIN-07	#1 Product Dryer	2.5	0.8
UIN-08	#2 Product Dryer	2.5	1.1
UIN-24	Fluid Bed Product Dryer	1.0	
UIN-C04	Lime Slaker	0.4	0.1

(F5) ADDITIONAL MINE WATER PROCESSING POINT SOURCE EMISSION LIMITS
[WAQSR Ch 6, Sec 2 Permits MD-12487 and MD-16379]
(a) Emissions from the H_2S Vent Absorber (unit UIN-50) shall not exceed the values specified in Table VI.
(i) H_2S emission limits are effective on and after the date when the performance test is conducted in accordance with condition F10(a).
(ii) CO_2e emission limits are effective upon startup of the H_2S Vent Absorber (unit UIN-50).

Table VI: H_2S Vent Absorber Emission Limits			
Pollutant	Tons per day	lb/hr	TPY
H_2S		3.6	15.8
CO_2e	404 (30-day rolling average)		147,414 (365-day rolling average)

(b) The Mine Vents (unit UIN-45) shall be limited to a total VOC emission rate of 50.6 TPY.

(c) The permittee shall utilize drift eliminators with a drift rate no greater than 0.0005% on the Mine Water Cooling Tower (unit UIN-51).

(F6) FUGITIVE EMISSIONS [WAQSR Ch 3, Sec 2; Ch 6, Sec 2 Permit MD-12487]

(a) The Granger Road and the plant service road shall be treated with chemical dust suppressants in addition to water to control fugitive dust emissions from wind erosion and vehicular traffic.

(i) At a minimum, two applications of dust suppressant shall be applied annually, once in the spring and once in the fall, and shall be maintained continuously to the extent that such treatment remains a viable control measure, which may require additional applications of chemical dust suppressant.

(b) Fugitive emissions from coal related operations at the Tronox Granger Soda Ash facility shall be controlled via the following methods:

(i) The applicant shall apply a polymer based dust suppressant or equivalent chemical dust suppressant to the coal as it is unloaded from the bottom-dump trucks at the facility. The dust suppressant shall be applied at the manufacturer's recommended application rate.

(ii) The permittee shall utilize water and/or chemical dust suppressants to control fugitive dust from the coal loading operations associated with the coal reclaim hopper.

(c) The building(s) that houses the Filter Aid Silo (unit UIN-52) and the Precoat Silo (unit UIN-53) shall be limited to no visible emissions.

(F7) SILO HOURS OF OPERATION LIMITS [W.S. 35-11-110]

The Perlite Storage Silo (unit UIN-22), the Limestone Storage Silo (unit UIN-23), and the Limestone Storage Silo-Leach (unit UIN-27) shall each be limited to 500 hours of annual operation.

(F8) ENGINE LIMITATIONS [WAQSR Ch 6, Sec 2 Waiver wv-14968 Corrected]

(a) The Cummins 1250 DQGAA emergency diesel generator engine (unit UIN-C05) shall be EPA Tier 2 certified.

(b) The Cummins 1250 DQGAA emergency diesel generator engine (unit UIN-C05) shall not exceed 500 hours of operation per year.

(F9) TEMPORARY ENGINE REPLACEMENT [WAQSR Ch 6, Sec 2; Ch 6, Sec 3(h)(i)(I)]

(a) Permanent replacement of an engine must be evaluated by the Division under WAQSR Ch 6, Sec 2 prior to such replacement to determine the appropriate permitting action and evaluate the need for additional requirements resulting from the permanent replacement.

(b) Should an engine break down or require an overhaul, the permittee may bring on site and operate a temporary replacement engine until repairs are made. The temporary replacement unit shall be identical or similar to the unit replaced, with emission levels at or below those of the unit replaced. The permittee shall notify the Division in writing of such temporary replacement within five working days and include the following:

(i) The startup date of the temporary replacement unit; and

(ii) A statement regarding the applicability of any New Source Performance Standards (NSPS) in 40 CFR Part 60; any National Emission Standards for Hazardous Air Pollutants (NESHAPs) in 40 CFR Part 63; and Compliance Assurance Monitoring (CAM) in WAQSR Ch 7, Sec 3 for the temporary replacement unit.

Testing and Monitoring Requirements

(F10) PERFORMANCE TESTING FOR NEW AND EXISTING EMISSION UNITS
[WAQSR Ch 6, Sec 2 Permits MD-12487 and MD-16379; Ch 7 Sec 3]
Performance tests shall be conducted on the equipment specified in this condition, in accordance with WAQSR Ch 6, Sec 2(j), upon startup of the mine water processing equipment authorized by WAQSR Ch 6, Sec 2 permits MD-12487 and MD-16379. Testing shall be conducted within 30 days of achieving maximum design rate but not later than 90 days after initial start-up. If the maximum design rate is not achieved within 90 days of start-up, the Administrator may require testing be done at the rate achieved and again when the maximum rate is achieved. Prior to any performance testing required by this condition, a test protocol shall be submitted to the Division for approval, at least 30 days prior to testing.

(a) Testing for H_2S from the H_2S Vent Absorber (unit UIN-50) shall consist of three 1-hour tests following EPA Reference Methods 1-4 and 15. Testing conducted under this condition may be used to develop CAM indicators as specified in condition CAM-5(b).

(b) Testing for VOCs from one of the Mine Vents (unit UIN-45) shall consist of three 1-hour tests following EPA Reference Methods 1-4, 18, and 25.

(c) Testing for the #1 and #2 Coal-Fired Boilers (units UIN-14 and -15) shall consist of the following:

(i) For NO_X emissions, testing shall consist of a 3-hour rolling average using a certified continuous emissions monitor (CEM).

(ii) For SO_2 emissions, testing shall consist of a 2-hour block average using a certified CEM.

(iii) For particulate emissions:

(A) For PM/PM_{10} filterable plus condensible limits, testing shall consist of three 1-hour tests following EPA Reference Methods 1-4, 5 OR 201A, and 202.

(B) For $PM_{2.5}$ filterable plus condensible limits, testing shall consist of three 1-hour tests following EPA Reference Methods 1-4, 201A, and 202.

(C) Testing conducted under this condition may be used to develop CAM indicators as specified in condition CAM-5(a).

(iv) For HAP emissions, testing shall consist of three 1-hour tests following Division approved EPA Reference Methods. Testing is to confirm that HAP emissions are as represented in the application for Ch 6, Sec 2 permit MD-12487. Compliance testing conducted to demonstrate compliance with 40 CFR 63 Subpart DDDDD may be utilized to satisfy this testing requirement.

(d) Testing for particulate emissions for the units listed in Table V of condition F4 shall consist of the following:

(i) For PM/PM_{10} filterable plus condensible limits, three 1-hour tests following EPA Reference Methods 1-4, 5 OR 201A, and 202; or equivalent EPA Reference Methods approved in advance by the Division.

(ii) For $PM_{2.5}$ filterable plus condensible limits, three 1-hour tests following EPA Reference Methods 1-4, 201A, and 202; or equivalent EPA Reference Methods approved in advance by the Division.

(iii) Testing conducted under this condition may be used to develop CAM indicators as specified in condition CAM-5(a).

(e) A test protocol shall be submitted for review and approval prior to testing.

(f) Notification of the test date shall be provided to the Division 15 days prior to testing. Results of the tests shall be submitted to the Division within 45 days of completing the tests.

(F11) ADDITIONAL EMISSIONS TESTING [W.S. 35-11-110, 40 CFR Part 60, Subpart D]

(a) The Division reserves the right to require additional testing as provided under condition G1 of this permit. The Division shall specify the necessary test method(s) and procedure(s) prior to the test, which may include the following test methods found at 40 CFR 60, Appendix A:

(i) For visible emissions, Method 9.

(ii) For particulate emissions:

(A) For PM filterable, Methods 1-4 and 5.

(B) For PM/PM_{10} filterable plus condensible, Methods 1-4, 5 OR 201A, and 202.

(C) For $PM_{2.5}$ filterable plus condensible, Methods 1-4, 201A, and 202.

(iii) For SO_2 emissions, Methods 1-4 and 6 or 6C.

(iv) For NO_X emissions, Methods 1-4 and 7 or 7E.

(v) For CO emissions, Methods 1-4 and 10.
(vi) For H_2S emissions, Methods 1-4 and Method 15.
(vii) For VOC emissions, Methods 1-4 and 25A.
(viii) 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, the testing required in conditions F11 through F14 shall be conducted in accordance with WAQSR Ch 5, Sec 2(h).

(F12) BOILER EMISSIONS TESTING [WAQSR Ch 6, Sec 3(h)(i)(C)(I); Ch 6, Sec 2 Permit MD-12487]

(a) The permittee shall measure at least annually CO emissions from the #3 Gas-Fired Boiler (unit UIN-C01) to assess compliance with the CO limit in condition F3. The next test will be within 12 months of either the issuance of this permit or the last performance test, whichever occurred first. Testing shall be conducted following the EPA reference methods listed in condition F11(v).
(i) The permittee may reduce the frequency of subsequent tests to once every five years if the CO emissions from the annual performance test are less than or equal to 75 percent of the emission limit for the #3 Gas-Fired Boiler (unit UIN-C01) as indicated in condition F3.
(ii) If the results from any subsequent performance test exceed the 75 percent of the CO limit indicated in condition F3, the permittee must resume annual testing.

(b) The permittee shall measure particulate emissions from the #1 and #2 Coal-Fired Boilers (units UIN-14 & -15) (PM filterable, PM/PM_{10}, and $PM_{2.5}$ as appropriate) at least annually.
(i) Prior to startup of the mine water processing equipment authorized by WAQSR Ch 6, Sec 2 permits MD-12487 and MD-16379, testing shall be conducted as specified in condition F11(a)(ii)(A) and F11(a)(viii) to demonstrate compliance with condition F3(f).
(ii) After the performance testing required in condition F10, testing shall be conducted as specified in condition F11(a)(ii)(B), (C), and F11(a)(viii) to demonstrate compliance with condition F3(g). During the calendar year that testing is conducted in accordance with condition F10(c), that testing may be used to meet the requirements of this condition. The first annual test after the required performance test in condition F10 shall be conducted in the following calendar year.
(iii) The permittee shall measure the CAM indicator(s) specified in condition F19 during each test to verify and refine the emission correlation for each unit as applicable.

(c) For the testing required in F12(a) and F12(b), a test protocol shall be submitted for review and approval prior to testing.

(d) The permittee shall provide the Division at least 15 days prior notice of any anticipated test date for all testing in this condition (F12). Results of the tests shall be submitted to the Division within 45 days of completing the tests.

(F13) PARTICULATE EMISSIONS TESTING [WAQSR Ch 6, Sec 3(h)(i)(C)(I); Ch 6, Sec 2 Permit MD-12487]

(a) The permittee shall test at least once every five years the emission sources controlled by baghouses listed in Table V to determine compliance with the particulate emission limits for the units listed. Testing shall be conducted as specified in condition F11.
(i) Prior to the startup of the additional mine water equipment (units UIN-50, -51, -52, and -53), the testing will be done to show compliance with the emission limits in Table IV.
(ii) Upon the startup of the additional mine water equipment (units UIN-50, -51, -52, and -53), the testing will be done to show compliance with the emission limits in Table V.
(iii) The permittee shall measure the CAM indicator(s) during each test to verify and refine the emission correlation for each unit as applicable.

(b) The permittee shall test at least once every five years the #1 Product Dryer, the #2 Product Dryer, and the Fluid Bed Product Dryer (units UIN-07, -08, and -24) to determine compliance with the particulate emission limits for the dryers. Testing shall be conducted as specified in condition F11.
(i) Prior to the startup of the additional mine water equipment (units UIN-50, -51, -52, and -53), the testing will be done to show compliance with the emission limits in Table IV.
(ii) Upon the startup of the additional mine water equipment (units UIN-50, -51, -52, and -53), the testing will be done to show compliance with the emission limits in Table V.
(iii) The permittee shall measure the CAM indicator(s) during each test to verify and refine the emission correlation for each unit as applicable.

(c) For the testing required in F13(a) and (b), a test protocol shall be submitted for review and approval prior to testing.

(d) Notification of the test date shall be provided to the Division at least 15 days prior to testing. Results of the tests shall be submitted to the Division within 45 days of completing the tests.

(F14) VOC AND H_2S EMISSIONS TESTING

[WAQSR Ch 6, Sec 3(h)(i)(C)(I); Ch 6, Sec 2 Permit/Waivers MD-12487 and wv-15354]

(a) For the Mine Water Degassing Tank (unit SMP-01), the permittee shall test at least annually for VOC emissions. Periodic testing shall consist of EPA Reference Methods as specified in condition F11 or other EPA Reference Methods approved by the Division.

(i) The permittee shall extrapolate the tested VOC emission rate into annual VOC emissions in tons per calendar year (TPY). Annual emissions shall, at minimum, be based on the tested VOC emission rate and operating hours for the degassing tank, or a default of 8760 hours of operation may be used.

(ii) If annual VOC emissions are estimated to be greater than 4 TPY, the permittee shall submit a BACT analysis for control of the VOC emissions from the degassing tank vent within 90 days of the periodic test.

(b) For the Mine Vents (unit UIN-45), the permittee shall test one of the mine vents at least annually to determine compliance with the total VOC emission rate limit in condition F5. Testing shall be completed within 12 months of the last reference method test. Compliance with the emission rate limit shall be determined by taking the average lb/hr emission rate from performance tests conducted for the calendar year on an open vent well, multiplied by the hours of operation of the open vent well(s), divided by 2000 lb/ton. Periodic testing shall follow the requirements in condition F10(b).

