# AIR QUALITY DIVISION
## CHAPTER 6, SECTION 3
# OPERATING PERMIT

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

**PERMIT NO. 3-1-126**

Issue Date: **January 17, 2013**
Expiration Date: **January 17, 2018**
Effective Date: **January 17, 2013**
Replaces Permit No.: **3-0-126-2**

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

**Solvay Soda Ash Joint Venture**
**Green River Soda Ash Plant**
**Section 31, Township 18 North, Range 109 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.

Steven A. Dietrich

Steven A. Dietrich, Administrator
Air Quality Division

1-17-13
Date

Todd Parfitt

Todd Parfitt, Director
Department of Environmental Quality

1/22/13
Date

# WAQSR CHAPTER 6, SECTION 3 OPERATING PERMIT

## WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY
### AIR QUALITY DIVISION

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## GENERAL INFORMATION

Company Name: **Solvay Soda Ash Joint Venture**

Mailing Address: **P.O. Box 1167**

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

Plant Name: **Green River Soda Ash Plant**

Plant Location: **Section 31, Township 18 North, Range 109 West, Sweetwater County, WY (approximately 20 miles west of Green River at 400 County Road 85)**

Plant Mailing Address: **P.O. Box 1167**

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

Name of Owner: **Solvay Soda Ash Joint Venture** Phone: **(307) 875-6500**

Responsible Official: **Todd Brichacek** Phone: **(307) 875-6500**

Plant Manager/Contact: **Todd Brichacek** Phone: **(307) 875-6500**

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

SIC Code: **1474**

Description of Process: **Mining and processing of trona ore to produce a variety of sodium products. In addition to basic ore products Solvay also produces caustic soda, sodium sulfite, and sodium metabisulfite.**

## 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/WAIVERS |
|---|---|---|---|
| 2A | Ore Crusher Building #1 (Baghouse) | 35,000 ACFM | CT-1347 |
| 6A | Product Silos – Top #1 (Baghouse) | 14,850 ACFM | CT-1347 |
| 6B | Product Silos – Bottom #1 (Baghouse) | 14,000 ACFM | CT-1347 |
| 7 | Product Loadout Station (Baghouse) | 18,400 ACFM | CT-1347 |
| 10 | Coal Crushing & Storage (Baghouse) | 3300 ACFM | MD-995 |
| 11 | Coal Transfer Station (Baghouse) | 3200 ACFM | MD-995 |
| 14 | Boiler Coal Bunker (Baghouse) | 5400 ACFM | MD-995 |
| 15 | DR-1 & 2 Steam Tube Dryers (Scrubber) | 170 TPH | MD-498, MD-7431A2, 5/28/98 Waiver |
| 16 | Dryer Area (Baghouse) | 34,100 ACFM | CT-1347 |
| 17 | "A" & "B" Calciners (ESP on each calciner) | 320 TPH | OP-154, MD-995 and MD-7431A2 |
| 18 | #1 Coal Fired Boiler (ESP) | 350 MMBtu/hr | OP-154, CT-1347 |
| 19 | #2 Coal Fired Boiler (ESP) | 350 MMBtu/hr | OP-154, CT-1347 |
| 24 | Boiler Ash Silo (Baghouse) | 1915 ACFM | CT-1347 |
| 25 | Alkaten Crushing (Baghouse) | 12,850 ACFM | MD-1078 |
| 26 | Trona Products Dryer (Baghouse) | 15,600 ACFM | AP-GS1 |
| 27 | Trona Products Bagging & Loadout (Baghouse) | 7200 ACFM | AP-GS1 |
| 30 | Lime Bin #1 (Baghouse) | 800 ACFM | CT-1347 |
| 31 | Lime Bin #2 (Baghouse) | 800 ACFM | CT-1347 |
| 33 | Sulfur Burner (Scrubber) | 1.5 MMBtu/hr | AP-1916 |
| 35 | Sulfite Dryer (Scrubber) | 11,993 ACFM | CT-1347, AP-10381 |
| 36 | Sulfite Product Bin #1 (Bin Vent) | 10 TPH | CT-1347 |
| 37 | Sulfite Product Bin #2 (Bin Vent) | 10 TPH | CT-1347 |
| 38 | Sulfite Product Bin #3 (Bin Vent) | 10 TPH | CT-1347 |
| 43 | Sulfur Storage Tank | 73,000 gal | OP-257 |
| 44 | Lime Unloading (Baghouse) | 2630 ACFM | CT-1347 |
| 46 | Ore Tranosfer Station #2 (Baghouse) | 11,500 ACFM | CT-1347 |
| 48 | "C" Calciner (ESP) | 200 TPH | OP-258, MD-282, CT-1347, MD-7431A2 |
| 50 | "C" Train Dryer Area (Baghouse) | 26,000 ACFM | CT-1347 |
| 51 | Product Dryer #5 (ESP) | 155 TPH | OP-258, CT-1347, MD-498 |
| 52 | Product Silo – Top #2 (Baghouse) | 5300 ACFM | CT-1347 |
| 53 | Product Silo – Bottom #2 (Baghouse) | 11,200 ACFM | CT-1347 |
| 54 | T-200 Storage Bin (Bin Vent) | 1300 ACFM | 2/14/92 Waiver, CT-1347 |
| 62 | Carbon Bin (Bin Vent) | 1300 ACFM | AP-B10 |
| 63 | Perlite Bin (Bin Vent) | 1380 ACFM | AP-B10 |

| SOURCE ID# | SOURCE DESCRIPTION | SIZE | CH. 6, SEC. 2 PERMITS/WAIVERS |
|---|---|---|---|
| 64 | Sulfite Blending #2 (Baghouse) | 1130 ACFM | CT-1347 |
| 65 | Sulfite Blending #1 (Baghouse) | 1000 ACFM | AP-B10 |
| 66 | Carbon/Perlite (Scrubber) | 4200 ACFM | CT-1347 |
| 67 | Bottom Ash (Baghouse) | 3450 ACFM | CT-1347 |
| 68 | Trona Products Bagging Silo (Baghouse) | 5277 ACFM | CT-1347 |
| 70 | Sodium Sulfite Bagging Silo (Baghouse) | 4021 ACFM | CT-1347 |
| 71 | Metabisulfite Bagging Silo (Baghouse) | 4021 ACFM | CT-1347 |
| 72 | MBS Soda Ash Feed Silo (Baghouse) | 1500 ACFM | CT-1347 |
| 73 | Metabisulfite Dryer (Scrubber) | 2.5 MMBtu/hr | CT-1347, 5/28/98 Waiver |
| 76 | "D" Train Primary Ore Screening (Baghouse) | 36,000 ACFM | CT-1347 |
| 79 | Ore Transfer Point (Baghouse) | 12,250 ACFM | CT-1347 |
| 80 | "D" Ore Calciner (ESP) | 325 TPH | CT-1347, MD-1096, MD-7431A2, 7/28/03 Division letter |
| 81 | "D" Train Dryer Area (Baghouse) | 10,000 ACFM | CT-1347 |
| 82 | DR-6 Product Dryer (ESP) | 161 TPH | CT-1347, MD-498, 7/28/03 Division letter |
| 88 | Trona Products Transloading #2 (Baghouse) | 3000 ACFM | AP-8430 and wv-10115 |
| 88B | Trona Products Transloading (Baghouse) | 3000 ACFM | AP-8430 |
| 89 | Bisulfite Loadout Facility (Scrubber) | 310 ACFM | AP-K69 and AP-5172 |
| 90 | Blending Bag Dump #1 (Baghouse) | 750 ACFM | AP-B10 |
| 91 | Blending Bag Dump #2 (Baghouse) | 750 ACFM | AP-B10 |
| 92 | Trona Product Bin #2 (Bin Vent) | 4500 ACFM | AP-RGO |
| 93 | Trona Products Rail Loadout (Baghouse) | 2500 ACFM | AP-RGO |
| 94 | Sulfite Loadout (Baghouse) | 4500 ACFM | AP-RGO |
| 95 | Trona Products Loadout Bin (Bin Vent) | 100 TPH | AP-RGO |
| 96 | T-200 TPX Bin (Baghouse) | 10 TPH | AP-Y92 |
| 97 | Soda Ash TPX (Baghouse) | 2.5 TPH | AP-Y92 |
| 98 | TPX Area (Baghouse) | 6.25 TPH | wv-10115 |
| 99 | Crusher Baghouse #2 | 1000 TPH | AP-4H2 |
| 100 | Calciner Coal Bunker (Baghouse) | 200 TPH | MD-995 |
| 101 | Trona Products Dryer DR-7 (Baghouse) | 30 TPH | MD-1078 |
| 102 | Trona Products Loadout and Silo (Baghouse) | 50 TPH | MD-1078 |
| 103 | East Ore Reclaim (Baghouse) | 845 TPH | AP-3658 |
| 104 | West Ore Reclaim (Baghouse) | 845 TPH | AP-3658 |
| 105 | Dryer (Baghouse) | 14 TPH | MD-7431A2 |
| 106 | Silo and Rail Loadout (Baghouse) | 14 TPH | MD-7431A2 |
| 107 | Dryer (Baghouse) | 14 TPH | MD-7431A2 |
| 108 | Silo and Rail Loadout (Baghouse) | 14 TPH | MD-7431A2 |
| E3 | Waukesha F18GSI Engine (natural gas)[a] | 341 hp | MD-11024 |

| SOURCE ID# | SOURCE DESCRIPTION | SIZE | CH. 6, SEC. 2 PERMITS/WAIVERS |
|---|---|---|---|
| E4 | Gob Vent GM 8.2L Engine (natural gas)[a] | 212 hp | MD-10561 |
| E5 | Gob Vent GM 4.3L Engine (natural gas)[a] | 125 hp | MD-10561 |
| E6 | Katolight SENL (natural gas) | 123 hp | wv-13880 |
| PU-76 | Emergency Fire Pump Engine (diesel) | 258 hp | None |
| EG-1 | Steam Plant Generator Engine #1 (diesel) | 1475 hp | None |
| EG-2 | Steam Plant Generator Engine #2 (diesel) | 1475 hp | None |
| EG-301 | Generator Engine –C/S Plant (diesel) | 100 hp | None |
| EG-3 | Caterpillar 3456 (diesel) | 691 hp | MD-11835 |
| EG-4a | Volvo TAD1353GE (diesel) | 611 hp | MD-11835 |
| EG-4b | Volvo TAD1353GE (diesel) | 611 hp | MD-11835 |
| EG-4c | Volvo TAD1353GE (diesel) | 611 hp | MD-11835 |
| PB | Emergency Pony Boiler(diesel) | 27 MMBtu/hr | None |
| MV | Mine Vent | N/A | None |
| Dehy1 | TEG Dehydration Unit | 2.2MMscf | wv-11853 |
| None | Reboiler Heater | 0.375 MMBtu/hr | AP-13520 |
| GVB | GOB Vent Borehole and Flare | | MD-11024 |
| DECA | Decahydrate Stockpile/Melt Tank/Dissolver Basin/ Stamler System[b] | | AP-7574, MD-13439, wv-10696 |

[a] Engine is 4-stroke rich burn controlled with air-fuel ratio controls (AFRC) and non-selective catalytic reduction (NSCR) catalysts

[b] Upon completion of the requirements under permit MD-13439 the DECA dissolver basin will replace the DECA melt tank.

## 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 | 486 |
| $PM_{10}$ Particulate Matter | 486 |
| Sulfur Dioxide ($SO_2$) | 619 |
| Nitrogen Oxides ($NO_X$) | 3031 |
| Carbon Monoxide (CO) | 14,825 |
| Volatile Organic Compounds (VOCs) | 6827 |
| HAZARDOUS AIR POLLUTANT (HAP) EMISSIONS | 466 |

Emission estimates are from the operating permit application.

## FACILITY-SPECIFIC PERMIT CONDITIONS

Facility-Wide Permit Conditions

(F1) FACILITY PRODUCTION REQUIREMENTS [WAQSR Ch 6, Sec 2 Permits CT-1347 and MD-7431A2]

(a) Maximum soda ash production shall not exceed 3.60 MMTPY from no more than 6.78 MMTPY of trona ore throughput.

(b) The sodium carbonate feed rate for the SAS 300 production line shall not exceed 307,000 TPY.

(F2) 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.

(F3) COMMENCEMENT OF CONSTRUCTION [WAQSR Ch 6, Sec 2 Permit MD-7431A2]

Approval to construct or modify plant operations and equipment authorized under permit MD-7431 and subsequent amendments MD-7431A and MD-7431A2 shall become invalid if construction is discontinued for a period of 24 months or more. The Division may extend the period based on satisfactory justification of the requested extension.

Source-Specific Permit Conditions

(F4) VISIBLE EMISSIONS

[WAQSR Ch 3, Sec 2; Ch 3, Sec 6(b); Ch 6, Sec 2 Permits/Waivers OP-258, CT-1347, AP-Y92, AP-4H2, MD-995, AP-8430, wv-10115, wv-10696, MD-11024, MD-7431A2; Division 2/14/92 and 7/28/03 letters]

(a) (i) Visible emissions from sources 54, 76, 79, 81, 88, 88b, 96, 97, 98, 99, 105, 106, 107, and 108, shall not exceed 7% opacity.

(ii) Sources subject to 40 CFR 60, Subpart OOO, including the sources listed in Table IV of this permit, shall meet the applicable opacity requirements in Subpart OOO.

(iii) On the date of permit issuance, compliance with the requirement in section (i) above is considered compliance with the opacity limits in Subpart OOO. The sources listed in (i) are subject to Subpart OOO except 105 and 107.

(b) (i) Visible emissions from the calciner coal bunker (unit 100) shall not exhibit 20% opacity or greater.

(ii) Sources subject to 40 CFR 60, Subpart Y, including the coal crushing and storage, coal transfer station, boiler coal bunker and calciner coal bunker (units 10, 11, 14 and 100), shall meet the applicable opacity requirements in Subpart Y.

(iii) On the date of permit issuance, compliance with the requirement in section (i) above is considered compliance with the opacity limits in Subpart OOO for unit 100.

(c) Sources subject to 40 CFR 60, Subpart D, including the #1 and #2 coal fired boilers (units 18 and 19), shall meet the applicable opacity requirements in Subpart D.

(d) Visible emissions from the "C" calciner (unit 48) and product dryer #5 (unit 51) shall not exceed 20% opacity on a six minute average.

(e) Visible emissions from the "D" ore calciner (unit 80) shall not exceed 15% opacity.

(f) Visible emissions from the DR-6 product dryer (unit 82) shall not exceed 10% opacity.

(g) Visible emissions from the emergency diesel fired fire pump, steam plant generator, and emergency generator engines, (units PU-76, EG-1, EG-2, EG-301, EG-3, EG-4a, EG-4b and EG-4c), shall not exceed 30% opacity except for periods not exceeding ten consecutive seconds. This limitation shall not apply during a reasonable period of warm-up following a cold start or where undergoing repairs and adjustment following a malfunction.

(h) The DECA melt tank/DECA dissolver basin/Stamler system (unit DECA) shall be maintained and operated with wind walls, dust shield, and a spray system such that no visible emissions are exhibited as determined by Method 22 of Appendix A, 40 CFR Part 60.

(i) The gob vent borehole flare shall be operated and maintained to be smokeless with no visible emissions except for periods not to exceed a total of five minutes during any two consecutive hours as determined by 40 CFR 60, Appendix A, Method 22. The flare must be equipped and operated with an automatic igniter or a continuous burning pilot which must be maintained in good working order

(j) Visible emissions of any contaminant discharged into the atmosphere from any other emission source, including the steam tube dryers (unit 15), "A" & "B" calciners (unit 17), boiler fly ash silo (unit 24) trona products dryer (unit 26), sulfur burner (unit 33), sulfite dryer (unit 35), carbon bin (unit 62), carbon/perlite scrubber (unit 66), bottom ash baghouse (unit 67), metabisulfite dryer (unit 73), bisulfite loadout facility (unit 89), engines E3, E4, E5 and E6, emergency pony boiler (unit PB), and the dehydration unit (unit Dehy1), shall not exhibit greater than 20% opacity except for one period or periods aggregating not more than six minutes in any one hour of not more than 40% opacity.

(F5) PROCESS EMISSIONS AND OPERATION LIMITS [WAQSR Ch 3, Sec 2; Ch 3, Sec 3; Ch 6, Sec 2 Permits/Waivers 2/14/92, 5/28/98, OP-154, OP-257, CT-1347, AP-K69, AP-B10, AP-RG0, AP-GS1, AP-Y92, AP-4H2, MD-995, AP-1916, MD-1078, AP-3658, AP-5172, AP-8430, wv-10115, AP-10381, MD-7431A2] Emissions shall not exceed the limits specified in Table I. In addition, the following emission and operating limits shall apply:

(a) $NO_X$ emissions from the stack for the "A" & "B" calciners (unit 17) shall not exceed the following:
  (i) 0.29 lb/MMBtu (30-day rolling average);
  (ii) 116.0 lb/hr (30-day rolling average); and
  (iii) 508.1 tons per year.

(b) Additional particulate, $SO_2$, and $NO_X$ requirements for the #1 and #2 coal fired boilers (units 18 and 19) may apply under 40 CFR 60 Subpart D.

(c) $H_2S$ emissions from the sulfur storage tank (unit 43) shall not exceed 10 lb/hr during tank loading.

(d) The lime unloading operation (unit 44) shall not exceed 4380 hours of operation per calendar year.

(e) The bisulfite loadout $SO_2$ scrubber (unit 89) shall not exceed 2500 hours of operation per calendar year.
  (i) The permittee shall operate and maintain an hours meter, or an equivalent device, to monitor the hours of operation.

(f) Emissions from the trona products dryer (unit 101) shall also not exceed the following:
  (i) 0.1 lb/MMBtu and 2.4 tons per year of $NO_X$; and
  (ii) 0.04 lb/MMBtu and 0.9 tons per year of CO.

(g) Emissions from the emergency Pony boiler (unit PB) shall not exceed the following:
  (i) 0.10 lb/MMBtu particulate based on a maximum 2-hour average; and
  (ii) 0.30 lb/MMBtu of $NO_X$.

(h) The storage silo for the bulk truck loadout shall be limited to the storage and loadout of sodium bicarbonate and shall be controlled by the baghouse for the TPX area (unit 98).

(i) The actual steam usage in the sulfite dryer (unit 35) shall not exceed 153,700,000 pounds on a calendar year basis.

(j) $NO_X$ emissions from the dehydration reboiler (unit Dehy1) shall not exceed 0.20 lb/MMBtu heat input.

TABLE I: EMISSION LIMITS

| SOURCE ID# | SOURCE DESCRIPTION | $PM_{10}$ | | | $SO_2$ | $NO_X$ | CO |
|---|---|---|---|---|---|---|---|
| | | gr/dscf | lb/hr | TPY | lb/hr | lb/hr | lb/hr |
| 2A | Ore Crusher Building #1 | (d) | 1.60 | | | | |
| 6A | Product Silos - Top #1 | (d) | 0.30 | | | | |
| 6B | Product Silos - Bottom #1 | (d) | 0.51 | | | | |
| 7 | Product Loadout Station | (d) | 1.20 | | | | |
| 10 | Coal Crushing & Storage | 0.01 | 0.3 | 1.1 | | | |
| 11 | Coal Transfer Station | 0.01 | 0.2 | 0.9 | | | |
| 14 | Boiler Coal Bunker | 0.01 | 0.4 | 1.6 | | | |
| 15 | DR-1 & 2 Steam Tube Dryers | | 3.0 | | | 1.8 (b) | |
| 16 | Dryer Area Baghouse | (d) | 0.90 | | | | |
| 17 | "A" & "B" Calciners | | 30.0 | | | see F5(a) | |
| 18 | #1 Coal Fired Boiler | | 5.00 | | 70.00 | 245.00 | 17.5 (a) |
| 19 | #2 Coal Fired Boiler | | 5.00 | | 70.00 | 245.00 | 17.5 (a) |
| 24 | Boiler Fly Ash Silo | | 0.30 | | | | |

| TABLE 1: EMISSION LIMITS | | | | | | | |
|---|---|---|---|---|---|---|---|
| SOURCE ID# | SOURCE DESCRIPTION | $PM_{10}$ | | | $SO_2$ | $NO_X$ | CO |
| | | gr/dscf | lb/hr | TPY | lb/hr | lb/hr | lb/hr |
| 25 | Alkaten Crushing | 0.012 | 1.0 | 4.4 | | | |
| 26 | Trona Products Dryer | | 0.55 | | | 0.25 | |
| 27 | Trona Products Bagging and Loadout | (d) | 0.50 | | | | |
| 30 | Lime Bin #1 | (d) | 0.20 | | | | |
| 31 | Lime Bin #2 | (d) | 0.20 | | | | |
| 33 | Sulfur Burner | | | | 0.4 | 0.3 | |
| 35 | Sulfite Dryer | | 1.40 | | | | |
| 36 | Sulfite Product Bin #1 | (d) | 0.10 | | | | |
| 37 | Sulfite Product Bin #2 | (d) | 0.10 | | | | |
| 38 | Sulfite Product Bin #3 | (d) | 0.10 | | | | |
| 44 | Lime Unloading | (d) | 0.18 | | | | |
| 46 | Ore Transfer Station #2 | (d) | 0.71 | | | | |
| 48 | "C" Calciner | | 8.0 | | | 15.00 | |
| 50 | "C" Train Dryer Area | (d) | 0.70 | | | | |
| 51 | Product Dryer #5 | | 2.40 | | | 18.00 | |
| 52 | Product Silo - Top #2 | (d) | 0.50 | | | | |
| 53 | Product Silo-Bottom #2 | (d) | 0.45 | | | | |
| 54 | T-200 Storage Baghouse | 0.022 | 0.19 | | | | |
| 62 | Carbon Bin | | 0.13 | 0.58 | | | |
| 63 | Perlite Bin | (d) | 0.14 | 0.61 | | | |
| 64 | Sulfite Blending #2 | (d) | 0.08 | | | | |
| 65 | Sulfite Blending #1 | (d) | 0.07 | 0.31 | | | |
| 66 | Carbon/Perlite | | 0.58 | | | | |
| 67 | Bottom Ash Baghouse | | 0.47 | | | | |
| 68 | Trona Products Bagging Silo | (d) | 0.36 | | | | |
| 70 | Sodium Sulfite Bagging Silo | (d) | 0.27 | | | | |
| 71 | Metabisulfite Bagging Silo | (d) | 0.27 | | | | |
| 72 | MBS Soda Ash Feed Silo | (d) | 0.07 | | | | |
| 73 | Metabisulfite Dryer | | 0.90 | | 0.77 | 0.25 (c) | |
| 76 | "D" Train Primary Ore Screening | 0.022 | 2.45 | | | | |
| 79 | Ore Transfer Point | 0.022 | 0.84 | | | | |
| 80 | "D" Ore Calciner | | 10.0 | | | 20.00 | |
| 81 | "D" Train Dryer Area | 0.022 | 0.50 | | | | |
| 82 | DR-6 Product Dryer | | 3.45 | | | 30.00 | |
| 88 | Trona Products Transload #2 | (d) | 0.2 | 0.9 | | | |
| 88B | Trona Products Transloading | 0.01 | 0.2 | | | | |
| 89 | Bisulfite Loadout Facility | | | | 0.07 | | |
| 90 | Sulfite Bag-Dump Baghouse #1 | (d) | 0.05 | 0.22 | | | |
| 91 | Sulfite Bag-dump Baghouse #2 | (d) | 0.05 | 0.22 | | | |
| 92 | Trona Products Bin | (d) | 0.3 | 1.31 | | | |
| 93 | Trona Products Rail Loadout | (d) | 0.17 | 0.75 | | | |
| 94 | Sulfite Loadout | (d) | 0.3 | 1.31 | | | |

| TABLE I - EMISSION LIMITS | | | | | | | |
|---|---|---|---|---|---|---|---|
| SOURCE ID# | SOURCE DESCRIPTION | $PM_{10}$ | | | $SO_2$ | $NO_X$ | CO |
| | | gr/dscf | lb/hr | TPY | lb/hr | lb/hr | lb/hr |
| 95 | Trona Products Loadout Bin | (d) | 0.1 | 0.44 | | | |
| 96 | T-200 TPX Bin | 0.01 | 0.2 | 0.7 | | | |
| 97 | Soda Ash TPX Bin | 0.01 | 0.1 | 0.5 | | | |
| 98 | TPX Area | (d) | 0.4 | 1.8 | | | |
| 99 | Crusher Baghouse #2 | 0.01 | 3.2 | 14.2 | | | |
| 100 | Calciner Coal Bunker | 0.01 | 0.2 | 0.9 | | | |
| 101 | Trona Products Dryer | 0.01 | 2.0 | 8.8 | | 0.5 (see F5(f) also) | 0.2 (see F5(f) also) |
| 102 | Trona Products Silo and Loadout | 0.01 | 0.6 | 2.6 | | | |
| 103 | East Ore Reclaim | 0.01 | 0.33 | 1.5 | | | |
| 104 | West Ore Reclaim | 0.01 | 0.27 | 1.2 | | | |
| 105 | Dryer | 0.01 | 1.3 | 5.6 | | | |
| 106 | Silo and Rail Loadout | 0.005 | 0.1 | 0.3 | | | |
| 107 | Dryer | 0.01 | 1.3 | 5.6 | | | |
| 108 | Silo and Rail Loadout | 0.005 | 0.1 | 0.3 | | | |

