BEFORE THE UNITED STATES DEPARTMENT OF ENERGY

Federal Power Act Section 202(c) Emergency Order: Transalta Centralia Generation LLC	)))))

Motion to Intervene, Motion for Clarification, and Requests for Rehearing and Stay of Sierra Club, NW Energy Coalition, Washington Conservation Action, Climate Solutions, Public Citizen, and Environmental Defense Fund (collectively, "Public Interest Organizations" or "PIOs")

Exhibit 2-131:
Southwest Clean Air Agency Basis Statement for TransAlta 2021 Title V Air Operating Permit

TransAlta Centralia Generation, LLC
Centralia Plant

Title V Basis Statement

September 22, 2021

Southwest Clean Air Agency
11815 NE 99th Street, Suite 1294
Vancouver, WA 98682-2322
Telephone: (360) 574-3058

PERMIT No.:	SW98-8-R5-A
PREPARED FOR:	TransAlta Centralia Generation, LLC Centralia Plant 913 Big Hanaford Road Centralia, WA 98531
PLANT SITE:	Centralia Plant 913 Big Hanaford Road Centralia, WA 98531
PERMIT ENGINEER:	Clinton H. Lamoreaux, Air Quality Engineer
REVIEWED BY:	Paul T. Mairose, Chief Engineer

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I. GENERAL INFORMATION AND CERTIFICATION

1. Company Name: TransAlta Centralia Generation, LLC

2. Facility Name: Centralia Plant

3. Contact Person: Mickey Dreher, Plant Manger

4. Inspection Contact Person: David Raastad, Manager EH&S

5. Unified Business Identification Number: 601-985-591

6. SIC Number: 4911

7. Basis for Title V Applicability:

The Centralia Steam Electric Generating Plant has the potential to emit more than 100 tons per year of sulfur dioxide, nitrogen oxides, particulate matter with an aerodynamic diameter less than 10 microns, particulate matter with an aerodynamic diameter less than 2.5 microns, and carbon monoxide which are criteria air pollutants listed under section 302 of the Federal Clean Air Act, more than 100 tons per year of volatile organic compounds (VOCs), and the potential to emit more than 25 tons per year of all hazardous air pollutant (HAP) emissions combined, which are listed under Section 112 of the Clean Air Act.

Facilitywide Potential To Emit Summary (not including nonroad engines)

Pollutant	Potential Emissions (tons per year
Nitrogen oxides	6,760
Carbon monoxide	8,044
Volatile organic compounds	87
Sulfur dioxide	5,917
Particulate Matter	1,929
PM_{10}	1,467
$PM_{2.5}$	1,386
Combined HAPs	53
Individual HAP	28 (HF)
CO_2 equivalent	8,081,792

8. Current Permitting Action:

This Title V Air Operating Permit is being re-issued to incorporate revisions to 40 CFR 63 Subpart UUUUU "National Emission Standards for Hazardous Air Pollutants: Coal and Oil-fired Electric Utility Steam Generating Units" and the latest revision to BART Order 6426. In addition, units that were removed from service with the shutdown of Unit 1 have been removed, regulatory date citations have been updated, the permit format has been modified, minor typographical errors have been corrected and the word "shall" has been removed or replaced in each instance to improve clarity.

9. Attainment Area:

The Centralia Plant is located in an area that is in attainment or unclassifiable for all criteria pollutants.

10. Facility Description:

Coal Plant

The Centralia Coal Plant generates electric energy from a steam driven turbine. Pulverized coal is combusted in a single boiler to create heat that generates pressurized steam used in the turbine. Until December 31, 2020 when "Unit 1" retired, the facility utilized two coal-fired boilers, therefore permits and historical references will frequently refer to two boilers (Unit 1 and Unit 2). Combustion of coal produces emissions of sulfur dioxide (SO_2), oxides of nitrogen (NO_X), particulate matter (PM), carbon monoxide (CO), volatile organic compounds (VOCs), and certain hazardous air pollutants (HAPs) in sufficient quantities to designate the facility as a Title V source of air pollutants.

Until May 4, 2000, PacifiCorp owned the largest share of the Centralia Plant and operated the facility on behalf of all eight utility owners. As of May 4, 2000, TransAlta Centralia Generation, LLC took over ownership of the plant. The plant consists of one 670 net MW unit identified as Unit 2 (Acid Rain Program designation BW22) which is the source of nearly all emissions released from the facility. An auxiliary boiler is used to provide steam for starting the main coal-fired boiler when it is off line. Historically, coal was supplied primarily from the adjacent TransAlta Centralia Mining, LLC (a subsidiary of TransAlta) mine and stacked and reclaimed in the Centralia Plant's coal handling yard. A smaller portion of coal from the Powder River Basin in Wyoming was blended with Centralia coal to meet Btu requirements in the boilers and, potentially, to ensure that the hourly SO_2 emission limit continued to be met. The coal mine ceased active mining operations in November 2006 and currently almost all coal is supplied from the Powder River Basin. Since 2015 a small percentage of coal is supplied coal fines recovered during the reclamation process of the fine coal refuse impoundments formed during the Centralia Mine's coal washing process. The coal mine could conceivably re-open and once again supply coal to the power plant in the future.

Particulate matter from coal combustion is controlled by dual electrostatic precipitators (ESPs) in series. Sulfur dioxide emissions are managed by coal blending and scrubbing of the flue gas. Mercury emissions are controlled by an activated carbon injection system upstream of the second set of ESPs coupled with a sorbent enhancement additive injected into the boiler. The mercury control systems were completed November 24, 2011. NO_X emissions are controlled with low-NO_X burners with coupled over-fire air systems (LNC3) and a selective non-catalytic reduction system (SNCR). The LNC3 controls were installed on Unit 2 in 2001. The SNCR systems were installed on both units in 2012. Emissions of other gaseous pollutants are minimized through good combustion practices. A portion of the fly ash captured in the ESPs is sold and shipped off site while the balance is stockpiled or trucked to the Centralia Mine landfill site. Bottom ash is also sold, stockpiled, or returned to the Centralia Mine landfill site. Additional emission points include the cooling towers, coal storage and handling yard, emergency diesel generators, mist eliminators for turbine lube oil ventilation exhaust, and maintenance activities.

The Centralia Coal Plant's two units can operate continuously 24 hours per day, 7 days per week. One or the other, and occasionally both, of the units are taken off line for maintenance purposes as conditions dictate, for economy, or reserve shut down. The auxiliary boiler operates only as needed, which is typically less than 120 hours per year.

Combustion Turbine Facility

Construction of the combustion turbine project commenced in 2001 and was completed during the summer of 2002. The project was permitted as a major modification to an existing major source. The Combustion Turbine Facility, with the exception of the Black Stop Diesel Generator Engine, was retired effective January 1, 2015. The Black Stop Diesel Generator Engine was retired at the end of 2020.

11. SWCAA Air Discharge Permits and Consent Order(s):

The following table lists each Air Discharge Permit and Consent Order(s) issued for this facility. Permits or Orders in bold contain no active requirements. The requirements may have been superseded, may have been of limited duration, or the equipment may have been removed.

Order/Permit Number	App. No.	Date Issued	Description
69-1107LET	L-1	11-7-69	Approval to construct Units 1 and 2
72-0804LET	N/A	8-4-72	Approval to restart after outage – output not to exceed 300 MW unless approved after PM compliance indicated by testing
72-0914LET	N/A	9-14-72	Approval given for operation at 400 MW
72-1006LET	N/A	10-6-72	Approval given for operation at 500 MW
72-1017LET	N/A	10-17-72	Approval to operate Unit 2 at full load for 48 hour demonstration
72-1102LET	N/A	11-2-72	Approval to operate Unit 1 at same load as Unit 2
72-1211LET2	N/A	12-11-72	Approval given for operation of each unit up to 500 MW, PM not to exceed 0.06 gr/dscf
73-0329LET	L-49	3-29-73	Approval to install SO_3 conditioning system to aid PM removal in Koppers ESPs
73-0413LET	L-50	4-13-73	Approval to install second set of ESPs as pilot test
73-0426LET	N/A	4-26-73	Regulatory Order requiring testing to provide additional information on SO_3 conditioning system
73-0504LET	N/A	5-4-73	Required testing and reporting for ESP pilot test program
73-0522LET	N/A	5-22-73	Modified dates and operating conditions specified in 4-4-73 letter
73-0611LET	N/A	6-11-73	Approval to operate Unit 1 at up to 700 MW w/ PM $\leq$ 0.06 gr/dscf
74-0702LET	L-50R	2-7-74	Approved design and installation of second set of ESPs

Order/Permit Number	App. No.	Date Issued	Description
74-0222LET	N/A	2-22-74	Revision to clarify language in 2-7-74 letter
74-38	N/A	3-25-74	Specifies testing on Unit 2
74-38A	N/A	5-2-74	Extends high load testing days to 30
87-934	N/A	8-26-87	Order of Violation – Exceedance of 1,000 ppm SO_2 limit, inconsistent with 1969 application, penalties levied, required to sample coal, stack SO_2.
87-934-STAY	N/A	9-21-87	Order staying for 18 months requirements for SO_2 sampling, coal S sampling, and withdrawing Order of Violation 87-934 if compliance with ambient SO_X limits met despite being above 1,000 ppm limits.
88-934	N/A	2-24-88	Order, Withdrawal of Stay, and Modification of Order of Violation - Required to study lime injection, blend and wash coal install continuous SO_2 and O_2 emissions monitors, install ambient air quality monitors at three sites near the facility.
88-934B	N/A	7-14-98	Variance and Modification of Order – Modified SO_2 averaging period, required ambient modeling and collection of meteorological data.
88-934C	N/A	10-24-99	934C Variance Renewal and Modification of Order - extended the variance for weekly instead of hourly averaging of SO_2 emissions until November 25, 1990, extended the collection of ambient monitoring data through September 30, 1990, and modified the ambient air monitoring provision to require two rather than three sites
90-934D	N/A	11-9-90	Variance Renewal and Modification of Order - extended the variance for weekly instead of hourly averaging of SO_2 emissions until the earlier of November 25, 1991 or the date on which practicable means for the adequate abatement or control of SO_2 emissions from the Centralia Plant become known, available, and implementable. The Order required that collection of ambient meteorological monitoring data extend through September 30, 1991, and that the permittee report to SWCAA the results of its dispersion modeling by December 31, 1991.

Order/Permit Number	App. No.	Date Issued	Description
90-934E	N/A	4-5-91	Withdrawal of Petition, Surrender of Variance, and Order - terminated the variance, meteorological monitoring, ambient monitoring, dispersion modeling, and modeling report provisions of SWCAA 90-934D and 88-934.
95-1787	N/A	8-25-95	RACT order limiting SO_2 emissions to 1.1 lb/MMBtu
96-1872	N/A	3-20-96	Withdraws RACT Order 95-1787. Replaced with a Letter of Agreement between SWCAA and PacifiCorp.
97-2057	N/A	12-8-97	Determination of SO_2, NO_X, CO and PM RACT, SO_2 and NO_X controls
97-2057R1	N/A	2-26-98	Revision of RACT determination
99-2187	N/A	2-1-99	Stay Order extending the date when procurement contract for Unit 1 control technology must be signed by 60 days (new date May 31, 1999).
01-2350	L-480	5-30-01	Minor source permit for combustion turbine project. Does not address PM or NO_X emissions
PSD-01-01	N/A	2-22-02	PSD permit for combustion turbine project – addresses PM and NO_X emissions
01-2403	L-490	2-27-02	Replacement of the Unit 1 and Unit 2 Turbine Lube Oil Mist Eliminators and Replacement of Two Rotary Fly Ash Unloaders With a Single Pug Mill
01-2350R1	L-496	5-6-02	Modification of 01-2350 primarily to increase SO_2 limit to account for higher sulfur content in natural gas
PSD-01-01 Amendment 1	N/A	1-30-03	Modification of PSD-01-01 to accommodate a larger than originally permitted BHP auxiliary boiler
01-2350R2	L-505	10-15-03	Modification of 01-2350R1 to accommodate a larger than originally permitted BHP auxiliary boiler.
PSD-01-01 Amendment 2	N/A	6-11-04	Modification of PSD-01-01 Amendment 1 to allow use of 40 CFR 75 RATA schedule where 40 CFR 60 schedules had been required.
01-2350R3	L-552	5-12-05	Modification of source testing and RATA frequencies for Combustion Turbine Facility
05-2612	L-556	7-15-05	Expansion of West Coal Unloading Facility with addition of 1 hopper

Order/Permit Number	App. No.	Date Issued	Description
05-2636	L-565	11-23-05	Installation of FGD Bleed Treatment Lime Storage Silo
07-2712	L-590	2-7-07	Modification of West Coal Unloading Facility with surge capacity addition
07-2749	L-603	9-26-07	Installation of East Coal Unloading Facility and modification of requirements for West Coal Unloading Facility. After removal of the West Coal Unloading Facility in 2011, East Coal Unloading Facility simply referred to as the Coal Unloading Facility.
01-2350R4	L-608	1-18-08	Elimination of 1.5 ppmvd @ 15% O_2 (8-hour average) CO emission limit for BHP Project combustion turbines. The 3.0 ppmvd @ 15% O_2 (1-hour average) limit was retained.
08-2779	L-613	3-12-08	Replacement of the existing 1,800 cfm cartridge-style Torit baghouse with a larger Donaldson Torit cartridge style baghouse rated at 4,000 cfm in the Journal Shop.
09-2876	L-634	6-16-09	Installation and operation of a 251 horsepower nonroad engine that will drive a Jetstream pressure washer. The engine and pressure washer package will be mounted on a mobile trailer for use throughput the power plant and associated facilities. Because this is a non-road engine, it is not part of the facility's Title V permit.
Order No. 6426	N/A	6-18-10	BART Order from Washington Department of Ecology establishing NO_X emission limit of 0.24 lb/MMBtu for the coal fired boilers and coal quality requirements. EPA approved the SIP submission containing this BART submission in a Federal Register notice dated December 6, 2012.
11-2972	L-647	4-14-11	Installation and operation of an emergency water pump at the (East) CUF powered by a diesel engine. Superseded 07-2749.
11-2984	L-650	6-14-11	Installation of equipment associated with activated carbon injection mercury emission control system.
11-2996	L-654	11-3-11	Installation and operation of the Pump 8 Engine. This permit also addressed the grandfathered engine on Barge 5429. Note that Pump 8 was subsequently referred to as the Pump-05 engine.
First Revision of Order No. 6426	N/A	12-13-11	Revision of BART Order 6426 with new requirements for SNCR.