(c) For the H_2S Absorber Vent (unit UIN-50), the permittee shall test within the 12 months of the last reference method test for H_2S emissions to determine compliance with the limits in Table VI of condition F5.

(d) For the testing required in F14(a) – (c), a test protocol shall be submitted for review and approval prior to testing. Periodic testing for conditions F14(a) and (c) shall follow the requirements of condition F11.

(e) The permittee shall provide the Division at least 15 days prior notice of any anticipated test date for all testing in this condition (F14). Results of the tests shall be submitted to the Division within 45 days of completing the tests.

(F15) BOILER EMISSIONS MONITORING [WAQSR Ch 6, Sec 3(h)(i)(C)(I); Ch 6, Sec 2 Permit MD-12487]

(a) The permittee shall calibrate, operate, and maintain continuous emission monitoring systems (CEMS) on the #1 and #2 Coal-Fired Boilers (units UIN-14 and -15) to demonstrate continuous compliance with the NO_X and SO_2 limits specified in condition F3. The monitoring system shall measure NO_X and SO_2 emissions discharged to the atmosphere, and record the output in ppm_v, lb/MMBtu, and lb/hr. The monitoring systems for NO_X and SO_2 shall consist of the following:

(i) A CEMS located in the boiler exhaust stack for each pollutant (NO_X and SO_2).

(ii) A continuous flow monitoring system (CMS) for measuring the flow of exhaust gases discharged into the atmosphere.

(iii) An in-stack oxygen or carbon dioxide monitoring for measuring oxygen or carbon dioxide content of the flue gas at the location the pollutant (NO_X and SO_2) emissions are monitored.

(b) The permittee shall calibrate, operate, and maintain a CEMS on the #3 Gas-Fired Boiler (unit UIN-C01) to demonstrate continuous compliance with the NO_X limits specified in condition F3. The monitoring system shall measure NO_X emissions discharged to the atmosphere, and record the output in ppm_v, lb/MMBtu, and lb/hr. The NO_X monitoring system shall consist of the following:

(i) A continuous emission NO_X monitor located in the boiler exhaust stack.

(ii) A continuous flow monitoring system for measuring the flow of exhaust gases discharged into the atmosphere.

(iii) An in-stack oxygen or carbon dioxide monitor for measuring oxygen or carbon dioxide content of the flue gas at the location NO_X emissions are monitored.

(c) Each CMS/CEMS shall comply with WAQSR Ch 5, Sec 2(j) including the following:

(i) 40 CFR 60, Appendix B, Performance Specification 2 for NO_X and SO_2 (as applicable), and Performance Specification 3 for O_2 and CO_2. The monitoring systems shall demonstrate linearity

with cylinder gas reference values in accordance with Division requirements. The monitoring systems must be certified in both concentration (ppm_v) and units of the standard (lb/MMBtu and lb/hr).

(ii) Quality Assurance requirements in 40 CFR 60, Appendix F.

(iii) The permittee shall develop and submit for the Division's approval a Quality Assurance plan for the monitoring systems listed in this condition (F15) within 90 days of startup of the additional mine water processing equipment (units UIN-50, -51, -52, and -53). Previously submitted QA plan(s) may be utilized to satisfy the requirements of this condition upon Division approval.

(F16) VISIBLE EMISSIONS MONITORING

[WAQSR Ch 6, Sec 3(h)(i)(C)(I); Ch 6, Sec 2 Permit MD-12487, 40 CFR 60, Subpart D]

(a) For visible emissions from the #3 Gas-Fired Boiler (unit UIN-C01), the permittee shall monitor the type of fuel used to ensure natural gas is the sole fuel source for the unit.

(b) For the #1 and #2 Coal-Fired Boilers (units UIN-14 and -15), visible emissions monitoring shall consist of the Continuous Opacity Monitoring System (COMS) required by 40 CFR 60 Subpart D.

(c) The permittee shall conduct, at minimum, quarterly Method 22-like visible observations monitoring as follows to determine the presence of visible emissions from the Perlite Storage Silo (unit UIN-22), the Limestone Storage Silo (unit UIN-23), the Lime Storage Silo-Leach (unit UIN-27), and the Lime Storage Silo-Deca (unit UIN-28):

(i) The permittee shall conduct these observations while the units are in operation to determine the presence of visible emissions.

(d) The permittee shall conduct observations of visible emissions from the Emergency Fire Pump Engine (unit UIN-19), the Emergency Mine Generator (unit UIN-20), the Emergency Plant Generator (unit UIN-21), and the Emergency Generator Engine (unit UIN-C05) during periodic availability assurance tests of these sources, at least semi-annually, to assess compliance with the opacity limit under condition F4(a) and to identify maintenance needs.

(e) For visible emissions from the #1 and #2 Product Dryers (units UIN-07 & -08), the Fluid Bed Product Dryer (unit UIN-24), and the Lime Slaker (unit UIN-C04), the permittee shall conduct monitoring as follows:

(i) The permittee shall conduct, at minimum, weekly Method 22-like visible observations to determine the presence of visible emissions.

(ii) The permittee shall operate and maintain the Lime Slaker wet scrubber in accordance with the manufacturer's specifications and recommendations.

(f) The visual observations conducted in sections (c) through (e) above shall be conducted by a person who is educated on the general procedures for determining the presence of visible emissions but not necessarily certified to perform Method 9 observations.

(g) During periods of operation, the permittee shall conduct, at minimum, weekly Method 9 visual observations on the Administrative Boiler (unit UIN-46).

(i) The first observation will be within 24 hours after startup.

(h) Observation of excess visible emissions from any source listed above shall prompt immediate inspection and, if necessary, corrective actions.

(F17) CARBON DIOXIDE EQUIVALENCE MONITORING

[WAQSR Ch 6, Sec 3(h)(i)(C)(I); Ch 6, Sec 2 Permit MD-16379]

(a) Upon startup of the H_2S Absorber Vent (unit UIN-50), the permittee shall calculate, at least daily, the amount of carbon dioxide emitted from the unit. The calculations shall be made based on the following parameters, that will be measured at least once per day by the permittee:

(i) The gallons of mine water fed to the H_2S Absorber Vent (unit UIN-50). The permittee shall install, maintain, and operate flow meters to measure mine water flow to the stripper columns that are part of the unit.

(ii) The percent of sodium bicarbonate ($NaHCO_3$) present in the mine water feed to the H_2S Absorber Vent (unit UIN-50). This shall be done using automatic titration methodology which complies with the facilities ISO9001 analytical and standardization requirements.

(iii) The specific gravity of the mine water fed to the H_2S Absorber Vent (unit UIN-50). The permittee is to sample the mine water from the feed line to the H_2S Absorber Vent (unit UIN-50), and measurements shall be done by means of an ASTM grade hydrometer and graduated cylinder.

(b) After the initial 30 calendar days of operation, the permittee shall determine compliance with the CO_2e tons per day rolling average limit in condition F5 by using the following 30-day rolling average summation equation:

$$T_{30\ CO2e} \geq \sum_{i=1}^{30} \frac{(GPDi \times SP.GRi \times \%NaHCO3i \times F)}{30}$$

Where:
$T_{30\ CO2e}$ = Daily rolling average CO_2e tons/day, averaged over 30 days
GPDi = Daily gallons of mine water (MW) per day processed in UIN-50
SP.GRi = Daily specific gravity of MW processed in UIN-50
%NaHCO3i = Daily percent of NaHCO3 present in MW processed in UIN-50
F = 0.001092 (8.34 lb/gal x (44 lb/lbmol CO_2 ÷ 2 x 84 lb/lbmol $NaHCO_3$)) ÷ 2000 lb/ton)

(c) After the initial 365 calendar days of operation, the permittee shall determine compliance with the CO_2e tons per year rolling average limit in condition F5 by using the following 365-day rolling average summation equation:

$$T_{365\ CO2e} \geq \sum_{i=1}^{365} \frac{(GPDi \times SP.GRi \times \%NaHCO3i \times F)}{365}$$

Where:
$T_{365\ CO2e}$ = Yearly rolling average CO_2e tons/365-days, averaged over 365 days
GPDi = Daily gallons of mine water (MW) per day processed in UIN-50
SP.GRi = Daily specific gravity of MW processed in UIN-50
%NaHCO3i = Daily percent of NaHCO3 present in MW process in UIN-50
F = 0.001092 (8.34 lb/gal x (44 lb/lbmol CO_2 ÷ 2 x 84 lb/lbmol $NaHCO_3$)) ÷ 2000 lb/ton)

(d) Compliance with the 30-day rolling average limit for CO_2e shall be determined at least once every day after 30 days of data have been recorded. Compliance with the 365-day rolling average limit for CO_2e shall be determined at least once every day after 365 days of data have been recorded.

(F18) DRYER AND BAGHOUSE CONTROLLED 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 (units UIN-09, -10, -11, -12, -13, -16, and –C03), the permittee shall adhere to the compliance assurance monitoring (CAM) plans, attached as Appendix A of this permit, and shall conduct monitoring as follows during active operation of each emission source:

(i) The permittee shall conduct, at minimum once daily, Method 22-like visual observations of each unit listed above, in accordance with the CAM plan, to determine the presence of visible emissions.

(ii) The visual observations shall be conducted by a person who is educated on the general procedures for determining the presence of visible emissions but not necessarily certified to perform Method 9 observations.

(b) For particulate emissions from the dryers (units UIN-07, -08, and -24), the permittee shall adhere to the compliance assurance monitoring (CAM) plan, attached as Appendix A of this permit, and shall conduct monitoring as follows during active operation of each emission source:

(i) The permittee shall measure, at minimum once daily, the pressure differential and scrubber liquor flow rate of each unit above in accordance with the CAM plan.

(ii) Calibration and maintenance of the instrumentation shall be performed per the manufacturer specifications.

(c) An excursion, as defined in the CAM plans attached in Appendix A, shall prompt immediate inspection, and if appropriate, corrective action.

(d) After startup of the additional mine water processing equipment (units UIN-50, -51, -52 and -53), the permittee shall update the CAM plans as described in condition CAM-5 of this permit.

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

(F19) ELECTROSTATIC PRECIPITATOR CONTROLLED PARTICULATE EMISSIONS
[WAQSR Ch 6, Sec 3(h)(i)(C)(I); Ch 7, Sec 3(c)(ii)]

For particulate emissions from the electrostatic precipitator controlled #1 and #2 Coal-Fired Boilers (units UIN-14 and -15), the permittee shall adhere to the compliance assurance monitoring (CAM) plans, attached as Appendix A of this permit, and shall conduct monitoring as follows during active operation of each emission source:

(a) Upon startup of the additional mine water equipment (units UIN-50, -51, -52, and -53), the permittee shall develop an updated CAM plan as specified in condition CAM-5(a).

(b) Prior to the use of the updated CAM plan as described in condition CAM-5(a)(vi), the permittee shall monitor opacity using the COMS required by condition F16.

(i) An excursion, which is considered operation outside of the ranges established in the approved CAM plan, shall prompt immediate inspection and, if appropriate, corrective action.

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

(c) The permittee shall perform testing for particulate emissions from the #1 and #2 Coal-Fired Boilers (units UIN-14 and -15) as specified in condition F12.

(i) The permittee shall measure the CAM indicators during the tests. 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.

(F20) PRODUCTION AND OPERATION MONITORING [WAQSR Ch 6, Sec 3(h)(i)(C)(I)]

(a) On a monthly basis, the permittee shall monitor and determine:

(i) The year to date soda ash production through each of the #1 and #2 Product Dryers (units UIN-07 and -08), and the Fluid Bed Product Dryer (unit UIN-24).

(ii) The year to date trona ore processed.

(b) The permittee shall monitor the hourly production rates of the #1 Product Dryer (unit UIN-07), the #2 Product Dryer (unit UIN-08), and the Fluid Bed Product Dryer (unit UIN-24) to determine compliance with the limits set in condition F2(b) of this permit.

(c) Upon notification of startup of the additional mine water processing equipment (units UIN-50, -51, -52, and -53), the requirements of this condition (F20) will no longer be valid.

(F21) FUGITIVE DUST MONITORING
[WAQSR Ch 6, Sec 3(h)(i)(C)(I), WAQSR Ch 6, Sec 2 Permit MD-12487]

(a) For the fugitive dust suppression required by condition F6 of this permit, the permittee shall monitor the following:

(i) The date(s) of application and the amount of chemical dust suppressant or water applied to the Granger Road and the plant service road;

(ii) For coal unloading, the type and amount of dust suppressant applied during coal unloading plus the dates and reasons when the dust suppressant system was inoperable during coal unloading operations; and

(iii) The dates and reasons when the water application system was inoperable during coal reclaim activities.

(b) The permittee shall conduct, at a minimum, daily Method 22-like visual observations of the building(s) that house the Filter Aid Silo (unit UIN-52) and the Precoat Silo (unit UIN-53) to determine the presence of visible emissions. If visible emissions are observed, corrective action shall be taken.

(c) The permittee shall conduct, at least on a weekly basis, inspections of the fugitive dust control systems installed at the coal delivery truck dump and coal reclaim hopper to determine any repair measures necessary to minimize fugitive dust emissions and maintain proper operation of the control systems.