(a) CO emissions also not to exceed 76.7 TPY
(b) $NO_X$ emissions also not to exceed 7.88 TPY
(c) $NO_X$ emissions also not to exceed 1.10 TPY
(d) These sources are subject to the particulate limits in 40 CFR 60, Subpart OOO

(F6) CALCINER CO MINIMIZATION [WAQSR Ch 6, Sec 2 Permit MD-282]
The permittee will minimize CO emissions from the "C" calciner (unit 48), and the "D" calciner (unit 80) in accordance with the Calciner Burner Operational Plan, attached as Appendix A of this permit. The permittee shall revise the plan as necessary, with Division approval, to ensure minimization of CO emissions.

(F7) EQUIPMENT FEED AND PRODUCTION RATES, AND TRANSLOADING REQUIREMENTS [WAQSR Ch 6, Sec 2 Permits/Waivers CT-1347, MD-498, MD-995, MD-1096 and AP-8430]

(a) The trona ore feed rates to each calciner (units 17, 48 and 80) shall not exceed the maximum instantaneous rates shown in Table II.

(b) The soda ash production rates from the dryer kilns (units 15, 51 and 82) shall not exceed the rates shown in Table II.

(c) Trona product throughput of the transloading systems (units 88 and 88B) combined shall not exceed 95,000 TPY. The two transloading systems shall not be operated simultaneously.

| TABLE II - FEED AND PRODUCTION RATES | | | |
|---|---|---|---|
| SOURCE ID | SOURCE DESCRIPTION | TRONA ORE FEED RATE (TPH) | SODA ASH PRODUCTION RATE (TPH) |
| 17 | "A" and "B" Calciners | 160 (each) | |
| 48 | "C" Calciner | 200 | |
| 80 | "D" Calciner | 325 | |
| 15 | DR-1 Product Dryer | | 85 |
| 15 | DR-2 Product Dryer | | 85 |
| 51 | DR-5 Product Dryer | | 155 |
| 82 | DR-6 Product Dryer | | 161 |

(F8) DECA REQUIREMENTS [WAQSR Ch 6, Sec 2 Permit MD-13439]

(a) The DECA stockpile size shall be limited to 5,000 tons.

(b) The DECA excavation area and stockpile shall be treated with water and/or guar on a schedule to control fugitive dust emissions from wind erosion of thepond and/or stockpiled material.

(c) Opacity requirements for the DECA melt tank/Stamler system are indicated in condition F4(h).

(d) The date of commencement of construction of the DECA dissolver basin shall be reported to the Administrator within 30 days of commencement. Approval to construct or modify shall become invalid if construction is not commenced by September 25, 2014, or if construction is discontinued for a period of 24 months or more. The Administrator may extend the period based on satisfactory justification of the requested extension. Written notification of the actual date of initial start-up is required within 15 days after start-up.

(F9) HAUL AND UNPAVED ROADS DUST CONTROL [WAQSR Ch 6, Sec 2 Permits MD-1067 and MD-13439]

(a) The coal haul 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) The unpaved roads between the DECA pond, DECA stockpile, and the DECA melt tank/DECA dissolver basin work area, and the unpaved road used by the vacuum trucks to transport soda ash and trona housekeeping fines to the DECA dissolver vent, shall be treated by the 10th day of each month with a 30% MgCl (magnesium chloride) solution applied at a rate of 0.33 to 0.50 gallon per square yard. Additional applications of water shall be applied on a schedule sufficient to control fugitive dust from vehicular traffic.

(F10) ENGINE REQUIREMENTS
[WAQSR Ch 6, Sec 2 Permits/Waivers MD-10561, MD-11024, wv-13880, and MD-11835]

(a) The engines listed in Table III shall not exceed the specified limits.

TABLE III: ENGINE EMISSION LIMITS

| ID | Description | $NO_x$ | | | CO | | | VOC | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | g/hp-hr | lb/hr | tpy | g/hp-hr | lb/hr | tpy | g/hp-hr | lb/hr | tpy |
| E3 | Waukesha F20GSI | 0.7 | 0.6 | 2.7 | 1.0 | 0.9 | 3.9 | 0.5 | 0.4 | 1.9 |
| E4 | GM 8.2L | 0.7 | 0.3 | 1.4 | 1.0 | 0.5 | 2.0 | 0.5 | 0.2 | 1.0 |
| E5 | GM 4.3L | 0.7 | 0.2 | 0.8 | 1.0 | 0.3 | 1.2 | 0.5 | 0.1 | 0.6 |
| E6 | Katolight SENL | 1.0 | 0.3 | 0.6* | 1.0 | 0.3 | 0.6* | 0.7 | 0.2 | 0.4* |
| EG-3 | Caterpillar 3456 | 6.9 | 10.5 | | 8.5 | 12.9 | | | | |
| EG-4a | Volvo TAD1353GE | 3.0 | 4.0 | | 2.6 | 3.5 | | | | |
| EG-4b | Volvo TAD1353GE | 3.0 | 4.0 | | 2.6 | 3.5 | | | | |
| EG-4c | Volvo TAD1353GE | 3.0 | 4.0 | | 2.6 | 3.5 | | | | |

* Based on full time operation from issuance of waiver wv-13880 on October 12, 2012 to expiration of authorization to operate on May 1, 2012.

(b) As applicable, the permittee shall operate and maintain engines E3, E4, E5, E6, EG-3, EG-4a, EG-4b, and EG-4c, any associated air pollution control equipment, and any monitoring equipment, according to good air pollution control practices at all times, including startup, shutdown, and malfunction.

(c) Authorization to operate the Katolight SENL generator engine shall expire on May 1, 2013, unless such authorization is extended through written approval of the Division Administrator. Shutdown notification shall be submitted in accordance with condition F32(e).

(d) Emergency generator engines EG-3, EG-4a, EG-4b, and EG-4c are each limited to 500 hours of operation per calendar year.

(i) The permittee shall operate and maintain non-resettable hour meters on each engine to demonstrate compliance with the hours limits.

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

(i) The temporary replacement unit shall be identical or similar to the unit replaced with emission levels at or below those of the unit replaced.

(ii) The permittee shall notify the Division in writing of such replacement within five working days, provide the date of startup of the replacement, and provide 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.

(F11) GOB VENT BOREHOLE REQUIREMENTS [WAQSR Ch 6, Sec 2 Permit MD-11024]

(a) The permittee shall obtain a permit prior to the installation and operation of additional gob vent borehole methane pump engines, compressor engines, or flares.

(b) The permittee shall operate and maintain a flow meter or equivalent device to monitor the amount of gob vent borehole gas vented to the atmosphere.

(c) Opacity requirements for the gob vent borehole flare are indicated in condition F4(i).

Testing Requirements

(F12) EMISSIONS TESTING [W.S. 35-11-110 and WAQSR Ch 6, Sec 2 Permit CT-1416]

(a) The Division reserves the right to require additional testing as provided under condition G1 of this permit. Should testing be required, test methods found at 40 CFR 60, Appendix A, shall be used as follows:

(i) For sources subject to 40 CFR 60 Subpart OOO, visible and particulate emissions shall be measured as specified in §60.675.

(ii) For the coal preparation sources (units 10, 11, 14 and 100), visible emissions shall be measured as specified in 40 CFR 60 Subpart Y §60.257.

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

(iv) For the #1 and #2 coal fired boilers (units 18 and 19), particulate, $SO_2$, and $NO_X$ emissions, and the opacity of visible emissions, shall be measured as specified in 40 CFR 60 Subpart D §60.46.

(v) For the engines E3-E5, $NO_X$, CO, and VOC shall be measured as specified in 40 CFR 60 Subpart JJJJ, §60.4244, except that §60.8 only applies to engines that are subject to Subpart JJJJ.

(vi) For visible emissions from the DECA melt tank/DECA dissolver basin/Stamler system, and the gob vent borehole flare, Method 22 of 40 CFR 60 Appendix shall be used.

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

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

(ix) For other $SO_2$ emissions sources, Methods 1-4 and 6 or 6C shall be used.

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

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

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

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

(F13) INITIAL PERFORMANCE TESTING

[WAQSR Ch 6, Sec 2 Permits/Waivers MD-7431A2, AP-8430, MD-13439 and wv-13880]

In accordance with WAQSR Ch 6, Sec 2(j), for paragraphs (a)-(c) of this condition, performance tests shall be conducted within 30 days of achieving maximum design rate but not later than 90 days following initial start-up. If maximum design production rates have not been achieved within 90 days of start-up, the Administrator may require testing at the rate achieved and again when maximum rate is achieved. A test protocol shall be submitted to the Division for review and approval prior to testing. 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.

(a) For source #88B, performance tests shall be conducted as follows, unless an alternative is approved by the Division in writing:
  (i) Product throughput shall be monitored and recorded during each run
  (ii) For PM emissions, testing shall consist of three 1-hour tests following EPA reference Methods 1-5 and the requirements of 40 CFR 60, §60.675, Subpart OOO.
  (iii) For opacity, EPA Method 9 of 40 CFR 60 Appendix A and the procedures in WAQSR Ch 5, Sec 2(i) shall be used to determine initial compliance with the opacity limit. If no visible emissions are observed during opacity testing, the opacity test can be used in lieu of particulate emissions testing as a demonstration of compliance with the particulate emission limit.

(b) For baghouses 107 and 108, performance tests shall be conducted as follows, unless an alternative is approved by the Division in writing.
  (i) For PM emissions:
    (A) From baghouse 107, testing shall consist of three 1-hour tests following EPA reference Methods 1-4 and 5.
    (B) From baghouse 108, testing shall consist of three tests using EPA Reference Methods 1-5 and the requirements of 40 CFR 60, §60.675, Subpart OOO.
  (ii) For opacity from each baghouse (107 and 108), EPA Method 9 of 40 CFR 60 Appendix A and the procedures in WAQSR Ch 5, Sec 2(i) shall be used to determine initial compliance with the opacity limits in condition F4(a).

(c) For the DECA dissolver basin, testing for fugitive emissions shall consist of one test of at least 30 minutes in duration. The observations shall be taken from each side of the enclosure following 40 CFR Part 60, Appendix A, Method 22.

(d) The Katolight SENL generator engine shall be tested by January 12, 2013 for $NO_X$, CO and VOC emissions. Testing shall follow 40 CFR Part 60, Subpart JJJJ §60.4244, except that §60.8 only applies to engines subject to Subpart JJJJ. A test protocol shall be submitted to this office for review and approval prior to testing. Engine horsepower and other operating conditions shall be recorded during each test run and submitted with the test report. Notification of the test date shall be provided to the Division 15 days prior to testing. Results shall be submitted to this Division within 45 days of completion.

Monitoring Requirements

(F14) FACILITY PRODUCTION MONITORING [WAQSR Ch 6, Sec 3(h)(i)(C)(I)]

(a) To assess compliance with the soda ash production and trona ore throughput limits in condition F1(a):
  (i) The permittee shall inventory the tonnage of soda ash in storage annually on December 31. The beginning inventory of soda ash plus the amount of soda ash shipped in bags, trucks and railcar, as determined by certified scales, less the ending inventory of soda ash for that calendar year, shall be compared to the permitted soda ash production limit.
  (ii) The permittee shall survey the volume of the trona ore mined for the calendar year and apply a density factor to determine the tonnage mined. To account for solution mining, the permittee shall monitor the flow and concentration of both the solution thatwas injected into the mine, and the solution recovered from the mine, and then calculate the tonnage produced. The sum of the solution mined tonnage and the mechanically mined tonnage will be compared to the allowed trona ore throughput limit.

(b) To assess compliance with the sodium carbonate feed rate limit in condition F1(b), the permittee shall monitor the total tonnage of sodium carbonate fed for SAS productionon a monthly basis.

(F15) EQUIPMENT FEED AND PRODUCTION RATES, TRANSLOADING, AND DECA MONITORING [WAQSR Ch 6, Sec 3(h)(i)(C)(I)]

(a) To assess compliance with the feed and production limits in condition F7(a) and (b), the permittee shall monitor:
  (i) The trona ore feed rates to each of the "A" and "B" calciners (unit 17), the "C" calciner (unit 48), and the "D" calciner (unit 80), and

(ii) The soda ash production rates from each of the DR-1 and DR-2 steam tube dryers (unit 15), the product dryer #5 (unit 51), and the product dryer #6 (unit 82).

(b) To assess compliance with the trona product transloading limit in condition F7(c), the permittee shall monitor the tonnage of trona product loaded into each railcar and the date and length of time each transloading system is operated.

(c) For the DECA requirements of condition F8, the permittee shall:

(i) Determine the size of the DECA stockpile once every 24-hours by tracking the number of trucks that add to and subtract from the stockpile. The permittee shall estimate the weight the haul trucks transport to and from the stockpile. The stockpile weight at the beginning of the day plus difference in weight transported to and from the stockpile shall be compared to the limit in condition F8(a).

(ii) Monitor the application date and amount of water/guar applied to the DECA stockpile and/or excavation area.

(F16) BAGHOUSE AND BIN VENT VISIBLE AND PARTICULATE EMISSIONS MONITORING

[WAQSR Ch 6, Sec 3 (h)(i)(C)(I); Ch 7, Sec 3(c)(ii); Ch 6, Sec 2 Permit/Waiver MD-7431A2 and wv-10115]

The permittee shall adhere to the Compliance Assurance Monitoring (CAM) plan, attached as Appendix B of this permit, for visible and particulate emissions from the units subject to CAM (units 2A, 6A, 6B, 7, 10, 11, 14, 16, 24, 25, 26, 27, 30, 31, 36, 37, 38, 44, 46, 50, 52, 53, 54, 62, 63, 64, 65, 67, 68, 70, 71, 72, 76, 79, 81, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, and 107), and for units 88, 88b, 106 and 108, which are not subject to CAM, and shall conduct monitoring as follows during active operation of each source:

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

(b) 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.

(c) An excursion, which is considered observation of any visible emissions, shall prompt immediate inspection and, if necessary, corrective action and reporting.

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

(e) For units 88, 88b, 106 and 108, monitoring for particulate and visible emissions will consist of the monitoring indicated under (a) – (c) of this condition.

(f) Units subject to 40 CFR 60 Subpart OOO shall also comply with the applicable monitoring requirements of §60.674.

(F17) SCRUBBER VISIBLE AND PARTICULATE EMISSIONS MONITORING

[WAQSR Ch 6, Sec 3(h)(i)(C)(I) and Ch 7, Sec 3(c)(ii)]

For visible and particulate emissions from the scrubber controlled sources: DR-1 and 2 steam tube dryers (unit 15), sulfur burner (unit 33), sulfite dryer (unit 35), carbon/perlite scrubber (unit 66), metabisulfite dryer (unit 73), and bisulfite loadout facility (unit 89), the permittee shall conduct monitoring as follows during active operation of each emission source:

(a) For opacity of visible emissions from units 33 and 89:

(i) The permittee shall take, at minimum, weekly measurements of each scrubber's pressure drop to ensure the pressure drop is within plus or minus 30 percent of the values obtained during the most recent Method 9 performance test on that unit.

(ii) The permittee shall take, at minimum, weekly measurements of each scrubber's liquor recirculation rate to ensure the recirculation rate is not less than 70 percent of the value obtained established during the most recent Method 9 performance test on that unit.

(iii) If a parameter measurement is outside the acceptable range, corrective actions shall be taken according to the Preventive and Corrective Maintenance Plan, attached as Appendix C.

(iv) Additionally, the permittee shall conduct testing as follows to assess compliance with the opacity limits specified in condition F4 and to verify the correlation between opacity and the pressure drop and recirculation rate. Notification of the test date shall be provided to the Division at least 15 days prior to testing, and results of the tests shall be submitted within 45 days of completion.

(A) Conduct opacity testing at least once every five years for each unit.
(B) Follow the methods indicated in condition F12.
(C) Measure the pressure drop and recirculation rates 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 values used in paragraph (i) and (ii) above should be adjusted.

(b) For particulate and opacity emissions from units 15, 35, 66, and 73, the permittee shall adhere to the CAM plan, attached as Appendix B of this permit:
(i) The permittee shall monitor the pressure differential (ΔP) across the Venturi and the liquor recirculation rate of the sprays on a continuous basis (at least once every 15 minutes), and shall keep a record indicating the days any unit is not operated.
(ii) An excursion, which is considered any pressure differential or recirculation rate less than the range indicated in the CAM plan, shall prompt immediate inspection and, if necessary, corrective action and reporting.
(iii) The permittee shall follow all other applicable requirements under conditions CAM-1 through CAM 5 of this permit.
(iv) Additionally, the permittee shall conduct testing as follows to assess compliance with the particulate and opacity emission limits specified in conditions F4 and F5 and to verify the correlation between emissions and the CAM indicators. 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.
(A) Conduct particulate and opacity testing at least once every five years for units 15, 35, 66 and 73.
(I) Units 35 and 73 must initially be tested within 120 days of permit issuance in accordance with condition CAM-5.
(II) Units 15 and 66 must initially be tested within twelve months of permit issuance.
(B) Follow the methods indicated in condition F12.
(C) 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.
(D) For the initial testing required by (A)(I) and (II) above, the permittee shall submit revised CAM plans within 60 days of completing the tests as specified in condition F33(a)(ii)(A).

(F18) ESP VISIBLE AND PARTICULATE EMISSIONS MONITORING
[WAQSR Ch 6, Sec 3 (h)(i)(C)(I); Ch 7, Sec 3(c)(ii); Ch 6, Sec 2 Permits OP-154, OP-258 and CT-1347]
For visible and particulate emissions from the ESP controlled sources: "A" and "B" calciners (unit 17), #1 and #2 coal fired boilers (units 18 and 19), "C" calciner (unit 48), product dryer #5 (unit 51), "D" calciner (unit 80), and product dryer #6 (unit 82), the permittee shall conduct monitoring as follows during active operation of each emission source:

(a) For opacity, the permittee shall continue to operate and maintain continuous opacity monitoring (COM) systems to measure opacity from units 17, 18, 19, 48, 51, 80, and 82.
(i) The COM systems shall be calibrated and operated as described in WAQSR Ch 5, Sec 2(j).
(ii) Additional monitoring requirements for units 18 & 19 are specified in 40 CFR 60 Subpart D.

(b) For particulate emissions from units 17, 18, 19, 48, 51, 80 and 82, the permittee shall adhere to the CAM plan, attached as Appendix B:
(i) The permittee shall monitor, on a continuous basis, power levels to each field and how many ESP fields are in service as indicated in the CAM plan.
(ii) An excursion, which is considered power levels or field operation outside the indicated ranges in the CAM plan, shall prompt immediate inspection and, if necessary, corrective action.
(iii) The permittee shall follow all other applicable requirements under conditions CAM-1 through CAM-4 of this permit.
(iv) Additionally, the permittee shall conduct testing as follows to assess compliance with the emission limits specified in condition F5 and to verify the correlation between particulate emissions and the CAM indicators. 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.

(A) At least annually for unit 17.
(B) At least once every three years for units 18, 19, 48, 51, 80, and 82.
(C) Testing shall follow the methods indicated in condition F12.
(D) 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.