Order/Permit Number	App. No.	Date Issued	Description
12-3016	L-657	4-30-12	Installation of a baghouse to replace the existing baghouse on the fly ash weigh bin (operated by Lafarge North America), and the relatively new "Fly Ash Bin 11 to Weight Hopper Air Slide Filter" (operated by TransAlta). The new baghouse filters dust from air collected from the fly ash loading spout and air vented to the fly ash bin from the No. 11 Air Slide and the No. 12 Air Slide.
12-3035	L-659	10-18-12	Installation of a new fire pump engine that may also be used to supply water to other systems at the plant during a maintenance event. Superseded 11-2996.
14-3093	L-668	4-30-14	Approval of coal mine waste reprocessing activities and fine coal recovery at TransAlta Centralia Mining and delivery by conveyor to TransAlta Centralia Generation.
16-3188	L-683	6-1-16	Approval of one trailer-mounted water pump driven by a 99 horsepower diesel engine and one Caterpillar emergency generator set powered by a 480 horsepower diesel engine to replace the Unit 2 emergency generator set. Superseded 12-3035.
16-3202	N/A	12-13-16	Regulatory order to limit SO_2 emissions to protect 1-hour SO_2 NAAQS.
Second Revision of Order No. 6426	N/A	7-29-20	Revision of BART Order 6426 with lower NO_X limit for one unit and removal of prescriptive SNCR operating requirements.

II. EMISSIONS UNIT DESCRIPTIONS

Summary Table

EU No.	Generating Equipment	Emission Control
EU-1	Unit 1 Boiler (BW21) – 670 MW (net), coal fired (Retired)	N/A (Retired)
EU-2	Unit 2 Boiler (BW22) – 670 MW (net), coal fired	CO: Combustion controls NO_X: Combustion controls, SNCR VOC: Combustion controls PM: Dual ESPs, wet scrubber SO_2: Wet scrubber Hg: Sorbent enhancement additive in boiler, carbon injection between ESPs
EU-3	Auxiliary Boiler – 170 MMBtu/hr, oil-fired	Fuel consumption limit
EU-4	Material Handling (Coal Handling, Ash Handling, FGD Bleed Treatment Lime Storage Silo, Limestone Ball Mill)	Coal Handling – minimal emissions, no controls necessary except use of wet suppression at Coal Unloading Facility Ash Handling – baghouse, wet suppression, and enclosure as appropriate FGD Bleed Treatment Lime Storage Silo – Baghouse Limestone Ball Mill – Wet process, full enclosure
EU-5	Turbine Lube Oil Mist Vent 1 (Retired)	N/A (Retired)
EU-6	Turbine Lube Oil Mist Vent 2	Turbine Lube Oil Mist Eliminator 2
EU-7	Black Stop Diesel Generator Engine – 1,445 hp diesel engine (Retired)	N/A (Retired)
EU-8	Journal Shop Welding	Journal Shop Welding Filter
EU-9	Emergency Diesel Generator 1	None
EU-10	Emergency Diesel Generator 2	Ultra-low sulfur fuel, EPA Tier 3 design, operating hours limit
EU-11	Fire Pump Engine (205 hp diesel engine)	Ultra low sulfur fuel, EPA Tier 3 design, operating hours limit
EU-12	Coal Unloading Facility Emergency Diesel Sump Pump Engine (115 hp diesel engine)	Ultra low sulfur fuel, EPA Tier 2 design, operating hours limit
EU-13	SEA System 1	Cartridge-style Fabric Filter
EU-14	SEA System 2	Cartridge-style Fabric Filter
EU-15	Sorbent Silo 1	Cartridge-style Fabric Filter
EU-16	Sorbent Silo 2	Cartridge-style Fabric Filter
EU-17	Fly Ash Bin 11	Baghouse

EU No.	Generating Equipment	Emission Control
EU-18	Fly Ash Bin 12	Baghouse
EU-19	Fly Ash Bin 14	Baghouse
EU-20	Fly Ash Bin 14 Air Slide to Bin 11 Air Slide	Cartridge-style Fabric Filter
EU-21	Fly Ash Bin 14 to 6050 Air Slide	Cartridge-style Fabric Filter
EU-22	Fine Coal Handling	Wet suppression

Detailed Descriptions

EU-1 Unit 1 Boiler (Retired)

EU-1 retired at the end of 2020.

EU-2 Unit 2 Boiler

EU-2 consists of the Unit 2 boiler and its exhaust gas flow path including the 470 ft tall stacks (bypass and scrubber) through which the flue gases are discharged to the ambient air. The Unit 2 boiler is a Combustion Engineering coal-fired steam generator equipped with superheat and reheat that combusts pulverized coal in a divided furnace with tangential injection of pulverized coal and combustion air. The eight corners (four in each half of the split furnace configuration) of the boiler are supplied with fuel and air by eight levels of burners, with each level supplied by one of the eight coal pulverizers. A maximum design capacity of 490 tons per hour of coal can be combusted in the boiler. Typically, full load is attained burning 420 tons per hour of average heat content coal by operating seven of the eight pulverizers at rated capacity. Incidental quantities of on-site generated dangerous waste, used oil and grease may also be burned in the boiler. Combustion produces emissions of SO_2, NO_X, CO, PM, VOCs, and HAPs. Flue gases exit the boiler through heat exchangers and pass first through a Koppers electrostatic precipitator (ESP) with a specific collection area of 383 ft^2/1,000 acfm, and then through a Lodge-Cottrell ESP with a specific collection area of 384 ft^2/1,000 acfm for removal of particulate matter. The dual ESP system achieves a collection efficiency of 99.7% or better for particulate matter. Final flue gas treatment occurs in a forced oxidation limestone flue gas desulfurization system (wet scrubber) installed in 2001. The original stack has been retained for bypass operations during emergencies, startup, shutdown, and outages of the flue gas desulfurization system.

Mercury emissions are controlled by an activated carbon injection system upstream of the second set of ESPs coupled with a sorbent enhancement additive injected into the boiler. The mercury control system was completed November 24, 2011. NO_X emissions are controlled with "Low-NO_X Combustion, Level 3" (LNC3) controls consisting of Alstom concentric firing, low NO_X burners with close coupled and separated over-fire air. The LNC3 controls were installed in 2001.

The SNCR system was installed in 2012 and consists of Nalco Mobotec's Rotamix SNCR system. The system consists of concentrated urea storage, urea dilution, and three levels of diluted urea injection near the top of the boiler. Each urea injection point utilizes an air atomizing nozzle with annular air to allow the urea to be dispersed into the boiler before

reacting. Each nozzle can be angled approximately 30 degrees upward or downward. The lowest level of injectors is approximately at the 10.5 floor level. Each of the three horizontal levels consists of six injectors spread across the front of the boiler, with four more injectors slightly above the row of six, for a total of 30 injectors. A single air header with a blower supplies ambient air to all of the annular air supplies on the boiler. The air intake for these blowers is inside the top of the boiler building.

Each SNCR blower or pump has a redundant backup to minimize the possibility of a system outage. As the temperature regime changes with changing boiler load, the levels at which the urea is injected is modified accordingly to ensure the proper injection location.

The following individual pieces of equipment are associated with EU-2:

Equipment	Facility Designation
One Boiler for Unit 2	Unit 2 or BW22
Two ESP units in series	Koppers 21 & 22; Lodge-Cottrell 21A & 22A
Unit 2 wet scrubber	FGD 2

Construction of EU-2 officially commenced (for the purposes of 40 CFR 60) with signing of a construction contract on December 23, 1968. EU-2 commenced commercial operation in September 1972.

Applicable NSPS/NESHAP/MACT: 40 CFR 63 Subpart UUUUU

CAM Applicability Review

Pollutant	Uncontrolled PTE (tons)	Emission Control Device?	Emission Limit?	Subject to CAM?
NO_X	6,744	Yes/No[1]	Yes	No. Permit requires CEMS.
CO	8,042	No	Yes	No. No emission control equipment and the permit requires CEMS.
VOC	86	No	No	No
SO_2	5,913	Yes	Yes	No. Permit requires CEMS.
PM_{10}	1,277	Yes	Yes	Yes. See M20 of Permit.
NH_3	220	No	Yes	No
HF	28	Yes	No	No

[1] SNCR is available but there is no requirement to use the system and there is little likelihood the system will be used in the future.

EU-3 Auxiliary Boiler

EU-3 consists of the auxiliary boiler which is used to provide auxiliary steam throughout the plant when sufficient auxiliary steam is not available from Unit 2, such as during cold startup. The auxiliary boiler is a Babcock & Wilcox watertube steam boiler (National Board number 23173, Washington State ID number 26415-71W) with a rated capacity of 115,000 lb/hr of steam and 170 MMBtu/hr. It combusts No. 2 fuel oil, also known as distillate grade diesel fuel, to produce steam at 150 psig and 500°F and discharges flue gases through a 5 ft diameter

steel stack 250 ft in height. EU-3 emits NO_X, SO_2, CO, PM, and VOCs from combustion of No. 2 fuel oil.

Construction of EU-3 officially commenced (for the purposes of 40 CFR 60) with signing of a construction contract on December 23, 1968.

Applicable NSPS/NESHAP/MACT: 40 CFR 63 Subpart DDDDD

CAM Applicability Review

Pollutant	Uncontrolled PTE (tons)	Emission Control Device?	Emission Limit?	Subject to CAM?
NO_X	6.00	No	No	No
CO	1.50	No	No	No
VOC	0.08	No	No	No
SO_2	4.26	No	No	No
PM_{10}	0.99	No	No	No

EU-4 Material Handling

EU-4 consists of all coal handling equipment and operations on the Centralia Plant site, the ash collection and load-out facilities, the FGD Bleed Treatment Lime Storage Silo, and the Limestone Ball Mill. The coal handling equipment receives and stores the coal, reclaims coal from storage piles, and distributes the coal throughout the plant. Historically, coal has been received from the adjacent coal mine and delivered from the Powder River Basin. Most of the coal combusted in the Centralia Plant has been obtained from the adjacent TransAlta Centralia Mining (TCM) mine, which processed coal at its preparation plant and transferred the coal by conveyor to the Centralia Plant. This mine is currently closed. Coal is received by rail car at the Coal Unloading Facility from which it is transferred by conveyor and mobile machinery to storage piles. Note that prior to 2011 there were two Coal Unloading facilities. One located at the West end of the plant site and one located the East end of the plant site. The West Coal Unloading Facility was removed from service in 2011. Except for descriptions in historical context all coal is unloaded at a single point: the Coal Unloading Facility formerly the known as the East Coal Unloading Facility. In 2007 the permittee received an Air Discharge Permit to construct the Coal Unloading Facility. A traveling bucket-wheel stacker-reclaimer transfers yard conveyor transported coal to or from ready storage piles. In addition, a coal blending system installed in 2001 supplies coal to the plant from the ready storage pile. Dust suppression is provided to minimize generation of fugitive dust as coal is transported to the silos and pulverizers.

Fly ash is collected in storage silos and sent off-site via one of two load-out facilities. A portion of the fly ash is sold and loaded into trucks by an off-site contractor who is contractually responsible to the permittee for operation and air quality compliance of these truck-loading facilities at the Plant. Permittee is ultimately responsible for compliance under the Clean Air Act at this facility. The other load out operated by the Plant is used to dispose of fly ash in the TCM mine. Bottom ash is dewatered in settling tanks and loaded while damp into trucks for transport to the TCM mine as backfill or sold for off site use.

The following individual pieces of equipment are associated with EU-4:

Equipment	Facility Designation
Coal Unloading Facility	CUF
Twelve coal conveyors	Conveyors 1-5, 6A, 6B, 7, 11, 12, 21, & 22
One bucket-wheel stacker-reclaimer	Stacker-reclaimer
Coal blending system	
Chemical stabilizing dust suppression systems at CUF and No. 5 reclaim	(N/A)
Four coal silos	Silos 21-28 (Unit 2)
Coal surge bin	(N/A)
Four bottom ash dewatering bins	Bins 11, 12, 21, 22
Various mobile machinery	(N/A)
Four fly ash bins	Bins 11, 12, 13, 14
Fly Ash Weigh Bin Baghouse	Same
FGD Bleed Treatment Lime Storage Silo	Same
Limestone Ball Mill	Same

Bin 11 – Unclassified ash with single UCC model 6050 pin paddle mixer/unloader – 330 tph capacity, installed in 2009

Bin 12 – Classified ash with single UCC model 6050 pin paddle mixer/unloader – 330 tph capacity, installed in 2009

Bin 13 – Repurposed as a boron removal clarifier in the FGD Bleed Treatment system

Bin 14 – Replaced into service in 2011 to handle fly ash from the Lodge-Cottrell that contains carbon sorbent from the mercury control system.

Coal Unloading Facility Details

The Coal Unloading Facility consists of two below-grade hoppers, each associated with a drag flight conveyor that transfers coal to an interim conveyor that feeds the new radial stacker or feeds directly into the coal blending system. The radial stacker transfers coal to the plant stockpiles. Coal in the coal stockpiles is dozed to the coal blending/plant feed conveyors. The following transfer points are associated with the Coal Unloading Facility:

1. Rail car to below-grade hoppers (2)
2. Below-grade hoppers to apron feeders
3. Apron feeders to Conveyor 8A
4. Conveyor 8A to Conveyor 8B (stacker)
5. Conveyor 8B (stacker) to coal stockpile or Conveyor 8C
6. Conveyor 8C to ground level reclaims 3, 3A
7. Reclaims 3, 3A to Conveyor 4 or 4A (which feed the plant)

The maximum coal unloading rate is 4,000 tons per hour with 5,000 ton per hour surge capacity. The Coal Unloading Facility began operation on February 1, 2008.