(F22) HOURS OF OPERATION MONITORING [WAQSR Ch 6, Sec 3(h)(i)(C)(I)]

The permittee shall monitor, on a monthly basis, the year to date hours of operation to determine compliance with the limits set in conditions F7 and F8(b) of this permit for each of the following: the Perlite Storage Silo (unit UIN-22), the Limestone Storage Silo (unit UIN-23), the Lime Storage Silo-Leach (unit UIN-27), and the Cummins 1250 DQGAA Emergency Generator Engine (unit UIN-C05).

(F23) AMBIENT PARTICULATE MONITORING

[WAQSR Ch 6, Sec 3(h)(i)(C)(I); Ch 6, Sec 2 Permit MD-12487]

The permittee shall operate, in accordance with the requirements of 40 CFR 50 and 58, an approved ambient monitoring program that includes an ambient particulate matter monitoring network at the Granger facility to demonstrate compliance with the ambient standards for particulate matter.

(a) The permittee shall maintain a Division approved quality assurance plan for the monitoring network, as required by 40 CFR 58, and shall comply with all commitments in that plan.

(b) The permittee shall submit notifications and reports as specified in condition F35.

Recordkeeping Requirements

(F24) 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 F1, 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 F29 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.

(F25) TESTING, MONITORING AND ENGINE CERTIFICATION RECORDS

[WAQSR Ch 6, Sec 3(h)(i)(C)(II); Ch 6, Sec 2 Waiver wv-14968 & Ch 7, Sec 3(i)(ii)]

(a) For any testing or monitoring performed under conditions F10 through F14, F16(c) through (e), and F17(a), other than Method 9 observations, the permittee shall record, as applicable, the following:

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

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

(iv) The analytical techniques or methods used;

(v) The results of such analyses or observations;

(vi) The operating conditions and parameters as they existed at the time of testing or monitoring, including:

(A) For the annual testing of the boilers required by condition F12(b), the CAM indicator(s) described in Appendix A or in the most recent CAM plan submitted in accordance with condition CAM-5, including the evaluation of the indicator range(s); and

(B) For the particulate testing required by condition F13, the CAM indicator(s) described in Appendix A or in the most recent CAM plan submitted in accordance with condition CAM-5, including the evaluation of the indicator range(s).

(vii) Any corrective actions taken; and

(viii) Records of the VOC testing of the Mine Water Degassing Tank (unit SMP-01) shall include the extrapolation calculations of the annual emissions as described in condition F14(a).

(b) For the CAM monitoring required under conditions F18 and F19, the permittee shall:

(i) Record all indicator measurements consistent with the most recent CAM plan for the #1 and #2 Coal-Fired Boilers (units UIN-14 and -15).

(ii) Record the daily pressure drop and and liquor flow for the scrubbers on the dryers (units UIN-07, -08, and -24).

(iii) Record the visible observations for the baghouses (units UIN-09, -10, -11, -12, -13, -16, and -C03).

(iv) Record the date, time, and duration of any excursions as well as the CAM indicator value(s) during each excursion.

(v) Maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to WAQSR Ch 7, Sec 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.

(c) 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.

(d) For the Mine Vents (unit UIN-45), the permittee shall record all calculations made as described in condition F14(b), including the calculated VOC emissions per calendar year.

(e) For the #1 and #2 Coal-Fired Boilers (units UIN-14 & -15), the permittee shall meet the recordkeeping requirements for continuous monitoring of opacity, NO_X, and SO_2 as specified in WAQSR Ch 5, Sec 2(g) and 40 CFR 60, Subparts A and D.

(f) For the #3 Gas-Fired Boiler (unit UIN-C01), the permittee shall meet the recordkeeping requirements for continuous monitoring of NO_X as specified in WAQSR Ch 5, Sec 2(g) and 40 CFR 60, Subparts A and Db.

(g) The permittee shall record the monthly operating hours of the Perlite Storage Silo (unit UIN-22), the Limestone Storage Silo (unit UIN-23), the Limestone Storage Silo-Leach (unit UIN-27), and the Cummins 1250 DQGAA emergency generator (unit UIN-C05).

(h) The permittee shall keep records of the Tier 2 certification of the Cummins 1250 DQGAA emergency generator (unit UIN-C05).

(i) For the H_2S Absorber Vent (unit UIN-50), the permittee shall record all calculations made as described in condition F17, including the calculated daily CO_2e emissions, daily 30-day rolling average CO_2e emissions, and daily 365-day rolling average CO_2e emissions.

(j) The permittee shall retain these records on-site at the facility, for a period of at least five years from the date the records are generated.

(F26) PRODUCTION AND PROCESS RATE RECORDS [WAQSR Ch 6, Sec 3(h)(i)(C)(II)]

(a) On a monthly basis, the permittee shall record the year to date soda ash production at the Granger Facility through each of the #1 and #2 Product Dryers (units UIN-07 and -08), and the Fluid Bed Product Dryer (unit UIN-24), as well as the year to date trona ore processed.

(b) The permittee shall maintain records documenting the actual hourly production rate of the #1 and #2 Product Dryers (units UIN-07 and -08).

(c) The permittee shall retain these records on-site at the facility for a period of at least five years from the date such records are generated.

(d) Upon notification of startup of the additional mine water processing equipment (units UIN-50, -51, -52, and -53), the requirements of condition F26(a) and (b) will no longer be valid. The records retained in condition F26(c) shall be maintained for a period of at least five years from the date such records are generated.

(F27) FUGITIVE DUST RECORDS [WAQSR Ch 6, Sec 2 Permit MD-12487; Ch 6, Sec 3(h)(i)(C)(II)]

(a) For the fugitive dust suppression required by condition F6 of this permit, the permittee shall keep records of the following:

(i) The dust suppressant and water usage on the Granger Road and the plant service road. Records shall include the date of application and the amount of chemical dust suppressant or water applied.

(ii) For coal unloading, the type and amount of dust suppressant used plus the dates and reasons when the dust suppressant system was inoperable during coal unloading activities.

(iii) The dates and reasons when the water application system was inoperable during coal reclaim activities.

(b) For the fugitive dust monitoring required by condition F21 of this permit, the permittee shall keep records of any corrective actions taken in order to return the corrective systems to proper operation and shall make these records available to the Division upon request.

(c) The permittee shall retain these records on-site at the facility for a period of at least five years from the date the records are generated.

(F28) AMBIENT PARTICULATE 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 in accordance with the most recent Division approved Quality Assurance Plan.

(b) The permittee shall retain on-site at the facility the ambient particulate monitoring records keep in accordance with the requirements of this condition (F28) for a period of at least five years from the date such records are generated.

Reporting Requirements

(F29) 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 2006, the permittee shall adjust reported SO_2 emissions to be comparable to the emission monitoring or calculation method that was used in 2006. The calculations that are used to make this adjustment shall be included with the annual emission report.

(d) The annual reports shall reference this permit condition (F29) and shall be submitted in accordance with condition G4 of this permit.

(F30) NOTIFICATION OF START-UP, TESTING, AND SHUTDOWN
[WAQSR Ch 6, Sec 2 Permits and Waivers MD-12487, MD-16379, wv-15354, and P0021353]

(a) In accordance with WAQSR Ch 6, Sec 2(i), the permittee shall provide written notification of the anticipated date of initial start-up of the additional mine water processing equipment (units UIN-50, -51, -52, and -53) as permitted under permits MD-12487 and MD-16379 not more than 60 days or less than 30 days prior to such date. Written notification of the actual date of initial start-up is required within 15 days after start-up.

(b) Notification of the test date for the performance testing required by conditions F10, F12, F13 and F14 shall be provided to the Division at least 15 days prior to testing.

(c) Written notification of the date of initial startup is required within five days prior to startup of the use of the caustic soda line into the sodium decahydrate processing line. The notification shall be submitted to the Stationary Source Compliance Program Manager using one of the mechanisms indicated in condition G4(a) of this permit.

(F31) TESTING REPORTS
[WAQSR Ch 6, Sec 3(h)(i)(C)(III); Ch 6, Sec 2 Permits and Waivers MD-12487 and wv-15354]

(a) The permittee shall report the results of any emissions tests performed under conditions F10 through F14, within 45 days of completing the tests. The reports shall include the information indicated in condition F25(a).

(i) The reports shall also include the evaluation of the CAM indicator ranges as required in conditions F12 and F13. If the evaluation indicates the CAM ranges need to be revised, the permittee shall submit a revised CAM plan to the Division, along with a request to administratively amend the CAM plan, within 60 days of completing the test.

(b) The reports shall reference this permit condition (F31), and be submitted to the Division in accordance with condition G4.

(F32) MONITORING REPORTS [WAQSR Ch 6, Sec 3(h)(i)(C)(III)]

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

(i) A statement verifying that the #3 Gas-Fired Boiler (unit UIN-C01) fired only natural gas during the reporting period.

(ii) The calendar year-to-date operating hours for the diesel-fired emergency Cummins generator engine (unit UIN-C05), the Perlite Storage Silo (unit UIN-22), the Limestone Storage Silo (unit UIN-23), the Lime Storage Silo-Leach (unit UIN-27), and the Lime Storage Silo-Deca (unit UIN-28).

(iii) Summary results of the CAM monitoring required under conditions F18 and F19. The results shall include the following, as applicable:

(A) 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; and

(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.

(iv) A summary of the observations required under conditions F16(c) through (e) and F21(b), with a description of any corrective actions taken upon observing excess visible emissions. If no excess visible emissions are observed during the reporting period, this shall be stated in the report.

(v) A summary of the daily monitoring required under condition F17 for the CO_2e emissions from the H_2S Absorber Vent (unit UIN-50). If no exceedances occurred during the reporting period, this shall be stated in the report.

(vi) The dates of application and the amount of dust suppressant and/or water applied to the Granger Road and Plant Service Road.

(vii) A summary of the dates, reasons, and corrective action for any periods when dust suppression systems were inoperative as described in conditions F21(a)(ii) or (iii).

(viii) A summary of repairs needed to the fugitive dust control systems as described in condition F21(c).

(b) VOC emissions from the Mine Vents (unit UIN-45) for the previous calendar year, calculated per condition F14(b), shall be reported to the Division by January 31 each year.

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

(d) The reports shall reference this permit condition (F32), and be submitted to the Division in accordance with condition G4.

(F33) BOILERS EXCESS EMISSIONS & MONITORING SYSTEM PERFORMANCE REPORTS [WAQSR Ch 5, Sec 2(g); Ch 6, Sec 3(h)(i)(C)(III) and Ch 6, Sec 2 Permit MD-12487; 40 CFR 60 Subparts D and Db]

(a) For the #1 and #2 Coal-Fired Boilers (units UIN-14 and -15) and the #3 Gas-Fired Boiler (unit UIN-C01), the permittee shall submit an excess emissions and monitoring systems performance report (excess emissions are defined in paragraphs (b) and (c) 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 Chapter 5, Section 2(j)(viii), any conversion factor(s) used, the date and time of commencement and completion of each time period of excess emissions, and the process operating time during the reporting period.

(ii) Specific identification of each period of excess emissions that occurs during startups, shutdowns or malfunctions of the boiler, the nature and cause of any malfunction (if known), and 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) has been inoperative, repaired, or adjusted, such information shall be stated in the report.

(v) One summary report form for each pollutant monitored for each emission unit listed in F33(a) 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 #1 and #2 Coal-Fired Boilers (units UIN-14 and -15), exceedances of the NO_X and SO_2 emission limits in condition F3 shall be determined as follows:

(i) Prior to the performance testing required in condition F10, excess emissions shall be defined as specified in 40 CFR 60, Subpart D, including the lb/hr limit in condition F3(d).

(ii) After the performance testing required in condition F10, exceedance of the limits in condition F3 shall be defined as follows:

(A) Any 3-hour average of NO_X emissions calculated using data from the CEM equipment required in condition F15 which exceeds the lb/MMBtu and/or lb/hr limit established in condition F3 in this permit using valid data. Valid data shall meet the requirements of WAQSR, Chapter 5, Section 2(j). The 3-hour average emission rate shall be calculated at the end of each hour as the arithmetic average of hourly emissions with valid data during the previous three operating hours.

(B) Any 2-hour average of SO_2 emissions calculated using data from the CEM equipment required in condition F15 which exceeds the lb/MMBtu and/or lb/hr limit established in condition F3 in this permit using valid data. Valid data shall meet the requirements of WAQSR, Chapter 5, Section 2(j). The 2-hour average emission rate shall be calculated at the end of each hour as the arithmetic average of hourly emissions with valid data during the previous two operating hours.

(c) For the #3 Gas-Fired Boiler (unit UIN-C01), excess emissions shall be defined as follows:

(i) Any 3-hour average of NO_X emissions calculated using data from the CEM equipment required in condition F15 which exceeds the lb/MMBtu and/or lb/hr limit established in condition F3 using valid data. Valid data shall meet the requirements of WAQSR, Chapter 5, Section 2(j). The 3-hour average emission rate shall be calculated at the end of each hour as the arithmetic average of hourly emissions with valid data during the previous three hours.

(d) Excess NO_X and SO_2 emissions shall be reported in units of lb/MMBtu and lb/hr.

(e) For the #1 and #2 Coal-Fired Boilers (units UIN-14 and -15) the permittee shall comply with all the reporting requirements as specified in WAQSR Ch 5, Sec 2(g) and 40 CFR Part 60, Subpart D.