(F19) $NO_X$, $SO_2$, CO, AND VOC EMISSIONS, AND CATALYST MONITORING [WAQSR Ch 5, Sec 2; Ch 6, Sec 3(h)(i)(C)(I); Ch 6 Sec 2 Permits OP-154, MD-995, MD-10561, MD-11024 and MD-11835]

(a) For $NO_X$ emissions from the "A" and "B" calciners (unit 17), the permittee shall calibrate, operate, and maintain a CEM system for measuring $NO_X$ emissions discharged to the atmosphere in units of lb/MMBtu and lb/hr. The CEM system shall consist of the following:
(i) A continuous emission $NO_X$ monitor located in the common stack for unit 17.
(ii) An in-stack monitor for measuring oxygen content of the flue gas at the location $NO_X$ emissions are monitored.
(iii) A continuous flow monitoring system for measuring the flow of exhaust gases discharged into the atmosphere.
(iv) The CEM system shall comply with the monitoring requirements of WAQSR Ch 5, Sec 2(j) including the following:
(A) 40 CFR 60, App. B, Performance Specification 2 for $NO_X$ and Performance Specification 3 for $O_2$. The monitoring systems must demonstrate linearity in accordance with Division requirements and be certified in terms of concentration (ppmv), lb/hr and lb/MMBtu.
(B) The Quality Assurance requirements of 40 CFR 60, Appendix F.
(C) The most recent Division-approved Quality Assurance plan.

(b) For $NO_X$ emissions from the #1 and #2 coal fired boilers (units 18 and 19), the permittee shall continue to operate and maintain continuous emissions monitoring (CEM) systems to measure $NO_X$ emissions.
(i) The CEM systems shall be calibrated and operated as described in WAQSR Ch 5, Sec 2.
(ii) Additional $NO_X$ emissions monitoring requirements maybe specified in 40 CFR 60 Subpart D.

(c) For $NO_X$ emissions from the "C" calciner (unit 48), product dryer #5 (unit 51), "D" calciner (unit 80), and DR-6 product dryer (unit 82), the permittee shall conduct $NO_X$ testing as follows:
(i) At least annually for unit 82, utilizing the methods indicated in condition F12.
(ii) At least every two years for units 48, 51 and 80, utilizing the methods indicated in condition F12, except that the Division's portable analyzer monitoring protocol may be used for every other test. The monitoring protocol can be downloaded *at http://deq.state.wy.us/aqd/operating.asp* or is available from the Division upon request.
(iii) 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

(d) For $SO_2$ emissions from the #1 and #2 coal fired boilers (units 18 and 19), the permittee shall continue to operate and maintain CEM systems to measure $SO_2$ emissions.
(i) The continuous monitors shall be calibrated and operated as described in WAQSR Ch 5, Sec 2.
(ii) Additional $SO_2$ emissions monitoring requirements may be specified in 40 CFR 60 Subpart D.

(e) For CO emissions from #1 and #2 coal fired boilers (units 18 and 19), the permittee shall monitor the boilers once every five years using the Division's portable analyzer monitoring protocol, or the EPA reference methods described in condition F12. The monitoring protocol can be downloaded *at http://deq.state.wy.us/aqd/operating.asp* or is available from the Division upon request. 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.

(f) For engines E3, E4, E5, EG-3, EG-4a, EG-4b, and EG-4c, testing shall be conducted as follows. Notification of the test date shall be provided to the Division at least 15 days prior to testing. The tests results shall be submitted to the Division within 45 days of completion.
(i) The permittee shall monitor engines E3, E4, and E5 at least every 12 calendar months for $NO_X$, CO, and VOC emissions.
(A) The annual tests are required within twelve months after the initial performance tests or the most recent periodic test.

(B) Testing for $NO_X$, CO, and VOC shall follow 40 CFR 60 Subpart JJJJ §60.4244, except that §60.8 only applies to engines subject to Subpart JJJJ.

(ii) The permittee shall monitor engines EG-3, EG-4a, EG-4b, and EG-4c at least once every five years for $NO_X$ and CO emissions.

(A) Periodic monitoring for each engine is required within 5 years after the initial performance test or the last periodic monitoring. Testing shall be conducted in accordance with EPA reference methods or the State of Wyoming's Portable Analyzer Protocol. The monitoring protocol can be downloaded *at http://deq.state.wy.us/aqd/operating.asp* or is available from the Division upon request

(iii) The Division shall be notified within 24-hours where testing/monitoring of any engine shows operation outside of the permitted emission limits. By no later than seven calendar days of such testing/monitoring event, the permittee shall repair and retest/monitor the affected engine to demonstrate the engine has been returned to operation within the permitted limits. Compliance with this condition regarding repair and retesting/monitoring shall not be deemed to limit the authority of the Division to cite the permittee for an exceedance of the permitted emission limits.

(iv) The permittee shall follow the monitoring and maintenance requirements as follows for engines E3, E4, and E5, which are equipped with AFRC and NSCR catalysts:

(A) Operate and maintain a thermocouple to measure the temperature at the inlet of the catalyst. The inlet temperature shall be monitored and recorded at least monthly. If the temperature is outside the range of 750°F to 1250°F, corrective action shall be taken.

(B) Operate and maintain a device to measure the pressure drop across the catalyst. The pressure drop across the catalyst shall be monitored and recorded at least monthly. If the pressure changes by more than two inches of water from the reference pressure drop, corrective action shall be taken.

(C) Reference pressure drop for each engine shall be established during the initial performance test. When a catalyst is replaced, the reference pressure drop shall be re-established for that engine during the next periodic test required by this condition which occurs after the catalyst replacement.

(F20) COAL HAUL ROAD AND DECA HAUL ROAD MONITORING [WAQSR Ch 6, Sec 3 (h)(i)(C)(I)]

(a) For the dust control required by condition F9(a), the permittee shall monitor the dust suppressant/water usage on the coal haul road, including dates of application and the amount of suppressant/water applied.

(b) For the dust control required by condition F9(b), the permittee shall monitor the MgCl solution and water usage on the DECA haul roads, including dates of application, product applied, and the application rate.

(F21) ADDITIONAL MONITORING [WAQSR Ch 6, Sec 3(h)(i)(C)(I); Ch 6, Sec 2 Permits/Waivers AP-5172, MD-13439, AP-10381, and MD-11024]

(a) For visible emissions, the permittee shall:

(i) Conduct, at minimum, weekly Method 22 observations of the DECA melt tank/DECA dissolver basin/Stamler system and feed hopper. Observation of visible emissions shall prompt immediate inspection and, if necessary, corrective action.

(ii) Conduct observations of visible emissions from the emergency diesel-fired engines (units PU-76, EG-1, EG-2, EG-301, EG-3, EG-4a, EG-4b, EG-4c) during periodic availability assurance tests of these sources, at least semi-annually, to assess compliance with the opacity limit under condition F4(g) and to identify maintenance needs.

(iii) Monitor the type of fuel used for the dehydration unit (unit Dehy1) and engines E3, E4, E5 and E6, to ensure natural gas is the sole fuel source for these units.

(b) For the hours of operation limits in conditions F5 and F10, the permittee shall:

(i) Monitor the operating hours of the lime unloading operation (unit 44),

(ii) Operate and maintain the hours meter, or an equivalent device, on the bisulfite scrubber (unit 89) as required by condition F5(e)(i).

(iii) Use the hour meters required by condition F10(d) to monitor the operating hours for the emergency generator engines (units EG-3, EG-4a, EG-4b, EG-4c).

(c) For the gob vent borehole gas:
  (i) The permittee shall monitor the number of hours that VOCs from the gob vent boreholes are combusted in the plant or flare, using the plant data acquisition system (DAS).
  (ii) The permittee shall monitor the gob vent borehole gas vented to the atmosphere using the flow meter required by condition F11(b). The permittee shall also monitor the composition of the gob vent borehole gas such that the amount of VOC emissions vented to the atmosphere can be determined.
  (iii) The permittee shall monitor the number of hours that gas is directed to the gob vent flare versus the plant.
  (iv) The permittee shall monitor and note the date, time and duration when the flare exhibits visible emissions for more than 5 minutes, or when the pilot flame was not present on the flare while borehole gas is being extracted.

(d) For the sulfite dryer (unit 35):
  (i) The permittee shall monitor the actual steam usage to assess compliance with condition F5(i).
  (ii) Actual steam usage shall be determined using process data. Missing data may be substituted pending Division approval.
  (iii) The permittee shall monitor actual steam usage for period of five calendar years, starting at the beginning of 2011. Upon completion of the fifth year of monitoring, the requirements for unit 35 under this condition, conditions F25(k) and F34(c), and the limit under condition F5(i) shall expire.

(F22) AMBIENT PARTICULATE AND METEOROLOGICAL MONITORING
[WAQSR Ch 6, Sec 3(h)(i)(C)(I); Ch 6, Sec 2 Permits OP-154]
The permittee shall continue to operate and maintain an ambient air monitoring network and meteorological station acceptable to the Division and in accordance with the requirements of 40 CFR Parts 50 and 58, to measure concentration of particulate matter, and record wind speeds and directions. The permittee shall also maintain a quality assurance plan (QAP) for the monitoring network, as required by Part 58, which has been approved by the Division.

Recordkeeping Requirements

(F23) FACILITY PRODUCTION RECORDS [WAQSR Ch 6, Sec 3(h)(i)(C)(II); Ch 6, Sec 2 Permit MD-7431A2]
(a) For the monitoring conducted under condition F14(a), the permittee shall maintain records of the calculations and the calendar year total soda ash production and trona ore throughput to compare to the limits in condition F1(a).
(b) For the monitoring conducted under condition F14(b), the permittee shall maintain records of the monthly sodium carbonate feed rate to compare to the limit in condition F1(b).
(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, and make them available to the Division upon request.

(F24) EQUIPMENT FEED AND PRODUCTION RATES, TRANSLOADING, AND DECA RECORDS
[WAQSR Ch 6, Sec 3(h)(i)(C)(II); Ch 6, Sec 2 Permit/Waiver MD-13439 and AP-7574]
(a) For the monitoring conducted under condition F15, the permittee shall maintain records of:
  (i) The trona ore feed rates for the calciners, and soda ash production rates for the dryers, to compare to the limits in condition F7(a) and (b).
  (ii) The trona product throughput of the transloading systems to compare to the limits of F7(c).
  (iii) The DECA stockpile size determined daily, including the number of trucks hauling material to and from the stockpile, and all calculations and assumptions.
  (iv) The application date and amount of water/guar applied to the DECA stockpile and/or excavation site.
(b) The permittee shall maintain records of the amount of sodium carbonate decahydrate hauled to the mixing tank under waiver AP-7574.
(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, except that records required by (b) of this condition are not required to be maintained after November 30, 2013. Records shall be made available to the Division upon request.

(F25) TESTING AND MONITORING RECORDS [WAQSR Ch 6, Sec 3(h)(i)(C)(II); Ch 6, Sec 2 Permits/Waivers AP-5172, MD-13439, MD-10561, AP-10381, MD-11024, wv-13880, and wv-11835]

(a) For any testing or monitoring performed under conditions F12, F13, F16, F17(a) and (b), F18(b), F19(c) and (e), F19(f)(i) – (iii), and F21(a)(ii), other than Method 9 or Method 22 observations, the permittee shall record, as applicable, the following:
  (i) The date, place, and time of sampling, measurements, or observations;
  (ii) The company or entity that performed the analyses or observations;
  (iii) The analytical techniques, methods or observations used;
  (iv) The results of such analyses or observations;
  (v) The operating conditions as they existed at the time; and
  (vi) Any corrective actions taken.

(b) For any Method 9 observations required by the Division under conditions F12, F13 and F17, the permittee shall keep field records in accordance with Section 2.2 of Method 9.

(c) For any Method 22 observations required by the Division under conditions F12, F13(c), and F21(a)(i), the permittee shall keep field records in accordance with Sections 11.2 and 11.5 ofMethod 22.

(d) If particulate testing is conducted under condition F13(a)(ii), the permittee shall also record the product throughput during each run.

(e) For any monitoring required under condition F16(f) for sources subject to 40 CFR 60 Subpart OOO, the permittee shall maintain records as required under Subpart OOO.

(f) For the particulate emissions testing required by conditions F17(b)(iv) and F18(b)(iv), the permittee shall also record, as applicable, the pressure differential ($\Delta P$) and liquor recirculation rate of the sprays for the scrubbers, or the operating fields and power to the ESP, as measured during particulate sampling, as well as the evaluation of indicator ranges.

(g) For the ESP monitoring required under condition F18(b)(i), the permittee shall also record the date and times any ESP field is not operational, and each 3-hour fixed block average power input to each field.

(h) For the monitoring required under condition F19(f)(iv), the permittee shall record the catalyst inlet temperature, pressure drop, any maintenance and/or corrective action triggered, and the reference pressure drop for each engine at the time of the monitoring. The permittee shall also record the dates of catalyst replacement for each engine.

(i) For the operating hours monitored under condition F21(b), the permittee shall record the operating hours for lime unloading (unit 44), the bisulfite loadout and scrubber (unit 89), and the emergency generator engines EG-3, EG-4a, EG-4b and EG-4c.

(j) For the gob vent monitoring under F21(c), the permittee shall record:
  (i) The number of hours that VOCs are combusted in the plant or flare.
  (ii) The flow rate and the composition of the gob vent borehole gas vented to the atmosphere. The permittee shall also calculate and record the pounds per day (lb/day) of VOC vented to the atmosphere.
  (iii) The number of hours that gas is directed to the flare versus the plant.
  (iv) The date, time and duration when the gob vent flare exhibits visible emissions for more than 5 minutes, or when borehole gas is being extracted and a pilot flame were not present on the flare.

(k) The permittee shall record the steam usage for the sulfite dryer (unit 35) and determine the calendar year usage.

(l) The permittee shall maintain records of any maintenance performed or corrective actions taken for the Katolight engine (unit E6).

(m) 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, and make them available to the Division upon request.

(F26) ADDITIONAL CAM RECORDS [WAQSR Ch 6, Sec 3(h)(i)(C)(II) and Ch 7, Sec 3(i)(ii)]

(a) For the CAM plans required under conditions F16, F17(b) and F18(b), in addition to the records required under condition F25(a), (f) and (g), the permittee shall also maintain records of any written quality improvement plan required pursuant to WAQSR Chapter 7, Section 3(h), any activities undertaken to implement a Quality Improvement Plan (QIP), and other supporting information required to be maintained under WAQSR Ch 7, Sec 3.

(b) The permittee shall retain these records on-site at the facility for a period of at least five years from the date the records are generated, and make them available to the Division upon request.

(F27) CONTINUOUS MONITORING RECORDS
[WAQSR Ch 5, Sec 2(g)(ii) and (g)(v); Ch 6, Sec 2 Permits OP-154, OP-258 and CT-1347]

(a) The following continuous monitoring systems (CMS) shall comply with the recordkeeping requirements of WAQSR Ch 5, Sec 2(g).
  (i) The opacity monitors required under condition F18(a) for units 17, 18, 19, 48, 51, 80, and 82.
  (ii) The $NO_X$ monitors required under condition F19(a) and (b) for units 17, 18 and 19.
  (iii) The $SO_2$ monitors required under condition F19(d) for units 18 and 19.

(b) For the CMS listed under paragraph (a) of this condition:
  (i) The permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the units; any malfunction of the air pollution control equipment; or any periods during which the CMS or monitoring device is inoperative.
  (ii) The permittee shall maintain records of all measurements, including the CMS, monitoring device, and performance testing measurements; all CMS performance evaluations; all CMS or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required, recorded in a permanent form suitable for inspection.

(c) The data from the $NO_X$ CEM required by condition F19(a) for unit 17 shall be averaged and recorded daily to determine the $NO_X$ emissions 30-day rolling average in lb/MMBtu and lb/hr.

(d) Additional recordkeeping requirements for units 18 and 19 are specified in 40 CFR 60 Subpart D.

(e) 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, and make them available to the Division upon request.

(F28) CALCINER OPERATION RECORDS [WAQSR Ch 6, Sec 3(h)(i)(C)(II)]

(a) The permittee shall maintain records of the operation of calciners "C" and "D" (units 48 and 80) as described in the Calciner Burner Operational Plan in Appendix A of this permit, including an explanation for any deviations from the plan.

(b) 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, and make them available to the Division upon request.

(F29) HAUL AND UNPAVED ROAD MONITORING RECORDS
[WAQSR Ch 6, Sec 3(h)(i)(C)(II); Ch 6, Sec 2 Permits MD-1067 and MD-13439]

(a) The permittee shall maintain records of the dust suppressant/water usage on the coal haul road, such that compliance with condition F9(a) can be assessed. Records shall include the date of application and the amount of dust suppressant/water applied.

(b) The permittee shall maintain a log book listing the dust suppressant application dates, amount applied, areas treated, water usage, and operating hours of the water truck, such that compliance with condition F9(b) can be assessed.

(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, and make them available to the Division upon request.

(F30) AMBIENT PARTICULATE AND METEOROLOGICAL MONITORING RECORDS
[WAQSR Ch 6, Sec 3 (h)(i)(C)(II)]

The permittee shall maintain records of the data generated by the monitoring networks required by condition F22. The permittee shall retain these records on-site at the facility for a period of at least five years from the date these records were generated, and make them available to the Division upon request.

(F31) 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 F2, 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 F2 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.

Reporting Requirements

(F32) NOTIFICATIONS [WAQSR Ch 6, Sec 2 Permits/Waivers AP-8430, MD-10561, MD-11024, MD-7431A2, MD-11835, MD-13439, and wv-13880]

(a) Prior to any testing required by conditions F13, F17(a)(iv) and (b)(iv), F18(b), 19(c), (e) and (f), the permittee shall provide the Division at least 15 days prior notice of the test date.

(b) The permittee shall notify the Division of the anticipated date of initial start-up for baghouse sources 88B, 107 and 108 not more than 60 days or less than 30 days prior to such date. Notification of the actual start-up date is required within 15 days after start-up.

(c) Written notification of the actual date of initial start-up for the DECA dissolver basin referenced under condition F8(d) is required within 15 days after start-up.

(d) If the permittee anticipates restarting the pony boiler (unit PB), they shall notify the Division of the anticipated date of restarting the unit at least 30 days prior to such date. Notification of the actual start-up date is required within 15 days after start-up. The Division may require testing as described in condition F12 after startup.

(e) Engine shut-down notification shall be submitted to the Division within 15 days of shut-down of the Katolight SENL generator engine. Such notification shall be submitted on a complete Engine Installation/Removal form. The form can be obtained from the Division upon request, or downloaded from the Air Quality website http://deq.state.wy.us/aqd.

(F33) TEST REPORTS [WAQSR Ch 6, Sec 3(h)(i)(C)(III); Ch 6, Sec 2 Permits/Waivers AP-8430, MD-10561, MD-11024, MD-7431A2 and MD-11835]

(a) The permittee shall report the results of any emissions tests performed under conditions F12, F13, F17(a)(iv) and (b)(iv), F18(b)(iv), and F19(c), (e) and (f), within 45 days of completing the tests.

(i) However, if testing for any engine under condition F19(f)(iii) shows operation out of compliance, the Division must be notified within 24 hours as indicated underby that condition.

(ii) For the testing performed under conditions F17(b)(iv) and F18(b)(iv), the reports shall also include the evaluation of the CAM indicator.

(A) For the initial testing required by condition F17(b)(iv)(A)(I) and (II), the permittee shall submit revised CAM plans for units 15, 35, 66, and 73 within 60 days of completing the test for each unit, along with a request to administratively amend this permit.

(B) For other periodic testing, if the evaluation indicates the CAM indicator should be revised, the permittee shall submit a revised CAM plan to the Division, along with a request to administratively amend this permit, within 60 days of completing the test.

(b) The reports shall include the applicable information specified under condition F25(a), (d), (f) and (h), reference this permit condition (F33), and be submitted to the Division in accordance with condition G4.

(F34) ANNUAL FACILITY PRODUCTION, TRANSLOADING, DECA, AND STEAM REPORTS [WAQSR Ch 6, Sec 3(h)(i)(C)(III); Ch 6, Sec 2 Waiver AP-10381]

The following shall be reported to the Division within 60 days after the end of each calendar year, for the previous calendar year:

(a) For the facility monitoring required under condition F14, the soda ash production, trona ore throughput, and sodium carbonate feed rate such that compliance with condition F1 can be assessed.

(b) For the monitoring under condition F21(d), the steam usage in the sulfite dryer (unit 35).

(c) The reports shall reference this permit condition (F34), and be submitted to the Division in accordance with condition G4.

(F35) SEMIANNUAL 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) For the monitoring required under condition F15:

(A) The date and duration of any exceedances of the calciner trona ore feed and soda ash dryer production limits indicated in condition F7(a) and (b).

(B) The transloading throughput from units 88 and 88B combined.

(C) The date and duration of any exceedances of the DECA stockpile size indicated in condition F8(a).

(ii) Summary results of the monitoring required under conditions F16, F17(b), and F18(b), including the following, as applicable:

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

(B) For conditions F17(b) and F18(b), summary information on the number, duration, and cause for monitor downtime incidents;

(C) For sources subject to CAM, 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.

(D) Summary information on the results of any Method 22 inspections required under 40 CFR 60 Subpart OOO.

(iii) Summary results of all time periods when the scrubber pressure drop or liquor recirculation rates for units 33 and 89 fall outside the acceptable parameters indicated in F17(a), including the magnitude and duration of any exceedance. If no exceedances of the parameter ranges have occurred during the reporting period, this shall be stated in the report.

(iv) Any excursions from the catalyst monitoring for engines E3, E4, and E5 required by condition F19(f)(iv). If there were no excursions, this shall be stated in the report.

(v) For the visible emissions monitoring required by condition F21(a):

(A) Summary results of the visible emission observations for the DECA melt tank/Stamler system and feed hopper. Only monitoring during which visible emissions are observed and any corrective actions taken shall be included in the report. If no visible emissions are observed during the reporting period, this shall be stated in the report.

(B) Documentation that the dehydration unit (unit Dehy1) and engines E3, E4, and E5 are firing natural gas.

(vi) The calendar year-to-date operating hours for lime unloading (unit 44), the bisulfite loadout and scrubber (unit 89) and the emergency generator engines EG-3, EG-4a, EG-4b and EG-4c.

(vii) For the gob vent monitoring required by condition F21(c):

(A) Any event during which visible emissions are observed from the flare for more than five minutes during any two consecutive hours and any corrective actions taken. If no visible emissions are observed during the reporting period, this shall be stated in the report.

(B) The date and duration of any event during which borehole gas was extracted and a pilot flame was not present on the flare.