FGD Bleed Treatment Lime Storage Silo Details

The FGD Bleed Treatment Lime Storage Silo stores hydrated lime ($Ca(OH)_2$). The lime is used to treat a bleed stream of scrubber liquid from the flue gas desulfurization system. The scrubber liquid treatment system is designed to reduce boron and zinc levels in the wastewater. The silo is located immediately southeast of the Unit 1 scrubber vessel. The silo is pneumatically loaded from trucks at a rate of approximately 16.7 tons per hour. Specific silo and associated dust collector information is listed below.

Silo Make/Model:	USFilter Lime Silo; WHM® Bulk Chemical Storage; Model T-1
Silo Capacity:	5,600 cubic feet
Silo Height:	53'1" without dust collector, 58' with dust collector
Dust Collector Make/Model:	C.P. Environmental Filters, Inc. / model 36-CTBFD-009-CM-30
Number of Bags:	9 cartridge style pleated "bags" measuring 6" in diameter by 36" l long
Cleaning Method:	Reverse Pulse-Jet
Cloth Area:	270 ft^2
Filter Media:	8.5 oz. pleated spun bonded polyester felt with PTFE membrane laminated to the exterior surface of the fabric
Design Exhaust Flow:	600 acfm
Installed:	2006

The manufacturer warrants that the particulate matter concentration in the effluent gas will not exceed an average of 0.005 gr/acf based on an inlet loading of 10 gr/acf.

Limestone Ball Mill Details

The Limestone Ball Mill is located in the ground floor of the FGD Building. The Limestone Ball Mill crushes limestone transferred from the limestone storage silo with water to form a limestone slurry for use in the Flue Gas Desulfurization systems. The Limestone Ball Mill is fully enclosed and is not a potential source of particulate matter emissions (the process is fully enclosed and water is injected at the upstream end of the ball mill), however it is an "affected facility" for the purposes of Title 40 Code of Federal Regulations (CFR) Part 60 Subpart OOO "Standards of Performance for Nonmetallic Mineral Processing Plants."

Ball mill processing capacity:	41 tons per hour
Manufacturer:	Svedala Industries (now known as Metso Minerals)
Serial number:	49663
Manufacture date:	May 2000
Installation date:	September 2001

Fly Ash Weigh Bin Baghouse Details

The Fly Ash Weigh Bin receives fly ash from the No. 11 Air Slide and the No. 12 Air Slide. The Fly Ash Weigh Bin was manufactured by Halliburton and has a capacity of up to 30,000 pounds. During normal operation, approximately 900 cfm of fluidizing air from one of the air slides is vented out of the Fly Ash Weigh Bin Baghouse. The Fly Ash Weigh Bin Baghouse draws approximately 900 cfm of air from the fly ash loading spout to control fugitive dust while loading, for a total air flow of 1,800 cfm. At times total airflow could range up to 2,700

cfm if fly ash were being loaded into the Fly Ash Weigh Bin from both air slides (i.e. more than one Fly Ash Bin) simultaneously. The Fly Ash Weigh Bin Baghouse is turned on/off by the contractor in charge of loading fly ash (currently Lafarge North America), however TransAlta will retain responsibility for maintenance of, and the emissions from, the Fly Ash Weigh Bin Baghouse. The following details of the cartridge collector were provided:

Baghouse Make / Model:	Donaldson Torit / Powercore CPV-4
Installed:	Installation completed July 30, 2012
Design Flow Rate:	2,700 cfm (rated at 1,400 cfm to 2,700 cfm)
Filter Description:	4 cartridges (7" wide x 22" long x 7.5" tall), total of 252 ft^2 filter area
Filter Description:	Ultra-web nanofiber material
Cleaning Method:	Pulsed jet – collected fly ash will drop down into the fly ash weigh bin.
Stack Description:	16" inside diameter stack exhausting vertically approximately 8' above the top of the fly ash weigh bin and 49-50' above ground level. An 18" diameter shroud (stack within a stack design) may be used to prevent rain intrusion into the stack.

Applicable NSPS/NESHAP/MACT: None

CAM Applicability Review

Particulate matter is the only regulated pollutant of interest for units that comprise EU-4. Equipment that utilizes a control device and has a particulate matter emission limit is reviewed below.

Equipment	Uncontrolled PTE (tons)	Subject to CAM?
FGD Bleed Treatment Lime Storage Silo	12[1]	No
Fly Ash Bin 11	0[2]	No. CAM plan is included in the Permit as M31 for the exhausts (treated as separated EUs from the piping, storage, and transfer equipment listed here).
Fly Ash Bin 12		
Fly Ash Bin 14		
Fly Ash Weigh Bin	68[3]	No

[1] Assumes an inlet loading of 10 gr/dscf (likely a gross overestimate) for a potential operating time of 467 hours per year based on 6 25-ton loads per week at an off-loading rate of 16.7 tons per hour. Note that the bin vent may be "inherent process equipment".

[2] This does not include the baghouses which are treated as separate EUs. This equipment consists only of sealed piping and transfer equipment which does not have emissions unless a pipe fails or leaks.

[3] Assumes 1,800 cfm of operation for 8,760 hours per year at an "uncontrolled" rate of 1 gr/dscf. Due to the nature of fly ash, filtration of some time is required, therefore at least some level of control is "inherent process equipment". Unit operates with 900 cfm of bin fluidizing air at all times, only exceeding this rate when actual loading is occurring and when the weigh bin is receiving ash from more than one storage bin at a time.

EU-5 Turbine Lube Oil Mist Vent 1 (Retired)

Retired at the end of 2020.

EU-6 Turbine Lube Oil Mist Vent 2

The Unit 2 turbine is equipped with an oil storage tank, lube oil reservoir, and other components of the lube oil system that supplies clean oil to the turbine-generator bearings and other equipment. The turbine lube oil mist eliminator controls oil droplet emissions from the vapor extractor, which removes moisture from the oil.

Turbine Lube Oil Mist Eliminator 2 is an Advanced Environmental Systems Air-Clear™ Mist Collection System sized to handle up to 1,000 cubic feet per minute (cfm) of oil mist at a concentration of 1,500 mg/m^3 and a temperature of 120°F. The mist eliminator utilizes 67 ft^2 (based on the inside diameter of cylindrical filters) of fiberbed diffusion coalescing filters to collect up to 99.5% of the liquid mists on a particle count basis. Manufacturer literature suggests that the collection efficiency can be as high as 99.99% on a mass basis. This unit is designed to maintain the exit opacity at 5% or below. The blower system is designed to supply an average exhaust flowrate of 5 cfm (maximum of 600 cfm for short periods). This is substantially lower than the 1,000 cfm design of the mist eliminator. The mist eliminator is designed so that the filter elements are replaced when the gas flow becomes overly restricted due to high differential pressure across the filters. The differential pressure across the filters is less important to emission control than the average flow velocity through the filters. The manufacturer estimates that a velocity of 40 feet per minute or less is required for adequate opacity control. The permittee's blower has the capacity to produce a velocity of approximately 9 feet per minute (600 cfm/67 ft^2).

CAM Applicability Review

Pollutant	Uncontrolled PTE (tons)	Emission Control Device?	Emission Limit?	Subject to CAM?
VOC	0.01	Yes	Yes	No

EU-7 Black Stop Diesel Generator Engine (Retired)

The Black Stop Diesel Generator Engine retired at the end of 2020.

EU-8 Journal Shop Welding

Coal journals used in the coal pulverizers are repaired in the Journal Shop. Repairs consist primarily of welding replacement metal onto the journals to replace metal worn off during normal use. TransAlta submitted Air Discharge Permit Application L-613 on February 4, 2008 for replacement of the existing 1,800 cfm cartridge-style Torit baghouse with a larger Donald Torit cartridge style baghouse rated at 4,000 cfm. The purpose of the replacement

was to improve worker hygiene in the Journal Shop, especially to reduce potential worker exposure to chromium welding fumes.

Journal Shop – Baghouse. Journal Shop welding electrode use is less than 12,000 pounds per year. The baghouse pickups are positioned in such a way to minimize exposure of welders to welding fumes. Most welding is expected to be shielded metal arc welding. The following baghouse details were available:

Make / Model:	Donaldson Torit / DFO 2-8
Filter Area:	1,520 square feet of cartridge style filters
Primary Filter Media:	Ultra-Web FR with a MERV rating of 13
No. of Filters:	8
Secondary Filters:	Contains two 24" x 24" x 12" HEPA filters downstream of cartridge filters
Design Capacity:	4,000 cubic feet per minute @ 10" w.c., 70 °F
Installed:	September 10, 2008
Stack Description:	Exhausts horizontally through two 24" x 24" x 12" ducts at ambient temperature ~12' above grade.

Applicable NSPS/NESHAP/MACT: None

CAM Applicability Review

Pollutant	Uncontrolled PTE (tons)	Emission Control Device?	Emission Limit?	Subject to CAM?
PM_{10}	0.49	Yes	Yes – opacity as a surrogate for PM	No

EU-9 Emergency Diesel Generator 1

Engine Rating:	440 horsepower
Engine Make / Model:	Caterpillar / D343
Engine Serial Number:	6287637
Stack Description:	~ 8" diameter exhausted above the 8th floor roof

Diesel fuel oil is burned by this generator to supply back-up power to critical electrical systems in Unit 1. The generator is operated for about ¼ hour each week for testing, and consumes less than 300 gallons of fuel annually producing emissions below the thresholds of WAC 173-401-530(4) for an insignificant emission unit. This unit is not an insignificant emission unit because it is subject to applicable requirements found in 40 CFR 63 Subpart ZZZZ. The applicable requirements became effective May 3, 2010 (Federal Register notice dated March 3, 2010) with a compliance date of May 3, 2013.

Applicable NSPS/NESHAP/MACT: 40 CFR 63 Subpart ZZZZ

CAM Applicability Review

Pollutant	Uncontrolled PTE (tons)	Emission Control Device?	Emission Limit?	Subject to CAM?
NO_X	1.36	No	No	No
CO	0.29	No	No	No
VOC	0.11	No	No	No
SO_2	0.00048	No	No	No
PM_{10}	0.01	No	No	No

EU-10 Emergency Diesel Generator 2

Generator Set Make / Model:	Caterpillar / C9
Generator Output:	300 kW
Engine Make / Model:	Caterpillar / C9
Engine Serial Number:	CASP01214
Fuel:	Diesel, 22.7 gallons per hour at full load
Engine Power:	480 hp
Engine Built:	2016
Engine Certification:	EPA Tier 3 Emergency
Stack Description:	~ 7" diameter, exhausting vertically, ~8' above the 8th floor roof, stack flow 2,460.9 acfm at 927.2°F
Location:	46°45'19.19"N, 122°51'36.24"W
NSPS/NESHAP/MACT:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

Applicable NSPS/NESHAP/MACT: 40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

CAM Applicability Review

Pollutant	Uncontrolled PTE (tons)	Emission Control Device?	Emission Limit?	Subject to CAM?
NO_X	0.42	No	No	No
CO	0.02	No	No	No
VOC	0.01	No	No	No
SO_2	0.00049	No	No	No
PM_{10}	0.0024	No	No	No

EU-11 Fire Pump Engine

The Fire Pump Engine drives a backup fire water pump. This unit will operate for testing and maintenance of the engine, as necessary during an emergency, and for limited time periods for non-emergency operation (e.g. during maintenance events when the electrical pump system is unavailable). Total annual operation is expected to be no more than 504 hours per year (3 weeks). Engine details are provided below:

Engine Make / Model:	Cummins / CFP7E-F50 Fire Pump Driver
Engine Serial Number:	73467344
Fuel:	Diesel, 10.6 gallons per hour at full load

Engine Power:	205 hp
Engine Built:	2012
Engine Installed:	Installation completed December 27, 2012
Engine Certification:	EPA Tier 3
Stack Description:	~ 4" diameter, exhausting vertically ~18' above grade, 1' 10" above roof level, stack flow 1,174 acfm @ 879°F
Location:	46°45'22.44"N, 122°51'44.23"W

Applicable NSPS/NESHAP/MACT: 40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

CAM Applicability Review

Pollutant	Uncontrolled PTE (tons)	Emission Control Device?	Emission Limit?	Subject to CAM?
NO_X	0.28	No	Yes	No
CO	0.14	No	Yes	No
VOC	0.01	No	No	No
SO_2	0.0006	No	No	No
PM_{10}	0.013	No	Yes	No

EU-12 Coal Unloading Facility Emergency Diesel Sump Pump Engine

The CUF Emergency Diesel Sump Pump consists of a Godwin water pump driven by a diesel engine. The engine is operated for testing, maintenance, and as an emergency backup to the existing electric water pump. Engine details are provided below:

Engine Make / Model:	John Deere / 4045TF275
Engine Serial Number:	PE 4045TF593425
Engine Family:	6JDXL06.8082
Fuel:	Diesel, 42.7 pounds per hour @ full load
Horsepower Rating:	115
Engine Built:	July 9, 2006
Engine Certification:	EPA Tier 2
Stack Description:	~ 4" diameter, exhausting vertically ~6.5' above grade, stack flow 713 acfm @ 860 °F

Applicable NSPS/NESHAP/MACT: 40 CFR 63 Subpart ZZZZ, 40 CFR 60 Subpart IIII

CAM Applicability Review

Pollutant	Uncontrolled PTE (tons)	Emission Control Device?	Emission Limit?	Subject to CAM?
NO_X	0.25	No	Yes	No
CO	0.04	No	Yes	No
VOC	0.0077	No	No	No
SO_2	0.00013	No	No	No
PM_{10}	0.0055	No	Yes	No

EU-13 SEA System 1

Based on a review of the potential Sorbent Enhancement Additive (SEA) materials, no significant increase in pollutant emission rates is expected as a result of injecting SEA into the boiler. Emissions are associated with venting of SEA laden air from the SEA hopper and the hammermill crusher through the SEA System 1 Cartridge Collector. The system feed capacity is 5-100 lb/hr, therefore the hammermill crusher is not subject to 40 CFR 60 Subpart OOO. The following details of the cartridge collector were provided:

Make / Model:	Grünergy Technologies / PV-2-160 AR III
Design Flow Rate:	1,130 cfm
Design Exhaust Concentration:	0.005 gr/dscf
No. of Cartridges:	2
Filter Description:	160 ft^2 of 8 oz/yd^2 thermally fused polyester with PTFE membrane
Cleaning Method:	Pulsed jet
Stack Description:	6" diameter stack exhausting vertically on east wall of the boiler building.