(f) For the #3 Gas-Fired Boiler (unit UIN-C01), the permittee shall comply with all reporting requirements as specified in WAQSR Ch 5, Sec 2(g) and 40 CFR Part 60, Subpart Db.

(g) Exclusion of startup, shutdown, and malfunction emissions only applies to the NSPS standard(s) as authorized in the respective subpart.

(h) The reports shall reference this condition (F33) and be submitted to the Division in accordance with condition G4 of this permit.

(F34) PRODUCTION, PROCESS RATE, AND HOURS OF OPERATION REPORTS
[WAQSR Ch 6, Sec 3(h)(i)(C)(III)]

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

(i) Soda ash production, through the # 1 Product Dryer (unit UIN-07), the #2 Product Dryer (unit UIN-08), and the Fluid Bed Dryer (unit UIN-24). The reports shall include the year to date soda ash produced through each dryer and the year to date Trona ore processed.

(ii) The beginning and end dates of any period when production rates of the #1 Product Dryer (unit UIN-07), the #2 Product Dryer (unit UIN-08), and the Fluid Bed Dryer (unit UIN-24) exceed the hourly production rate limitations stated in condition F2 of this permit, as well as the actual production rates during these periods.

(b) The reports shall reference this permit condition (F34) and shall be submitted in accordance with condition G4 of this permit.

(c) Upon notification of startup of the additional mine water processing equipment (units UIN-50, -51, -52, and -53), the requirements of this condition (F34) will no longer be valid.

(F35) AMBIENT MONITORING NOTIFICATIONS AND REPORTS
[WAQSR Ch 6, Sec 3(h)(i)(C)(III); Ch 6, Sec 2 Permit MD-12487]

(a) Should an exceedance occur for the monitoring network required by condition F23, the permittee shall notify the Division's Monitoring Section Project Advisor via e-mail, as soon as possible, but no later than within fifteen days of a monitored exceedance at any continuous ambient monitor and within thirty days of a monitored exceedance at any filter-based monitor.

(b) The data generated by the ambient monitoring network required by condition F23 shall be submitted in a Division approved format, within 60 days following the end of each quarter. In the event of an exceedance the following shall also submitted with the quarterly report:

(i) A narrative of the event including meteorological/air quality parameters, facility activities, operations and mitigation/control information for the time frame in which the exceedance occurred.

(ii) If the facility wishes to have the exceedance flagged as an exceptional event under 40 CFR 50.14, any additional information must be submitted to the Division under an exceptional event documentation package.

(c) Ambient monitoring network reports shall reference this condition (F35) and be submitted in accordance with condition G4 of this permit. A copy of each report shall also be submitted to the Division's Ambient Monitoring Program.

(F36) GREENHOUSE GAS REPORTS [W.S. 35-11-110]

The permittee shall submit to the Division a summary of any report(s) required to be submitted to the EPA under 40 CFR 98.

(a) The reports shall be submitted to the Division within 60 days of submission to EPA, in a format as specified by the Division.

(b) The reports shall be submitted in accordance with condition G4(a) of this permit, to the attention of the Division's Emission Inventory Program.

(F37) 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 unavoidable 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 or electronically through the Division's IMPACT system (https://airimpact.wyo.gov), within 30 days of the deviation or discovery of the deviation.

Prevention of Significant Deterioration (PSD) Applicability Demonstration Requirements

(F38) PROJECT EMISSION LIMITS [WAQSR Ch 6, Sec 2 Waiver wv-5127]

(a) For the FMC Granger II Project, starting in calendar year 2012 and lasting five years, the permittee shall track actual emissions from the sources listed in Table VII to demonstrate that the proposed project, described in permit waiver wv-5127, does not result in a major modification under WAQSR Ch 6, Sec 4.

Table VII: Emission Tracking Units			
Source ID	Source Description	Source ID	Source Description
UIN-07	#1 Product Dryer	UIN-14	#1 Coal-Fired Boiler
UIN-08	#2 Product Dryer	UIN-15	#2 Coal-Fired Boiler
UIN-09	#1 Product Sizing	UIN-16	Ash Handling System
UIN-10	#2 Product Sizing	UIN-24	Fluid Bed Product Dryer
UIN-11	Product Handling	UIN-30	Coal Stockpile Activities
UIN-12	Product Silos	UIN-C01	#3 Gas-Fired Boiler
UIN-13	Product Loadout		

(b) The sum of the actual emissions, on a calendar year basis, from the sources listed in Table VII shall not exceed the following emission levels:

Table VIII: FMC Granger II Project Emission Levels	
Pollutant	Tons Per Year
PM/PM_{10}	184
SO_2	424
NO_x	1,872
CO	3,119
VOC	369
H_2SO_4	32
Fluorides (F)	23
Lead (Pb)	0.66

(F39) PROJECT EMISSIONS MONITORING [WAQSR Ch 6, Sec 2 Waiver wv-5127]

For the FMC Granger II Project, actual emissions from the sources at the facility shall be monitored and determined using the methodologies and testing that is accepted for the Title V emission inventories under WAQSR Ch 6, Sec 3(f)(v).

(a) Actual PM/PM_{10} emissions from point sources shall be determined using tested emission rates using the testing methods in condition F11. Fugitive emissions shall be calculated using Division approved factors and control efficiencies.

(b) SO_2 emissions from the #1 and #2 Coal-Fired Boilers (units UIN-14 and -15) shall be determined using the average annual CEM lb/MMBtu meeting the requirements of WAQSR Ch 5 Sec 2(j) and heat input based on reported fuel usage. SO_2 emissions from the gas-fired boiler (unit UIN-C01) shall be considered to be zero as the sulfur content of pipeline natural gas is considered to be insignificant.

(c) NO_X emissions from the #1 and #2 Coal-Fired Boilers (units UIN-14 and -15) and the gas-fired boiler (unit UIN-C01) shall be determined using the average annual CEM lb/MMBtu meeting the requirements of WAQSR Ch 5 Sec 2(j) and heat input based on reported fuel usage.

(d) CO emissions shall be determined using the testing methods listed in condition F11. Actual emissions shall be determined by using the tested lb/MMBtu and heat input based on reported fuel usage.

(e) Actual VOC emissions shall be determined for non-combustion sources using tested lb VOC/ton ore feed and annual throughput. Actual emissions from combustion sources shall be determined using AP-42 factors based on pounds per ton of coal combusted.

(f) Actual H_2SO_4, Fluoride, and Lead emissions shall be determined by the sulfur (S), fluoride (F), and lead (Pb) content of the coal and the amount of coal combusted.

(g) For each source in Table VII of this permit, the permittee shall include fugitive emissions to the extent quantifiable and emissions associated with startup, shutdowns, and malfunctions.

(F40) PROJECT RECORDKEEPING REQUIREMENTS
[WAQSR Ch 6, Sec 2 Waiver wv-5127; Ch 6 Sec 3(h)(i)(C)(II)]
The permittee shall maintain a record of the calculations and data described in conditions F38 and F39 used to determine the annual emissions in tons per calendar year. The permittee shall retain these records on-site for at least five years from the date they are generated.

(F41) PROJECT REPORTING REQUIREMENTS [WAQSR Ch 6, Sec 2 Waiver wv-5127; Ch 6 Sec 3(h)(i)(C)(III)]

(a) The annual emission inventory required under condition G9 of this permit shall include:

(i) The annual emissions from each source listed in Table VIII, for each pollutant listed in Table VIII, and

(ii) The annual totals for each pollutant listed in Table VIII.

(b) The reports shall reference this condition (F41) and be submitted in accordance with condition G4 and G9.

(F42) PROJECT COMPLETION REQUIREMENTS [WAQSR Ch 6, Sec 2 Permit MD-12487 & Waiver wv-5127]
On January 1, 2017, the requirements of conditions F38, 40 and F41 shall expire. The records required by condition F40 shall be maintained for a period of at least five years from the date such records are generated.

Additional Requirements

(F43) CONSTRUCTION PERMIT REVISIONS [WAQSR Ch 6, Sec 3(H)(I)(C)(I)]
The permittee shall submit an application to the Division's New Source Review Program to obtain a WAQSR Ch 6 Sec 2 permit or waiver to specify the operating hour limitations for the Perlite Storage Silo (unit UIN-22), the Limestone Storage Silo (unit UIN-23), and the Lime Storage Silo-Leach (unit UIN-27). This application shall be submitted no later than 30 days after issuance of this operating permit.

(F44) TEST REPORT REVISIONS [WAQSR Ch 6, Sec 3(H)(I)(C)(I)]
The permittee may submit an application to the Division's New Source Review Program to amend WAQSR Ch 6 Sec 2 permit MD-12487 and waiver wv-15354 to extend the timeline for submitting test reports to 60 days from 45 days. Upon obtaining the appropriate Ch 6, Sec 2 permit action extending the test report submitting time to 60 days, the associated references to 45 day submittals in this permit are superseded.

WAQSR CHAPTER 5, SECTION 2 NEW SOURCE PERFORMANCE STANDARDS (NSPS)

40 CFR 60 SUBPART D REQUIREMENTS FOR FOSSIL-FUEL-FIRED STEAM GENERATORS FOR WHICH CONSTRUCTION IS COMMENCED AFTER AUGUST 17, 1971

SUBPART D REQUIREMENTS [40 CFR 60 - Subparts A and D; WAQSR Ch 5, Sec 2; Ch 6, Sec 2 MD-12487]

The permittee shall meet all applicable requirements of 40 CFR 60 - Subparts A and D; and WAQSR Chapter 5 Section 2 as they apply to each fossil-fuel and wood-residue-fired steam generating unit defined under §60.40, including the #1 and #2 Coal-Fired Boilers (units UIN-14 and -15).

40 CFR 60 SUBPART Db REQUIREMENTS FOR INDUSTRIAL-COMMERCIAL-INSTITUTIONAL STEAM GENERATING UNITS

SUBPART Db REQUIREMENTS [40 CFR 60 - Subparts A and Db; WAQSR Ch 5, Sec 2; Ch 6, Sec 2 MD-12487]

The permittee shall meet all applicable requirements of 40 CFR 60 - Subparts A and Db; and WAQSR Ch 5, Sec 2 as they apply to each steam generating unit as defined under §60.40b, including the #3 Gas-Fired Boiler (unit UIN-C01).

40 CFR 60 SUBPART IIII REQUIREMENTS FOR STATIONARY COMPRESSION IGNITION INTERNAL COMBUSTION ENGINES

SUBPART IIII REQUIREMENTS [40 CFR 60 Subparts A and IIII; WAQSR Ch 5, Sec 2; Ch 6, Sec 2 wv-14968]

As applicable, the permittee shall meet the requirements of 40 CFR 60 Subparts A and IIII and WAQSR Ch 5, Sec 2, as they apply to stationary compression ignition (CI) internal combustion engines. (As required by condition F9(b), if an engine is replaced or reconstructed, subpart applicability will need to reevaluated and a statement regarding applicability submitted to the Division.) For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator. An affected source is defined at §60.4200 and includes the Cummins 1250 DQGAA Emergency Diesel Generator (unit UIN-C05).

On June 27, 2016, the Emergency Fire Pump Engine (unit UIN-19), the Emergency Mine Generator (unit UIN-20), and the Emergency Plant Generator (unit UIN-21) were not subject to Subpart IIII according to information submitted to the Division by the permittee.

The subparts are available from the Division upon request, or in the most recent Code of Federal Regulations at http://www.gpo.gov/fdsys/search/home.action, with updates in the Federal Register available at the same webpage.

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

40 CFR 63 SUBPART DDDDD REQUIREMENTS FOR INDUSTRIAL, COMMERCIAL, AND INSTITUTIONAL BOILERS AND PROCESS HEATERS

SUBPART DDDDD REQUIREMENTS

[40 CFR 63 Subparts A and DDDDD; WAQSR Ch 5, Sec 3; Ch 6, Sec 2 MD-12487]

The permittee shall meet all requirements of 40 CFR 63 Subparts A and DDDDD and WAQSR Ch 5, Sec 3, as they apply to owners or operators of industrial, commercial, or institutional boilers or process heaters as defined in §63.7575 that are located at, or are part of, a major source of HAPs as defined in §63.2, except that for oil and natural gas production facilities, a major source of HAPS is as defined in §63.761 (40 CFR Part 63 Subpart HH). The types of boilers and process heaters listed in §63.7491 are not subject to Subpart DDDDD. This subpart applies to:

(a) The collection of existing industrial, commercial, and institutional boilers and process heaters within a subcategory, including the #1 Coal-Fired Boiler (unit UIN-14), the #2 Coal Fired Boiler (unit UIN-15), the #3 Gas-Fired Boiler (unit UIN-C01), and the Administrative Boiler (unit UIN-46).

40 CFR 63 SUBPART ZZZZ REQUIREMENTS FOR STATIONARY RECIPROCATING INTERNAL COMBUSTION ENGINES

SUBPART ZZZZ REQUIREMENTS [40 CFR 63 Subparts A and ZZZZ; WAQSR Ch 5, Sec 3; Ch 6, Sec 2 wv-14968]

The permittee shall meet all requirements of 40 CFR 63 Subparts A and ZZZZ and WAQSR Ch 5, Sec 3 as they apply to each affected source as indicated in §63.6590(a). An affected source is any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand. (As required by condition F9(b), if an engine is replaced or reconstructed, subpart applicability will need to be re-evaluated and a statement regarding applicability submitted to the Division). This facility is currently identified as an area source of HAP emissions. Affected sources at this facility include the Emergency Fire Pump Engine (unit UIN-19), the Emergency Mine Generator (unit UIN-20), the Emergency Plant Generator (unit UIN-21), and the Cummins 1250 DQGAA Diesel-Fired Emergency Generator Engine (unit UIN-C05).