(viii) Any deviations from the Calciner Burner Operational Plan required by condition F6. If the permittee has adhered to the plan during the reporting period this shall be stated in the report.

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

(c) The reports shall reference this permit condition (F35) and be submitted in accordance with condition G4 of this permit.

(F36) QUARTERLY CONTINUOUS MONITORING SYSTEM PERFORMANCE AND EXCESS EMISSIONS REPORTS [WAQSR Ch 5, Sec 2(g)(iii) & (iv); Ch 5, Sec 2(j); Ch 6, Sec 2 Permits OP-154, OP-258, CT-1347 and MD-995]

(a) Excess emissions reporting for the following continuous monitoring systems (CMS) shall comply with the requirements of WAQSR Ch 5, Sec 2(g).

(i) The COM systems on the "A" and "B" calciners, #1 and #2 coal fired boilers, "C" calciner, product dryer #5, "D" calciner, and product dryer #6 (units 17, 18, 19, 48, 51, 80, and 82).

(ii) The CEM systems for $NO_X$ on the "A" and "B" calciners (unit 17), and for $NO_X$ and $SO_2$ on the #1 and #2 coal fired boilers (units 18 and 19).

(A) Additional reporting requirements may be specified in 40 CFR 60 Subpart D for units 18 and 19.

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

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

(ii) Specific identification of each period of excess emissions that occurs during start ups, shutdowns, malfunctions of units 17, 18, 19, 48, 51, 80, and 82. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.

(iii) The date and time identifying each period during which the continuous monitoring system (CMS) 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 CMS have not been inoperative, repaired, or adjusted. Such information shall be stated in the report.

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

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

(B) If the total duration of excess emissions for the reporting period is one percent or greater of the total operating time for the reporting period or the total CMS 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 (c) of this condition shall both be submitted.

(c) For the purpose of reporting under this condition:

(i) For opacity, excess emissions are defined as any six minute period when the average opacity exceeds:

(A) 20 percent from units 48 and 51.

(B) 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 from unit 17.

(C) For units 18 and 19, the opacity standard in §60.42. On the date of permit issuance, this is 20 percent opacity except for one six-minute period per hour of not more than 27 percent opacity.

(D) 15 percent from unit 80.

(E) 10 percent from unit 82.

(ii) For $NO_X$ and $SO_2$ emissions, excess emissions are defined as any 30-day rolling average of emissions, calculated using the arithmetic average of the previous 30 days of 1-hour averages meeting the requirements of Ch 5, Sec 2(j), which exceeds:

(A) $NO_X$ emissions of 0.29 lb/MMBtu or 116.0 lb/hr from unit 17. Excess emissions shall be reported in units of lb/MMBtu and lb/hr.

(B) $NO_X$ emissions of 245 lb/hr from units 18 and 19.

(C) $SO_2$ emissions of 70 lb/hr from units 18 and 19.

(D) Excess emissions of $NO_X$ and $SO_2$ from units 18 and 19 are defined separately under 40 CFR 60 Subpart D. Subpart D excess emissions reports may be combined with the excess emissions reports for (B) and (C) above, as long as all reporting requirements from this condition (F36) and Subpart D are followed.

(iii) Data and associated monitoring data hours which do not meet the requirements of Ch 5, Sec 2(j) shall not be included in the averages.

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

(e) The reports shall reference this permit condition (F36) and be submitted to the Division in accordance with condition G4 of this permit.

(F37) AMBIENT MONITORING NOTIFICATIONS AND REPORTS [WAQSR Ch 6, Sec 3 (h)(i)(C)(III); Ch 6, Sec 2 Permit OP-154 and Division letter July 15, 2011]

(a) Should an exceedance occur for the monitoring network required by condition F22, the permittee shall notify the Division's Monitoring Section Project Advisor via e-mail, as soon as possible, but no later than the following:

(i) Within the timeline indicated in the Natural Event Action Plan (NEAP).

(ii) Within 7 days of the event (for continuous monitoring) or within 7 days of getting lab results (for manual filter-based monitoring), if the facility is not required to notify the Division by any NEAP.

(b) The data generated by the ambient monitoring network 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 (F38) 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.

(F38) 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 15$^{th}$ 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 1999, the permittee shall adjust reported $SO_2$ emissions to be comparable to the emission monitoring or calculation method that was used in 1999. 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 (F38) and shall be submitted in accordance with condition G4 of this permit.

(F39) 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 Part 98.

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

(b) The report(s) shall be submitted in accordance with condition G4(a)(i) of this permit, to the attention of the Division's Emission Inventory Program. A copy need not be sent to the DEQ Air Quality contact.

(F40) 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 within 30 days of the deviation or discovery of the deviation.

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

WAQSR Ch 7, Sec 3 is available at http://deq.state.wy.us/aqd/standards.asp, 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 plans attached as Appendix B of this permit and meet all CAM requirements of WAQSR Chapter 7, Section 3 as they apply to each individual CAM source. 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 the 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 withgood 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 ImprovementPlan (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)]

The permittee shall perform particulate matter testing on the the sulfite dryer (unit 35) and the metabisulfite dryer (unit 73) to determine the indicator ranges to be used for assuring compliance with particulate matter emission limitations.

(a) Testing of units 35 and 73 shall be performed as expeditiously as practicable, but no later than 120 days after permit issuance.

(b) 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.

(c) Test results shall be submitted to the Division within 45 days after completion of the test. The permittee shall also submit for Division approval the CAM plan with the indicator range specified.

(d) The permittee shall begin compliance assurance monitoring for units 35 and 73 upon development of the indicator ranges, as expeditiously as practicable, but no later than 180 days after permit issuance.

## WAQSR CHAPTER 5, SECTION 2 NEW SOURCE PERFORMANCE STANDARDS (NSPS) and 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 & D; and WAQSR Ch 5, Sec 2]

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 18 and 19).

### SUBPART Y REQUIREMENTS FOR COAL PREPARATION & PROCESSING PLANTS

SUBPART Y REQUIREMENTS [40 CFR Part 60-Subparts A & Y; WAQSR Ch 5, Sec 2; Ch 6, Sec 2 Permit MD-995]

The permittee shall meet all applicable requirements of 40 CFR Part 60 - Subparts A and Y; and WAQSR Ch 5, Sec 2 as they apply to the affected facilities as defined under §60.250 in coal preparation plants which process more than 181 Mg (200 tons) of coal per day, including: Thermal dryers, pneumatic coal-cleaning equipment (air tables), coal processing and conveying equipment (including breakers and crushers), coal storage systems, coal transfer and loading systems, and open storage piles, including units 10, 11, 14 and 100.

### SUBPART OOO REQUIREMENTS FOR NONMETALLIC MINERAL PROCESSING PLANTS

SUBPART OOO REQUIREMENTS

40 CFR 60 Subparts A & OOO; WAQSR Ch 5, Sec 2; Ch 6, Sec 2 Permit/Waiver MD-1502A2 and MD-13439]

The permittee shall meet all applicable requirements of 40 CFR 60 Subparts A and OOO and WAQSR Ch 5, Sec 2 as they apply to affected facilities in fixed or portable nonmetallic mineral processing plants (each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, and enclosed truck or railcar loading station that commenced construction, modification, or reconstruction after August 31, 1983), as defined under §60.670, including the sources shown in Table IV.

**TABLE IV: 40 CFR Part 60, Subpart OOO Sources**

| SOURCE ID | SOURCE DESCRIPTION | SOURCE ID | SOURCE DESCRIPTION |
|---|---|---|---|
| 2A | Ore Crushing Building | 6A | Product Silos - Top #1 |
| 6B | Product Silos - Bottom #1 | 7 | Product Loadout Station |
| 16 | Dryer Area | 25 | Alkaten Crushing |
| 27 | Trona Products Bagging and Loadout | 30 | Lime Bin #1 |
| 31 | Lime Bin #2 | 36 | Sulfite Product Bin #1 |
| 37 | Sulfite Product Bin #2 | 38 | Sulfite Product Bin #3 |
| 44 | Lime Unloading | 46 | Ore Transfer Station #2 |
| 50 | C Train Dryer Area | 52 | Product Silo - Top #2 |
| 53 | Product Silo - Bottom #2 | 54 | T-200 Storage Silo |
| 63 | Perlite Bin | 64 | Sulfite Blending #2 |
| 65 | Sulfite Blending #1 | 68 | Trona Products Bagging Silo |
| 70 | Sodium Sulfite Bagging Silo | 71 | Metabisulfite Bagging Silo |
| 72 | MBS Soda Ash Feed Silo | 76 | "D" Train Ore Screening |
| 79 | Ore Transfer Point | 81 | "D" Train Dryer Area |
| 88 | Trona Products Transloading #2 | 88B | Trona Products Transloading |
| 90 | Sulfite Bag-Dump Baghouse #1 | 91 | Sulfite Bag-Dump Baghouse #2 |
| 92 | Trona Products Bin | 93 | Trona Products Loadout |
| 94 | Sulfite Loadout | 95 | Sulfite Loadout Bin |
| 96 | T-200 TPX Bin (Baghouse) | 97 | Soda Ash TPX Bin (Baghouse) |
| 98 | TPX Area (Baghouse) | 99 | Crusher Baghouse #2 |
| 101 | Trona Products Dryer DR-7 (Baghouse) | 102 | Trona Products Silo and Loadout |
| 103 | East Ore Reclaim (Baghouse) | 104 | West Ore Reclaim (Baghouse) |
| 106 | Silo and Rail Loadout (Baghouse) | 108 | Silo and Rail Loadout (Baghouse) |

## SUBPART IIII REQUIREMENTS FOR STATIONARY COMPRESSION IGNITION INTERNAL COMBUSTION ENGINES

SUBPART IIII REQUIREMENTS [40 CFR 60 Subparts A & IIII; WAQSR Ch 5, Sec 2; Ch 6, Sec 2 Permit MD-11835]

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 F10(e), if an engine is replaced or reconstructed, subpart applicability will need to be 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.

## SUBPART JJJJ REQUIREMENTS FOR STATIONARY SPARK IGNITION INTERNAL COMBUSTION ENGINES

SUBPART JJJJ [40 CFR Part 60 Subparts A & JJJJ; WAQSR Ch 5, Sec 2]

As applicable, the permittee shall meet all requirements of 40 CFR 60 Subparts A and JJJJ, and WAQSR Ch 5, Sec 2, as they apply to affected stationary spark ignition (SI) internal combustion engines (ICE). (As required by condition F10(e), if an engine is replaced or reconstructed, subpart applicability will need to be 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 §60.4230.

The subparts are available at http://www.gpoaccess.gov/cfr/retrieve.html, or from the Division upon request.

## WAQSR CHAPTER 5, SECTION 3 NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAPS) AND 40 CFR 63

### SUBPART ZZZZ REQUIREMENTS FOR STATIONARY RECIPROCATING INTERNAL COMBUSTION ENGINES

SUBPART ZZZZ REQUIREMENTS

[40 CFR 63 Subparts A & ZZZZ; WAQSR Ch 5, Sec 3; Sec 2 Permit MD-11835 and Waiver wv-13880]

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 F10(e), 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/major source of HAP emissions. Affected sources at this facility include engines E-3, E-4, E-5, E6, PU-76, EG-1, EG-2, EG-301, EG-3, EG-4a, EG-4b, and EG-4c.

### SUBPART DDDDD REQUIREMENTS FOR INDUSTRIAL, COMMERCIAL, AND INSTITUTIONAL BOILERS AND PROCESS HEATERS

WAQSR CH 5, SEC 3 SUBPART DDDDD REQUIREMENTS [WAQSR Ch 5, Sec 3, Subpart DDDDD]

40 CFR Part 63 Subpart DDDDD, as published in the Federal Register September 13, 2004, was vacated June 8, 2007; however, this version of Subpart DDDDD remains a state regulation as a part of WAQSR Chapter 5, Section 3. The permittee shall meet all requirements of WAQSR Ch 5, Sec 3, Subpart DDDDD as they apply to each collection of industrial, commercial and institutional boilers and process heaters as defined in WAQSR Ch 5, Sec 3§§63.7490 and 63.7575, including the #1 and #2 coal fired boilers (units 18 and 19), pony boiler (unit PB), and reboiler heater.

The Division is in the process of removing Subpart DDDDD as published in the Federal Register September 13, 2004 from the state regulations. Upon completion of this process the state rule shall nolonger apply to this facility.

40 CFR PART 63 SUBPART DDDDD REQUIREMENTS [40 CFR 63 Subparts A and DDDDD]

The permittee shall meet all requirements of 40 CFR 63 Subparts A and DDDDD as they applyto owners or operators of an industrial, commercial, or institutional boiler or process heater as defined in §63.7575 that is located at, or is part of, a major source of HAP as defined in §63.2 or §63.761 (40 CFR Part 63, Subpart HH, National Emission Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities), except as specified in §63.7491. This subpart applies to existing, new or reconstructed industrial, commercial, and institutional boilers and process heaters, including the #1 and #2 coal fired boilers (units 18 and 19).

The subparts are available at http://www.gpoaccess.gov/cfr/retrieve.html, or from the Division upon request.

## 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 facility trona ore and soda ash production limits, the permittee shall assess compliance with condition F1(a) of this permit by conducting monitoring required by condition F14(a).

(ii) For the sodium carbonate feed limit to the SAS 300 production line, the permittee shall assess compliance with condition F1(b) by conducting the monitoring required by condition F14(b).

(iii) For the $SO_2$ emissions inventory, the permittee shall verify that reports were submitted in accordance with condition F38.

(iv) For visible and particulate emissions from the baghouse and bin vent sources, the permittee shall assess compliance with conditions F4(a), (b) and (j), and F5(Table I) by conducting the monitoring required by condition F16.

(v) For visible and particulate emissions from the ESP sources, the permittee shall assess compliance with conditions F4(c)-(f) and (j), and F5(Table I) by conducting the monitoring and testing required by condition F18.

(vi) For visible emissions from the diesel fired equipment, the permittee shall assess compliance with condition F4(g) by conducting the monitoring required by condition F21(a)(ii).

(vii) For visible emissions from the DECA melt tank/DECA dissolver basin/Stamler system, the permittee shall assess compliance with condition F4(h) by conducting the testing required by condition F13(d) and the monitoring required by condition F21(a)(i).

(viii) For visible emissions from the gob vent flare, the permittee shall assess compliance with condition F4(i) by conducting the monitoring required by condition F21(c)(iv).

(ix) For visible emissions from the natural gas-fired engines and dehydration unit, the permittee shall assess compliance with condition F4(j) by verifying natural gas was the sole fuel source used for the units as indicated by condition F21(a)(iii).

(x) For visible and particulate emissions from the scrubber sources, the permittee shall assess compliance with conditions F4(j) and F5(Table I) by conducting the monitoring and testing required by condition F17.

(xi) For $NO_X$ emissions from unit 17, the permittee shall assess compliance with condition F5(a) by conducting the monitoring required by condition F19(a).

(xii) For $NO_X$ emissions from units 18 and 19, the permittee shall assess compliance with condition F5 by conducting the monitoring required by condition F19(b).

(xiii) For $NO_X$ emissions from units 48, 51, 80 and 82, the permittee shall assess compliance with condition F5(Table I) by conducting the testing required by condition F19(c).

(xiv) For $SO_2$ emissions from units 18 and 19, the permittee shall assess compliance with condition F5 by conducting the monitoring required by condition F19(d).

(xv) For CO emissions from units 18 and 19, the permittee shall assess compliance with condition F5(Table I) by conducting the testing required by condition F19(e).

(xvi) For the operating hours limits for units 44, 89, and the emergency generators, the permittee shall assess compliance with conditions F5(d) and (e), and F10(d), by conducting the monitoring required by condition F21(b).

(xvii) For the bulk truck loadout requirements of condition F5(h), the permittee shall verify that the storage silo for the bulk truck loadout was limited to the storage and loadout of sodium bicarbonate, and was controlled by the baghouse for the TXP area (unit 98).

(xviii) For steam usage in the sulfite dryers, the permittee shall assess compliance with condition F5(i) by conducting the monitoring required by condition F21(d).

(xix) For the Calciner Burner Operational Plan, the permittee shall assess compliance with condition F6 by reviewing the records kept in accordance with condition F28.

(xx) For trona ore feed rates, soda ash production rates, and transloading system throughput, the permittee shall assess compliance with condition F7 by conducting the monitoring required by condition F15(a) and (b). The permittee shall also verify that the two transloading system did not operate simultaneously.

(xxi) For the DECA stockpile size limitation and dust control, the permittee shall assess compliance with condition F8 by conducting the monitoring required by condition F15(c) and maintaining records in accordance with condition F24(a)(iv).

(xxii) For the coal haul and DECA roads fugitive dust control, the permittee shall assess compliance with condition F9 by conducting the monitoring required by condition F20.

(xxiii) For $NO_X$, CO, and VOC emissions, as applicable, from engines E3, E4, E5, EG-3, EG-4a, EG-4b and EG-4c, the permittee shall assess compliance with condition F10(a) by conducting the monitoring required by condition F19(f).

(xxiv) For the Katolight SENL (unit E6), the permittee shall assess compliance with condition F10(a) by conducting the testing required by condition F13(d) and shall verify that records are maintained in accordance with condition F25(l).

(xxv) For the VOC emissions monitoring associated with the gob vent borehole, the permittee shall assess compliance with condition F21(c) by reviewing the records required by condition F25(j).

(xxvi) For ambient particulate monitoring, the permittee shall assess compliance with condition F22 by reviewing the records kept in accordance with condition F30.

(xxvii) For the temporary DECA stockpile, the permittee shall verify that records are maintained in accordance with condition F24(b).

(xxviii) For any unit subject to 40 CFR 60 Subpart Y, the permittee shall assess compliance with Subpart Y by conducting any applicable testing and monitoring required by §§60.255, 60.256, and 60.257, and by reviewing the records required by §60.258.

(xxix) For any unit subject to 40 CFR 60 Subpart OOO, the permittee shall assess compliance with Subpart OOO by conducting any applicable testing and monitoring required by §§60.674 and 60.675, and by reviewing the records required by §60.676.

(xxx) 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.

(xxxi) For any engine subject to 40 CFR 60 Subpart JJJJ, the permittee shall assess compliance with Subpart JJJJ by conducting any applicable testing and monitoring required by §§60.4237, 60.4243, and 60.4244, and by reviewing the records required by §§60.4245 and 60.4246.

(xxxii) The permittee shall assess compliance with Part 63 Subpart ZZZZ by conducting any applicable testing and monitoring required by §§63.6610 through 63.6640 and by reviewing the records required by §§63.6655 and 63.6665.

(xxxiii) For the boilers and process heaters, the permittee shall assess compliance with Subpart DDDDD by conducting any applicable testing and monitoring required by the subpart, and by reviewing the records required by subpart.

(c) The compliance certification shall include:
- (i) The permit condition or applicable requirement that is the basis of the certification;
- (ii) The current compliance status;
- (iii) Whether compliance was continuous or intermittent; and
- (iv) The methods used for determining compliance.

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

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

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

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

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

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

## GENERAL PERMIT CONDITIONS

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

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

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

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

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

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

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

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

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

(a) Submissions to the Division.

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

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

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

(b) Submissions to EPA.

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

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

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

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

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

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

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

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

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

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

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

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

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

(a) Additional applicable requirements under the Clean Air Act or the WAQSR that become applicable to this source if the remaining permit term is three or more years. Such reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions have been extended.

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

(c) The Division or EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

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

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

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

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

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

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

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

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

(G11) The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Air Act, Article 2 of the Wyoming Environmental Quality Act, and the WAQSR and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

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

(G12) This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

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

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

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

(G14) The permittee shall furnish to the Division, within a reasonable time, any information that the Division may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Division copies of records required to be kept by the permit, including information claimed and shown to be confidential under W.S. 35-11-1101 (a) of the Wyoming Environmental Quality Act. Upon request by the Division, the permittee shall also furnish confidential information directly to EPA along with a claim of confidentiality.

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

(G15) 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 tothe atmosphere, shall dilute or conceal an emission from a source. This condition shall not apply to the control of odors.

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

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

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

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

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

Carbon Monoxide: [WAQSR Ch 3, Sec 5]

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

Asbestos: [WAQSR Ch 3, Sec 8]

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Stratospheric Ozone Protection Requirements: [40 CFR Part 82]

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

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

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

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

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

(iv) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with record keeping requirements pursuant to §82.166. ("MVAC-like appliance" 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 Part 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 Part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or the system used on passenger buses using HCFC-22 refrigerant.