CAM Applicability Review

Pollutant	Uncontrolled PTE (tons)	Emission Control Device?	Emission Limit?	Subject to CAM?
PM_{10}	42.42[1]	Yes	Yes	No

[1] Assumes conservative (high) inlet concentration loading of 1.0 gr/dscf.

EU-14 SEA System 2

Based on a review of the potential SEA materials, no significant increase in pollutant emission rates is expected as a result of injecting SEA into the boiler. Emissions are associated with venting of SEA laden air from the SEA hopper and the hammermill crusher through the SEA System 2 Cartridge Collector. The system feed capacity is 5-100 lb/hr, therefore the hammermill crusher is not subject to 40 CFR 60 Subpart OOO. The following details of the cartridge collector were provided:

Make / Model:	Grünergy Technologies / PV-2-160 AR III
Design Flow Rate:	1,130 cfm
Design Exhaust Concentration:	0.005 gr/dscf
No. of Cartridges:	2
	Filter Description: 160 ft^2 of 8 oz/yd^2 thermally fused polyester with PTFE membrane
Cleaning Method:	Pulsed jet
Stack Description:	6" diameter stack exhausting vertically on east wall of the boiler building.

CAM Applicability Review

Pollutant	Uncontrolled PTE (tons)	Emission Control Device?	Emission Limit?	Subject to CAM?
PM_{10}	42.42[1]	Yes	Yes	No

[1] Assumes conservative (high) inlet concentration loading of 1.0 gr/dscf.

EU-15 Sorbent Silo 1

Sorbent Silo 1 is located directly north of the ductwork between the Koppers ESPs and the Lodge-Cottrell ESPs. The following details of the vent filter system were provided:

Make / Model:	Torit Technologies / TBV-4 Insertable
Design Flow Rate:	350 cfm, passively vented
Design Exhaust Concentration:	0.005 gr/dscf
Filter Description:	4 Ultra-Web II NL cartridges, each containing a filter area of 170 ft^2 of 8 oz/yd^2 nanofiber on cellulose material
Cleaning Method:	Reverse air jet
Stack Description:	Circular exhaust measuring approximately 12" diameter exhausting vertically on the top of the silo, approximately 95' above grade

CAM Applicability Review

Pollutant	Uncontrolled PTE (tons)	Emission Control Device?	Emission Limit?	Subject to CAM?
PM_{10}	13.14[1]	Yes	Yes	No

[1] Assumes conservative (high) inlet concentration loading of 1.0 gr/dscf.

EU-16 Sorbent Silo 2

Sorbent Silo 2 is located directly south of the ductwork between the Koppers ESPs and the Lodge-Cottrell ESPs. The following equipment details were provided:

Make / Model:	Torit Technologies / TBV-4 Insertable
Design Flow Rate:	350 cfm, passively vented
Design Exhaust Concentration:	0.005 gr/dscf
Filter Description:	4 Ultra-Web II NL cartridges, each containing a filter area of 170 ft^2 of 8 oz/yd^2 nanofiber on cellulose material
Cleaning Method:	Reverse air jet
Stack Description:	Circular exhaust measuring approximately 12" diameter exhausting vertically on the top of the silo, approximately 95' above grade

CAM Applicability Review

Pollutant	Uncontrolled PTE (tons)	Emission Control Device?	Emission Limit?	Subject to CAM?
PM_{10}	13.14[1]	Yes	Yes	No

[1] Assumes conservative (high) inlet concentration loading of 1.0 gr/dscf.

EU-17 Fly Ash Bin 11 Baghouse

The Fly Ash Bin 11 Baghouse is located on top of the fly ash bins. A baghouse leak detector has been installed. The following equipment details were provided:

Make / Model:	Industrial Accessories Company (IAC) / 144TB-BVWT-256-S6
Design Flow Rate:	14,730 cfm
Design Exhaust Concentration:	0.005 gr/dscf
Filter Description:	256 bags, 114 inches long with a total filter area of 4,997 ft^2, top load, DuPont Type 54 or equal, polyester material.
Cleaning Method:	Reverse air jet
Stack Description:	Rectangular exhaust measuring approximately 18" x 50" exhausting vertically ~ 5' above the top of the baghouse, approximately 30' above the top of the fly ash bin.
Leak Detector:	Tribo-Flow model 4001-1111-01-154N with 12" long probe

CAM Applicability Review

Pollutant	Uncontrolled PTE (tons)	Emission Control Device?	Emission Limit?	Subject to CAM?
PM_{10}	553[1]	Yes	Yes	Yes – CAM plan is included in the Permit as M31.

[1] Assumes inlet concentration loading of 1.0 gr/dscf.

EU-18 Fly Ash Bin 12 Baghouse

The Fly Ash Bin 12 Baghouse is located on top of the fly ash bins. A baghouse leak detector has been installed. The following equipment details were provided:

Make / Model:	Industrial Accessories Company (IAC) / 144TB-BVWT-256-S6
Design Flow Rate:	14,730 cfm
Design Exhaust Concentration:	0.005 gr/dscf
Filter Description:	256 bags, 114 inches long with a total filter area of 4,997 ft^2, top load, DuPont Type 54 or equal, polyester material.
Cleaning Method:	Reverse air jet

Stack Description: Rectangular exhaust measuring approximately 18" x 50" exhausting vertically ~ 5' above the top of the baghouse, approximately 30' above the top of the fly ash bin.

Leak Detector: Tribo-Flow model 4001-111-I-154N with 12" long probe

CAM Applicability Review

Pollutant	Uncontrolled PTE (tons)	Emission Control Device?	Emission Limit?	Subject to CAM?
PM_{10}	553[1]	Yes	Yes	Yes – CAM plan is included in the Permit as M31.

EU-19 Fly Ash Bin 14 Baghouse

The Fly Ash Bin 14 Baghouse is located on top of the fly ash bins. A baghouse leak detector has been installed. The following equipment details were provided:

Make / Model: Industrial Accessories Company (IAC) / 144TB-BVWT-256-S6

Design Flow Rate: 14,730 cfm

Design Exhaust Concentration: 0.005 gr/dscf

Filter Description: 256 bags, 114 inches long with a total filter area of 4,997 ft^2, top load, DuPont Type 54 or equal, polyester material.

Cleaning Method: Reverse air jet

Stack Description: Rectangular exhaust measuring approximately 18" x 50" exhausting vertically ~ 5' above the top of the baghouse, approximately 30' above the top of the fly ash bin.

Leak Detector: Tribo-Flow model 4001-111-I-154N with 12" long probe

CAM Applicability Review

Pollutant	Uncontrolled PTE (tons)	Emission Control Device?	Emission Limit?	Subject to CAM?
PM_{10}	553[1]	Yes	Yes	Yes – CAM plan is included in the Permit as M31.

EU-20 Fly Ash Bin 14 Air Slide to Bin 11 Air Slide

The air slide utilizes approximately 900 cfm of air to help move fly ash from Fly Ash Bin 14 to the Bin 11 Air Slide which in turn moves fly ash to the weigh hopper. The air is exhausted through a cartridge-style air filter system. The blower is located downstream of the air filter. The following equipment details were provided:

Make / Model: DCL / VML185

Design Flow Rate:	900 cfm
Design Exhaust Concentration:	0.005 gr/dscf
Filter Description:	4 polyester cartridges, each measuring approximately 8" outside diameter by 22 inches long, combined filter area of 185 ft^2
Cleaning Method:	Reverse air jet
Stack Description:	Exhausts approximately 35 feet above ground on the south side of the Bin 11 building – discharged vertically through ~ 6" diameter exhaust.

CAM Applicability Review

Pollutant	Uncontrolled PTE (tons)	Emission Control Device?	Emission Limit?	Subject to CAM?
PM_{10}	33.8	Yes	Yes	No

EU-21 Fly Ash Bin 14 to 6050 Air Slide

The air slide utilizes approximately 600 cfm of air to help move fly ash from Fly Ash Bin 14 to the 6050 unloader. The air is exhausted through a cartridge-style air filter system. The blower is located downstream of the air filter. The following equipment details were provided:

Make / Model:	DCL / VML140
Design Flow Rate:	600 cfm
Design Exhaust Concentration:	0.005 gr/dscf
Filter Description:	3 polyester cartridges, each measuring approximately 8" outside diameter by 22 inches long, combined filter area of 140 ft^2
Cleaning Method:	Reverse air jet
Stack Description:	Exhausts approximately 35 feet above ground inbetween the Bin 11 and Bin 14 buildings discharged vertically through ~ 6" diameter exhaust.

CAM Applicability Review

Pollutant	Uncontrolled PTE (tons)	Emission Control Device?	Emission Limit?	Subject to CAM?
PM_{10}	33.8	Yes	Yes	No

EU-22 Fine Coal Handling

Coal mine waste reprocessing and fine coal recovery activities at the Centralia Mine were approved in April 2014 and production began in December 2014. The activities involve dredging waste coal fines from ponds, processing those materials to separate fine coal from waste material, transferring waste slurry to a pit in the North Hanaford area, and transferring fine coal to the coal stockpile at TransAlta Generation. Fugitive dust may be generated at unenclosed material transfer points.

The fine coal handling equipment spans both the TransAlta Centralia Generation and TransAlta Centralia Mining facilities. Each facility maintains separate Air Operating Permits. TransAlta has indicated that after construction is complete, all equipment from Transfer Point 04 (TP-04) and downstream (including the fine coal stockpile) are the responsibility of TransAlta Centralia Generation. An enclosed conveyor will transfer fine coal over Big Hanaford Road from TransAlta Centralia Mining to TransAlta Centralia Generation. TP-04 is the first transfer point north of Big Hanaford Road. Responsibility for the equipment upstream of TP-04 has been retained by TransAlta Centralia Mining.

Transfer Point (TP)	**Emission Control Notes**
TP-01 (screen bowl centrifuge to clean coal collection conveyor)	Fully enclosed and in the process building
TP-02 (clean coal collection conveyor to 48" conveyor)	Fully enclosed
TP-03 (48" conveyor to conveyor over Big Hanaford Road)	Fully enclosed
TP-04 (transfer either to existing conveyor to directly feed power plant or transfer to fixed stacker for periods when the power plant is not running. A flop gate will direct the flow.)	Fully enclosed
TP-05 (discharge from the stacking conveyor to clean coal stockpile – estimated to be 15% of total throughput)	High pressure suppression as necessary at stacker discharge.

Conveyor Descriptions

Conveyor from TP-01 to TP-02 (Clean Coal Collection Conveyor): This 24" conveyor passes through the process building wall and is covered, but not fully enclosed, where it exits the building.

Conveyor from TP-02 to TP-03: 48" conveyor running along the south side of Parking Lot No. 2. This conveyor is covered but not fully enclosed.

Conveyor from TP-03 to TP-04 (conveyor over Big Hanaford Road): This conveyor is fully enclosed with the exception of some portal sized openings and open sides for a short distance near the head and tail pulleys.

Conveyor from TP-04 to Power Plant: This is an existing conveyor that runs along the south side of the coal plant stockpile and feeds the power plant.

Conveyor to TP-04 to Stockpile: This is an existing stacker that has been re-located to this fixed location. This is a 250' long open conveyor.

Applicable NSPS: 40 CFR 60 Subpart Y "Standards of Performance for Coal Preparation and Processing Plants."

CAM Applicability Review

Pollutant	Uncontrolled PTE (tons)	Emission Control Device?	Emission Limit?	Subject to CAM?
PM_{10}	0.09	Yes (water spray)	Yes	No

III. EXPLANATION OF INSIGNIFICANT EMISSIONS UNIT DETERMINATIONS

Each emission unit listed as insignificant in the permit has been reviewed by SWCAA to confirm its status. The numbering system used to identify these emission units is consistent with internal Centralia Plant designations and does not necessarily use consecutive numbers. Emission units were determined to be insignificant as follows:

IEU-55B Maintenance Shops Welding Emissions

Maintenance welding is exempt from registration according to SWCAA 400-101(10) and did not require an approval. Emissions from this discharge point are less than 0.1 ton/yr, well below the 0.75 ton PM_{10}/yr threshold of WAC 173-401-530(4)(e) so this unit is considered insignificant. Based on a conservative estimate that no more than 2,000 lb of electrode is used annually in any one shop and the highest value emission factor of 82 lb/1,000 lb from EPA AP-42 Table 12.19-1, the annual emissions are calculated to be:

2,000 lb * (82 lb/1,000 lb) * (1 ton/2,000 lb) < 0.1 ton/yr

IEU-57 Cooling Towers

Primary cooling of the process steam takes place at the cooling towers for the Coal Plant. The cooling towers are categorically exempt insignificant emissions units under WAC 173-401-532(121) because of processing exclusively non-contact cooling water. Furthermore, the cooling towers do not use chromium-based water treatment chemicals. Sodium hypochlorite is used to treat circulating cooling water and does not escape to the ambient air.