The subparts are available from the Division upon request, or in the most recent Code of Federal Regulations at http://www.gpo.gov/fdsys/search/home.action, with updates in the Federal Register available at the same webpage.

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

WAQSR Ch 7, Sec 3 is available at http://soswy.state.wy.us/Rules/ or from the Division upon request.

(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 units identified in conditions F18 and F19. 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-5.

(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 testing on the #1 and #2 Coal-Fired Boilers (units UIN-14 and -15) to determine the indicator(s) to be used for assuring compliance with particulate matter emission limitations.

(i) Testing of the #1 and #2 Coal-Fired Boilers (units UIN-14 and -15) shall be performed as expeditiously as practicable after startup of the mine water processing equipment authorized by WAQSR Ch 6, Sec 2 permits MD-12487 and MD-16379, but no later than 90 days after equipment startup or 90 days after issuance of this permit, whichever is later.

(ii) A test protocol shall be submitted to the Division for review and approval prior to testing, and notification of the test date shall be provided at least 15 days prior to the test date.

(iii) Test results shall be submitted to the Division within 45 days after completion of the test.

(iv) The performance testing required in condition F10(c)(iii), (e), and (f) may be used to meet the requirements of (a)(i) through (iii) above.

(v) The permittee shall submit for Division approval the proposed updated CAM plan(s) for the boilers, with the indicator ranges(s) and justification, no later than 60 days after testing. The plan(s) shall include an application to modify or amend this operating permit to incorporate the plan(s).

(vi) The permittee shall begin updated compliance assurance monitoring for the #1 and #2 Coal-Fired Boilers (units UIN-14 and -15) upon development of the updated indicator range(s), as expeditiously as practicable, but no later than 180 days after startup of the mine water processing equipment or 180 days after issuance of this permit, whichever is later.

(b) The permittee shall perform hydrogen sulfide testing on the H_2S Vent Absorber (unit UIN-50) to determine the indicator(s) to be used for assuring compliance with H_2S emission limitations.

(i) Testing of the H_2S Absorber Vent (unit UIN-50) shall be performed as expeditiously as practicable, but no later than 90 days after unit startup or 90 days after issuance of this permit, whichever is later.

(ii) A test protocol shall be submitted to the Division for review and approval prior to testing, and notification of the test date shall be provided at least 15 days prior to the test date.

(iii) Test results shall be submitted to the Division within 45 days after completion of the test.

(iv) The performance testing required in condition F10(a), (e), and (f) may be used to meet the requirements of (b)(i) through (iii) above.

(v) The permittee shall submit for Division approval the proposed CAM plan, with the indicator ranges(s) and justification, no later than 60 days after testing. The plan shall include an application to modify this operating permit to incorporate the plan.

(vi) The permittee shall begin compliance assurance monitoring for the H_2S Absorber Vent (unit UIN-50) upon development of the indicator range(s), as expeditiously as practicable, but no later than 180 days after unit start up or 180 days after issuance of this permit, whichever is later.

(c) The permittee shall perform particulate testing on the scrubber controlled dryers (units UIN-07, -08, and -24) to determine the indicator(s) to be used for assuring compliance with the particulate matter emission limitations in Table V of condition F4(e).

(i) Testing of the scrubber controlled dryers (units UIN-07, -08, and -24) shall be performed as expeditiously as practicable after startup of the mine water processing equipment authorized by WAQSR Ch 6, Sec 2 permits MD-12487 and MD-16379, but no later than 90 days after equipment startup or 90 days after issuance of this permit, whichever is later.

(ii) A test protocol shall be submitted to the Division for review and approval prior to testing, and notification of the test date shall be provided at least 15 days prior to the test date.

(iii) Test results shall be submitted to the Division within 45 days after completion of the test.

(iv) The performance testing required in condition F10(d), (e), and (f) may be used to meet the requirements of (c)(i) through (iii) above.

(v) The permittee shall submit for Division approval the proposed updated CAM plan(s) for the dryers, with the indicator ranges(s) and justification, no later than 60 days after testing. The plan(s) shall include an application to modify or amend this operating permit to incorporate the plan(s).

(vi) The permittee shall begin updated compliance assurance monitoring for the scrubber controlled dryers (units UIN-07, -08, and -24) upon development of the updated indicator range(s), as

expeditiously as practicable, but no later than the date of submission of the proposed updated CAM plan(s).

(d) The permittee shall perform particulate testing on the baghouse controlled equipment listed in Table V of condition F4(e) (units UIN-09, -10, -11, -12, -13, -16, and –C03) to determine the indicator(s) to be used for assuring compliance with the particulate matter emission limitations in Table V.

(i) Testing of the baghouse controlled equipment (units UIN-09, -10, -11, -12, -13, -16, and –C03) shall be performed as expeditiously as practicable after startup of the mine water processing equipment authorized by WAQSR Ch 6, Sec 2 permits MD-12487 and MD-16379, but no later than 90 days after startup of the mine water processing equipment or 90 days after issuance of this permit, whichever is later.

(ii) A test protocol shall be submitted to the Division for review and approval prior to testing, and notification of the test date shall be provided at least 15 days prior to the test date.

(iii) Test results shall be submitted to the Division within 45 days after completion of the test.

(iv) The performance testing required in condition F10(d), (e), and (f) may be used to meet the requirements of (d)(i) through (iii) above.

(v) The permittee shall submit for Division approval the proposed updated CAM plan(s) for the baghouse controlled equipment, with the indicator ranges(s) and justification, no later than 60 days after testing. The plan(s) shall include an application to modify or amend this operating permit to incorporate the plan(s).

(vi) The permittee shall begin updated compliance assurance monitoring for the baghouse controlled equipment (units UIN-09, -10, -11, -12, -13, -16, and –C03) upon development of the updated indicator range(s), as expeditiously as practicable, but no later than the date of submission of the proposed updated CAM plan(s).

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 the sulfur dioxide emissions inventory, the permittee shall assess compliance with condition F1 by reviewing records kept in accordance with condition F24 and verifying reports were submitted in accordance with condition F29.

(ii) For production and operation limits, the permittee shall assess compliance with condition F2 by conducting the monitoring required by condition F20.

(iii) For emissions from the boilers, the permittee shall assess compliance with condition F3 by conducting the testing and monitoring required by conditions F10, F12, F15, F16, F19 and CAM-1 through CAM-5.

(iv) The permittee shall verify that the #1 and #2 coal-fired boilers (units UIN-14 and -15) and the #1 and #2 Product Dryers (units UIN-07 and -08) are each equipped with a scrubber system as required by conditions F3(d) and F4(c).

(v) For visible emissions from other sources, the permittee shall assess compliance with condition F4 of this permit by verifying natural gas was the sole fuel source used for the units specified in condition F16(a), and by conducting the monitoring required by condition F16.

(vi) For particulate emissions, the permittee shall assess compliance with condition F4 by conducting the testing and monitoring required in conditions F10, F13, F18, and CAM-1 through CAM-5.

(vii) For H_2S and CO_2e emissions from the H_2S Absorber Vent, the permittee shall assess compliance with condition F5 by conducting the testing and monitoring required in conditions F10, F14, and F17.

(viii) For VOC emissions from the Mine Vents (unit UIN-45), the permittee shall assess compliance with condition F5 by conducting the testing and monitoring required in condition F14.

(ix) The permittee shall verify that the drift eliminators on the Mine Water Cooling Tower (unit UIN-51) had a drift rate no greater than 0.0005% as specified in condition F5.

(x) For fugitive emissions, the permittee shall assess compliance with condition F6 by conducting the monitoring required by condition F21 and reviewing the records kept in accordance with condition F27.

(xi) For equipment operating hour limits, the permittee shall assess compliance with conditions F7 and F8(b) of this permit by conducting the monitoring required in condition F22.

(xii) The permittee shall verify that the Cummins 1250 DQGAA emergency diesel generator engine (unit UIN-C05) is EPA Tier 2 certified as specified in condition F8.

(xiii) For VOC emissions from the Mine Water Degassing tank (unit SMP-01), the permittee shall assess compliance by performing testing as required in condition F14(a). If emissions exceeded 4 TPY, the permittee shall verify that a BACT analysis to control VOC emissions was submitted within 90 days of the test date.

(xiv) For ambient monitoring, the permittee shall verify that monitoring was conducted as specified in condition F23 and reports are submitted in accordance with condition F35.

(xv) For greenhouse gas reporting, the permittee shall assess compliance with condition F36 by verifying that reports were submitted in accordance with condition F36(a) and (b).

(xvi) For the FMC Granger II Project, the permittee shall assess compliance with condition F38 by conducting the testing and monitoring required by condition F39, and by verifying reports were submitted as required by F40.

(xvii) For any source subject to 40 CFR 60 Subpart D, the permittee shall assess compliance with Subpart D by conducting any applicable testing and monitoring, and by reviewing any records required by §60.45.

(xviii) For any source subject to 40 CFR 60 Subpart Db, the permittee shall assess compliance with Subpart Db by conducting any applicable testing and monitoring, and by reviewing any records required by §60.49(b).

(xix) For any engine subject to 40 CFR 60 Subpart IIII, the permittee shall assess compliance with Subpart IIII by conducting any applicable testing and monitoring required by §§60.4209, 60.4211, 60.4212, and 60.4213, and by reviewing the records required by §§60.4211 and 60.4214.

(xx) The permittee shall assess compliance with 40 CFR Part 63 Subpart DDDDD by conducting any applicable testing and monitoring required by §§63.7505 through 63.7541 and by reviewing any records required by §§63.7555 and 63.7560.

(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 application form, report, or certification submitted shall be certified as being true, accurate, and complete by a responsible official.

(a) Submissions to the Division including reports, certifications, and emission inventories required under this permit shall be submitted either:

(i) Electronically through the Division's IMPACT system (https://airimpact.wyo.gov); or

(ii) As separate, stand-alone documents sent to:

Administrator, Air Quality Division
Department of Environmental Quality
200 West 17th Street
Cheyenne, Wyoming 82002

(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 and be submitted in accordance with condition G4(a) of this permit.

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) No permit revision is required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for 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 firefighting 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 82]

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

(a) *Standards for Appliances* [40 CFR 82, Subpart F]
The permittee shall comply with the standards for recycling and emission reduction pursuant to 40 CFR 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" is 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 82, Subpart B]
If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant in the MVAC, the permittee is subject to all the applicable requirements as specified in 40 CFR 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 average concentration with not more than one exceedance per year	
$PM_{2.5}$ particulate matter	12.0 micrograms per cubic meter	annual arithmetic mean	2 (b) & (c)
	15 micrograms per cubic meter	annual arithmetic mean	
	35 micrograms per cubic meter	98^{th} percentile 24-hr average concentration	
Nitrogen dioxide	53 parts per billion	annual average concentration	3
	100 parts per billion	three-year average of the annual 98^{th} percentile of the daily maximum 1-hr average concentration	
	0.053 parts per million	annual arithmetic mean	
Sulfur dioxide	75 parts per billion	three-year average of the annual (99^{th} percentile) of the daily max 1-hr average	4
	0.5 parts per million	3-hr blocks not to be exceeded more than once per calendar year	
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	
Ozone	0.075 parts per million	three-year average of the annual fourth-highest daily maximum 8-hr average concentration	6
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	
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	
Lead and its compounds	0.15 micrograms per cubic meter	maximum arithmetic 3-month mean concentration for a 3-year period	10

*Exceedances of these standards shall be determined using the procedures in 40 CFR 50.

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.