## STATE ONLY PERMIT CONDITIONS

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

Ambient Standards

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

| POLLUTANT | STANDARD | CONDITION | WAQSR CH. 2, SEC. |
|---|---|---|---|
| $PM_{10}$ particulate matter | 50 micrograms per cubic meter | annual arithmetic mean | 2 (a) |
| | 150 micrograms per cubic meter | 24-hr average concentration with not more than one exceedance per year | |
| $PM_{2.5}$ particulate matter | 15 micrograms per cubic meter | annual arithmetic mean | 2 (b) |
| | 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 | 0.075parts 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 |

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#: **2A, 6A, 6B, 7, 16, 25, 27, 30, 31, 36, 37, 38, 44, 46, 50, 52, 53, 54, 63, 64, 65, 68, 70, 71, 72, 76, 79, 81, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 101, 102, 103, 104, 106 and 108** Source Description: **Subpart OOO-Affected Baghouse and Bin Vent Controlled Sources**

| Pollutant | Emissions Limit/Work Practice Standard | Corresponding Regulation(s) | Testing Requirements | Monitoring Requirements | Recordkeeping Requirements | Reporting Requirements |
|---|---|---|---|---|---|---|
| Particulate | 7 percent opacity [F4]<br>Particulate per Table I [F5]<br>Unit 44 operating hour limit [F5] | WAQSR Ch 5, Sec 2; Ch 6, Sec 2 Permits and Waivers CT-1347, MD-1078, AP-GS1, AP-B10, AP-RG0, AP-Y92, AP-4H2, AP-3658, MD-7431A2, wv-10115, waiver 2/14/92. | Testing if required [F12] | Compliance Assurance Monitoring (CAM): daily visible emissions [F16]<br>Monitor unit 44 operating hours [F21] | Visible emissions monitoring records [F25]<br>Unit 44 operating hours records [F25]<br>Additional CAM records [F26] | Semiannual: monitoring results [F35]<br>Semiannual: Unit 44 operating hours [F35]<br>Report excess emissions and permit deviations [F40] |
| $NO_X$ | unit 101: 0.1 lb/MMBtu, 0.5 lb/hr and 2.4 TPY [F5] | WAQSR Ch 6, Sec 2 Permit MD-1078 | Testing if required [F12] | None | Test records [F25] | 45 days: any test results [F33]<br>Report excess emissions and permit deviations [F40] |
| CO | unit 101: 0.04 lb/MMbtu, 0.2 lb/hr, 0.9 TPY [F5] | WASQR Ch 6, Sec 2 Permit MD-1078 | Testing if required [F12] | None | Test records [F25] | 45 days: any test results [F33]<br>Report excess emissions and permit deviations [F40] |
| Particulate | WAQSR Ch 5, Sec 2 and 40 CFR 60 Subpart A and OOO | | | | | |

Source ID#: **88 and 88B** Source Description: **Trona Products Transloading Baghouses**

| Pollutant | Emissions Limit/Work Practice Standard | Corresponding Regulation(s) | Testing Requirements | Monitoring Requirements | Recordkeeping Requirements | Reporting Requirements |
|---|---|---|---|---|---|---|
| Particulate | 7 percent opacity [F4]<br>Particulate per Table I [F5]<br>Operational and throughput limits [F7] | WAQSR Ch 6, Sec 2 Waivers AP-8430 and wv-10115 | Testing if required [F12]<br>Unit 88B: initial performance testing [F13] | Monitor throughput and operations [F15]<br>Daily visible emissions monitoring [F16] | Throughput and operations records [F24]<br>Visible emissions monitoring records [F25] | Unit 88B: notification of startup and testing [F32]<br>Semiannual: throughput, operation, and monitoring results [F35]<br>Report excess emissions and permit deviations [F40] |
| Particulate | WAQSR Ch 5, Sec 2 and 40 CFR 60 Subpart A and OOO | | | | | |

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Source ID#: **106 and 108** Source Description: **Silo and Rail Loadout Baghouses**

| Pollutant | Emissions Limit/Work Practice Standard | Corresponding Regulation(s) | Testing Requirements | Monitoring Requirements | Recordkeeping Requirements | Reporting Requirements |
|---|---|---|---|---|---|---|
| Particulate | 7 percent opacity [F4]<br>Particulate per Table I [F5] | WAQSR Ch 6, Sec 2<br>Permit MD-7431A2 | Testing if required [F12]<br>Unit 108: initial performance testing [F13] | Daily visible emissions monitoring [F16] | Visible emissions monitoring records [F25] | Unit 108: notification of startup and testing [F32]<br>Semiannual: monitoring results [F35]<br>Report excess emissions and permit deviations [F40] |
| Particulate | WAQSR Ch 5, Sec 2 and 40 CFR 60 Subpart A and OOO | | | | | |

Source ID#: **10, 11, 14 and 100** Source Description: **Subpart Y- Affected Baghouse Controlled Sources**

| Pollutant | Emissions Limit/Work Practice Standard | Corresponding Regulation(s) | Testing Requirements | Monitoring Requirements | Recordkeeping Requirements | Reporting Requirements |
|---|---|---|---|---|---|---|
| Particulate | Less than 20 percent opacity [F4]<br>Particulate per Table I [F5] | WAQSR Ch 6, Sec 2<br>Permit MD-995 | Testing if required [F12] | CAM: daily visible emissions monitoring [F16] | Visible emissions monitoring records [F25]<br>Additional CAM records [F26] | Semiannual: monitoring results [F35]<br>Report excess emissions and permit deviations [F40] |
| Particulate | WAQSR Ch 5, Sec 2 and 40 CFR 60 Subpart A and Y | | | | | |

Source ID#: **24, 26, 62, 67, 105 and 107** Source Description: **Other Baghouse and Bin Vent Controlled Sources**

| Pollutant | Emissions Limit/Work Practice Standard | Corresponding Regulation(s) | Testing Requirements | Monitoring Requirements | Recordkeeping Requirements | Reporting Requirements |
|---|---|---|---|---|---|---|
| Particulate | Units 105 and 107: 7% opacity. All others 20% opacity. [F4]<br>Particulate per Table I [F5] | WAQSR Ch 3, Sec 2; Ch 6, Sec 2 Permits and Waivers CT-1347, AP-GS1, AP-B10 and MD-7531A | Testing if required [F12]<br>Unit 107: initial performance testing [F13] | CAM: daily visible emissions monitoring [F16] | Visible emissions monitoring records [F25]<br>Additional CAM records [F26] | Unit 108: notification of startup and testing [F32]<br>Semiannual: monitoring results [F35]<br>Report excess emissions and permit deviations [F40] |
| $NO_X$ | Unit 26: 0.25 lb/hr [F5] | WAQSR Ch 6, Sec 2<br>Permit AP-GS1 | Testing if required [F12] | None | Test records [F25] | 45 days: any test results [F33]<br>Report excess emissions and permit deviations [F40] |

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Source ID#: **18 and 19** 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 % opacity, except one six-minute period per hour of not more than 27% [F4]<br>5.00 lb/hr each [F5] | WAQSR Ch 5, Sec 2; Ch 6, Sec 2 Permits OP-154 and CT-1347 | Test every three years [F18] | Continuous opacity monitoring (COM) [F18]<br>Testing and CAM monitoring [F18] | Testing and monitoring records [F25]<br>Additional CAM records [F26]<br>COM records [F27] | 15 days: test notification [F32]<br>45 days: test results [F33]<br>Semiannual: monitoring [F35]<br>Quarterly: COM reports [F36]<br>Report excess emissions and permit deviations [F40] |
| $SO_2$ | 70.00 lb/hr each [F5] | WAQSR Ch 3, Sec 4; Ch 6, Sec 2 Permits OP-154 and CT-1347 | Testing if required [F12] | Continuous emissions monitoring (CEM) [F19] | CEM records [F27] | Quarterly: CEM reports [F36]<br>Report excess emissions and permit deviations [F40] |
| $NO_X$ | 245.00 lb/hr each [F5] | WAQSR Ch 5, Sec 2; Ch 6, Sec 2 Permits OP-154 and CT-1347 | Testing if required [F12] | Continuous emissions monitoring (CEM) [F19] | CEM records [F27] | Quarterly: CEM reports [F36]<br>Report excess emissions and permit deviations [F40] |
| CO | 17.5 lb/hr, 76.7 TPY [F5] | WAQSR Ch 6, Sec 2 Permit OP-154 | Test every five years [F19] | Test every five years [F19] | Test records [F25] | 15 days: test notification [F32]<br>45 days: test results [F33]<br>Report excess emissions and permit deviations [F40] |
| Particulate, $SO_2$, $NO_X$ | WAQSR Ch 5, Sec 2 and 40 CFR 60 Subpart A and D | | | | | |
| HAPs | WAQSR Ch 5, Sec 3 and 40 CFR 63 Subpart A and DDDDD | | | | | |

Source ID#: **PB** Source Description: **Pony Boiler**

| Pollutant | Emissions Limit / Work Practice Standard | Corresponding Regulation(s) | Testing Requirements | Monitoring Requirements | Recordkeeping Requirements | Reporting Requirements |
|---|---|---|---|---|---|---|
| Particulate | 20 percent opacity [F4]<br>0.10 lb/MMBtu [F5] | WAQSR Ch 3, Sec 2 | Testing if required [F12] | None | None | Notification of startup [F32]<br>Report excess emissions and permit deviations [F40] |
| $NO_X$ | 0.30 lb/MMBtu [F5] | WAQSR Ch 3, Sec 3 | Testing if required [F12] | None | None | |
| HAPs | WAQSR Ch 5, Sec 3 and 40 CFR 63 Subpart A and DDDDD | | | | | |

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Source ID#: **17** Source Description: **"A" and "B" Calciners (ESP Controlled)**

| Pollutant | Emissions Limit / Work Practice Standard | Corresponding Regulation(s) | Testing Requirements | Monitoring Requirements | Recordkeeping Requirements | Reporting Requirements |
|---|---|---|---|---|---|---|
| Particulate | 20 percent opacity [F4]<br>30.0 lb/hr [F5]<br>Trona ore feed rate 160 TPH, each [F7] | WAQSR Ch 3, Sec 2; Ch 6, Sec 2 Permits OP-154, MD-995 and MD-7431A2 | Test annually [F18]<br>Additional testing if required [F12] | Continuous opacity monitoring (COM) [F18]<br>CAM monitoring [F18]<br>Trona ore feed rate monitoring [F15] | Testing and monitoring records [F25]<br>Additional CAM records [F26]<br>COM records [F27]<br>Trona ore feed rate monitoring records [F24] | 15 days: test notification [F32]<br>45 days: any test results [F33]<br>Annual: feed rate report [F34]<br>Semiannual: monitoring results [F35]<br>Quarterly: COM reports [F36]<br>Report excess emissions and permit deviations [F40] |
| $NO_X$ | 0.29 lb/MMBtu and 116.0 lb/hr on 30-day rolling averages, and 508.1 TPY [F5] | WAQSR Ch 6, Sec 2 Permit MD-995 | Testing if required [F12] | Continuous emissions monitoring (CEM) [F19] | CEM records [F27] | Quarterly: CEM reports [F36]<br>Report excess emissions and permit deviations [F40] |

Source ID#: **48, 51, 80 and 82** Source Description: **"C" Calciner, Product Dryer #5, "D" Calciner, and Product Dryer #6 (ESP Controlled)**

| Pollutant | Emissions Limit / Work Practice Standard | Corresponding Regulation(s) | Testing Requirements | Monitoring Requirements | Recordkeeping Requirements | Reporting Requirements |
|---|---|---|---|---|---|---|
| Particulate | Percent opacity limits- Units 48 & 51: 20%. Unit 80: 15%. Unit 82: 10%. [F4]<br>Particulate: Table I [F5]<br>Units 48, 80: feed rate limits. Units 51, 82: production rate limits [F7] | WAQSR Ch 6, Sec 2 Permits OP-258, CT-1347, MD-498, MD-1096, MD-7431A2, letter 7/28/03 | Test every three years. [F19]<br>Additional testing if required [F12] | Continuous opacity monitoring (COM) [F18]<br>Testing and CAM monitoring [F18]<br>Process rate monitoring [F15] | Testing and monitoring records [F25]<br>Additional CAM records [F26]<br>COM records [F27]<br>Feed and production rate records [F24] | 15 days: test notification [F32]<br>45 days: test results [F33]<br>Semiannual: feed, production and monitoring [F35]<br>Quarterly: COM reports [F36]<br>Report excess emissions and permit deviations [F40] |
| $NO_X$ | See Table I [F5] | WAQSR Ch 6, Sec 2 Permit CT-1347 | Unit 82 test annually. Units 48, 51, 80: test every two years [F19] | Unit 82 test annually. Units 48, 51, 80: test every five years [F19] | Testing and monitoring records [F25] | 15 days: test notification [F32]<br>45 days: test results [F33]<br>Report excess emissions and permit deviations [F40] |
| CO | Units 48, 80: Calciner Burner Operational Plan [F6] | WAQSR Ch 6, Sec 2 Permit MD-282 | Testing if required [F12] | None | Operational records [F28] | Deviation reports [F35]<br>Report excess emissions and permit deviations [F40] |

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Source ID#: **15, 35, 66 and 73** Source Description: **Wet Scrubber Controlled Sources**

| Pollutant | Emissions Limit / Work Practice Standard | Corresponding Regulation(s) | Testing Requirements | Monitoring Requirements | Recordkeeping Requirements | Reporting Requirements |
|---|---|---|---|---|---|---|
| Particulate | 20 percent opacity [F4]<br>Particulate: see Table I. Unit 35: 76,850 TPY steam usage [F5]<br>Unit 15: soda ash production rate limit [F7] | WAQSR Ch 3, Sec 2; Ch 6, Sec 2 Permits CT-1347, MD-498, MD-7431A2, AP-10381 | Units 15, 35, 66, 73: Test at least once every five years [F17] | Testing and CAM monitoring [F17]. Units 35 and 73 [CAM-5]<br>Steam monitoring [F21]<br>Soda ash production monitoring [F15] | Testing and monitoring records [F25]<br>Additional CAM records [F26]<br>Soda ash production records [F24] | 15 days: test notification [F32]<br>45 days: test results [F33]<br>Annual: soda ash production and steam records [34]<br>Semiannual: monitoring [F35]<br>Report excess emissions and permit deviations [F40] |
| $SO_2$ | Unit 73: 0.77 lb/hr. Unit 89: 0.07 lb/hr and operating hours limit [F5] | WAQSR Ch 6, Sec 2 Permits CT-1347, AP-K69, AP-5172 | Testing if required [F12] | Unit 89, monitor operating hours using hours meter [F21] | Unit 89, record operating hours [F25] | Semiannual: report operating hours [F35]<br>Report excess emissions and permit deviations [F40] |
| $NO_X$ | Unit 15: 1.8 lb/hr. Unit 73: 0.25 lb/hr [F5] | WAQSR Ch 6, Sec 2 letter 5/28/98 | Testing if required [F12] | None | Record any testing [F25] | Report excess emissions and permit deviations [F40] |

Source ID#: **33 and 89** Source Description: **Sulfur Burner and Bisulfite Loadout Facility (Scrubber Controlled)**

| Pollutant | Emissions Limit / Work Practice Standard | Corresponding Regulation(s) | Testing Requirements | Monitoring Requirements | Recordkeeping Requirements | Reporting Requirements |
|---|---|---|---|---|---|---|
| Opacity | 20 percent opacity [F4] | WAQSR Ch 3, Sec 2 | Testing if required [F12] | Scrubber monitoring [F17] | Monitoring records [F25] | Semiannual: monitoring results [F35]<br>Report excess emissions and permit deviations [F40] |
| $SO_2$ | 0.4 lb/hr [F5] | WAQSR Ch 6, Sec 2 Waiver AP-1916 | Testing if required [F12] | None | Test records [F25] | Report excess emissions and permit deviations [F40] |
| $NO_X$ | 0.3 lb/hr [F5] | WAQSR Ch 6, Sec 2 Waiver CT-1916 | Testing if required [F12] | None | Test records [F25] | Report excess emissions and permit deviations [F40] |

Source ID#: **43** Source Description: **Sulfur Storage Tank**

| Pollutant | Emissions Limit / Work Practice Standard | Corresponding Regulation(s) | Testing Requirements | Monitoring Requirements | Recordkeeping Requirements | Reporting Requirements |
|---|---|---|---|---|---|---|
| $H_2S$ | 10 lb/hr during tank loading [F5] | WAQSR Ch 6, Sec 2 Permit OP-257 | Testing if required [F12] | None | Test records [F25] | Report excess emissions and permit deviations [F40] |

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Source ID#: **E3** Source Description: **Waukesha F18GSI Engine**

| 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 [F12] | Verification of natural gas firing [F21] | Record the results of any additional testing [F25] | Semiannual: type of fuel fired [F35]<br><br>Report excess emissions and permit deviations [F40] |
| $NO_X$ | 0.7 g/hp-hr, 0.6 lb/hr, 2.7 TPY [F10] | WAQSR Ch 6, Sec 2 Permit MD-11024 | Annual $NO_X$ testing [F19]<br><br>Additional testing if required [F12] | Annual $NO_X$ testing [F19]<br><br>Monthly catalyst monitoring and maintenance [F19] | Monitoring records [F25] | 15 days: test notification [F32]<br>45 days: test results [F33]<br>Semiannual: monitoring [F35]<br>Report excess emissions and permit deviations [F40] |
| CO | 1.0 g/hp-hr, 0.9 lb/hr, 3.9 TPY [F10] | WAQSR Ch 6, Sec 2 Permit MD-11024 | Annual CO testing [F19]<br><br>Additional testing if required [F12] | Annual CO testing [F19]<br><br>Monthly catalyst monitoring and maintenance [F19] | Monitoring records [F25] | 15 days: test notification [F32]<br>45 days: test results [F33]<br>Semiannual: monitoring [F35]<br>Report excess emissions and permit deviations [F40] |
| VOCs | 0.5 g/hp-hr, 0.4 lb/hr, 1.9 TPY [F10] | WAQSR Ch 6, Sec 2 Permit MD-11024 | Annual VOC testing [F19]<br><br>Additional testing if required [F12] | Annual VOC testing [F19] | Monitoring records [F25] | 15 days: test notification [F32]<br>45 days: test results [F33]<br>Semiannual: monitoring [F35]<br>Report excess emissions and permit deviations [F40] |
| Additional $NO_X$, CO, and VOC | WAQSR Ch 5, Sec 2 and 40 CFR 60 Subparts A and JJJJ | | | | | |
| HAPs | WAQSR Ch 5, Sec 3 and 40 CFR 63 Subparts A and ZZZZ | | | | | |

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Source ID#: **E4, E5** Source Description: **GM 8.2L and GM 4.3L Engines**

| Pollutant | Emissions Limit / Work Practice Standard | Corresponding Regulations | Testing Requirements | Monitoring Requirements | Recordkeeping Requirements | Reporting Requirements |
|---|---|---|---|---|---|---|
| Particulate | 20 percent opacity [F4] | WAQSR Ch 3, Sec 2 | Testing if required [F12] | Verification of natural gas firing [F21] | Record the results of any additional testing [F25] | Semiannual: type of fuel fired [F35]<br>Report excess emissions and permit deviations [F40] |
| $NO_X$ | E4: 0.7 g/hp-hr, 0.3 lb/hr, 1.4 TPY.<br>E5: 0.7 g/hp-hr, 0.2 lb/hr, 0.8 TPY. [F10] | WAQSR Ch 6, Sec 2 Permit MD-10561 | Additional testing if required [F12]<br>Annual $NO_X$ testing [F19] | Annual $NO_X$ testing [F19]<br>Monthly catalyst monitoring and maintenance [F19] | Monitoring records [F25] | 15 days: test notification [F32]<br>45 days: test results [F33]<br>Semiannual: monitoring [F35]<br>Report excess emissions and permit deviations [F40] |
| CO | E4: 1.0 g/hp-hr, 0.5 lb/hr, 2.0 TPY.<br>E5: 1.0 g/hp-hr, 0.3 lb/hr, 1.2 TPY [F10] | WAQSR Ch 6, Sec 2 Permit MD-10561 | Additional testing if required [F12]<br>Annual CO testing [F19] | Annual CO testing [F19]<br>Monthly catalyst monitoring and maintenance [F19] | Monitoring records [F25] | 15 days: test notification. [F32]<br>45 days: test results [F33]<br>Semiannual: monitoring [F35]<br>Report excess emissions and permit deviations [F40] |
| VOCs | E4: 0.5 g/hp-hr, 0.2 lb/hr, 1.0 TPY.<br>E5: 0.5 g/hp-hr, 0.1 lb/hr, 0.6 TPY. [F10] | WAQSR Ch 6, Sec 2 Permit MD-10561 | Additional testing if required [F12]<br>Annual VOC testing [F19] | Annual VOC testing [F19] | Monitoring records [F25] | 15 days: test notification. [F32]<br>45 days: test results [F33]<br>Semiannual: monitoring [F35]<br>Report excess emissions and permit deviations [F40] |
| Additional $NO_X$, CO, and VOC | WAQSR Ch 5, Sec 2 and 40 CFR 60 Subparts A and JJJJ | | | | | |
| HAPs | WAQSR Ch 5, Sec 3 and 40 CFR 63 Subparts A and ZZZZ | | | | | |

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#: **E6** Source Description: **Katolight SENL Engine**

| 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 [F12] | Verification of natural gas firing [F21] | Record the results of any additional testing [F25] | Semiannual: type of fuel fired [F35]<br>Report excess emissions and permit deviations [F40] |
| $NO_X$ | E6: 1.0 g/hp-hr, 0.3 lb/hr, 0.6 TPY [F10] | WAQSR Ch 6, Sec 2 waiver wv-13880 | Additional testing if required [F12]<br>Test by 1/12/13 [F13] | | Test records [F25] | 15 days: test notification, shutdown notification [F32]<br>45 days: test results [F33]<br>Report excess emissions and permit deviations [F40] |
| CO | E6: 1.0 g/hp-hr, 0.3 lb/hr, 0.6 TPY [F10] | WAQSR Ch 6, Sec 2 waiver wv-13880 | Additional testing if required [F12]<br>Test by 1/12/13 [F13] | | Test records [F25] | 15 days: test notification.<br>E6: shutdown notification [F32]<br>45 days: test results [F33]<br>Report excess emissions and permit deviations [F40] |
| VOCs | E6: 0.7 g/hp-hr, 0.2 lb/hr, 0.4 TPY [F10] | WAQSR Ch 6, Sec 2 waiver wv-13880 | Additional testing if required [F12]<br>Test by 1/12/13 [F13] | | Test records [F25] | 15 days: test notification.<br>E6: shutdown notification [F32]<br>45 days: test results [F33]<br>Report excess emissions and permit deviations [F40] |
| Additional $NO_X$, CO, and VOC | WAQSR Ch 5, Sec 2 and 40 CFR 60 Subparts A and JJJJ | | | | | |
| HAPs | WAQSR Ch 5, Sec 3 and 40 CFR 63 Subparts A and ZZZZ | | | | | |

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#: **EG-3** Source Description: **Caterpillar 3456**

| Pollutant | Emissions Limit/ Work Practice Standard | Corresponding Regulation(s) | Testing Requirements | Monitoring Requirements | Recordkeeping Requirements | Reporting Requirements |
|---|---|---|---|---|---|---|
| Particulate | 30 percent opacity [F4] | WAQSR Ch 3, Sec 2 | Testing if required [F12] | Semiannual observations [F21] | Record any visible emissions observed [F25] | Report excess emissions and permit deviations [F40] |
| $NO_X$ | 6.9 lb/hr, 10.5 TPY. 500 hours operating limit. Operate and maintain hours meter. [F10] | WAQSR CH 6, Sec 2 Permit MD-11835 | $NO_X$ testing every five years [F19]<br><br>Additional testing if required [F12] | $NO_X$ testing every five years. Monitor operating hours. [F19] | Monitoring records [F25] | 15 days: test notification [F32]<br>45 days: test results [F33]<br>Semiannual: report operating hours [F35]<br>Report excess emissions and permit deviations [F40] |
| CO | 8.5 lb/hr, 12.9 TPY. 500 hours operating limit. Operate and maintain hours meter. [F10] | WAQSR CH 6, Sec 2 Permit MD-11835 | CO testing every five years [F19]<br><br>Additional testing if required [F12] | CO testing every five years. Monitor operating hours. [F19] | Monitoring records [F25] | 15 days: test notification [F32]<br>45 days: test results [F33]<br>Semiannual: report operating hours [F35]<br>Report excess emissions and permit deviations [F40] |
| Additional $NO_X$, CO, HC, PM | WAQSR Ch 5, Sec 2 and 40 CFR 60 Subparts A and IIII | | | | | |
| HAPs | WAQSR Ch 5, Sec 3 and 40 CFR 63 Subparts A and ZZZZ | | | | | |