IEU-61 Cold Solvent Parts Washers

Eight parts washing solvent tanks are used at the Centralia Plant site for only non-chlorinated solvent, each tank ranging in size from 30 to 40 gallons. The tanks are covered by lids when parts are not actively loaded or unloaded into or out of the tanks. The parts washers emit minimal VOC emissions and are considered insignificant because only fugitive emissions are released consistent with the definition of insignificant emission units in WAC 173-401-530(1)(d) and because their emissions are below the 2.0 tons per year VOC threshold of WAC 173-401-530(4)(d). Based on solvent use of 12,000 lb/yr and a recycle rate of 92% estimated by the solvent recycle vendor, VOC emissions are calculated to be:

12,000 lb/yr * (1 - 0.92) * (1 ton/2,000 lb) = 0.48 tons per year VOC

IEU-71 Fuel Oil Storage Tank 1

This storage tank supplies fuel oil to the boiler for startups and has a capacity of 100,000 gallons. Its VOC emissions are well below the insignificant emission thresholds of WAC 173-401-530(4)(d) (2.0 tons per year of VOC) so the emission unit is considered insignificant. Based on the methodology of EPA AP-42 §7.1 Organic Liquid Storage Tanks, an effective emission factor of 0.079 lb/1,000 gal was derived for this tank. For annual throughput of 220,000 gallons, VOC emissions are calculated to be:

220,000 gal * 0.079 lb/1,000 gal * (1 ton/2,000 lb) = 0.009 tons per year VOC

IEU-72 Fuel Oil Storage Tank 2

This storage tank supplies fuel oil to the boiler for startups and has a capacity of 100,000 gallons. Its VOC emissions are well below the insignificant emission thresholds of WAC 173-401-530(4)(d) (2.0 tons per year of VOC) so the emission unit is considered insignificant. Based on the methodology of EPA AP-42 §7.1 Organic Liquid Storage Tanks, an effective emission factor of 0.079 lb/1,000 gal was derived for this tank. For an annual throughput of 220,000 gallons, VOC emissions are calculated to be:

220,000 gal * 0.079 lb/1,000 gal * (1 ton/2,000 lb) = 0.009 tons per year VOC

IEU-73 Gasoline Storage Tank

The tank is a 5,200 gallon above ground tank with a white concrete shell used to fuel vehicles and equipment on site. The tank utilizes submerged fill and is not equipped with Stage I or II vapor recovery. No pressure/vacuum valve is utilized. Annual emissions from the storage tank are reported by the permittee to be less than 0.5 ton/yr, well below the 2.0 tons VOC/yr insignificant emission threshold of WAC 173-401-530(4)(d).

Gasoline vapors are emitted primarily from the following:

1. Storage Tank Loading Losses
2. Storage Tank Breathing Losses

Storage tank loading and breathing losses were estimated using EPA's Tanks 4.09D emission estimation software.

<u>The parameters were used in Tanks 4.09D:</u>

Nearest City:	Olympia, WA
Type of Tank:	Horizontal Tank
Shell Length:	12.5'
Shell Diameter:	9'
Tank Volume:	5,200 gallons
Shell Color:	White
Shell Condition:	Poor
Vacuum Setting:	0.0 psi
Pressure Setting:	0.0 psi
Liquid:	Gasoline (RVP=10)

Based on EPA Speciate 3.2 profile number 2455, approximately 50.85% of the total VOC emissions are toxic air pollutants (TAPs) as defined by WAC 173-460, and approximately 12.91% of the total VOC emissions are federally listed hazardous air pollutants (HAPs). For a throughput of 930,000 gallons per year, TAP and HAP emission rates are estimated to be:

IEU-73 Gasoline Storage Tank Emissions

Throughput =	15,000 gallons per year
Control Efficiency =	0% (Assume no vapor balance fittings)
Emission Factors	
Storage Tank Working Losses =	7.099 lb/1,000 gallons
Storage Tank Breathing Losses =	770 lbs/year

Emissions Summary	lbs	tons
Volatile Organic Compounds	876	0.44
Toxic Air Pollutants	446	0.22
Hazardous Air Pollutants	113	0.06

IEU-74 Diesel Storage Tank

The storage tank has a capacity of 5,200 gallons and is used to fuel vehicles and equipment on site. VOC storage tanks not greater than 10,000 gallons capacity with appropriate closure and vapor pressure not greater than 80 mmHg are defined in WAC 173-401-533(2)(c) to be insignificant emission units. Annual emissions from the storage tank are reported by the permittee to be less than 0.001 ton/yr, below the 2.0 tons VOC/yr insignificant emission threshold of WAC 173-401-530(4)(d). Based on the methodology of EPA AP-42 §7.1 Organic Liquid Storage Tanks, an effective emission factor of 0.020 lb/1000 gal was derived for this tank. For an annual throughput of 16,000 gallons, VOC emissions are calculated to be:

16,000 gal * 0.020 lb/1000 gal * (1 ton/2,000 lb) = 0.0002 tons per year VOC

IEU-75 U1 Emergency Diesel Generator Fuel Storage Tank

This fuel storage tank has a capacity of 350 gallons and supplies the U1 emergency diesel generator. Storage tanks not greater than 1,100 gallons capacity with maximum vapor pressure of 550 mmHg are defined in WAC 173-401-533(2)(b) to be insignificant emission units. Based on the methodology of EPA AP-42 §7.1 Organic Liquid Storage Tanks, an effective emission factor of 0.034 lb/1,000 gal was derived for this tank. For an annual throughput of 300 gallons, VOC emissions are calculated to be:

300 gal * 0.034 lb/1,000 gal * (1 ton/2,000 lb) = 0.00001 tons per year VOC

IEU-76 U2 Emergency Diesel Generator Fuel Storage Tank

This fuel storage tank has a capacity of 350 gallons and supplies the U2 emergency diesel generator. Storage tanks not greater than 1,100 gallons capacity with maximum vapor pressure of 550 mmHg are defined in WAC 173-401-533(2)(b) to be insignificant emission units. Based on the methodology of EPA AP-42 §7.1 Organic Liquid Storage Tanks, an

effective emission factor of 0.034 lb/1,000 gal was derived for this tank. For annual throughput of 300 gallons, VOC emissions are calculated to be:

300 gal * 0.034 lb/1,000 gal * (1 ton/2,000 lb) = 0.00001 tons per year VOC

IEU-77 Emergency Diesel Fire Pump Fuel Storage Tank

This fuel storage tank has a capacity of 350 gallons and supplies the emergency diesel fire pump. Storage tanks not greater than 1,100 gallons capacity with maximum vapor pressure of 550 mmHg are defined in WAC 173-401-533(2)(b) to be insignificant emission units. Based on the methodology of EPA AP-42 §7.1 Organic Liquid Storage Tanks, an effective emission factor of 0.47 lb/1,000 gal was derived for this tank. For an annual throughput of 150 gallons, VOC emissions are calculated to be:

150 gal * 0.47 lb/1,000 gal * (1 ton/2,000 lb) = 0.00004 tons per year VOC

IEU-78 Limestone Silo

The limestone silo receives limestone shipments from trucks and feeds the ball mill for the FGD system. Particulate matter emissions are controlled by a Flex-Kleen model 30/36-PVBL-9-11 G vent filter (serial number 100770) located on top of the limestone silo. The vent filter has a rated efficiency of 99.9%. The conveyor to the silo has a capacity of 200 tons per hour and the ball mill has a capacity of 41 tons per hour, therefore the unit can operate up to 8,760*(41/200) = 1,796 hours per year. The vent filter fan is rated at 900 cfm. At a maximum emission concentration of 0.005 gr/dscf (typical maximum for material handling silo filters), potential emissions are:

$$\frac{1{,}796 \text{ hours per year}}{\text{year}} * \frac{900 \text{ cubic feet}}{\text{minute}} * \frac{60 \text{ minutes}}{\text{hour}} * \frac{0.005 \text{ grains}}{\text{standard cu ft}} * \frac{1 \text{ pound}}{7{,}000 \text{ grains}} = \frac{69 \text{ pounds}}{\text{year}}$$

Emissions from this discharge point are well below the 0.75 ton PM_{10}/yr threshold of WAC 173-401-530(4)(e) so this unit is considered insignificant.

IEU-79 Lime Silo

The lime silo receives lime shipments from trucks and feeds the FGD system when necessary (e.g. ball mill is inoperable). Particulate matter emissions are controlled by a Flex-Kleen model 30-PVBL-9-11 G vent filter located on top of the limestone silo. The vent filter has a rated efficiency of 99.9%. This unit can receive approximately 25 tons per hour of material from a truck (1 truckload per hour). The vent filter fan is rated at 900 cfm. At a maximum emission concentration of 0.005 gr/dscf (typical maximum for material handling silo filters), potential emissions are:

$$\frac{8{,}760 \text{ hours per year}}{\text{year}} * \frac{900 \text{ cubic feet}}{\text{minute}} * \frac{60 \text{ minutes}}{\text{hour}} * \frac{0.005 \text{ grains}}{\text{standard cu ft}} * \frac{1 \text{ pound}}{7{,}000 \text{ grains}} = \frac{338 \text{ pounds}}{\text{year}}$$

This unit typically operates one hour per day, so typical emissions are far less than 338 pounds per year. Emissions from this discharge point are well below the 0.75 ton PM_{10}/yr threshold of WAC 173-401-530(4)(e) so this unit is considered insignificant.

IV. EXPLANATION OF SELECTED PERMIT PROVISIONS AND GENERAL TERMS AND CONDITIONS

P11. Unavoidable Excess Emissions

[SWCAA 400-107]

SWCAA 400-107 establishes criteria and procedures for determining when excess emissions are considered unavoidable. Emissions that meet the requirements to be classified as unavoidable are still considered excess emissions and are reportable but are excused and not subject to penalty. Notification of excess emissions is required as soon as possible and must occur by the next business day following the excess emissions event. Excess emissions due to startup or shutdown conditions are considered unavoidable if the permittee adequately demonstrates the excess emissions could not have been prevented through careful planning and design. Upset excess emissions are considered unavoidable if the permittee adequately demonstrates the upset event was not caused by poor or inadequate design, operation, maintenance, or other reasonably preventable condition, and the permittee takes appropriate corrective action that minimizes emissions during the event, taking into account the total emissions impact of that corrective action. Additional descriptions of potential excess emissions and how the permittee is expected to respond to those events are provided in requirements M9 and M15 - Startup, Shut Down, and Outage Operation Procedures.

The Utility MACT (Subpart UUUUU) and the Boiler MACT (Subpart DDDDD) are federally standards that can be delegated to state and local agencies and contain specific, and more restrictive, affirmative defense provisions that apply only to malfunctions. For these reasons, SWCAA has concluded that the state and local excess emission provisions cannot apply to these standards.

G2. Chemical Accident Prevention

[40 CFR 68]

Part 68 requires risk management plans be developed for the substances and thresholds listed in 40 CFR 68.130. Chlorine and ammonia are listed substances. The permittee no longer uses chlorine or ammonia on site. The SNCR system utilizes urea rather than ammonia. The permittee uses no other substance listed in 40 CFR 68.130, therefore this standard currently does not apply to this facility.

G11. Portable Sources

[SWCAA 400-036, SWCAA 400-110(6)]

SWCAA 400-110(6) establishes procedures for approving the operation of portable sources of air emissions that locate temporarily at project sites. These requirements are general statewide standards and apply to all portable sources of air contaminants. Common equipment subject to these conditions include emergency generators, engine-powered pumps, rock crushers, concrete batch plants, and hot mix asphalt plants that operate for a short time period at a site to fulfill the needs of a specific contract. Portable sources exempt from registration under SWCAA 400-101 are exempt from SWCAA 400-110 and not subject to

the portable source requirements. Among those categories listed in SWCAA 400-101 that are exempt are operations with potential to emit less than 1 ton per year of all criteria pollutants other than $PM_{2.5}$, and less than 0.5 tons per year of $PM_{2.5}$.

V. EXPLANATION OF OPERATING TERMS AND CONDITIONS

Req. 1-8 General Standards for Maximum Emissions
[SWCAA 400-040, SWCAA 01-2350R4]

SWCAA 400-040 establishes maximum emission standards for various air contaminants. These requirements are general statewide standards and apply to all sources of air contaminants. Therefore, these requirements apply to all emission units at the source, both EU and IEU. Pursuant to WAC 401-530(2)(c), the permit does not contain any testing, monitoring, recordkeeping, or reporting requirements for IEUs except those specifically identified by the underlying requirements. The averaging time for the SO_2 standard of Req-6 is satisfied by 60-minute average values averaged over each clock hour consistent with the monitoring provisions of M8.

No specific monitoring was specified for Req-7 because there are no specific monitoring requirements that can be used to encompass the whole range of potential concealment and masking scenarios. The permittee is required to certify compliance with all terms and conditions of the permit, including these prohibited items, at least annually. The permittee must make a reasonable inquiry to determine if concealment or masking has occurred during the reporting period in order to certify compliance.

Req. 9, 10 Emission Standards for Combustion and Incineration Units
[SWCAA 400-050]

SWCAA 400-050 establishes maximum emission standards for selected emissions from combustion and incineration units. These requirements apply to all combustion and incineration units at the source, both EUs and IEUs. Pursuant to WAC 401-530(2)(c), the permit does not contain any testing, monitoring, recordkeeping, or reporting requirements for IEUs except those specifically identified by the requirements as applying to IEUs.

Req. 11 Emission Standards for General Process Units
[SWCAA 400-060]

SWCAA 400-060 establishes maximum particulate matter emission standards for general process units. These requirements apply to all general process units at the source, both EUs and IEUs. Pursuant to WAC 401-530(2)(c), the permit does not contain any testing, monitoring, recordkeeping, or reporting requirements for IEUs except those specifically identified by the requirements as applying to IEUs.

Req. 12 Emission Standards for Certain Source Categories - Abrasive Blasting
[SWCAA 400-070(8)]

SWCAA 400-070 establishes emission standards for seven specific source categories. The requirements of SWCAA 400-070(8) apply due to the potential for infrequent abrasive blasting operations at the plant site. Abrasive blasting is required to be conducted inside a booth or structure designed to capture the blast grit, overspray, and removed material, except for blasting of outdoor structures and items too large to be handled inside an enclosure. Outdoor blasting is to be performed with either steel shot or an abrasive material containing less than 1 percent by mass material that would pass through a No. 200 sieve. Precautions to minimize emissions, such as enclosure of the area being blasted with tarps, are to be used for outdoor blasting.

No specific monitoring was specified for this requirement because there are no specific monitoring requirements that can be used to encompass the whole range of potential blasting scenarios. The permittee is required to certify compliance with all terms and conditions of the permit, including this requirement, at least annually. The permittee must make a reasonable inquiry to determine if prohibited activities have occurred during the reporting period in order to certify compliance.