SUMMARY OF SOURCE EMISSION LIMITS AND REQUIREMENTS

Source ID#: UIN-07, UIN-08, and UIN-24

Source Description: #1 Product Dryer, #2 Product Dryer, Fluid Bed Product Dryer (Venturi Scrubber Controlled)

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20 percent opacity [F4] See Tables IV and V [F4] UIN-07 & -08: Equipped with scrubber system [F4]	WAQSR Ch 3, Sec 2 and WAQSR Ch 6, Sec 2 Permits OP-222 and MD-12487	Performance test [F10] Testing every 5 years [F13]	Weekly visible emission observations [F16] CAM: Daily pressure change and liquor flow rates [F18, CAM-1 to -5]	Record monitoring and test results [F25]	45 days: Test Reports [F31] Semiannual: Monitoring Reports [F32] Report excess emissions and permit deviations [F37]
Production Limits	1.3 MMTPY Soda Ash produced from 2.63 MMTPY Trona Ore, process rate limits [F2]	WAQSR Ch 6, Sec 2 Permit MD-462A	None	Production Monitoring [F20]	Production and Process Rate Records [F26]	Semiannual: Production and Process Rate Reports [F34] Report excess emissions and permit deviations [F37]
Various Pollutants	See Table VIII [F38]	WAQSR Ch 6, Sec 2 Permit AP-5127	Testing if required [F11]	Determine annual emissions [F39]	Record data & calculations [F40]	Report excess emissions and permit deviations [F37] Annual: Emissions report [F41]

Source ID#: UIN-09, UIN-10, UIN-11, UIN-12, UIN-13, and UIN-16

Source Description: #1 Product Sizing, #2 Product Sizing, Product Handling, Product Silos, Product Loadout, and Ash Handling System (Baghouse Controlled)

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20 percent opacity [F4] See Tables IV and V [F4]	WAQSR Ch 3, Sec 2 and WAQSR Ch 6, Sec 2 Permits/ Waivers OP-222 and MD-12487	Performance Test [F10] Testing every 5 years [F13]	CAM: Daily visible emissions observations [F18, CAM-1 to -5]	Record Monitoring results [F25]	45 days: Test Reports [F31] Semiannual: Monitoring Reports [F32] Report excess emissions and permit deviations [F37]
Various Pollutants	See Table VIII [F38]	WAQSR Ch 6, Sec 2 Permit AP-5127	Testing if required [F11]	Determine annual emissions [F39]	Record data & calculations [F40]	Report excess emissions and permit deviations [F37] Annual: Emissions report [F41]

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#: UIN-14 and UIN-15 Source Description: #1 and #2 Coal-fired Boilers (ESP Controlled)

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20 percent opacity [F4] See Tables II and III [F3]	WAQSR Ch 6, Sec 2 Permits OP-222 & MD-12487 & 40 CFR 60 Subpart D	Performance test [F10] Annual testing [F12]	COMS [F16] CAM [F19, CAM-1 to -5]	Record COM [F25] Record CAM results [F25]	45 days: Test Reports [F31] Semiannual: Monitoring reports [F32] Report excess emissions and permit deviations [F37]
NO_X	See Tables II and III [F3]	WAQSR Ch 6, Sec 2 Permits OP-222 & MD-12487 & 40 CFR 60 Subpart D	Testing if required [F11]	CEMS [16]	Record CEM [F25]	Quarterly: CEM reports [F33] Report excess emissions and permit deviations [F34]
SO_2	See Tables II and III [F3]	WAQSR Ch 6, Sec 2 Permits OP-222 & MD-12487 & 40 CFR 60 Subpart D	Testing if required [F11]	CEMS [F16]	Record CEM [F25]	Quarterly: CEM reports [F33] Report excess emissions and permit deviations [F37]
Various Pollutants	See Table VIII [F38]	WAQSR Ch 6, Sec 2 Permit AP-5127	Testing if required [F11]	Determine annual emissions [F39]	Record data & calculations [F40]	Report excess emissions and permit deviations [F37] Annual: Emissions report [F41]
HAPs	WAQSR Ch 5, Sec 3 and 40 CFR 63 Subpart DDDDD					
Additional PM, SO_2, and NO_X	WAQSR Ch 5, Sec 2 and 40 CFR 60 Subparts A & D					

Source ID#: UIN-22, UIN-23, and UIN-27
Source Description: Perlite Storage Silo, Limestone Storage Silo, and Lime Storage Silo-Leach (Baghouse Controlled)

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20 percent opacity [F4] See Table IV [F4] 500 hr annual limit each [F7]	W.S. 35-11-110, WAQSR Ch 3, Sec 2 and Ch 6, Sec 2 Permits OP-222 and MD-12487	Testing if required [F11]	Quarterly Visible Emission observations [F16] Monitor operating hours [F22]	Record the results of any additional testing and the year to date hours of operation [F25]	Annual: Report operating hours [F31] Semiannual: visible emission reports [F32] Report excess emissions and permit deviations [F37]

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#: UIN-19, UIN-20, UIN-21, and UIN-C05 Source Description: Emergency Fire Pump Engine, Emergency Mine Generator, Emergency Plant Generator, and Cummins 1250 DQGAA Emergency Generator Engine

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	30 percent opacity [F4] UIN-C05: 500 hour limit and Tier 2 certified [F8]	WAQSR Ch 3, Sec 2, Waiver wv-14968	Testing if required [F11]	Visible monitoring during availability [F16] UIN-C05: Monitor operating hours [F22]	Record results of visible emission monitoring and any testing. [F25] UIN-C05: Record year to date operating hours and Tier 2 certification [F25]	Annual: Report UIN-C05 operating hours [F31] Semiannual: Visible Emission reports [F32] Report excess emissions and permit deviations [F37]
HAPs	WAQSR Ch 5, Sec 3 and 40 CFR 63 Subparts A & ZZZZ					
Additional NO_X, CO, and VOC	UIN-C05 Only: WAQSR Ch 5, Sec 2 and 40 CFR 60 Subparts A & IIII					

Source ID#: UIN-28 Source Description: Lime Storage Silo-Deca (Baghouse Controlled)

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20 percent opacity [F4]	WAQSR Ch 3, Sec 2	Testing if required [F11]	Quarterly visible emission observations [F16]	Record the results of any additional testing [F25]	Semiannual: visible emission reports [F32] Report excess emissions and permit deviations [F37]

Source ID#: UIN-30 Source Description: Coal Stockpile Activities

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20 percent opacity & control fugitive dust with chemical suppressants and water [F6]	WAQSR Ch 6, Sec 2 Permits OP-222 & MD-12487	None	Monitor dust suppressant activities [F21]	Dust suppressant application records and logs [F27]	Annual: fugitive dust reports [F32] Report excess emissions and permit deviations [F37]
Various Pollutants	See Table VIII [F38]	WAQSR Ch 6, Sec 2 Permit AP-5127	Testing if required [F11]	Determine annual emissions [F39]	Record data & calculations [F40]	Report excess emissions and permit deviations [F37] Annual emissions report [F41]

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#: UIN-45 Source Description: Mine Vents

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20 percent opacity [F4]	WAQSR Ch 6, Sec 2 Permit MD-12487	Testing if required [F11]	Testing if required [F11]	Record results of any additional testing [F25]	Report excess emissions and permit deviations [F37]
VOCs	50.6 TPY [F5]	WAQSR Ch 6, Sec 2 Permit MD-12487	Initial performance testing [F10] Annual testing [F14]	Annual testing and calculations [F14]	Record testing results and calculations. [F25]	45 days: Test results [F31] Semiannual: Calculated annual emissions [F32] Report excess emissions and permit deviations [F37]

Source ID#: UIN-50 Source Description: H_2S Vent Absorber

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20 percent opacity [F4]	WAQSR Ch 6, Sec 2 Permit MD-12487	Testing if required [F11]	None	Record results of any additional testing [F25]	Report excess emissions and permit deviations [F37]
H_2S	3.6 lb/hr, 15.8 TPY [F5]	WAQSR Ch 6, Sec 2 Permit MD-12487	Initial Performance Testing [F10] Annual Testing [F14]	CAM requirements [CAM-1 through 5]	Record results of initial testing and any additional testing [F25]	45 days: Test results [F31] Semiannual: CAM reports [F32] Report excess emissions and permit deviations [F37]
CO_2e	404 tons/day 30-day rolling average; 147,414 TPY 365-day rolling average [F5]	WAQSR Ch 6, Sec 2 Permit MD-16379	None	Daily monitoring of mine water parameters and calculation of emissions [F17]	Record monitoring results and calculations [F25]	Semiannual: Monitoring reports [F32] Report excess emissions and permit deviations [F37]

Source ID#: UIN-51 Source Description: Mine Water Cooling Tower

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20 percent opacity [F4] Drift rate no greater than 0.0005% [F5]	WAQSR Ch 6, Sec 2 Permit MD-12487	Testing if required [F11]	None	Record results of any additional testing [F25]	Report excess emissions and permit deviations [F37]

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#: UIN-52 and -53 Source Description: Filter Aid Silo and Precoat Silo

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	Building has no visible emissions [F6]	WAQSR Ch 3, Sec 2 and Ch 6, Sec 2 Permit MD-12487	Testing if required [F11]	Daily fugitive monitoring [F21]	Record fugitive monitoring results [F25]	Semiannual: Monitoring reports [F32] Report excess emissions and permit deviations [F37]

Source ID#: UIN-C01 Source Description: #3 Gas-fired Boiler

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20 percent opacity [F4]	WAQSR Ch 6, Sec 2 Permits OP-255 & MD-12487 & 40 CFR 60 Subpart Db	Testing if required [F11]	Verification of natural gas firing [F16]	Record any additional test results [F25]	Semiannual: Monitoring reports [F32] Report excess emissions and permit deviations [F37]
NO_X	0.14 lb/MMBtu & 28.0 lb/hr 3-hr rolling average; 985.5 TPY [F3]	WAQSR Ch 6, Sec 2 Permits OP-255 & MD-12487 & 40 CFR 60 Subpart Db	Testing if required [F11]	CEMS [16]	Record CEM [F25]	Quarterly: CEM reports [F33] Report excess emissions and permit deviations [F37]
CO	18.15 lb/hr, 79.5 TPY [F3]	WAQSR Ch 6, Sec 2 Permits OP-255 & MD-12487 & 40 CFR 60 Subpart Db	Annual Testing [F12]	Annual Testing [F12]	Record testing results [F25]	45 days: Test reports [F31] Quarterly: CEM reports [F33] Report excess emissions and permit deviations [F37]
All PSD Pollutants	See Table VIII [F38]	WAQSR Ch 6, Sec 2 Permit AP-5127	Testing if required [F11]	Monitor PSD emissions from the units [F39]	Record monitoring results [F40]	Report excess emissions and permit deviations [F37] Annual: Emissions report [F41]
HAPs	WAQSR Ch 5, Sec 3 and 40 CFR 63 Subpart DDDDD					
Additional PM, SO_2, and NO_X	WAQSR Ch 5, Sec 2 and 40 CFR 60 Subparts A & Db					

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#: UIN-C03 Source Description: Lime Silo / Bin

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20 percent opacity [F4] See Tables IV and V [F4]	WAQSR Ch 3, Sec 2 and WAQSR Ch 6, Sec 2 Permit MD-12487	Performance Test [F10] Testing every 5 years [F13]	CAM: Daily visible emissions observations [F18]	Record daily monitoring results [F25]	45 days: Test reports [F31] Semiannual: Monitoring reports [F32] Report excess emissions and permit deviations [F37]

Source ID#: UIN-C04 Source Description: Lime Slaker (Wet Scrubber Controlled)

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20 percent opacity [F4]	WAQSR Ch 3, Sec 2 and WAQSR Ch 6, Sec 2 Permit MD-12487	Testing if required [F11]	Weekly visible monitoring [F16] Follow manufacturer specifications [F16]	Record monitoring results [F25]	Semiannual: Monitoring reports [F32] Report excess emissions and permit deviations [F37]

.

Source ID#: SMP-01 Source Description: Mine Water Degassing Tank

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
VOC	4 TPY (for BACT analysis) [F14]	WAQSR Ch 6, Sec 2 Waiver wv-15354	Every 12 Months [F14]	Every 12 Months [F14]	Record test results [F25]	90 Days: BACT VOC Control Analysis if applicable [F14] 45 days: Test reports [F31] Report excess emissions and permit deviations [F37]

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#: UIN-46 Source Description: Administrative Boiler

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20 percent opacity [F3]	WAQSR Ch 3, Sec 2	Testing if required [F11]	Weekly Method 9 Observations when in use. [F16]	Record results of visible emission monitoring and any testing. [F25]	Semiannual: Visible Emission reports [F32] Report excess emissions and permit deviations [F37]
NO_X	0.30 lb/MMBtu [F3]	WAQSR Ch 3, Sec 3	Testing if required [F11]	None	Record any additional test results [F25]	45 days: Report any test results [F31] Report excess emissions and permit deviations [F37]
HAPs	WAQSR Ch 5, Sec 3 and 40 CFR 63 Subpart DDDDD					

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

ACFM	Actual cubic feet per minute
AFRC	Air-fuel ratio controls
AQD	Air Quality Division
BACT	Best available control technology (see Definitions)
bbl	Barrel(s)
Btu	British thermal unit
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEM(S)	Continuous Emission Monitoring (System)
CFR	Code of Federal Regulations
CMS	Continuous Monitoring Systems
CO	Carbon monoxide
CO_2e	Carbon dioxide equivalent
COM(S)	Continuous Opacity Monitoring (System)
DEQ	Wyoming Department of Environmental Quality
EPA	United States Environmental Protection Agency (see Definitions)
ESP	Electrostatic Precipitator
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)
lb	Pound(s)
M	Thousand
MACT	Maximum available control technology (see Definitions)
mfr	Manufacturer
mg	Milligram(s)
MM	Million
MVACs	Motor vehicle air conditioners
NAICS	North American Industry Classification System
NMHC(s)	Non-methane hydrocarbon(s)
NO_X	Oxides of nitrogen
NSCR	Non-selective catalytic reduction
O_2	Oxygen
PM	Particulate matter
PM_{10}	Particulate matter less than or equal to a nominal diameter of 10 micrometers
$PM_{2.5}$	Particulate matter less than or equal to a nominal diameter of 2.5 micrometers
ppmv	Parts per million (by volume)
ppmw	Parts per million (by weight)
QIP	Quality Improvement Plan
RICE	Reciprocating internal combustion engine
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_X	Oxides of sulfur
S/W/B	Standing/Working/Breathing
TBD	To be determined
TPD	Ton(s) per day (1 ton = 2000 pounds, unless otherwise specified)
TPH	Ton(s) per hour (1 ton = 2000 pounds, unless otherwise specified)
TPY	Tons per year (1 ton = 2000 pounds, unless otherwise specified)
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)
2SLB	2-stroke lean burn
4SLB	4-stroke lean burn
4SRB	4-stroke rich burn

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 CFR 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 PLANS

COMPLIANCE ASSURANCE MONITORING PLAN
Product Dryer Scrubber

Emissions Unit

Description:	Venturi Scrubber (2)
Identification:	UIN-07, -08
Facility:	FMC Granger Soda Ash Facility

Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	OP-222, 3-1-083
Emission Limit:	3.94 lb/hr PM
Monitoring Requirements:	CAM for PM

Control Technology

Venturi scrubber, adjustable damper

Monitoring Approach

Indicators

Pressure differential, scrubber liquor flow

Rationale

Scrubber differential pressure across the venturi and scrubber liquor flow rate are selected as the two critical parameters to evaluate PM compliance. EPA Method 9 tests were conducted to determine the acceptable minimum values for the two parameters on each source. The frequency of measurements is once per day.