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#: **EG-4a, EG-4b and EG-4c** Source Description: **(3) Volvo TAD1353GE Engines**

| Pollutant | Emissions Limit / Work Practice Standard | Corresponding Regulation(s) | Testing Requirements | Monitoring Requirements | Recordkeeping Requirements | Reporting Requirements |
|---|---|---|---|---|---|---|
| Particulate | 30 percent opacity [F4] | WAQSR Ch 3, Sec 2 | Testing if required [F12] | Semiannual observations [F21] | Record any visible emissions observed [F25] | Report excess emissions and permit deviations [F40] |
| $NO_X$ | 3.0 lb/hr, 4.0 TPY [F10] | WAQSR CH 6, Sec 2 Permit MD-11835 | $NO_X$ testing every five years [F19]<br><br>Additional testing if required [F12] | $NO_X$ testing every five years. Monitor operating hours. [F19] | Monitoring records [F25] | 15 days: test notification [F32]<br>45 days: test results [F33]<br>Semiannual: report operating hours [F35]<br>Report excess emissions and permit deviations [F40] |
| CO | 2.6 lb/hr, 3.5 TPY [F10] | WAQSR CH 6, Sec 2 Permit MD-11835 | CO testing every five years [F19]<br><br>Additional testing if required [F12] | CO testing every five years. Monitor operating hours. [F19] | Monitoring records [F25] | 15 days: test notification [F32]<br>45 days: test results [F33]<br>Semiannual: report operating hours [F35]<br>Report excess emissions and permit deviations [F40] |
| Additional $NO_X$, CO, HC, PM | WAQSR Ch 5, Sec 2 and 40 CFR 60 Subparts A and IIII | | | | | |
| HAPs | WAQSR Ch 5, Sec 3 and 40 CFR 63 Subparts A and ZZZZ | | | | | |

Source ID#: **PU-76, EG-1, EG-2, EG-301** Source Description: **Diesel Fired Emergency Engines**

| Pollutant | Emissions Limit / Work Practice Standard | Corresponding Regulation(s) | Testing Requirements | Monitoring Requirements | Recordkeeping Requirements | Reporting Requirements |
|---|---|---|---|---|---|---|
| Particulate | 30 percent opacity [F4] | WAQSR Ch 3, Sec 2 | Testing if required [F12] | Semiannual observations [F21] | Record any visible emissions observed [F25] | Report excess emissions and permit deviations [F40] |
| Additional $NO_X$, CO, HC, PM | WAQSR Ch 5, Sec 2 and 40 CFR 60 Subparts A and IIII | | | | | |
| HAPs | WAQSR Ch 5, Sec 3 and 40 CFR 63 Subparts A and ZZZZ | | | | | |

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#: **None** Source Description: **Dehydration Unit and Reboiler Heater**

| 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 [F12] | Verification of natural gas firing [F21] | Record the results of any additional testing [F25] | Semiannual: type of fuel fired [F35]<br>Report excess emissions and permit deviations [F40] |
| $NO_X$ | Reboiler: 0.20 lb/MMBtu [F5] | WAQSR Ch 3, Sec 3 | Testing if required [F12] | None | Record the results of any additional testing [F25] | Report excess emissions and permit deviations [F40] |
| HAPs | (Reboiler heater) WAQSR Ch 5, Sec 3 and 40 CFR 63 Subpart A and DDDDD | | | | | |

Source ID#: **GVB** Source Description: **Gob Vent Borehole Flare**

| Pollutant | Emissions Limit/Work Practice Standard | Corresponding Regulation(s) | Testing Requirements | Monitoring Requirements | Recordkeeping Requirements | Reporting Requirements |
|---|---|---|---|---|---|---|
| Particulate | Flare: no visible emissions except for 5 min/2 hours. Automatic ignitor or continuous burning pilot. [F4] | WAQSR Ch 6, Sec 2<br>Permit MD-11024 | Testing if required [F12] | Monitor date, duration of times when flare exhibits visible emissions for more than 5 min. [F21] | Monitoring results [F25] | Semiannual: monitoring results [F36]<br>Report excess emissions and permit deviations [F40] |
| VOCs | Operate and maintain flow meter. Monitor composition of gas [F11] | WAQSR Ch 6, Sec 2<br>Permit MD-11024 | Testing if required [F12] | Monitor: hours VOCs are combusted in plant or flare; composition of vent gas; hours gas is directed to flare vs. plant [F21] | Monitoring results [F25] | Semiannual: monitoring results [F36]<br>Report excess emissions and permit deviations [F40] |

Source ID#: **DECA** Source Description: **DECA Melt Tank/Dissolver Basin/Stamler System**

| Pollutant | Emissions Limit/Work Practice Standard | Corresponding Regulation(s) | Testing Requirements | Monitoring Requirements | Recordkeeping Requirements | Reporting Requirements |
|---|---|---|---|---|---|---|
| Particulate | No visible emissions [F4]<br>DECA stockpile limit and dust control [F8 and F9] | WAQSR Ch 6, Sec 2<br>Permits/Waivers<br>AP-7574, MD-13439, wv-10696 | Testing if required [F12]<br>Dissolver basin: initial performance testing [F13] | Weekly visible emissions monitoring [F21]<br>Monitor stockpile daily, and dust control [F15] | Monitoring records [F25]<br>Stockpile and dust control records [F24] | Dissolver basin: notification of startup and testing [F32]<br>Semiannual: exceedance of stockpile size, dust control, and monitoring results [F36]<br>Report excess emissions and permit deviations [F40] |

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 |
| AQD | Air Quality Division |
| BACT | Best available control technology (see Definitions) |
| Btu | British Thermal Unit |
| CAA | Clean Air Act |
| CAM | Compliance Assurance Monitoring |
| C.F.R. | Code of Federal Regulations |
| CO | Carbon monoxide |
| °F | Degrees Fahrenheit |
| 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 |
| N/A | Not applicable |
| NMHC(s) | Non-methane hydrocarbon(s) |
| $NO_X$ | Oxides of nitrogen |
| $O_2$ | Oxygen |
| OPP | Operating Permit Program |
| PM | Particulate matter |
| $PM_{10}$ | Particulate matter less than or equal to a nominal diameter of 10 micrometers |
| ppmv | Parts per million (by volume) |
| ppmw | Parts per million (by weight) |
| QIP | Quality Improvement Plan |
| 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 |
| TBD | To be determined |
| TPD | Ton(s) per day |
| TPH | Ton(s) per hour |
| TPY | Tons per year |
| U.S.C. | United States Code |
| µg | Microgram(s) |
| VOC(s) | Volatile organic compound(s) |
| W.S. | Wyoming Statute |
| WAQSR | Wyoming Air Quality Standards & Regulations (see Definitions) |

## DEFINITIONS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

result in emissions in excess of those allowed under Chapter 5, Section 2 of the WAQSR and any other new source performance standard or national emission standards for hazardous air pollutants promulgated by EPA but not yet adopted by the state.

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

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

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

***"Emergency"*** means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack ofpreventative 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 pursuantto 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 beforethe 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, orwould 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**
Calciner Burner Operational Plan

## Solvay Chemicals

## Permit #30-126-1

# PROCEDURE FOR MINIMIZATION OF CO EMISSIONS

# FROM CALCINER BURNER

(Updated January 2006)

The natural-gas burners on Calciners "C" (AQD #48) and "D" (AQD #80) are designed to produce low emission through pre-mixing of air and fuel. Control of the air-to-fuel ratio is important in operating the burners such that CO emissions are minimized.

The air-to-fuel ratio is controlled by the Distributive Control System (DCS), based on continuously measured air flow, fuel flow, and heating value of the fuel.

The burners are normally operated with an air ratio of 130% to 180% of stoichiometric air. Air ratios lower than this could result in increased emissions. The DCS shuts down a burner if its air ratio falls to 130% or lower. (Trip points may be set higher than 130% for process reasons not related to CO emissions. This higher trip point will still insure compliance with this Procedure.)

These air ratios are historized from the DCS to the Plant Historian and archived for five years.

Upon conversion of Calciners "A" and "B" (common stack AQD #17) to coal-firing per MD-995, this procedure will no longer apply to those units.

**Appendix B**
Compliance Assurance Monitoring (CAM) Plan

# COMPLIANCE ASSURANCE MONITORING PLAN
# FABRIC FILTER FOR PM CONTROL

I. Monitoring Approach

A. Indicators
Visible emissions will be used as an indicator. Normal process operations will not produce conditions that adversely affect the baghouse performance, so no process operational parameters will be monitored.

B. Measurement Approach
Visible emissions from each baghouse exhaust will be monitored daily for a minimum of one minute using EPA RM-22-like procedures. Observations will be recorded on logsheets.

C. Indicator Range
An excursion is defined as the presence of visible emissions. The presence of visible emissions will initiate corrective action.

D. Performance Criteria

| | |
|---|---|
| Data Representativeness: | Measurements are being made at the emission point (baghouse exhaust). |
| QA/QC Practices and Criteria: | The observer will be familiar with RM-22 and follow RM-22-like procedures. |

E. Monitoring Report
A report will be submitted semi-annually and will include the number, duration, cause, and the corrective action taken for each excursion.

II. Response to Excursion

A. Upon noting visible emissions, the observer will immediately notify maintenance to inspect the baghouse and corrective actions will be initiated.

B. Quality Improvement Plan (QIP) threshold: The QIP threshold is ten positive visible emissions observations in a six month period. This level would exceed 5% of the daily reading. If the QIP threshold is exceeded in a semi-annual period, a QIP will be developed and implemented.

## JUSTIFICATION

I. Rationale for Selection of Performance Indicators

Visible emissions were selected as the performance indicator because it is indicative of good operation and maintenance of the baghouse. When the baghouse is operating properly, there will not be visible emissions from the exhaust. Visible emissions indicates reduced performance of a particulate control device, therefore, the presence of visible emissions is used as a performance indicator.

II. Rationale for Selection of Indicator Ranges

The selected indicator range is no visible emissions. When an excursion occurs, corrective action will be initiated, beginning with an evaluation of the occurrence to determine the action required to correct the situation. All excursions will be documented and reported. An indicator range of no

visible emissions was selected because: (1) an increase in visible emissions is indicative of an increase in particulate emissions; and (2) a monitoring technique which does not require a Method 9 certified observer is desired. Although RM-22 applies to fugitive sources, the visible/no visible emissions observation technique of RM-22 can be applied to ducted emissions; i.e. RM-22-like observations.

The selected QIP threshold for baghouse visible emissions is 10 excursions in a 6-month period. This level would exceed 5% of the total visible emissions observations. If the QIP threshold is exceeded in a semi-annual reporting period, a QIP will be developed and implemented.

III. Implementation Plan

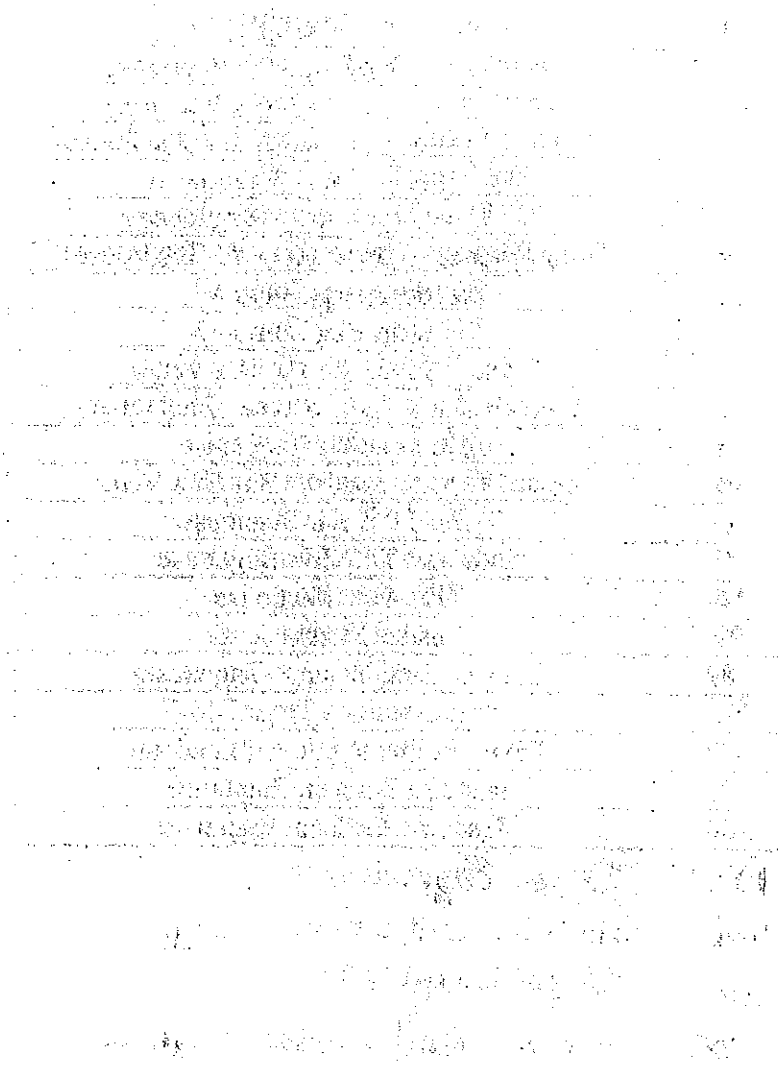
Daily observations will be initiated within 90 days of permit renewal.

## Baghouse/Filter Controlled Sources

| AQD # | Source Description |
|---|---|
| 2A | Ore Crusher Building #1 (Baghouse) |
| 6A | Product Silos- Top #1 (Baghouse) |
| 6B | Product Silos- Bottom #1 (Baghouse) |
| 7 | Product Loadout Station (Baghouse) |
| 10 | Coal Crushing & Storage (Baghouse) |
| 11 | Coal Transfer Station (Baghouse) |
| 14 | Boiler Coal Bunker (Baghouse) |
| 16 | Dryer Area (Baghouse) |
| 24 | Boiler Fly Ash Silo (Baghouse) |
| 25 | Alkaten Crushing (Baghouse) |
| 26 | Trona Products Dryer (Baghouse) |
| 27 | Trona Products Bagging and Loadout (Baghouse) |
| 30 | Lime Bin #1 (Baghouse) |
| 31 | Lime Bin #2 (Baghouse) |
| 36 | Sulfite Product Bin #1 (Bin Vent) |
| 37 | Sulfite Product Bin #2 (Bin Vent) |
| 38 | Sulfite Product Bin #3 (Bin Vent) |
| 44 | Lime Unloading (Baghouse) |
| 46 | Ore Transfer Station #2 (Baghouse) |
| 50 | "C" Train Dryer Area (Baghouse) |
| 52 | Product Silo- Top #2 (Baghouse) |
| 53 | Product Silo- Bottom #2 (Baghouse) |
| 54 | T-200 Storage Bin (Bin Vent) |
| 62 | Carbon Bin (Bin Vent) |
| 63 | Perlite Bin (Bin Vent) |
| 64 | Sulfite Blending #2 (Baghouse) |
| 65 | Sulfite Blending #1 (Baghouse) |
| 67 | Bottom Ash (Baghouse) |
| 68 | Trona Products Bagging Silo (Baghouse) |
| 70 | Sodium Sulfite Bagging Silo (Baghouse) |

| AQD # | Source Description |
|---|---|
| 71 | Metabisulfite Bagging Silo (Baghouse) |
| 72 | MBS Soda Ash Feed Silo (Baghouse) |
| 76 | "D" Train Primary Ore Screening (Baghouse) |
| 79 | Ore Transfer Point (Baghouse) |
| 81 | "D" Train Dryer Area (Baghouse) |
| 88 | Trona Products Transloading #2 (Baghouse) |
| 90 | Blending Bag Dump #1 |
| 91 | Blending Bag Dump #2 |
| 92 | Trona Product Bin #2 (Bin Vent) |
| 93 | Trona Products Rail Loudout (Baghouse) |
| 94 | Sulfite Loadout (Baghouse) |
| 95 | Trona Products Loadout Bin (Bin Vent) |
| 96 | T-200 TPX Bin Baghouse |
| 97 | Soda Ash TPX Bin Baghouse |
| 98 | TPX Area Baghouse |
| 99 | Crusher Baghouse #2 |
| 100 | Calciner Coal Bunker (Baghouse) |
| 101 | Trona Products Dryer DR-7 |
| 102 | Trona Products Silo and Loadout |
| 103 | East Ore Reclaim Baghouse |
| 104 | West Ore Reclaim Baghouse |

105 Dryer Baghouse
106 Silo and Rail Loadout Baghouse
107 Dryer Baghouse
108 silo and Rail Loadout Baghouse



# COMPLIANCE ASSURANCE MONITORING PLAN
# VENTURI SCRUBBER FOR PM CONTROL

## I. Background

### A. Emission Unit

| | |
|---|---|
| Description: | DR-1 & 2 Steam Tube Dryers |
| Identification: | AQD #15 – Common Stack |
| Facility: | Solvay Soda Ash Joint Venture<br>400 County Road 85<br>20 Miles West of Green River, WY 82935 |

### B. Applicable Regulation, Emission Limit, and Pre-CAM Monitoring Requirements

| | |
|---|---|
| Regulation: | Operating Permit No. 30-126 |
| CAM Emission Limits: | Particulate Matter: 4.34 pph<br>20% Opacity |
| Pre-CAM Monitoring Requirements: | Daily monitoring of scrubber differential pressure and liquor recirculation rate |

### C. Control Technology, Capture System, Bypass, PTE

| | |
|---|---|
| Controls: | Two venturi scrubbers in parallel arrangement. |
| Control Equipment: | (2) Ducon 59/126 type WO Oriclone Venturi Scrubbers |
| Capture System: | Closed-duct system |
| Bypass: | Not possible, based on the unit design |
| PTE after controls: | 4.34 pph, 19.01 TPY |
| PTE before controls: | 4,753 TPY based on 99.6% control efficiency of each scrubber |

## II. Monitoring Approach

### A. Indicators

Liquor recirculation rate (gpm) and differential pressure (ΔP) across the venturi will be used as indicators. Normal process operations will not produce conditions that adversely affect scrubber performance, so no process operational parameters will be monitored.

Indicator #1: 3-hour average liquor recirculation rate of not less than 210 gpm for each scrubber.

Indicator #2: DR-1: 3-hour average ΔP between 15.1"-28.0".
DR-2: 3-hour average ΔP between 17.7"-33.0".

### B. Measurement Approach

ΔP and liquor recirculation rate will be recorded a minimum of every 15 minutes using the plant data acquisition system.

### C. Indicator Range

An excursion is defined as a 3-hour fixed block where the average ΔP or liquor recirculation rate are outside the indicator parameters.

D. Performance Criteria

| | |
|---|---|
| Data Representativeness: | The magnetic flow is located in the liquor inlet.<br>The differential pressure is located at the venturi. |
| QA/QC Practices and Criteria: | QA/QC of differential pressure and flow meters will be conducted annually per instrumentation calibration standards. Perform all manufacturers' recommended maintenance. |

E. Monitoring Report

A report will be submitted semi-annually and will include the number, duration, cause, and the corrective action taken for each excursion.

III. Response to Excursion

A. When an excursion occurs, corrective action will be initiated, beginning with the evaluation of the occurrence to determine the action required to correct the situation. All excursions will be documented and reported. Any needed actions or repairs will be initiated as soon as practicable.

B. Quality Improvement Plan (QIP) threshold: The QIP threshold is triggered when excursions including startup and shutdown are in excess of 5% of the operating time in a six-month period. If the QIP threshold is exceeded in a semi-annual reporting period, a QIP will be developed and implemented.

## JUSTIFICATION

I. Rationale for Selection of Performance Indicators

Scrubber efficiency is related to the. The indicator ranges are based on +/- 30% of the results from Reference Method 5/202 performance testing conducted in July, 1999. Per Subpart OOO, compliance is expected when the ΔP and liquor recirculation rate are within +/- 30% of the average readings taken during a performance test.

II. Implementation Plan

Continuous monitoring will be initiated upon permit renewal.

# COMPLIANCE ASSURANCE MONITORING PLAN
# VENTURI SCRUBBER FOR PM CONTROL

## I. Background

### A. Emission Unit

| | |
|---|---|
| Description: | Sulfite Dryer |
| Identification: | AQD #35 |
| Facility: | Solvay Soda Ash Joint Venture<br>400 County Road 85<br>20 Miles West of Green River, WY 82935 |

### B. Applicable Regulation, Emission Limit, and Pre-CAM Monitoring Requirements

| | |
|---|---|
| Regulation: | Operating Permit No. 30-126 |
| CAM Emission Limits: | Particulate Matter: 1.4 pph<br>20% Opacity |
| Pre-CAM Monitoring Requirements: | Daily monitoring of scrubber differential pressure and liquor recirculation rate |

### C. Control Technology, Capture System, Bypass, PTE

| | |
|---|---|
| Controls: | Venturi scrubber. |
| Control Equipment: | Ducon Oriclone Venturi Scrubber |
| Capture System: | Closed-duct system |
| Bypass: | Not possible, based on the unit design |
| PTE after controls: | 1.40 pph, 6.13 TPY |
| PTE before controls: | 3,065 TPY based on 99.8% control efficiency of the scrubber |

## II. Monitoring Approach

### A. Indicators

Liquor recirculation rate (gpm) and differential pressure (ΔP) across the venturi will be used as indicators. Normal process operations will not produce conditions that adversely affect scrubber performance, so no process operational parameters will be monitored.

Indicator #1: 3-hour average liquor recirculation rate of not less than 37.8 gpm.
Indicator #2: 3-hour average ΔP between 12.4"-23.0".

### B. Measurement Approach

ΔP and liquor recirculation rate will be recorded a minimum of every 15 minutes using the plant data acquisition system.