Req. 13 Opacity Monitoring, and Reporting
[SWCAA 400-105(4)(a)(i) & (4)(e)]

SWCAA 400-105(5)(a) & (5)(e) requires that fossil fuel-fired steam generators of 250 million Btu/hr or greater heat input without sulfur dioxide control equipment install a continuous monitor for opacity, and operate it in accordance with the requirements found in 40 CFR 51, Appendix P and 40 CFR 60, Appendices B - F, as appropriate. This requirement applies to emission units EU-1 and EU-2 only during a scheduled outage of the flue gas desulfurization system and anticipated startups. Anticipated startups exclude startups immediately (less than 12 hours) following a forced outage. This requirement does not establish a visible emission standard with a specified opacity value; Reqs-1 and 15 are the applicable requirements that set a visible emission standard expressed as an opacity value to be achieved. The evaluation method is presented in Appendix A of the Air Operating Permit.

Req. 6, 14, 15, 17 - 20, 23, 24, 27, 35, 39, 40 Regulatory Order to Establish RACT
[SWCAA 97-2057R1]

The Regulatory Order to Establish Reasonably Available Control Technology (RACT) superseded all previous Orders applicable to EU-1 and EU-2.

Following extensive analysis of what constitutes RACT for this source, SWCAA issued Regulatory Order to Establish RACT SWCAA 97-2057 to the Centralia Plant on December 8, 1997 to establish Reasonably Available Control Technology (RACT) emission limits for SO_2, NO_X, PM, and CO emissions from the plant. The Centralia Plant petitioned SWCAA for a modification of the NO_X emission limit, and SWCAA revised the RACT Order as SWCAA 97-2057R1 on February 26, 1998. This Order establishes RACT emission limits for SO_2, NO_X, PM, and CO emissions, restricts the annual consumption of fuel oil by the

auxiliary boiler (EU-3), and supersedes all Orders previously issued to the Centralia Plant (see VI. Explanation of Obsolete and Future Requirements).

Section 36 of SWCAA 97-2057R1 (Requirement 15) establishes opacity limitations for the boiler (EU-2). The permittee operates opacity monitors in the ductwork upstream of the bypass stack. No correlation has been developed to describe the relationship between the opacity indicated by these monitors and the opacity of the FGD exhaust; therefore these monitors cannot be used to determine compliance with this requirement for the FGD exhaust.

Requirement 18 applies during normal operation. Emissions during startups, shutdowns, and outages of the FGD system are addressed by Requirement 19.

Req. 16, 21, 26 Utility MACT Emission Limits
[40 CFR 63 Subpart UUUUU]

The Utility MACT established emission limitations for hazardous air pollutants or their surrogates from coal and oil fired electric utility steam generating units.

For non-Hg HAP metals, sources may comply with an alternative particulate matter (PM) emissions limit as a surrogate. Past source emissions testing at this facility has consistently demonstrated compliance with the Utility MACT PM emission limit by a wide margin and the Utility MACT emission limit is far less stringent than the PM emission limit in RACT Order 97-2057R1, therefore TransAlta has chosen not to utilize the "emissions averaging" provisions and therefore does not need to develop an "emissions averaging plan". The Utility MACT PM emission limit and the PM emission limit in RACT Order 97-2057R1 were listed separately for informational purposes and because of the significant monitoring and recordkeeping requirements tied directly to the Utility MACT.

For HCl and HF emissions, sources may comply with an alternative SO_2 emissions limit as a surrogate. This is the choice TransAlta has chosen for the obvious reason that TransAlta must already operate an SO_2 CEMS to comply with the Acid Rain Program, and SWCAA 97-2051R1. CEMS data for this facility indicates that this facility consistently demonstrates compliance with the Utility MACT SO_2 emission limit by a wide margin, therefore TransAlta has chosen not to utilize the "emissions averaging" provisions and therefore does not need to develop an "emissions averaging plan".

The Hg emission limit in the Utility MACT is more stringent than the Hg emission limit TransAlta complies with under an off-permit agreement with Washington State signed May 2010. To comply with this off-permit agreement, TransAlta installed a Hg CEMS system that was certified to the Clean Air Mercury Rule standards in December 2009. In 2017 TransAlta replaced the CEMS with a sorbent trap monitoring system to demonstrate compliance with the Hg emission limit. A Hg process monitor provides the real-time feedback necessary to allow TranAlta to adjust operation of the Hg control system to assure compliance with the standard. Using the sorbent trap monitoring system, a single concentration value is assigned to each hour in the operating period (40 CFR 60 Subpart UUUUU Appendix A, Section 6.1.2). Concentration data is then converted to units of the emission standard (e.g. lb/TBtu) for each hour in the monitoring period using other CEMS data (e.g. diluent).

TransAlta has chosen not to utilize the "emissions averaging" provisions and therefore does not need to develop an "emissions averaging plan". For the Hg standard, sources must meet a more stringent Hg emission limit under the emissions averaging provisions.

Req. 22 Acid Rain Compliance Plan
[WAC 173-406-400, 40 CFR 72.40(a)]

40 CFR 72.9 and WAC 173-406-106 require that the Centralia Plant hold SO_2 allowances not less than the total annual emissions in tons of SO_2 from the affected units (EU-1, EU-2) at the Centralia Plant. The Centralia Plant received an initial allocation of allowances only for BW21 (EU-1) and BW22 (EU-2). The EPA may reallocate the number of allowances assigned to individual units and between units; therefore, annual allowance allocations may change in the future. The number of allowances actually held by a source in an Acid Rain affected unit account may differ from the number initially allocated by U.S. EPA as allowances are bought and sold on the open market to cover actual emissions.

Req. 27b - 31 Washington Department of Ecology BART Order
[Second Revision of BART Order No. 6426]

The BART Order established NO_X and NH_3 emission limits and associated operating, monitoring, recordkeeping, and reporting requirements for the coal fired boiler. The BART NO_X emission limit of 0.18 lb/MMBtu (30-day rolling average) is expected to be more stringent in all aspects than the previously established RACT permit limit of 0.30 lb/MMBtu (annual average for operation >360 MW); however the RACT limit in Req-27 was retained for the extremely unlikely scenario where overall NO_X emissions are less than 0.18 lb/MMBtu but NO_X emissions at operations above 360 MW were much higher.

Req. 34 Acid Rain NO_X Reduction Early Election for Group 1, Phase II Boilers
[WAC 173-406-106, 40 CFR 76.7(a)(1)]

The Phase II emission limit of 0.40 lb/million Btu was effective January 1, 2008.

Req. 36 Acid Rain Primary Monitoring Provisions
[40 CFR 75.10(a)]

40 CFR 75.10(a)(1) through (3) requires that an Acid Rain affected unit be equipped with continuous emissions monitoring systems with an automated data acquisition and handling system for measuring and recording SO_2, NO_X, and CO_2 emissions, respectively, discharged to the atmosphere. 40 CFR 75.10(a)(4) requires such units to be equipped with a continuous opacity monitoring system with an automated data acquisition and handling system for measuring and recording the opacity of discharged emissions.

Opacity

40 CFR 75.14(b) exempts units utilizing a wet flue gas pollution control system from the opacity monitoring requirements if the owner or operator can demonstrate that condensed water vapor is present in the exhaust stream and would impede the accuracy of opacity measurements. The Centralia Plant has provided ample demonstration that condensed water vapor is present in sufficient quantities to interfere with an opacity monitor and is therefore exempt from the requirement to continuously monitor opacity from the scrubber flues.

The gas stream leaving the scrubbers is saturated with water. As the flue gas inevitably cools, water condenses out of the gas stream forming steam and water droplets. The results of testing conducted during November 2001 (6 runs during scrubber performance test) and December 2001 (9 runs during initial RATA) indicated that the flue gas was supersaturated. Condensed water vapor is clearly visible through the sample ports at the test platform. All subsequent testing has supported this determination.

Gaseous Pollutant Monitoring at Bypass Stack

SWCAA 97-2051R1 requires monitoring of SO_2 emissions from both the bypass and scrubber flues. Acid Rain rules do not require direct monitoring at the bypass stack. This policy was detailed in question "17.6 – Revised" from the Acid Rain Policy Manual (December 2000) in addition to the Acid Rain rules promulgated May 1, 2002. Note that "Question 17.6 – Revised" is also found as "Question 16.4" in the 2013 version of the Part 75 Emissions Monitoring Policy Manual. The CEMS may be located upstream. When a certified monitoring system is not maintained on the bypass stack, the maximum potential emissions must be reported for bypass hours.

Req. 37 Utility MACT Tune-up Requirements

[40 CFR 63 Subpart UUUUU]

Subpart UUUUU requires initial and periodic tune-ups of the coal-fired boiler. The tune-up requirements are detailed in 40 CFR 63.10021(e) and Table 3 of 40 CFR 63 Subpart UUUUU. At the time this permit is being issued, TransAlta does not utilize neural network combustion optimization software; therefore the tune-up must be conducted every 36 months. In accordance with 40 CFR 63.10021(e) the initial inspection of the burners may be delayed beyond the October 13, 2015 compliance date and until the next "scheduled outage" if an outage is not scheduled before the compliance date. EPA describes this "scheduled outage" as a "major outage" in comment responses during rule development where there were comment regarding the long period of time necessary to erect scaffolding in the boiler. It is SWCAA's understanding that a short-term economic outage or an outage planned with little lead-time (for example to effect repairs) is not the type of "scheduled outage" discussed by this section of the rule. For the purposes of this requirement, SWCAA believes that a "scheduled outage" is a boiler outage where the boiler will be offline for a significant amount of time (e.g. weeks or months), and would usually be associated with planned inspections, major maintenance and/or repairs of the boiler interior.

Req. 38 Utility MACT Startup and Shutdown Provisions
[40 CFR 63 Subpart UUUUU]

Subpart UUUUU requires that all startups be conducted on "clean fuels". During startup and shutdown the facility typically uses ultra-low sulfur diesel, which is included in the definition of "clean fuels". In accordance with 40 CFR 63.10011(f) the facility must determine the "cleanest fuel" available on-site or accessible nearby for use during periods of startup or shutdown. However, the facility is required to utilize a "clean fuel", but not necessarily the "cleanest fuel" identified in 40 CFR 63.10011(f). See Response to Comment 67 in EPA's November 2014 Summary of Public Comments and Responses to the startup and shutdown reconsideration of 40 CFR 63 Subpart UUUUU.

The permittee is not precluded from considering a capital project to add natural gas firing capability. However New Source Review would be required before installing natural gas firing capability.

In the interests of streamlining the permit, the portions of the cited regulations that reference recordkeeping and reporting requirements were considered informational and not included in the permit requirement. All applicable recordkeeping and reporting requirements are included elsewhere in the permit.

Table 3 of Subpart UUUUU provides compliance options for two different definitions of "startup". The permittee is not committed to use either one. In option one, the ESPs and flue gas desulfurization (FGD) system must be engaged once coal is fired.

In option two, additional records must be generated and kept, clean fuels must be fired to the maximum extent possible during the startup period, the particulate control devices must be engaged within 1 hour of firing coal, and the Subpart UUUUU emission limits apply within 4 hours of producing electricity for any purpose. The FGD systems are not designed as PM control devices and are not necessary to meet PM emission limits; therefore, only the ESPs must be engaged within 1 hour of firing coal. SWCAA understands that operation of the FGD systems too early in the startup process when oil is being fired, and when PM levels have not been sufficiently reduced, is detrimental to both the short-term and long-term performance of the FGD system and would likely cause an increase in overall acid gas emissions. The US EPA provided some clarification of the startup requirements in an e-mail message dated August 13, 2015.

For Option 2, the end of "startup" was defined as ending when the EGU generates electricity that is sold or used for any other purpose (including on site use), or 4 hours after the EGU makes useful thermal energy (such as heat or steam) for industrial, commercial, heating, or cooling purposes (16 U.S.C. 796(18)(A) and 18 CFR 292.202(c)), whichever is earlier. The end of the startup period must be known to determine when "clean fuels" (ultra-low sulfur diesel in this case) no longer need to be fired to the "maximum extent possible". Based on the intent of the section and SWCAA's conversations with EPA staff, SWCAA believes that the end of startup could be much earlier (i.e. when all of the applicable pollution control devices have been engaged). At that point there is no need to continue firing "clean fuels" for the purpose of minimizing emissions and the facility should be able to achieve compliance with all applicable emission limits.

With respect to firing clean fuel to the "maximum extent possible", SWCAA understands this requirement to impose a duty to fire as much clean fuel as necessary to enable the applicable emission control equipment to be engaged as soon as possible, but no later than 1 hour after, coal is fired.

Req. 39 Good Air Pollution Control Practices

[40 CFR 63.9991(c)(2), 63.1000(b), SWCAA 97-2057R1]

This requirement as it originates from SWCAA 97-2057R1 is meant to require reasonable practices to reduce emissions below the short-term emission limits provided in SWCAA 97-2057R1 when possible, and optimize use of the emission control equipment. The following paragraphs describe good air pollution control practices for minimization of SO_2, NO_X, and PM emissions from the coal-fired boiler for compliance with the requirements from SWCAA 97-2057R1.

Sulfur Dioxide

The SO_2 emission control equipment is the Flue Gas Desulfurization (FGD) system or scrubber. Good air pollution control practice is to utilize recycle pumps as necessary to maintain SO_2 as low as practicable without allowing the SO_2 CEMS indication to drop to or below zero (below zero indications are possible due to minor instrument drift). A small amount of SO_2 must be maintained in the flue gas to assure that the gypsum that is produced is of marketable quality for manufacturing, and to prevent degradation or damage to the desulfurization system from scaling. If all SO_2 in the flue gas is reacted, the residual limestone can, in a short time period, cause scaling in the reaction vessel leading to reduced scrubbing efficiency and mechanical failure.

The original design specifications for the scrubber specify that three of the four recycle pumps would be in operation at any one time. The fourth recycle pump would be maintained as a maintenance spare and backup. The specification was based on the use of high sulfur coal from the Centralia Mine. When the plant is using low sulfur coal from the Powder River Basin, SO_2 can be maintained at a minimum level with the use of less than three recycle pumps.

In addition to maintaining minimum SO_2 levels, at times it may not be possible to operate the design number of recycle pumps and spray levels due to operational problems including when:

1. Equipment problems require two pumps off-line for maintenance or repair activities; and
2. Equipment problems downstream of the scrubber (e.g. vacuum belt filter malfunctions, problems with reaction tank oxidation blowers) or upstream of the scrubber (e.g. reagent pump or ball mill failures) limit reagent addition or gypsum removal.