Measurement

Daily dP and liquor flow rate indications will be observed by the operator and recorded.

Analytical Devices Required

dP indicator in inches w.c., flow meter installed in scrubber liquor line displaying gpm

QA/QC Procedures

Calibration and maintenance of the instrumentation will be conducted per manufacturer's specifications.

Indicator Values	UIN-07	UIN-08
Acceptable minimum dP, in. w.c.:	19	16
Acceptable minimum liquor flow rate, gpm:	147	135

Response to Deviation

If either CAM indicator is observed to be under its accepted minimum value the deviation will be noted and corrective action will be taken to the dryer's operation.

COMPLIANCE ASSURANCE MONITORING PLAN
Product Handling Baghouse

Emissions Unit

Description:	Product Handling Baghouse
Identification:	UIN-09, -10, -11, -12
Facility:	FMC Granger Soda Ash Facility

Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	OP-222 Permit
Emission Limit:	2.57 lb/hr PM
Monitoring Requirements:	Visible emissions, daily observation

Control Technology

Controls:	Pulse-jet baghouse operated under negative pressure.
Capture System:	Closed-duct
Bypass:	None
PTE after controls:	11.26 TPY
PTE before controls:	>100 TPY

Monitoring Approach

Indicator

Daily visible emissions (VE) observations.

Rationale

No visible emissions provide reasonable assurance of compliance for the particulate limit. Observed visible emissions indicate abnormal baghouse collection efficiency and a potential exceedance of the limit.

Measurement

VE observations will be made following appropriate criteria for location, background, etc., similar to EPA Method 22 requirements.

Analytical Devices Required

None

QA/QC Procedures

Observers will be properly trained to conduct observations using EPA Method 22 as a guideline.

Indicator Value

A deviation is the presence of visible emissions.

Response to Deviation

Upon noting a visible emission, corrective measures to repair the unit will be taken as soon as practicable.

COMPLIANCE ASSURANCE MONITORING PLAN
UIN-13 Product Loadout Baghouse

Emissions Unit

Description:	Baghouse
Identification:	UIN-13
Facility:	FMC Granger Soda Ash Facility

Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	OP-222
Emission Limit:	20% Opacity, 1.31 lb/hr PM
Monitoring Requirements:	CAM for PM, periodic for visible emissions

Control Technology

Pulse-jet baghouse operated under negative pressure.

Monitoring Approach

Indicator

Daily visible emissions (VE) observations.

Rationale

No visible emissions provide reasonable assurance of compliance for both opacity and particulate limits. Observed visible emissions indicate abnormal baghouse collection efficiency.

Measurement

VE observations will be made following appropriate criteria for location, background, etc., similar to EPA Method 22 requirements. Observation results will be recorded in a logbook with the date, time, weather conditions, presence or absence of a plume, any corrective action taken, and identification of the observer.

Analytical Devices Required

None

QA/QC Procedures

Observers will be properly trained to conduct observations using EPA Method 22 as a guideline.

Indicator Range

Presence of a VE will initiate corrective action directed at the baghouse unit.

Monitoring Report

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

QIP (Quality Improvement Plan) Threshold

The QIP threshold is nine (9) positive VE observations in a six-month period. This level is 5 percent of the total daily readings. If the QIP threshold is exceeded in a semi-annual reporting period, a QIP will be developed and implemented. The threshold of 5% was used as recommended in EPA's CAM Technical Guidance Document.

COMPLIANCE ASSURANCE MONITORING PLAN
UIN-14 No. 1 Coal Boiler ESP
Updated 2013

Emissions Unit

Description:	Coal Boiler
Identification:	UIN-14
Facility:	FMC Granger Soda Ash Facility

Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	OP-222, 3-1-083
Emission Limit:	0.10 lb/MMBTU, 35.85 lb/hr PM
Monitoring Requirements:	CAM for PM

Control Technology

Belco electrostatic precipitator, 4 fields

Monitoring Approach

Indicators

Opacity measurements from installed COMS.

Rationale

Opacity demonstrates a reasonable indication of PM compliance. Operation above the CAM opacity limit indicates deterioration of PM collection efficiency (see detailed attachment).

Measurement

Continuous opacity measurements from the COMS are monitored to ensure an opacity level below the CAM indicator value.

Analytical Devices Required

COMS, data acquisition system.

QA/QC Procedures

COMS follows the required quarterly opacity filter audit.

Indicator Value

A deviation of the indicator value will occur when a rolling 3-hour average opacity exceeds 22.5%. This favorably parallels the required 3-hour test time to conduct an EPA Method 5 compliance test.

Monitoring Report

A report will be submitted semi-annually and will include the number, duration, the cause of the episodes when the CAM indicator value was exceeded, and the corrective actions taken to return the indicator to acceptable levels.

Rationale for Monitoring Approach

Background

FMC Granger operates two spreader stoker coal-fired steam boilers, each of which has a multi-clone cyclone separator followed by a Belco electrostatic precipitator for collection of particulate matter (PM). Each boiler has a full complement of COMS/CEMS instrumentation to monitor stack gas emissions and opacity.

The spreader stoker boiler uses mechanical feeders to distribute coal uniformly over the surface of a moving grate. Introducing the fuel into the furnace and onto the grate results in combustion of coal both on the moving grate as well as in suspension directly above the grate. The amount of fuel burned in suspension depends primarily on fuel size and composition, and airflow velocity. Generally, fuels with finer size distributions, higher volatile matter, and lower moisture contents result in a greater percentage of combustion and corresponding heat release rates in suspension above the bed.

This combustion arrangement produces particulate matter in the form of fly ash and partially burned coal that is entrained in the flue gas. The gas proceeds first through a multi-clone cyclone. The cyclone is capable of collecting up to 70% of the total particulate load. The exhaust then proceeds through the ESP, which captures up to 99.7% of the remaining particulate. The exhaust then passes through an economizer, an ID fan, and an FGD scrubber before exiting the stack.

Operational factors that can affect the amount of PM generated include:

- steam production rate of the boiler
- screen size of the stoker coal
- flue gas velocity
- combustion efficiency

Rationale for Performance Indicator

The CAM plan for the boiler was originally developed using information from EPA Method 5 emission tests conducted from 1992 – 2000 and from corresponding opacities via COMS. Additional emission tests and corresponding opacities from 2001 to-date were added to the data set and the statistics were recalculated.

After thorough review of the available stack test information and from process knowledge of the coal combustion process and of stoker boiler performance in particular, the following conclusion could be drawn: opacity is the most useful real-time parameter to estimate real-time PM emissions. Rigorous statistical analyses verified that opacity is the only parameter that has reasonable correlation with PM. Operating rate, flue gas volume, ESP secondary current, and CO emission levels all influence changes in opacity and PM emission rates, but singularly do not statistically correlate with PM emissions.

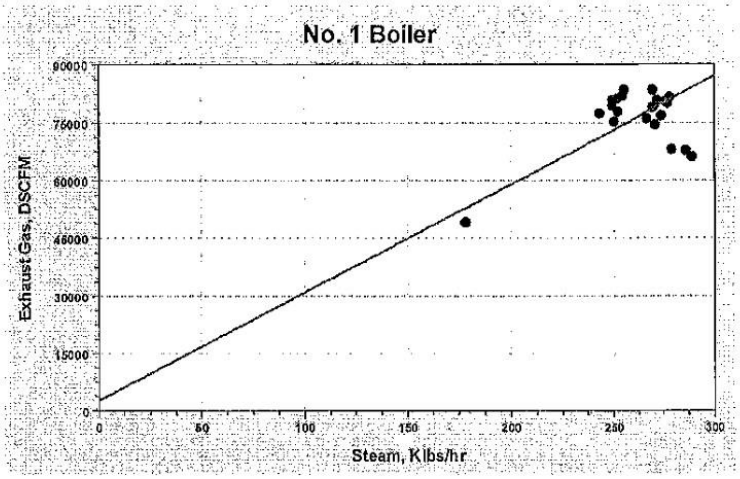
Two regressions were developed in order to obtain the information necessary for correlating opacity and gr/dscf. The first regression predicts exhaust gas flow rate in dry standard cubic feet per minute (DSCFM) based on the steam production rate. A linear regression is used with a data set of n = 22, gathered from stack tests conducted over a wide range of steam rates:

Steam rate vs DSCFM

Linear Fit: y=a+bx

Coefficient Data:

a =	*2792.8*
b =	*281.3*
r =	*0.946*
S =	*7546.3*
Coeff of var =	*9%*



Using the regression, the exhaust gas rate in DSCFM can be estimated for any steam rate. For example, with x = 300 thousand pound per hour (Klb/hr) steam rate (100% capacity):

y = a + bx
y = 2792.8 + 281.3 * 300
y = 87183 DSCFM

The DSCFM number is important, as it allows one to back-calculate the maximum allowable grains per dry standard cubic feet per minute (gr/dscf) emission for a given steam rate (heat input in MMBTU/hr).

At the permitted emission rate of 0.1 lb/MMBTU and with UIN-14 Boiler No. 1 rated at 358.5 MMBTU/hr @ 300 Klb/hr steam production:

0.10 lb/MMBTU * 358.5 MMBTU/hr = 35.85 lb/hr PM mass emission limit

Converting lb/hr into gr/min:

35.85 lb/hr * 7000 gr/lb ÷ 60min/hr = 4182.5 gr/min

Using the estimated flow rate from the regression, the maximum PM emission rate in gr/dscf can be estimated:

4182.5 gr/min ÷ 87183 DSCFM = 0.0480 gr/dscf

To account for inherent error in the flow rate regression, the coefficient of variation of 9% is applied to the emission, resulting in the most conservative estimate:

4182.5 gr/min ÷ (87183 DSCFM*1.09) = **0.0440 gr/DSCF**

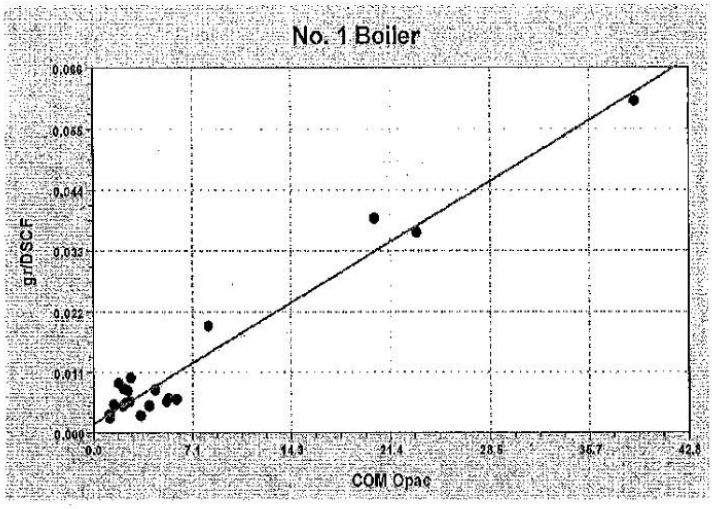
This defines the maximum allowable *mass* emission at the maximum steam rate (35.85 lb/hr). It also defines the maximum emission on a *rate* basis (0.10 lb/MMBTU) throughout the entire boiler operating range.

The second regression predicts actual PM emission based on opacity. A linear regression is used with a data set of n = 21:

Opacity vs gr/DSCF

Linear Fit: y=a+bx
Coefficient Data:

a =	*0.00176*
b =	*0.00154*
r =	*0.978*
S =	*0.0031*
Coeff. of Var.	*22%*



Solving for x (opacity), one can predict the maximum opacity allowable to not exceed the 0.0440 gr/dscf limit:

$x = (y - a) \div b$

$(0.0440 - 0.00176) / 0.00154 = 27.4$

Again to account for inherent error in the emission regression, the coefficient of variation of 22% is applied to the opacity to result in the most conservative estimate:

$27.4 \div 1.22 =$ **22.5% opacity**

CAM Plan Application

Application of this CAM plan is as follows - if a rolling 3-hour average opacity exceeds 22.5% at any boiler operating rate, adjustments to boiler operation are necessary. These adjustments can range from optimizing the fuel/air ratio, adjusting coal feeders, increasing precipitator power, etc. However, because the upper CAM limit of opacity is above the already established 20% opacity limitation, action is imminent even before reaching the CAM trigger.

COMPLIANCE ASSURANCE MONITORING PLAN
UIN-15 No. 2 Coal Boiler ESP
Updated 2013

Emissions Unit

Description:	Coal Boiler
Identification:	UIN-15
Facility:	FMC Granger Soda Ash Facility

Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	OP-222, 3-1-083
Emission Limit:	0.10 lb/MMBTU, 35.85 lb/hr PM
Monitoring Requirements:	CAM for PM

Control Technology

Belco electrostatic precipitator, 4 fields

Monitoring Approach

Indicators

Opacity measurements from installed COMS.