### C. Indicator Range

An excursion is defined as a 3-hour fixed block where the average ΔP or liquor recirculation rate are outside the indicator parameters.

D. Performance Criteria

| | |
|---|---|
| Data Representativeness: | The magnetic flow is located in the liquor inlet.<br>The differential pressure is located at the venturi. |
| QA/QC Practices and Criteria: | QA/QC of differential pressure and flow meters will be conducted annually per instrumentation calibration standards using reference instruments. |

E. Monitoring Report

A report will be submitted semi-annually and will include the number, duration, cause, and the corrective action taken for each excursion.

III. Response to Excursion

A. Excursions of either indicator will trigger corrective actions by the operations or maintenance departments. Corrective actions will be made as soon as practicable.

B. Quality Improvement Plan (QIP) threshold: The QIP threshold is when excursions including startup and shutdown are in excess of 5% of the operating time in a six-month period. If the QIP threshold is exceeded in a semi-annual reporting period, a QIP will be developed and implemented.

## JUSTIFICATION

I. Rationale for Selection of Performance Indicators

Scrubber efficiency is related to the ΔP and liquor recirculation rate. Due to the small permitted emission limit of 1.40 pph, the indicator ranges are based on results from Reference Method 9 test in October, 2001. Per Subpart OOO, compliance is expected when the ΔP and liquor recirculation rate are within +/- 30% of the average readings taken during a performance test.

II. Implementation Plan

Continuous monitoring will be initiated upon permit renewal. Reference Method 5 testing will be conducted within 180 days following permit renewal. The indicator ranges may or may not be revised following the testing.

# COMPLIANCE ASSURANCE MONITORING PLAN
# VENTURI SCRUBBER FOR PM CONTROL

## I. Background

### A. Emission Unit

| | |
|---|---|
| Description: | Carbon/Perlite Scrubber |
| Identification: | AQD #66 |
| Facility: | Solvay Soda Ash Joint Venture<br>400 County Road 85<br>20 Miles West of Green River, WY 82935 |

### B. Applicable Regulation, Emission Limit, and Pre-CAM Monitoring Requirements

| | |
|---|---|
| Regulation: | Operating Permit No. 30-126 |
| CAM Emission Limits: | Particulate Matter: 0.58 pph<br>20% Opacity |
| Pre-CAM Monitoring Requirements: | Daily monitoring of scrubber differential pressure and liquor recirculation rate |

### C. Control Technology, Capture System, Bypass, PTE

| | |
|---|---|
| Controls: | Venturi scrubber. |
| Control Equipment: | Ducon Oriclone Venturi Scrubber |
| Capture System: | Closed-duct system |
| Bypass: | Not possible, based on the unit design |
| PTE after controls: | 0.58 pph, 2.54 TPY |
| PTE before controls: | 508 TPY based on 99.5% control efficiency of the scrubber |

## II. Monitoring Approach

### A. Indicators

Liquor recirculation rate (gpm) and differential pressure ($\Delta P$) across the venturi will be used as indicators. Normal process operations will not produce conditions that adversely affect scrubber performance, so no process operational parameters will be monitored.

Indicator #1: 3-hour average liquor recirculation rate of not less than 30.0 gpm.
Indicator #2: 3-hour average $\Delta P$ between 19.9"-36.9".

### B. Measurement Approach

$\Delta P$ and liquor recirculation rate will be recorded a minimum of every 15 minutes using the plant data acquisition system.

### C. Indicator Range

An excursion is defined as a 3-hour fixed block where the average $\Delta P$ or liquor recirculation rate are outside the indicator parameters.

D. Performance Criteria

| | |
|---|---|
| Data Representativeness: | The magnetic flow is located in the liquor inlet.<br>The differential pressure is located at the venturi. |
| QA/QC Practices and Criteria: | QA/QC of differential pressure and flow meters will be conducted annually per instrumentation calibration standards using reference instruments. |

E. Monitoring Report

A report will be submitted semi-annually and will include the number, duration, cause, and the corrective action taken for each excursion.

III. Response to Excursion

A. Excursions of either indicator will trigger corrective actions by the operations or maintenance departments. Corrective actions will be made as soon as practicable.

B. Quality Improvement Plan (QIP) threshold: The QIP threshold is when excursions including startup and shutdown are in excess of 5% of the operating time in a six-month period. If the QIP threshold is exceeded in a semi-annual reporting period, a QIP will be developed and implemented.

## JUSTIFICATION

I. Rationale for Selection of Performance Indicators

Scrubber efficiency is related to the ΔP and liquor recirculation rate. The indicator ranges are based on +/- 30% of results from Reference Method 5 performance testing conducted in October, 2007. Per Subpart OOO, compliance is expected when the ΔP and liquor recirculation rate are within +/- 30% of the average readings taken during a performance test.

II. Implementation Plan

Continuous monitoring will be initiated upon permit renewal.

# COMPLIANCE ASSURANCE MONITORING PLAN
# VENTURI SCRUBBER FOR PM CONTROL

## I. Background

### A. Emission Unit

| | |
|---|---|
| Description: | Metabisulfite Dryer |
| Identification: | AQD #73 |
| Facility: | Solvay Soda Ash Joint Venture<br>400 County Road 85<br>20 Miles West of Green River, WY 82935 |

### B. Applicable Regulation, Emission Limit, and Pre-CAM Monitoring Requirements

| | |
|---|---|
| Regulation: | Operating Permit No. 30-126 |
| CAM Emission Limits: | Particulate Matter: 0.90 pph<br>20% Opacity |
| Pre-CAM Monitoring Requirements: | Daily monitoring of scrubber differential pressure and liquor recirculation rate |

### C. Control Technology, Capture System, Bypass, PTE

| | |
|---|---|
| Controls: | Venturi scrubber. |
| Control Equipment: | Ducon Oriclone Venturi Scrubber |
| Capture System: | Closed-duct system |
| Bypass: | Not possible, based on the unit design |
| PTE after controls: | 0.90 pph, 3.94 TPY |
| PTE before controls: | 1,576 TPY based on 99.5% control efficiency of the scrubber |

## II. Monitoring Approach

### A. Indicators

Liquor recirculation rate (gpm) and differential pressure ($\Delta P$) across the venturi will be used as indicators. Normal process operations will not produce conditions that adversely affect scrubber performance, so no process operational parameters will be monitored.

Indicator #1: 3-hour average liquor recirculation rate of not less than 87.5 gpm.
Indicator #2: 3-hour average $\Delta P$ between 7.8"-14.6".

### B. Measurement Approach

$\Delta P$ and liquor recirculation rate will be recorded a minimum of every 15 minutes using the plant data acquisition system.

### C. Indicator Range

An excursion is defined as a 3-hour fixed block where the average $\Delta P$ or liquor recirculation rate are outside the indicator parameters.

D. Performance Criteria

| | |
|---|---|
| Data Representativeness: | The magnetic flow is located in the liquor inlet.<br>The differential pressure is located at the venturi. |
| QA/QC Practices and Criteria: | QA/QC of differential pressure and flow meters will be conducted annually per instrumentation calibration standards using reference instruments. |

E. Monitoring Report

A report will be submitted semi-annually and will include the number, duration, cause, and the corrective action taken for each excursion.

III. Response to Excursion

A. Excursions of either indicator will trigger corrective actions by the operations or maintenance departments. Corrective actions will be made as soon as practicable.

B. Quality Improvement Plan (QIP) threshold: The QIP threshold is when excursions including startup and shutdown are in excess of 5% of the operating time in a six-month period. If the QIP threshold is exceeded in a semi-annual reporting period, a QIP will be developed and implemented.

## JUSTIFICATION

I. Rationale for Selection of Performance Indicators

Scrubber efficiency is related to the ΔP and liquor recirculation rate. Due to the small permitted emission limit of 0.90 pph, the indicator ranges are based on results from Reference Method 9 test in October, 2001. Per Subpart OOO, compliance is expected when the ΔP and liquor recirculation rate are within +/- 30% of the average readings taken during a performance test.

II. Implementation Plan

Continuous monitoring will be initiated upon permit renewal. Reference Method 5 testing will be conducted within 180 days following permit renewal. The indicator ranges may or may not be revised following the testing.

# COMPLIANCE ASSURANCE MONITORING PLAN
# ELECTROSTATIC PRECIPITATOR FOR PM CONTROL

## I. Background

### A. Emission Unit

| | |
|---|---|
| Description: | "A" Calciner – CA-1 |
| Identification: | AQD #17 |
| Facility: | Solvay Soda Ash Joint Venture<br>400 County Road 85<br>20 Miles West of Green River, WY 82935 |

### B. Applicable Regulation, Emission Limit, and Pre-CAM Monitoring Requirements

| | |
|---|---|
| Regulation: | Operating Permit No. 3-0-126-2 |
| CAM Emission Limits: | Particulate Matter: 30.0 ÷ 2 = 15.0 pph<br>20% Opacity |
| Pre-CAM Monitoring Requirements: | Daily monitoring of precipitator secondary current and secondary voltage |

### C. Control Technology, Capture System, Bypass, PTE

| | |
|---|---|
| Controls: | Electrostatic Precipitator (ESP) |
| Control Equipment: | Buell Electrostatic Precipitator<br>Model # BA1.1 X 50L 4334-4.T<br>Six Fields in series |
| Capture System: | Closed-duct system |
| Bypass: | Not possible, based on the unit design |
| PTE after controls: | 15.0 pph, 65.7 TPY |
| PTE before controls: | 67,500 TPY based on 99.9% control efficiency of the precipitator |

## II. Monitoring Approach

### A. Indicators

Solvay Chemicals' normal operating procedure is maximum power input to each ESP field. A power input below 75% for three or more ESP fields will be used as the indicator. The indicator range for the ESP power was selected based upon the level maintained during normal operation and recent performance tests. Normal process operations will not produce conditions that adversely affect ESP performance, so no process operational parameters will be monitored.

### B. Measurement Approach

The power input which is the product of secondary voltage and current will be recorded a minimum of every 15 minutes using the Automatic Voltage Controller (AVC) in the ESP and recorded by a data acquisition system (DAS).

### C. Indicator Range

An excursion is defined as a 3-hour fixed block where the power input is below the indicator range of more than three fields. Excursions trigger an ESP inspection, corrective action and a reporting requirement. Please see following table for minimum power input settings for each field.

| Field | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Power Input | 22568 | 19141 | 33953 | 34282 | 33563 | 25085 |

D. Performance Criteria

| | |
|---|---|
| QA/QC Practices and Criteria: | QA/QC of AVC outputs will be conducted annually per instrumentation calibration standards. Perform all manufacturers' recommended maintenance. |

E. Monitoring Report

A report will be submitted semi-annually and will include the number, duration, cause, and the corrective action taken for each excursion.

III. Response to Excursion

A. When an excursion occurs, corrective action will be initiated, beginning with the evaluation of the occurrence to determine the action required to correct the situation. All excursions will be documented and reported. Any needed actions or repairs will be initiated as soon as practicable.

B. Quality Improvement Plan (QIP) threshold: The QIP threshold is triggered when excursions including startup and shutdown are in excess of 5% of the operating time in a six-month period. If the QIP threshold is exceeded in a semi-annual reporting period, a QIP will be developed and implemented.

## JUSTIFICATION

I. Rationale for Selection of Performance Indicators

In an ESP, electric fields are established by applying a direct-current voltage across a pair of electrodes: a discharge electrode and a collection plate. Particulate matter suspended in the gas stream is electrically charged by passing through the electric field around each discharge electrode (the negatively charged electrode). The negatively charged particles then migrate toward the positively charged collection plates. The particulate matter is separated from the gas stream by retention on the collection plates. Particulate is removed from the collection plates by rapping the plates.

Since power is the product of the voltage and current, monitoring the power input and number of fields in service will provide a reasonable assurance that the ESP is functioning properly. Fluctuations in power can also occur due to product quality, size distribution, and operating load, therefore, the recommended power input at 75% of tested average will provide a reasonable assurance that the ESP is functioning properly.

II. Rationale for Selection of Indicator Ranges

The indicator ranges for ESP power input and number of fields in service were based upon 75% of the level maintained during normal operations and recent performance tests.

The most recent performance testing using Reference Method 5/202 was conducted in June, 2007. Four tests were conducted with various fields out of service. Three one hour runs with all fields in service were conducted for initial compliance testing; 75% of the average was used in developing the CAM Plan. All tests were within the permitted emission limit.

III. Implementation Plan

Monitoring will be initiated within 180 days of permit renewal.

# COMPLIANCE ASSURANCE MONITORING PLAN
# ELECTROSTATIC PRECIPITATOR FOR PM CONTROL

## I. Background

### A. Emission Unit

| | |
|---|---|
| Description: | "B" Calciner – CA-2 |
| Identification: | AQD #17 |
| Facility: | Solvay Soda Ash Joint Venture<br>400 County Road 85<br>20 Miles West of Green River, WY 82935 |

### B. Applicable Regulation, Emission Limit, and Pre-CAM Monitoring Requirements

| | |
|---|---|
| Regulation: | Operating Permit No. 3-0-126-2 |
| CAM Emission Limits: | Particulate Matter: 30.0 ÷ 2 = 15.0 pph<br>20% Opacity |
| Pre-CAM Monitoring Requirements: | Daily monitoring of precipitator secondary current and secondary voltage. |

### C. Control Technology, Capture System, Bypass, PTE

| | |
|---|---|
| Controls: | Electrostatic Precipitator (ESP) |
| Control Equipment: | Buell Electrostatic Precipitator<br>Model # BA1.1 X 50L 4334-4.T<br>Six Fields in series |
| Capture System: | Closed-duct system |
| Bypass: | Not possible, based on the unit design |
| PTE after controls: | 15.0pph, 67.5 TPY |
| PTE before controls: | 65,700 TPY based on 99.9% control efficiency of the precipitator |

## II. Monitoring Approach

### A. Indicators

Solvay Chemicals' normal operating procedure is maximum power input to each ESP field. A power input below 75% for three or more ESP fields will be used as the indicator. The indicator range for the ESP power was selected based upon the level maintained during normal operation and recent performance tests. Normal process operations will not produce conditions that adversely affect ESP performance, so no process operational parameters will be monitored.

### B. Measurement Approach

The power input which is the product of secondary voltage and current will be recorded a minimum of every 15 minutes using the Automatic Voltage Controller (AVC) in the ESP and recorded by a data acquisition system (DAS).

### C. Indicator Range

An excursion is defined as a 3-hour fixed block where the power input is below the indicator range of more than three fields. Excursions trigger an ESP inspection, corrective action and a reporting requirement. Please see following table for minimum power input settings for each field.

| Field | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Power Input | 586 | 14068 | 39862 | 37363 | 36440 | 26014 |

D. Performance Criteria

| | |
|---|---|
| QA/QC Practices and Criteria: | QA/QC of AVC outputs will be conducted annually per instrumentation calibration standards. Perform all manufacturers' recommended maintenance. |

E. Monitoring Report

A report will be submitted semi-annually and will include the number, duration, cause, and the corrective action taken for each excursion.

III. Response to Excursion

A. When an excursion occurs, corrective action will be initiated, beginning with the evaluation of the occurrence to determine the action required to correct the situation. All excursions will be documented and reported. Any needed actions or repairs will be initiated as soon as practicable.

B. Quality Improvement Plan (QIP) threshold: The QIP threshold is triggered when excursions including startup and shutdown are in excess of 5% of the operating time in a six-month period. If the QIP threshold is exceeded in a semi-annual reporting period, a QIP will be developed and implemented.

## JUSTIFICATION

I. Rationale for Selection of Performance Indicators

In an ESP, electric fields are established by applying a direct-current voltage across a pair of electrodes: a discharge electrode and a collection plate. Particulate matter suspended in the gas stream is electrically charged by passing through the electric field around each discharge electrode (the negatively charged electrode). The negatively charged particles then migrate toward the positively charged collection plates. The particulate matter is separated from the gas stream by retention on the collection plates. Particulate is removed from the collection plates by rapping the plates.

Since power is the product of the voltage and current, monitoring the power input and number of fields in service will provide a reasonable assurance that the ESP is functioning properly. Fluctuations in power can also occur due to product quality, size distribution, and operating load, therefore, the recommended power input at 75% of tested average will provide a reasonable assurance that the ESP is functioning properly.

II. Rationale for Selection of Indicator Ranges

The indicator ranges for ESP power input and number of fields in service were based upon 75% of the level maintained during normal operations and recent performance tests.

The most recent performance testing using Reference Method 5/202 was conducted in August, 2006. Seven tests were conducted with various fields out of service. Three one hour runs with all fields in service were conducted for initial compliance testing; 75% of the average was used in developing the CAM Plan. All tests were within the permitted emission limit.

III. Implementation Plan

Monitoring will be initiated within 180 days of permit renewal.

# COMPLIANCE ASSURANCE MONITORING PLAN
# ELECTROSTATIC PRECIPITATOR FOR PM CONTROL

## I. Background

### A. Emission Unit

| | |
|---|---|
| Description: | Coal Fired Boiler "1" BO-1 |
| Identification: | AQD #18 |
| Facility: | Solvay Soda Ash Joint Venture<br>400 County Road 85<br>20 Miles West of Green River, WY 82935 |

### B. Applicable Regulation, Emission Limit, and Pre-CAM Monitoring Requirements

| | |
|---|---|
| Regulation: | Operating Permit No. 30-126 |
| CAM Emission Limits: | Particulate Matter: 5.0 pph<br>20% Opacity |
| Pre-CAM Monitoring Requirements: | Daily monitoring of precipitator secondary current and secondary voltage |

### C. Control Technology, Capture System, Bypass, PTE

| | |
|---|---|
| Controls: | Electrostatic Precipitator on each unit |
| Control Equipment: | Flakt Rigid Frame Electrostatic Precipitator<br>Model # FAA 5x332-66120-2<br>Five Fields in series |
| Capture System: | Closed-duct system |
| Bypass: | Not possible, based on the unit design |
| PTE after controls: | 5.0 pph, 21.9 TPY for each unit |
| PTE before controls: | 21,900 TPY based on 99.9% control efficiency of the precipitator |

## II. Monitoring Approach

### A. Indicators

Solvay Chemicals' normal operating procedure is maximum power input to each ESP field. A power input below 75% for three or more ESP fields will be used as the indicator. The indicator range for the ESP power was selected based upon the level maintained during normal operation and recent performance tests. Normal process operations will not produce conditions that adversely affect ESP performance, so no process operational parameters will be monitored

### B. Measurement Approach

The power input which is the product of secondary voltage and current will be recorded a minimum of every 15 minutes using the Automatic Voltage Controller (AVC) in the ESP and recorded by a data acquisition system (DAS).

### C. Indicator Range

An excursion is defined as a 3-hour fixed block where the power input is below the indicator range of more than two fields. Excursions trigger an ESP inspection, corrective action and a reporting requirement. Please see following table for minimum power input settings for each field.

| Field | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Total Power Input | 18311 | 19265 | 19857 | 16787 | 18537 |

D. Performance Criteria

| | |
|---|---|
| QA/QC Practices and Criteria: | QA/QC of AVC outputs will be conducted annually per instrumentation calibration standards. Perform all manufacturers' recommended maintenance. |

E. Monitoring Report

A report will be submitted semi-annually and will include the number, duration, cause, and the corrective action taken for each excursion.

III. Response to Excursion

A. When an excursion occurs, corrective action will be initiated, beginning with the evaluation of the occurrence to determine the action required to correct the situation. All excursions will be documented and reported. Any needed actions or repairs will be initiated as soon as practicable.

B. Quality Improvement Plan (QIP) threshold: The QIP threshold is triggered when excursions including startup and shutdown are in excess of 5% of the operating time in a six-month period. If the QIP threshold is exceeded in a semi-annual reporting period, a QIP will be developed and implemented.

**JUSTIFICATION**

I. Rationale for Selection of Performance Indicators

In an ESP, electric fields are established by applying a direct-current voltage across a pair of electrodes: a discharge electrode and a collection plate. Particulate matter suspended in the gas stream is electrically charged by passing through the electric field around each discharge electrode (the negatively charged electrode). The negatively charged particles then migrate toward the positively charged collection plates. The particulate matter is separated from the gas stream by retention on the collection plates. Particulate is removed from the collection plates by rapping the plates.

Since power is the product of the voltage and current, monitoring the power input and number of fields in service will provide a reasonable assurance that the ESP is functioning properly. Fluctuations in power can also occur due to product quality, size distribution, and operating load, therefore, the recommended voltage and current settings at 75% of tested average will provide a reasonable assurance that the ESP is functioning properly.

II. Rationale for Selection of Indicator Ranges

The indicator ranges for ESP power and number of fields in service were based upon the level maintained during normal operations and recent performance tests.

The most recent performance testing using Reference Method 5 was conducted in August, 2005. Seven tests were conducted with various fields out of service. All tests were within the permitted emission limit.

III. Implementation Plan

Monitoring will be initiated within 180 days of permit renewal

# COMPLIANCE ASSURANCE MONITORING PLAN
# ELECTROSTATIC PRECIPITATOR FOR PM CONTROL

## I. Background

### A. Emission Unit

| | |
|---|---|
| Description: | Coal Fired Boiler "2", BO-2 |
| Identification: | AQD #19 |
| Facility: | Solvay Soda Ash Joint Venture<br>400 County Road 85<br>20 Miles West of Green River, WY 82935 |

### B. Applicable Regulation, Emission Limit, and Pre-CAM Monitoring Requirements

| | |
|---|---|
| Regulation: | Operating Permit No. 30-126 |
| CAM Emission Limits: | Particulate Matter: 5.0 pph<br>20% Opacity |
| Pre-CAM Monitoring Requirements: | Daily monitoring of precipitator secondary current and secondary voltage |

### C. Control Technology, Capture System, Bypass, PTE

| | |
|---|---|
| Controls: | Electrostatic Precipitator on each unit |
| Control Equipment: | Flakt Rigid Frame Electrostatic Precipitator<br>Model # FAA 5x332-66120-2<br>Five Fields in series |
| Capture System: | Closed-duct system |
| Bypass: | Not possible, based on the unit design |
| PTE after controls: | 5.0 pph, 21.9 TPY for each unit |
| PTE before controls: | 21,900 TPY based on 99.9% control efficiency of the precipitator |

## II. Monitoring Approach

### A. Indicators

Solvay Chemicals' normal operating procedure is maximum power input to each ESP field. A power input below 75% for three or more ESP fields will be used as the indicator. The indicator range for the ESP power was selected based upon the level maintained during normal operation and recent performance tests. Normal process operations will not produce conditions that adversely affect ESP performance, so no process operational parameters will be monitored.