Such events should be reported as an upset condition and will be reviewed on an individual basis.

Nitrogen Oxides

The NO_X emissions control system is good boiler combustion practices, low NO_X burner modifications on the boiler, and the SNCR system. NO_X control through good combustion practices is significantly different than add-on SO_2 control. This form of NO_X control is an integral part of the combustion process. If the boiler is operated to minimize NO_X emissions, combustion efficiency decreases to the point of limiting electrical power output, increases coal combustion/megawatt which increases emissions of other pollutants (SO_2, PM, CO and VOCs) and increases slagging, sootblowing and maintenance costs from increased boiler tube repairs. Based on current information, good air pollution control practice for NO_X is balancing the varied factors and maintaining emissions below the RACT and BART limitations.

Particulate Matter

The particulate matter (PM) emissions control systems are the two tandem electrostatic precipitators in series. In addition, the FGD system removes additional PM through the scrubbing process. Maintaining good precipitator performance is important in order to maintain the quality of the gypsum by-product necessary for sale for use in wallboard.

Req. 41, 42 Boiler MACT Requirements for Auxiliary Boiler

[40 CFR 63 Subpart DDDDD]

Boilers in the "limited use" subcategory are those boilers with a federally enforceable annual average capacity factor of no more than 10 percent. The Auxiliary Boiler (EU-3) is a startup boiler; therefore, a low capacity utilization would be expected. Section 45 of SWCAA 97-2057R1 expressly limited the total amount of fuel this boiler can fire to 600,000 gallons per year. The boiler has a rated heat input capacity of 170 MMBtu/hr. Assuming a fuel oil heat input capacity of 138,000 Btu/gallon (from 40 CFR 98), the 600,000 gallon per year limitation is equivalent to a capacity factor of approximately 5.6%. Both the 600,000 gallon per year limitation and the 10 percent capacity factor threshold are on a calendar year basis. Boilers in the "limited use" subcategory are subject to the general requirement to operate consistent with good air pollution control practices and the requirement to conduct initial and periodic tune-ups rather than specific emission limits.

Req. 43 Pug Mill Opacity

[SWCAA 01-2403]

This requirement represents BACT for control of fugitive particulate matter from this source at the time of permitting (2001). The only potential point of emissions from this source is fugitive during the transfer to trucks. The pug mill mixing function is conducted through the use of the two UCC Model 6050 Pin Paddle Mixers installed in 2009.

Req. 44 Turbine Lube Oil Mist Eliminators Opacity

[SWCAA 01-2403]

This requirement represents BACT for control of visible emissions/lube oil mist from this source at the time of permitting (2001). The manufacturer literature for the Advanced Environmental Systems mist eliminator guarantees opacity levels of 5% or less. On-site observations have demonstrated that visible emissions from this source do not exceed 5%. Using the conservative assumption of a 99.5% control efficiency (provided by Advanced

Environmental Systems on a particle count basis), and 8,760 hours of operation per year, each turbine lube oil mist eliminator will emit up to 0.1 pounds of lube oil mist per year.

Req. 45 - 47 Control of Particulate Matter from Coal Unloading
[SWCAA 11-2972]

The requirements in Air Discharge Permit SWCAA 11-2972 represent BACT for control of particulate matter (coal dust) from the unloading of coal from rail cars at this facility.

Annual emissions of PM_{10} from the Coal Unloading Facility are to be calculated using the following equation (found in Section 6 of the Technical Support Document for Air Discharge Permit 11-2972) for each transfer point:

$$E = k(0.0032)\frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

Where: E = emission factor (lbs PM per ton coal unloaded)
k = particle size multiplier (dimensionless). k=1.0 for PM, 0.35 for PM_{10}, 0.11 for $PM_{2.5}$
U = mean wind speed (miles per hour)
M = coal moisture content (%)

A control factor of 90% is applied to transfer points utilizing high pressure wet suppression to control fugitive dust (some pre-existing transfer points may be uncontrolled).

Req. 48, 49 Control of Particulate Matter from FGD Bleed Treatment Lime Storage Silo
[SWCAA 05-2636]

Air Discharge Permit SWCAA 05-2636 was written in response to an Air Discharge Permit (ADP) application for installation of a new hydrated lime storage silo. This silo was installed as part of a project to remove boron and zinc from the flue gas desulfurization (FGD) system scrubbing liquor. These requirements represent BACT for control of particulate matter (hydrated lime) from the pneumatic loading of hydrated lime into the silo.

Req. 50, 51 Control of Particulate Matter from Journal Shop
[SWCAA 08-2779]

Air Discharge Permit SWCAA 08-2779 was written in response to an Air Discharge Permit (ADP) application for installation of a larger capacity cartridge filtration system to control welding fumes exhausted from the Journal Shop. The purpose of the project was to reduce worker exposure to welding fumes. The requirements in Air Discharge Permit were written to implement BACT and protect ambient air quality.

Req. 52 - 58 Engine Requirements Originating from 40 CFR 63 Subpart ZZZZ
[40 CFR 63 Subpart ZZZZ]

40 CFR 63 Subpart ZZZZ established emission limitations and operating requirements for various categories of reciprocating engines. The engines at the coal plant fall into two categories of engines regulated by Subpart ZZZZ. All of the applicable requirements for these engines have been included in the Air Operating Permit.

One requirement requires that engines be maintained "according to the manufacturer's emission-related written instructions or develop a maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions." The permittee submitted a maintenance plan for their "existing" stationary diesel engines to SWCAA on August 8, 2011. The portions of the maintenance plan relevant to engine emissions are included in Appendix C and are applicable requirements as described in Req-54.

For the purposes of this requirement, emergency operation of the fire pump is any operation necessary in response to a fire.

Req. 55, 57, 58, 61, 62, 65 Engine Requirements Originating from 40 CFR 60 Subpart IIII
[40 CFR 63 Subpart IIII]

40 CFR 63 Subpart IIII established emission limitations and operating requirements for various categories of "new" reciprocating engines. Where the requirements under Subpart IIII are the same as for 40 CFR 63 Subpart ZZZZ, the terms have been streamlined and applied to groups of engines. All of the applicable requirements for these engines have been included in the Air Operating Permit.

Req. 59 - 65 Requirements for the Coal Unloading Facility Emergency Diesel Sump Pump Engine
[40 CFR 63 Subpart ZZZZ, 40 CFR 60 Subpart IIII, and SWCAA 11-2972]

The Coal Unloading Facility Emergency Diesel Sump Pump Engine was installed as a "new" engine for the purposes of 40 CFR Subpart ZZZZ, therefore the engine is required to comply with Subpart ZZZZ by meeting the requirements of 40 CFR 60 Subpart IIII. The engine underwent New Source Review, resulting in the issuance of Air Discharge Permit 11-2972. Air Discharge Permit 11-2972 contained all of the applicable requirements from 40 CFR 60 Subpart IIII and additional requirements originating from SWCAA's general regulations and the minor New Source Review process.

In a June 28, 2011 amendment to 40 CFR 60 Subpart IIII, EPA changed section 60.4211(a) to allow owners/operators of stationary engines to deviate from manufacturer's written emissions-related instructions if they complied with additional recordkeeping and conducted an initial source test to demonstrate compliance with the applicable emission standards. These alternative requirements are included in section 60.4211(g). This compliance option is not detailed in the permit because the permittee has indicated that they will follow the manufacturer's written instructions.

For the purposes of this requirement, emergency operation is any operation necessary because the electrical water pump at the Coal Unloading Facility has unexpectedly failed. If the electrical water pump fails, it must be repaired as soon as practical. Operation of the Coal Unloading Facility Diesel Sump Pump Engine because the electrical water pump was not repaired as soon as practicable, would not be considered emergency operation.

Compliance with the annual emission limits for the Engine in Condition 5 of SWCAA 11-2972 is to be determined by multiplying the hours of operation by the emission factors presented in the Technical Support Document for SWCAA 11-2972 unless new emission factors are provided by the manufacturer or developed through source testing.

Req. 66 - 71 Requirements for Fire Pump Engine and Emergency Diesel Generator 2
[SWCAA 16-3188]

The requirements for these two engines appear together in many places because they are both subject to 40 CFR 60 Subpart IIII and are regulated by Air Discharge Permit 16-3188. Compliance with the annual emission limits for the Fire Pump Engine must be determined by multiplying the hours of operation by the emission factors presented in the Technical Support Document for SWCAA 16-3188 unless new emission factors are provided by the manufacturer or developed through source testing. These emission factors are listed in the explanation of M27.

Req. 72 – 76 Requirements for the Material Handling Systems Associated with the Mercury Control System and Fly Ash Bins
[SWCAA 11-2984]

Air Discharge Permit 11-2984 was written to approve material handling modifications necessary to implement an activated carbon injection (ACI) mercury control system on the two coal-fired boilers (one of which retired at the end of 2020). The fly ash bin baghouse exhausts are subject to the Compliance Assurance Monitoring (CAM) requirements of 40 CFR 64, and each utilize a baghouse leak detection monitor. This monitoring (along with periodic source emissions testing) is expected to provide an adequate assurance of compliance with the permitted emission limits.

Compliance with the annual emission limits in Condition 1 of SWCAA 11-2984 is to be determined by multiplying the hours of operation by the design flow rate and an emission concentration of 0.005 gr/dscf unless new emission factors are developed through source testing.

Filter	Rated Flow
SEA System 1	1,130
SEA System 2	1,130
Sorbent Silo 1	350
Sorbent Silo 2	350
Fly Ash Bin 11	14,730
Fly Ash Bin 12	14,730
Fly Ash Bin 14	14,730
Fly Ash Bin 14 Air Slide to Bin 11 Air Slide	900

Filter	Rated Flow
Fly Ash Bin 11 to Weigh Hopper Air Slide	900
Fly Ash Bin 14 to 6050 Air Slide	600

Condition 3 of SWCAA 11-2984 requires that each emission unit be operated properly. It will be presumed that the equipment is being operated properly unless otherwise indicated by an inspection or excess emissions. In that case, equipment operating manuals and maintenance records may be reviewed to determine if the equipment is being improperly operated or maintained.

Req. 77 – 81 Requirements for the Fly Ash Weigh Bin
[SWCAA 12-3016]

Air Discharge Permit 12-3016 was written to approve a new baghouse for the Fly Ash Weigh Bin to replace the existing baghouse on the fly ash weigh bin (operated by Lafarge North America at the time of permitting), and the relatively new "Fly Ash Bin 11 to Weight Hopper Air Slide Filter" (operated by TransAlta). The replacement baghouse filters dust from air collected from the fly ash loading spout and air vented to the fly ash bin from the No. 11 Air Slide and the No. 12 Air Slide.

Compliance with the annual emission limits in Condition 1 of SWCAA 12-3016 is to be determined by multiplying the hours of operation by the design flow rate and an emission concentration of 0.002 gr/dscf until or unless new emission factors are developed through source testing.

Req. 82 – 88 Requirements for Fine Coal Handling
[SWCAA 14-3093]

Air Discharge Permit 14-3093 was written to approve coal mine waste reprocessing activities and fine coal recovery. Only fine coal handling will occur at TransAlta Centralia Generation.

Annual emissions of particulate matter from the transfer of fine coal onto the coal stockpile are to be calculated using the following equation (found in Section 6 of the Technical Support Document for Air Discharge Permit 14-3093) for each transfer point:

$$E = k(0.0032)\frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

Where: E = emission factor (lbs PM per ton coal unloaded)
k = particle size multiplier (dimensionless). k=1.0 for PM, 0.35 for PM_{10}, 0.11 for $PM_{2.5}$
U = mean wind speed (miles per hour)
M = coal moisture content (%)

Meteorological data indicates that the mean wind speed at this site is 4 miles per hour. It was assumed that wet suppression will provide for 90% control of fugitive dust emissions. There is only one transfer point that is not fully enclosed (transfer to the TransAlta Generation stockpile). The transfer to the TransAlta Generation stockpile will be equipped with high-pressure wet suppression that will be used if visible emissions are observed. It is expected that the fine coal moisture will be too high to generate significant dust.

Req. 88 – 92, 95, 96 Minor New Source Review Permit and Subpart ZZZZ Requirements for Black Stop Generator Operation

Requirements removed – the Black Stop Generator Engine was permanently retired at the end of 2020.

Req. 93, 94 PSD Permit for Combustion Turbine Facility (Black Stop Diesel Generator Engine)

Requirements removed – the Black Stop Generator Engine was permanently retired at the end of 2020.

VI. EXPLANATION OF OBSOLETE AND FUTURE REQUIREMENTS

1. Obsolete Regulatory Orders/Permits

SWCAA issued eight Orders and Air Discharge Permits to the permittee between 1972 and 1974 in response to a particulate matter control equipment testing program and Air Discharge Permit applications submitted for installation or modification of such equipment and for operations at the source. Seven Orders were issued to the permittee between 1987 and 1991 regarding the averaging period for the SWCAA SO_2 emission standard and a variance request by the source. These seven Orders are no longer applicable as described below. From 1995 through early 1998, three Regulatory Orders concerning Reasonably Available Control Technology (RACT) requirements were issued to the permittee, two of which are no longer applicable as described below.

A SWCAA Order dated December 11, 1972 required the PM emission level of 0.06 gr/dscf not to be exceeded at any time, and also established maximum operating levels during compliance testing of both units. An Order dated April 13, 1973 approved installation of additional ESP collection area and required that additional sections be designed and installed to control emissions to 0.06 gr/dscf. A SWCAA Order dated April 26, 1973 specified objectives of a particulate matter emission testing program, allowed operation at maximum output during a specified test schedule for Unit 1, and reiterated the 0.06 gr/dscf emission limit in the December 11, 1972 Order. An Order dated May 4, 1973 approved operation of Unit 2 at maximum output during a scheduled particulate matter emissions test and listed the objectives of the test program. A May 22, 1973 Order extended the test schedule for Unit 2. A SWCAA Order dated June 11, 1973 approved full output operation of Unit 1, and, not to be exceeded at any time, the particulate matter emission level of 0.06 gr/dscf.