Rationale

Opacity demonstrates a reasonable indication of PM compliance. Operation above the CAM opacity limit indicates deterioration of PM collection efficiency (see detailed attachment).

Measurement

Continuous opacity measurements from the COMS are monitored to ensure an opacity level below the CAM indicator value.

Analytical Devices Required

COMS, data acquisition system.

QA/QC Procedures

COMS follows the required quarterly opacity filter audit.

Indicator Value

A deviation of the indicator value will occur when a rolling 3-hour average opacity exceeds 17.5%. This favorably parallels the required 3-hour test time to conduct an EPA Method 5 compliance test.

Monitoring Report

A report will be submitted semi-annually and will include the number, duration, the cause of the episodes when the CAM indicator value was exceeded, and the corrective actions taken to return the indicator to acceptable levels.

Rationale for Monitoring Approach

Background

FMC Granger operates two spreader stoker coal-fired steam boilers, each of which has a multi-clone cyclone separator followed by a Belco electrostatic precipitator for collection of particulate matter (PM). Each boiler has a full complement of COMS/CEMS instrumentation to monitor stack gas emissions and opacity.

The spreader stoker boiler uses mechanical feeders to distribute coal uniformly over the surface of a moving grate. Introducing the fuel into the furnace and onto the grate results in combustion of coal both on the moving grate as well as in suspension directly above the grate. The amount of fuel burned in suspension depends primarily on fuel size and composition, and airflow velocity. Generally, fuels with finer size distributions, higher volatile matter, and lower moisture contents result in a greater percentage of combustion and corresponding heat release rates in suspension above the bed.

This combustion arrangement produces particulate matter in the form of fly ash and partially burned coal that is entrained in the flue gas. The gas proceeds first through a multi-clone cyclone. The cyclone is capable of collecting up to 70% of the total particulate load. The exhaust then proceeds through the ESP, which captures up to 99.7% of the remaining particulate. The exhaust then passes through an economizer, an ID fan, and an FGD scrubber before exiting the stack.

Operational factors that can affect the amount of PM generated include:

- steam production rate of the boiler
- screen size of the stoker coal
- flue gas velocity
- combustion efficiency

Rationale for Performance Indicator

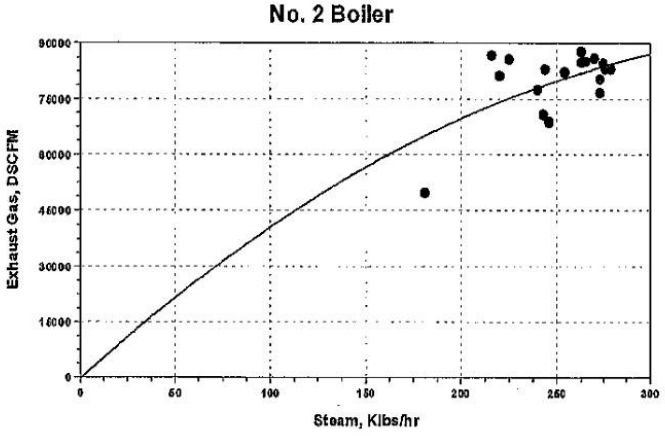
The CAM plan for the boiler was originally developed using information from EPA Method 5 emission tests conducted from 1992 – 2000 and from corresponding opacities via COMS. Additional emission tests and corresponding opacities from 2001 to-date were added to the data set and the statistics were recalculated.

After thorough review of the available stack test information and from process knowledge of the coal combustion process and of stoker boiler performance in particular, the following conclusion could be drawn: opacity is the most useful real-time parameter to estimate real-time PM emissions. Rigorous statistical analyses verified that opacity is the only parameter that has reasonable correlation with PM. Operating rate, flue gas volume, ESP secondary current, and CO emission levels all influence changes in opacity and PM emission rates, but singularly do not statistically correlate with PM emissions.

Two regressions were developed in order to obtain the information necessary for correlating opacity and gr/dscf. The first regression predicts exhaust gas flow rate in dry standard cubic feet per minute (DSCFM) based on the steam production rate. A linear regression is used with a data set of n = 19, gathered from stack tests conducted over a wide range of steam rates:

Steam rate vs DSCFM

Quadratic Fit: y=a+bx+cx^2	
Coefficient Data:	
a =	*-365.909*
b =	*467.999*
c =	*-0.589*
r =	*0.960*
S =	*7472.7*
Coeff. of Var.	*9%*



Using the regression, the exhaust gas rate in DSCFM can be estimated for any steam rate. For example, with x = 300 thousand pound per hour (Klb/hr) steam rate (100% capacity):

y = a + bx + cx^2
y = -365.909 + 467.999 * 300 + -0.589 * 300^2
y = 87048 DSCFM

The DSCFM number is important, as it allows one to back-calculate the maximum allowable grains per dry standard cubic feet per minute (gr/dscf) emission for a given steam rate (heat input in MMBTU/hr).

At the permitted emission rate of 0.10 lb/MMBTU and with UIN-15 Boiler No. 2 rated at 358.5 MMBTU/hr @ 300 Klb/hr steam production:

0.10 lb/MMBTU * 358.5 MMBTU/hr = 35.85 lb/hr PM mass emission limit

Converting lb/hr into gr/min:

35.85 lb/hr * 7000 gr/lb ÷ 60min/hr = 4182.5 gr/min

Using the estimated flow rate from the regression, the maximum PM emission rate in gr/dscf can be estimated:

4182.5 gr/min ÷ 87048 DSCFM = 0.0480 gr/dscf

To account for inherent error in the flow rate regression, the coefficient of variation of 15% is applied to the emission, resulting in the most conservative estimate:

4182.5 gr/min ÷ (87048 DSCFM*1.09) = **0.0441 gr/DSCF**

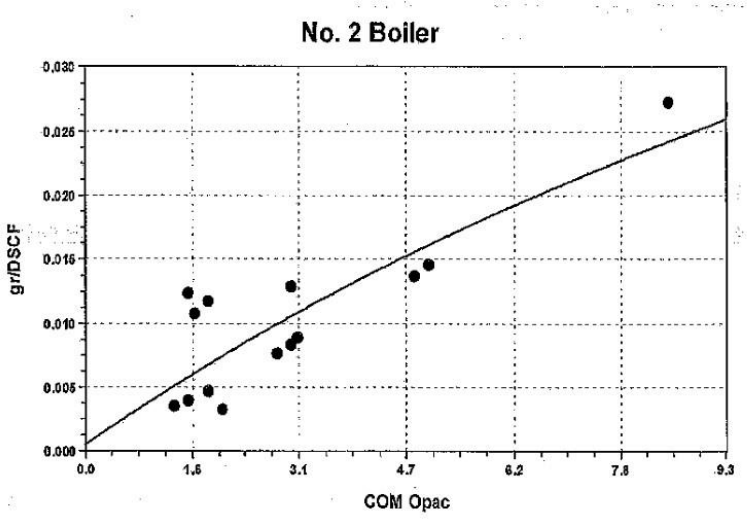
This defines the maximum allowable *mass* emission at the maximum steam rate (35.85 lb/hr). It also defines the maximum emission on a *rate* basis (0.10 lb/MMBTU) throughout the entire boiler operating range.

The second regression predicts actual PM emission based on opacity. A linear regression is used with a data set of n = 15:

Opacity vs gr/DSCF

Exponential Association:
y=a(b-exp(-cx))
Coefficient Data:

a =	*0.0536*
b =	*1.0110*
c =	*0.0690*
r =	*0.871*
S =	*0.0033*
Coeff. of Var.	*38%*



Solving for x (opacity), one can predict the maximum opacity allowable to not exceed the 0.0440 gr/dscf limit:

$x = -1/c * \ln(b-y/a)$

$24.2 = (-1/.0690) * \ln(1.0110-0.0441/0.0536)$

Again to account for inherent error in the emission regression, the coefficient of variation of 38% is applied to the opacity to result in the most conservative estimate:

$24.2 \div 1.38 =$ **17.5% opacity**

CAM Plan Application

Application of this CAM plan is as follows - if a rolling 3-hour average opacity exceeds 17.5% at any boiler operating rate, adjustments to boiler operation are necessary. These adjustments can range from optimizing the fuel/air ratio, adjusting coal feeders, increasing precipitator power, etc.

COMPLIANCE ASSURANCE MONITORING PLAN
UIN-16 Ash Handling System

Emissions Unit

Description:	Ash Handling System Baghouse
Identification:	UIN-16
Facility:	FMC Granger Soda Ash Facility

Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	OP-222 Permit
Emission Limit:	0.43 lb/hr PM
Monitoring Requirements:	Visible emissions, daily observation

Control Technology

Controls:	Pulse-jet baghouse operated under negative pressure.
Capture System:	Closed-duct
Bypass:	None
PTE after controls:	1.88 TPY
PTE before controls:	>100 TPY

Monitoring Approach

Indicator

Daily visible emissions (VE) observations.

Rationale

No visible emissions provide reasonable assurance of compliance for the particulate limit. Observed visible emissions indicate abnormal baghouse collection efficiency and a potential exceedance of the limit.

Measurement

VE observations will be made following appropriate criteria for location, background, etc., similar to EPA Method 22 requirements.

Analytical Devices Required

None

QA/QC Procedures

Observers will be properly trained to conduct observations using EPA Method 22 as a guideline.

Indicator Value

A deviation is the presence of visible emissions.

Response to Deviation

Upon noting a visible emission, corrective measures to repair the unit will be taken as soon as practicable.

COMPLIANCE ASSURANCE MONITORING PLAN
UIN-18 Mine Skip Unloading

Emissions Unit

Description:	Trona Transfer Conveyor Baghouse
Identification:	UIN-18
Facility:	FMC Granger Soda Ash Facility

Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	OP-222 Permit
Emission Limit:	1.33 lb/hr PM
Monitoring Requirements:	Visible emissions, daily observation

Control Technology

Controls:	Pulse-jet baghouse operated under negative pressure.
Capture System:	Closed-duct
Bypass:	None
PTE after controls:	5.83 TPY
PTE before controls:	>100 TPY

Monitoring Approach

Indicator

Daily visible emissions (VE) observations.

Rationale

No visible emissions provide reasonable assurance of compliance for the particulate limit. Observed visible emissions indicate abnormal baghouse collection efficiency and a potential exceedance of the limit.

Measurement

VE observations will be made following appropriate criteria for location, background, etc., similar to EPA Method 22 requirements.

Analytical Devices Required

None

QA/QC Procedures

Observers will be properly trained to conduct observations using EPA Method 22 as a guideline.

Indicator Value

A deviation is the presence of visible emissions.

Response to Deviation

Upon noting a visible emission, corrective measures to repair the unit will be taken as soon as practicable.

Implementation Plan

Observations will be initiated no more than 90 days from the startup of the mine skip.

COMPLIANCE ASSURANCE MONITORING PLAN
UIN-24 Fluid Bed Product Dryer

Emissions Unit

Description:	Fluid Bed Product Dryer
Identification:	UIN-24
Facility:	FMC Granger Soda Ash Facility

Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	OP-222, 3-1-083
Emission Limit:	1.00 lb/hr PM
Monitoring Requirements:	CAM for PM

Control Technology

Venturi scrubber, adjustable damper

Monitoring Approach

Indicators

Pressure differential, scrubber liquor flow

Rationale

The combination of scrubber pressure differential and liquor flow rate demonstrates a reasonable indication of PM compliance. EPA Method 5/202 tests were conducted to determine the acceptable minimum values for the two parameters and the test data was submitted to the Division. The frequency of measurements is once per day.

Measurement

Daily dP and liquor flow rate indications will be observed by the operator and recorded.

Analytical Devices Required

dP indicator in inches w.c., flow meter installed in scrubber liquor line displaying gpm

QA/QC Procedures

Calibration and maintenance of the instrumentation will be conducted per manufacturer's specifications.

Indicator Values

Acceptable minimum dP range: 18 inches w.c.

Acceptable minimum liquor flow rate: 43 gpm

Response to Deviation

If either CAM indicator is observed to be under its accepted minimum value the deviation will be noted and corrective action will be taken to the dryer's operation.

COMPLIANCE ASSURANCE MONITORING PLAN
UIN-C03 Lime Silo/Bin

Emissions Unit

Description:	Lime Silo/Bin Baghouse
Identification:	UIN-C03
Facility:	FMC Granger Caustic Facility

Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	OP-255, 31-084 Permits
Emission Limit:	0.67 lb/hr PM
Monitoring Requirements:	Visible emissions, daily observation

Control Technology

Controls:	Pulse-jet baghouse operated under negative pressure.
Capture System:	Closed-duct
Bypass:	None
PTE after controls:	2.93 TPY
PTE before controls:	>100 TPY

Monitoring Approach

Indicator

Daily visible emissions (VE) observations.

Rationale

No visible emissions provide reasonable assurance of compliance for both the opacity and particulate limits. Observed visible emissions indicate abnormal baghouse collection efficiency and a potential exceedance of one or both limits.

Measurement

VE observations will be made following appropriate criteria for location, background, etc., similar to EPA Method 22 requirements.

Analytical Devices Required

None

QA/QC Procedures

Observers will be properly trained to conduct observations using EPA Method 22 as a guideline.

Indicator Range

An excursion is defined as the presence of visible emissions.

Response to Excursion

Upon noting a visible emission, corrective measures to repair the unit will be taken as soon as practicable.