### B. Measurement Approach

The power input which is the product of secondary voltage and current will be recorded a minimum of every 15 minutes using the Automatic Voltage Controller (AVC) in the ESP and recorded by a data acquisition system (DAS).

### C. Indicator Range

An excursion is defined as a 3-hour fixed block where the power input is below the indicator range of more than three fields. Excursions trigger an ESP inspection, corrective action and a reporting requirement. Please see following table for minimum power input settings for each field.

| Field | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Total Power Input | 19126 | 15193 | 19054 | 19257 | 17331 |

D. Performance Criteria

| | |
|---|---|
| QA/QC Practices and Criteria: | QA/QC of AVC outputs will be conducted annually per instrumentation calibration standards. Perform all manufacturer's recommended maintenance. |

E. Monitoring Report

A report will be submitted semi-annually and will include the number, duration, cause, and the corrective action taken for each excursion.

III. Response to Excursion

A. When an excursion occurs, corrective action will be initiated, beginning with the evaluation of the occurrence to determine the action required to correct the situation. All excursions will be documented and reported. Any needed actions or repairs will be initiated as soon as practicable.

B. Quality Improvement Plan (QIP) threshold: The QIP threshold is triggered when excursions including startup and shutdown are in excess of 5% of the operating time in a six-month period. If the QIP threshold is exceeded in a semi-annual reporting period, a QIP will be developed and implemented.

## JUSTIFICATION

I. Rationale for Selection of Performance Indicators

In an ESP, electric fields are established by applying a direct-current voltage across a pair of electrodes: a discharge electrode and a collection plate. Particulate matter suspended in the gas stream is electrically charged by passing through the electric field around each discharge electrode (the negatively charged electrode). The negatively charged particles then migrate toward the positively charged collection plates. The particulate matter is separated from the gas stream by retention on the collection plates. Particulate is removed from the collection plates by rapping the plates.

Since power is the product of the voltage and current, monitoring the power input and number of fields in service will provide a reasonable assurance that the ESP is functioning properly. Fluctuations in power can also occur due to product quality, size distribution, and operating load, therefore, the recommended voltage and current settings at 75% of tested average will provide a reasonable assurance that the ESP is functioning properly.

II. Rationale for Selection of Indicator Ranges

The indicator ranges for ESP power and number of fields in service were based upon the level maintained during normal operations and recent performance tests.

The most recent performance testing using Reference Method 5 was conducted in August, 2005. Eight tests were conducted with various fields out of service. All tests were within the permitted emission limit.

III. Implementation Plan

Monitoring will be initiated within 180 days of permit renewal

# COMPLIANCE ASSURANCE MONITORING PLAN
# ELECTROSTATIC PRECIPITATOR FOR PM CONTROL

## I. Background

### A. Emission Unit

| | |
|---|---|
| Description: | "C" Calciner – CA-3 |
| Identification: | AQD #48 |
| Facility: | Solvay Soda Ash Joint Venture<br>400 County Road 85<br>20 Miles West of Green River, WY 82935 |

### B. Applicable Regulation, Emission Limit, and Pre-CAM Monitoring Requirements

| | |
|---|---|
| Regulation: | Operating Permit No. 30-126 |
| CAM Emission Limits: | Particulate Matter: 8.0 pph<br>20% Opacity |
| Pre-CAM Monitoring Requirements: | Daily monitoring of precipitator secondary current and secondary voltage |

### C. Control Technology, Capture System, Bypass, PTE

| | |
|---|---|
| Controls: | Electrostatic Precipitator (ESP) |
| Control Equipment: | ABB Flakt Electrostatic Precipitator<br>Model # FAAGX 37.5H-120-110-520-CL-026<br>Six Fields in series |
| Capture System: | Closed-duct system |
| Bypass: | Not possible, based on the unit design |
| PTE after controls: | 8.0 pph, 35.04 TPY |
| PTE before controls: | 35,040730 TPY based on 99.9% control efficiency of the precipitator |

## II. Monitoring Approach

### A. Indicators

Solvay Chemicals' normal operating procedure is maximum power input to each ESP field. A power input below 75% for three or more ESP fields will be used as the indicator. The indicator range for the ESP power was selected based upon the level maintained during normal operation and recent performance tests. Normal process operations will not produce conditions that adversely affect ESP performance, so no process operational parameters will be monitored.

### B. Measurement Approach

The power input which is the product of secondary voltage and current will be recorded a minimum of every 15 minutes using the Automatic Voltage Controller (AVC) in the ESP and recorded by a data acquisition system (DAS).

### C. Indicator Range

An excursion is defined as a 3-hour fixed block where the power input is below the indicator range of more than two fields. Excursions trigger an ESP inspection, corrective action and a reporting requirement. Please see following table for minimum power input settings for each field.

| Field | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Power Input | 12689 | 21247 | 71317 | 51790 | 60687 | 57395 |

D. Performance Criteria

| | |
|---|---|
| QA/QC Practices and Criteria: | QA/QC of AVC outputs will be conducted annually per instrumentation calibration standards. Perform all manufacturers' recommended maintenance. |

E. Monitoring Report

A report will be submitted semi-annually and will include the number, duration, cause, and the corrective action taken for each excursion.

III. Response to Excursion

A. When an excursion occurs, corrective action will be initiated, beginning with the evaluation of the occurrence to determine the action required to correct the situation. All excursions will be documented and reported. Any needed actions or repairs will be initiated as soon as practicable.

B. Quality Improvement Plan (QIP) threshold: The QIP threshold is triggered when excursions including startup and shutdown are in excess of 5% of the operating time in a six-month period. If the QIP threshold is exceeded in a semi-annual reporting period, a QIP will be developed and implemented.

## JUSTIFICATION

I. Rationale for Selection of Performance Indicators

In an ESP, electric fields are established by applying a direct-current voltage across a pair of electrodes: a discharge electrode and a collection plate. Particulate matter suspended in the gas stream is electrically charged by passing through the electric field around each discharge electrode (the negatively charged electrode). The negatively charged particles then migrate toward the positively charged collection plates. The particulate matter is separated from the gas stream by retention on the collection plates. Particulate is removed from the collection plates by rapping the plates.

Since power is the product of the voltage and current, monitoring the power input and number of fields in service will provide a reasonable assurance that the ESP is functioning properly. Fluctuations in power can also occur due to product quality, size distribution, and operating load, therefore, the recommended voltage and current settings at 75% of tested average will provide a reasonable assurance that the ESP is functioning properly.

II. Rationale for Selection of Indicator Ranges

The indicator ranges for ESP power and number of fields in service were based upon the level maintained during normal operations and recent performance tests.

The most recent performance testing using Reference Method 5/202 was conducted in August, 2005. Eight tests were conducted with various fields out of service. All tests were within the permitted emission limit.

III. Implementation Plan

Monitoring will be initiated within 180 days of permit renewal.

# COMPLIANCE ASSURANCE MONITORING PLAN
# ELECTROSTATIC PRECIPITATOR FOR PM CONTROL

## I. Background

### A. Emission Unit

| | |
|---|---|
| Description: | Product Dryer #5 |
| Identification: | AQD #51 |
| Facility: | Solvay Soda Ash Joint Venture<br>400 County Road 85<br>20 Miles West of Green River, WY 82935 |

### B. Applicable Regulation, Emission Limit, and Pre-CAM Monitoring Requirements

| | |
|---|---|
| Regulation: | Operating Permit No. 30-126 |
| CAM Emission Limits: | Particulate Matter: 2.40 pph<br>20% Opacity |
| Pre-CAM Monitoring Requirements: | Daily monitoring of precipitator secondary current and secondary voltage |

### C. Control Technology, Capture System, Bypass, PTE

| | |
|---|---|
| Controls: | Electrostatic Precipitator (ESP) |
| Control Equipment: | ABB Flakt Electrostatic Precipitator<br>Model # FAA 4x30 H-87-100-AL<br>Five Fields in series |
| Capture System: | Closed-duct system |
| Bypass: | Not possible, based on the unit design |
| PTE after controls: | 2.40 pph, 10.51 TPY |
| PTE before controls: | 10,510 TPY based on 99.9% control efficiency of the precipitator |

## II. Monitoring Approach

### A. Indicators

Solvay Chemicals' normal operating procedure is maximum power input to each ESP field. A power input below 75% for three or more ESP fields will be used as the indicator. The indicator range for the ESP power was selected based upon the level maintained during normal operation and recent performance tests. Normal process operations will not produce conditions that adversely affect ESP performance, so no process operational parameters will be monitored.

### B. Measurement Approach

The power input which is the product of secondary voltage and current will be recorded a minimum of every 15 minutes using the Automatic Voltage Controller (AVC) in the ESP and recorded by a data acquisition system (DAS).

### C. Indicator Range

An excursion is defined as a 3-hour fixed block where the power input is below the indicator range of more than three fields. Excursions trigger an ESP inspection, corrective action and a reporting requirement. Please see following table for minimum power input settings for each field.

| Field | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Total Power Input | 38119 | 31844 | 35304 | 35500 | 33697 |

Performiance Criteria

| | |
|---|---|
| QA/QC Practices and Criteria: | QA/QC of AVC outputs will be conducted annually per instrumentation calibration standards. Perform all manufacturer's recommended maintenance. |

D. Monitoring Report

A report will be submitted semi-annually and will include the number, duration, cause, and the corrective action taken for each excursion.

III. Response to Excursion

A. When an excursion occurs, corrective action will be initiated, beginning with the evaluation of the occurrence to determine the action required to correct the situation. All excursions will be documented and reported. Any needed actions or repairs will be initiated as soon as practicable.

B. Quality Improvement Plan (QIP) threshold: The QIP threshold is triggered when excursions including startup and shutdown are in excess of 5% of the operating time in a six-month period. If the QIP threshold is exceeded in a semi-annual reporting period, a QIP will be developed and implemented.

## JUSTIFICATION

I. Rationale for Selection of Performance Indicators

In an ESP, electric fields are established by applying a direct-current voltage across a pair of electrodes: a discharge electrode and a collection plate. Particulate matter suspended in the gas stream is electrically charged by passing through the electric field around each discharge electrode (the negatively charged electrode). The negatively charged particles then migrate toward the positively charged collection plates. The particulate matter is separated from the gas stream by retention on the collection plates. Particulate is removed from the collection plates by rapping the plates.

Since power is the product of the voltage and current, monitoring the power input and number of fields in service will provide a reasonable assurance that the ESP is functioning properly. Fluctuations in power can also occur due to product quality, size distribution, and operating load, therefore, the recommended voltage and current settings at 75% of tested average will provide a reasonable assurance that the ESP is functioning properly.

II. Rationale for Selection of Indicator Ranges

The indicator ranges for ESP power and number of fields in service were based upon the level maintained during normal operations and recent performance tests.

The most recent performance testing using Reference Method 5/202 was conducted in June, 2005. Eight tests were conducted with various fields out of service. All tests were within the permitted emission limit.

III. Implementation Plan

Monitoring will be initiated within 180 days of permit renewal.

# COMPLIANCE ASSURANCE MONITORING PLAN
# ELECTROSTATIC PRECIPITATOR FOR PM CONTROL

## I. Background

### A. Emission Unit

| | |
|---|---|
| Description: | "D" Calciner – CA-4 |
| Identification: | AQD #80 |
| Facility: | Solvay Soda Ash Joint Venture<br>400 County Road 85<br>20 Miles West of Green River, WY 82935 |

### B. Applicable Regulation, Emission Limit, and Pre-CAM Monitoring Requirements

| | |
|---|---|
| Regulation: | Operating Permit No. 30-126 |
| CAM Emission Limits: | Particulate Matter: 10.0 pph<br>15% Opacity |
| Pre-CAM Monitoring Requirements: | Daily monitoring of precipitator secondary current and secondary voltage |

### C. Control Technology, Capture System, Bypass, PTE

| | |
|---|---|
| Controls: | Electrostatic Precipitator (ESP) |
| Control Equipment: | FLS Miljo EM Electrostatic Precipitator<br>Model # 2x300+400/H2P/2x40+4x50-2x 8490/2B/2Ct6S<br>Six Fields in parallel series |
| Capture System: | Closed-duct system |
| Bypass: | Not possible, based on the unit design |
| PTE after controls: | 10.0 pph, 43.8 TPY |
| PTE before controls: | 43,800 TPY based on 99.9% control efficiency of the precipitator |

## II. Monitoring Approach

### A. Indicators

Solvay Chemicals' normal operating procedure is maximum power input to each ESP field. A power input below 75% for three or more ESP fields will be used as the indicator. The indicator range for the ESP power was selected based upon the level maintained during normal operation and recent performance tests. Normal process operations will not produce conditions that adversely affect ESP performance, so no process operational parameters will be monitored.

### B. Measurement Approach

The power input which is the product of secondary voltage and current will be recorded a minimum of every 15 minutes using the Automatic Voltage Controller (AVC) in the ESP and recorded by a data acquisition system (DAS).

### C. Indicator Range

An excursion is defined as a 3-hour fixed block where the power input is below the indicator range of more than three total fields. Excursions trigger an ESP inspection, corrective action and a reporting requirement. Please see following table for minimum power input settings for each field.

| Field | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Power Input A Side | 7622 | 15095 | 23515 | 23900 | 24950 | 28955 |
| Power Input B Side | 18096 | 14924 | 23400 | 28349 | 27047 | 33797 |

D. Performance Criteria

| | |
|---|---|
| QA/QC Practices and Criteria: | QA/QC of AVC outputs will be conducted annually per instrumentation calibration standards. Perform all manufacturers' recommended maintenance. |

E. Monitoring Report

A report will be submitted semi-annually and will include the number, duration, cause, and the corrective action taken for each excursion.

III. Response to Excursion

A. When an excursion occurs, corrective action will be initiated, beginning with the evaluation of the occurrence to determine the action required to correct the situation. All excursions will be documented and reported. Any needed actions or repairs will be initiated as soon as practicable.

B. Quality Improvement Plan (QIP) threshold: The QIP threshold is triggered when excursions including startup and shutdown are in excess of 5% of the operating time in a six-month period. If the QIP threshold is exceeded in a semi-annual reporting period, a QIP will be developed and implemented.

## JUSTIFICATION

I. Rationale for Selection of Performance Indicators

In an ESP, electric fields are established by applying a direct-current voltage across a pair of electrodes: a discharge electrode and a collection plate. Particulate matter suspended in the gas stream is electrically charged by passing through the electric field around each discharge electrode (the negatively charged electrode). The negatively charged particles then migrate toward the positively charged collection plates. The particulate matter is separated from the gas stream by retention on the collection plates. Particulate is removed from the collection plates by rapping the plates.

Since power is the product of the voltage and current, monitoring the power input and number of fields in service will provide a reasonable assurance that the ESP is functioning properly. Fluctuations in power can also occur due to product quality, size distribution, and operating load, therefore, the recommended voltage and current settings at 75% of tested average will provide a reasonable assurance that the ESP is functioning properly.

II. Rationale for Selection of Indicator Ranges

The indicator ranges for ESP power and number of fields in service were based upon the level maintained during normal operations and recent performance tests.

The most recent performance testing using Reference Method 5/202 was conducted in August, 2005. Eight tests were conducted with various fields out of service. All tests were within the permitted emission limit.

III. Implementation Plan

Monitoring will be initiated within 180 days of permit renewal.

# COMPLIANCE ASSURANCE MONITORING PLAN
# ELECTROSTATIC PRECIPITATOR FOR PM CONTROL

## I. Background

### A. Emission Unit

| | |
|---|---|
| Description: | Product Dryer #6 |
| Identification: | AQD #82 |
| Facility: | Solvay Soda Ash Joint Venture<br>400 County Road 85<br>20 Miles West of Green River, WY 82935 |

### B. Applicable Regulation, Emission Limit, and Pre-CAM Monitoring Requirements

| | |
|---|---|
| Regulation: | Operating Permit No. 30-126 |
| CAM Emission Limits: | Particulate Matter: 3.45 pph<br>10% Opacity |
| Pre-CAM Monitoring Requirements: | Daily monitoring of precipitator secondary current and secondary voltage |

### C. Control Technology, Capture System, Bypass, PTE

| | |
|---|---|
| Controls: | Electrostatic Precipitator (ESP) |
| Control Equipment: | FLS Miljo EM Electrostatic Precipitator<br>Model # E2x300+4x100/2x35+4x45H2p-84100/B/T/T6S<br>Six Fields in series |
| Capture System: | Closed-duct system |
| Bypass: | Not possible, based on the unit design |
| PTE after controls: | 3.45 pph, 15.11 TPY |
| PTE before controls: | 15,110 TPY based on 99.9% control efficiency of the precipitator |

## II. Monitoring Approach

### A. Indicators

Solvay Chemicals' normal operating procedure is maximum power input to each ESP field. A power input below 75% for three or more ESP fields will be used as the indicator. The indicator range for the ESP power was selected based upon the level maintained during normal operation and recent performance tests. Normal process operations will not produce conditions that adversely affect ESP performance, so no process operational parameters will be monitored.

### B. Measurement Approach

The power input which is the product of secondary voltage and current will be recorded a minimum of every 15 minutes using the Automatic Voltage Controller (AVC) in the ESP and recorded by a data acquisition system (DAS).

### C. Indicator Range

An excursion is defined as a 3-hour fixed block where the power input is below the indicator range of more than three fields. Excursions trigger an ESP inspection, corrective action and a reporting requirement. Please see following table for minimum power input settings for each field

| Field | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Power Input | 11883 | 15787 | 21281 | 30541 | 21661 | 29529 |

D. Performance Criteria

| | |
|---|---|
| QA/QC Practices and Criteria: | QA/QC of AVC outputs will be conducted annually per instrumentation calibration standards. Perform all manufacturers' recommended maintenance. |

E. Monitoring Report

A report will be submitted semi-annually and will include the number, duration, cause, and the corrective action taken for each excursion.

III. Response to Excursion

A. When an excursion occurs, corrective action will be initiated, beginning with the evaluation of the occurrence to determine the action required to correct the situation. All excursions will be documented and reported. Any needed actions or repairs will be initiated as soon as practicable.

B. Quality Improvement Plan (QIP) threshold: The QIP threshold is triggered when excursions including startup and shutdown are in excess of 5% of the operating time in a six-month period. If the QIP threshold is exceeded in a semi-annual reporting period, a QIP will be developed and implemented.

## JUSTIFICATION

I. Rationale for Selection of Performance Indicators

In an ESP, electric fields are established by applying a direct-current voltage across a pair of electrodes: a discharge electrode and a collection plate. Particulate matter suspended in the gas stream is electrically charged by passing through the electric field around each discharge electrode (the negatively charged electrode). The negatively charged particles then migrate toward the positively charged collection plates. The particulate matter is separated from the gas stream by retention on the collection plates. Particulate is removed from the collection plates by rapping the plates.

Since power is the product of the voltage and current, monitoring the power input and number of fields in service will provide a reasonable assurance that the ESP is functioning properly. Fluctuations in power can also occur due to product quality, size distribution, and operating load, therefore, the recommended voltage and current settings at 75% of tested average will provide a reasonable assurance that the ESP is functioning properly.

II. Rationale for Selection of Indicator Ranges

The indicator ranges for ESP power and number of fields in service were based upon the level maintained during normal operations and recent performance tests.

The most recent performance testing using Reference Method 5/202 was conducted in June, 2005. Eight tests were conducted with various fields out of service. All tests were within the permitted emission limit of 3.45 pph with the exception of Run #7 near the permit limit with suspect data at 3.48 pph.

III. Implementation Plan

Monitoring will be initiated within 180 days of permit renewal.

**Appendix C**

Preventative and Corrective Maintenance Plan

# Solvay Minerals, Inc.

## Preventive and Corrective Maintenance for Particulate Control Sources

## Baghouses:

***Preventive Maintenance:***

Visual inspections are conducted on a weekly basis. Documentation is kept on a log sheet. Items observed are the stack (or vent) for opacity, Δp, and operation of the screw.

Mechanical inspections are conducted on a quarterly basis. They are documented on the computerized work order system. The items checked are the pulse air, fans, screws, and Δp indicator.

An inspection of the bags and plenum (if top loading) is conducted on an annual basis. Documentation is kept on the computerized work order system.

***Corrective Maintenance:***

When excess emissions are observed, or if monitored parameters indicate excess emissions, an emergency work order is written, requiring action within 24 hours. If a failure has occurred that can not be immediately corrected, and it is suspected that the emission and/or opacity limit is being exceeded, the Solvay Minerals Environmental Department will be contacted, who in turn will notify WDEQ.

## Particulate Scrubbers:

***Preventive Maintenance:***

Each day, scrubber flow rate and Δp are noted and documented on a log sheet or recorded on the distributive control system (DCS).

On an annual basis, the scrubbers are internally inspected, including the demister pad. This information is documented on the computerized work order system.

***Corrective Maintenance:***

If monitored parameters indicate excess emissions, an emergency work order is written, requiring action within 24 hours. If a failure has occurred that can not be immediately corrected, and it is suspected that the emission and/or opacity limit is being exceeded, the Solvay Minerals Environmental Department will be contacted, who in turn will notify WDEQ.

## Electrostatic Precipitator (ESP):

***Preventive Maintenance:***

The current and voltage on each of the ESP fields, and operation of the dust screw are observed and documented on a log sheet daily. Opacity is measured continuously and is documented on the environmental data acquisition system as well as the DCS.

The controls and rappers are inspected on a monthly basis, with documentation on the computerized work order system.

On an annual basis, internals of the ESP are inspected. This inspection includes the inlet, plates, wires, transformers, hoppers, screws, and insulators. This is either documented on the computerized work order system, or in report form if an outside contractor does the inspection.

***Corrective Maintenance***

When the monitored 6-minute opacity exceeds the 20% limit more than once per hour (except during start-up or shut-down), or if excess emissions are suspected due to the parameters monitored, or equipment failure is noted, an emergency work order is written, requiring action within 24 hours. If a failure has occurred that can not be immediately corrected, and it is suspected that the emission limit is being exceeded, or the opacity limit is exceeded, the Solvay Minerals Environmental Department will be contacted, who in turn will notify WDEQ.