These Orders were effectively replaced by a subsequent SWCAA Order (dated February 7, 1974 and revised on February 22, 1974) that approved installation of the Lodge-Cottrell ESPs in series following the original ESPs on both Units 1 and 2. This February 1974 Order approved continued operation at an emission level not to exceed 0.06 gr/dscf and required

demonstration of satisfactory equipment performance within three months after startup of the new ESPs. Administrative Order 74-38 established a high-load testing schedule for Unit 2 not to exceed ten days commencing May 6, 1974. Although these Orders were not explicitly superseded until SWCAA 97-2057R1 was issued, the Orders dealing only with the testing program to improve and evaluate particulate matter collection became moot with the approval and subsequent performance demonstration of the Lodge-Cottrell ESPs.

The Centralia Plant disagreed with SWCAA's authority to establish via the February 1974 Order an emission limit more stringent than the state standard for particulate matter, 0.1 gr/dscf. SWCAA established the 0.06 gr/dscf emission limit consistent with "advances in the art" (the term that predates BACT) to not allow degradation of the control equipment and ensure meaningful emission reductions as intended under the Clean Air Act. Although all previous Orders have been superseded by Section 49 of SWCAA 97-2057R1, the 0.06 gr/dscf emission limit based on "advances in the art" was effective until the RACT limit of 0.010 gr/dscf become the applicable requirement for particulate matter emissions after December 31, 2001.

Order of Violation SWCAA 87-934 was issued for violations of the 1,000 ppm SO_2 emission limit based on average daily coal sulfur analyses, and required the permittee to implement coal analysis at twenty minute intervals, perform sampling of SO_2 emissions, and correlate the sampling results with the coal analyses. The Order suspended a civil penalty provided that no additional violations of the SO_2 emission standard occurred for one year. Stay of Order of Violation SWCAA 87-934-STAY stayed for up to 18 months from September 21, 1987 the requirements in SWCAA 87-934 for coal analysis and SO_2 emission sampling, and the civil penalty.

Order, Withdrawal of Stay, and Modification of Order of Violation SWCAA 88-934 required the Centralia Plant to install continuous SO_2 and O_2 emissions monitors, install ambient air quality monitors at three sites near the facility, blend and wash the coal supplied to its boilers, conduct a feasibility study of lime injection multiple burner technology to reduce SO_2 emissions, and comply with the SO_2 emission limit of 1,000 ppm averaged over a one week period. This Order, issued on February 24, 1988, withdrew the coal analysis and SO_2 emission sampling provisions and the civil penalty assessed by SWCAA 87-934. SWCAA 88-934 was amended by Variance and Modification of Order SWCAA 88-934B which granted a variance from the 1-hour averaging period of the SO_2 emission standard and established a weekly averaging period effective May 25, 1988 through November 25, 1989. SWCAA 88-934B required measured SO_2 emissions to be corrected to a dry basis, installation of meteorological monitoring equipment to be operated from October 1, 1988 through September 30, 1989, modeling of SO_2 emissions by an EPA approved dispersion model, and other minor modifications to 88-934.

SWCAA 88-934C Variance Renewal and Modification of Order extended the variance for weekly instead of hourly averaging of SO_2 emissions until November 25, 1990, extended the collection of ambient monitoring data through September 30, 1990, and modified the ambient air monitoring provision to require two rather than three sites. SWCAA 90-934D Variance Renewal and Modification of Order extended the variance for weekly instead of hourly averaging of SO_2 emissions until the earlier of November 25, 1991 or the date on which practicable means for the adequate abatement or control of SO_2 emissions from the Centralia

Plant become known, available, and implementable. The Order required that collection of ambient meteorological monitoring data extend through September 30, 1991, and that the permittee report to SWCAA the results of its dispersion modeling by December 31, 1991. Effective on April 5, 1991, SWCAA 90-934E Withdrawal of Petition, Surrender of Variance, and Order terminated the variance, meteorological monitoring, ambient monitoring, dispersion modeling, and modeling report provisions of SWCAA 90-934D and 88-934.

SWCAA 90-934E Withdrawal of Petition, Surrender of Variance, and Order (issued on April 5, 1991) revoked an earlier Variance and restored compliance with the SO_2 standard over a 1-hour averaging period. It also established a procedure for determining compliance with the hourly SO_2 standard which defined an "excess SO_2 emission day" as 3 or more unique excess SO_2 emission hours during any continuous 24-hour period in the month, and an "SO_2 emission violation" as 3 or more unique excess SO_2 emission days occurring in a calendar month. SWCAA 97-2057R1 supersedes Order No. SWCAA 90-934E along with its SO_2 compliance procedure.

Regulatory Order to Establish RACT SWCAA 95-1787 established a plant-wide annual average emission rate limit and total tonnage limit for SO_2 and specified compliance dates for achieving these emission limits. This Order was appealed by a third party to the Pollution Control Hearings Board (PCHB). SWCAA issued Order of Withdrawal SWCAA 96-1872 to withdraw SWCAA 95-1787 while pursuing additional SO_2 emission reductions through a collaborative process. However, the PCHB ruled SWCAA 96-1872 was an amendment to the original RACT Order, and therefore the RACT Order (95-1787) was still in effect. The SWCAA Board then approved Resolution 1996-8 on September 18, 1996 which withdrew both SWCAA 95-1787 and 96-1872, a decision later upheld by the PCHB.

An EPA Order on Consent was issued on May 18, 2001 to allow the permittee to commence construction of the Combustion Turbine Facility prior to issuance of a PSD permit. This order became obsolete upon issuance of PSD permit No. PSD-01-01.

PSD-01-01 was issued on February 22, 2002 for construction of the Combustion Turbine Facility. This PSD permit dealt only with those PSD pollutants with emissions at or above the PSD significance threshold (PM and NO_X). SWCAA Air Discharge Permit 01-2350 was issued on May 30, 2001 to address emissions of all other pollutants. Air Discharge Permit 01-2350 was superseded by Air Discharge Permit SWCAA 01-2350R1, issued on May 6, 2002. Air Discharge Permit SWCAA 01-2350R1 was written in response to an Air Discharge Permit application requesting an increase in the combustion turbine facility's sulfur oxides emission limits.

The permittee became aware on July 12, 2002 that the auxiliary boiler that was ultimately installed at the Combustion Turbine Facility was not the one approved by PSD-01-01 or Air Discharge Permit SWCAA 01-2350R1. PSD-01-01 and Air Discharge Permit SWCAA 01-2350R1 approved the 4.18 MMBtu/hr Cleaver-Brooks boiler specified in the Notice of Construction (NOC) applications for those permits. The permittee notified SWCAA of this fact on the next business day (July 15, 2002).

On July 22, 2002 SWCAA issued Consent Order SWCAA 02-2422 to address the issue. The consent order was signed by Ms. Linda Chambers for TransAlta Centralia Generation,

LLC on July 24, 2002. This consent Order became obsolete with the submittal of a Notice of Construction L-505 on August 15, 2002 (submittal of this notice satisfied the last requirement in the consent order).

PSD-01-01 was superseded by PSD-01-01 Amendment 1 on January 30, 2003. The permit amendment was made to approve the existing BHP Auxiliary Boiler.

Air Discharge Permit 01-2350R1 was superseded by Air Discharge Permit 01-2350R2 on October 15, 2003. Air Discharge Permit 01-2350R2 was written in response to Air Discharge Permit application L-505 for approval of the existing BHP Auxiliary Boiler.

PSD-01-01 Amendment 1 was superseded by PSD-01-01 Amendment 2 on June 11, 2004. The permit amendment was made to clarify the RATA frequency requirements.

Air Discharge Permit 01-2350R2 was superseded by Air Discharge Permit 01-2350R3 on May 12, 2005. Air Discharge Permit 01-2350R3 was written to make the source testing and RATA frequencies in the minor source permit consistent with the RATA frequencies in PSD-01-01 and the Acid Rain Program rules.

Air Discharge Permit 05-2612 was issued on July 15, 2005 for the addition of a coal unloading hopper to the West Coal Unloading Facility. Air Discharge Permit 05-2612 was superseded by Air Discharge Permit 07-2712 on February 7, 2007. Air Discharge Permit 07-2712 was written in response to a request for installation of surge capacity to the West Coal Unloading Facility. Air Discharge Permit 07-2712 was superseded by Air Discharge Permit 07-2749 on September 26, 2007. Air Discharge Permit 07-2749 was written in response to a request for modification of the West Coal Unloading Facility operating limitations and installation of the Coal Unloading Facility. Air Discharge Permit 07-2749 was superseded by Air Discharge Permit 11-2972 on April 14, 2011. Air Discharge Permit 11-2972 was written in response to a request to install a diesel-fired emergency water pump at the Coal Unloading Facility.

Air Discharge Permit 01-2350R3 was superseded by Air Discharge Permit 01-2350R4 on January 18, 2008. Air Discharge Permit SWCAA 01-2350R4 was written in response to an ADP application submitted by the permittee to eliminate the 1.5 ppmvd @ 15% O_2 (8-hour average) CO emission limit (BACT was re-evaluated) for the combustion turbines. The 3.0 ppmvd @ 15% O_2 (1-hour average) was retained.

Best Available Retrofit Technology (BART) Order No. 6426 was issued June 18, 2010 by the Washington Department of Ecology as implementation of Washington's visibility program (WAC 173-400-151) which is implemented consistent with the federal visibility protection program (40 CFR Part 51, Subpart P). Order No. 6426 established a NO_X emission limit of 0.24 lb/MMBtu for the coal fired boilers and a minimum coal quality requirements. EPA approved the SIP submission containing this BART submission in a Federal Register notice dated December 6, 2012.

BART Order No. 6426 was superseded by the First Revision of BART Order No. 6426 issued December 13, 2011. The First Revision of BART Order No. 6426 was issued to implement new requirements from a 2011 law (Washington Engrossed Second Substitute Senate Bill 5769). Under this law the Governor is required to enter in a "memorandum of agreement" with the plant owner on behalf of Washington State to install and operate selective non-catalytic reduction (SNCR) to provide additional control of NO_X emissions no later than January 1, 2013. The Memorandum of Agreement was finalized December 23, 2011. The law also requires one boiler to comply with the greenhouse gas emission performance standard in RCW 80.80 by December 31, 2020 and the second boiler by December 31, 2025. These requirements were included in the First Revision of BART Order No. 6426. Approval of this revision into the Washington SIP was published in the Federal Register on December 6, 2012.

The First Revision of BART Order No. 6426 was superseded by the Second Revision of BART Order No. 6426 issued July 29, 2020. This revision was made to address problems with, and caused by, the SNCR system. The revision reduced the NO_X limit for the longer-lived unit from 0.21 lb/MMBtu to 0.18 lb/MMBtu while removing the prescriptive SNCR operating requirements. Approval of this revision into the Washington SIP was published in the Federal Register on May 7, 2021.

Air Discharge Permit 11-2996 was issued November 11, 2011 for installation and operation of the Pump-05 Engine. Air Discharge Permit 11-2996 was superseded on October 18, 2012 by Air Discharge Permit 12-3035. Air Discharge Permit 12-3035 was issued for installation of a new fire pump engine that may also be used to supply non-emergency water pumping during plant maintenance events. The permit conditions related to the engines addressed in Air Discharge Permit 11-2996 were carried forward in Air Discharge Permit 12-3035.

Air Discharge Permit 12-3035 was superseded by Air Discharge Permit 16-3188 on June 1, 2016. Air Discharge Permit 16-3188 was written for approval of a nonroad engine and an emergency generator engine to replace the Emergency Diesel Generator 2 engine.

2. Initial Testing Requirements for Limestone Ball Mill

The initial testing requirements of 40 CFR 60.18 for the Limestone Ball Mill (consisting of opacity observations as specified in 40 CFR 60 Subpart OOO) were completed on October 24, 2007.

3. Acid Rain Requirements

The general Acid Rain recordkeeping provisions of 40 CFR 75.50 are no longer valid as of January 1, 1996, and are replaced by the general recordkeeping provisions of 40 CFR 75.54. The Acid Rain Program provided an optional set of recordkeeping requirements with only slightly different provisions prior to January 1, 1996, but disallows their use from January 1996 onward.

4. Future NSPS/MACT/NESHAP Standards

None

5. Future Coal-Fired Boiler Shutdown Requirements

Condition 3 of the Second Revision of Bart Order No. 6426 requires that one coal-fired unit permanently cease burning coal no later than December 31, 2020, and the second permanently cease burning coal no later than December 31, 2025. These requirements would not apply if the Department of Ecology determines as a requirement of state or federal law or regulation that selective catalytic reduction (SCR) technology must be installed on either coal fired boiler. This requirement implements requirements in RCW 80.80 as amended in 2011. RCW 80.80 requires that the coal fired boilers meet a greenhouse gas performance standard that is the lower of 1,100 lbs/MW-hr or the average available greenhouse gas emissions output as determined under RCW 80.80.050. The output determined under RCW 80.80.050 is published by the Washington Department of Commerce in WAC 194-26 and was 925 lbs/MW-hr effective April 6, 2013. These standards cannot be met by these boilers without the addition of CO_2 capture equipment or shutdown.

VII. EXPLANATION OF MONITORING AND RECORDKEEEPING TERMS AND CONDITIONS

M1. General Recordkeeping

This recordkeeping section is taken directly from SWCAA 97-2057R2 Sections 26 and 29, SWCAA 05-2636, SWCAA 08-2779, SWCAA 11-2072, SWCAA 14-3093, and WAC 173-401-615(2). Sections (a) through (d) were added to clarify specific requirements. Under K1(c)(i) of the permit "equipment out of service" is limited to SO_2 emission control equipment, and "upset conditions" are limited to pollution control equipment or equipment that would directly impact SO_2 emissions.

M2. Visible Emission Monitoring

This monitoring requirement is used to provide, by itself or in combination with other monitoring requirements, a reasonable assurance of compliance with the general requirements drawn from SWCAA 400 and the specific requirements drawn from SWCAA 97-2057R1, SWCAA 01-2403, and SWCAA 14-3093. The general requirements in SWCAA 400 do not directly establish any specific regime of monitoring or recordkeeping. Consequently, SWCAA has implemented monitoring and recordkeeping requirements under the "gap filling" provisions of WAC 173-401-615 where no other monitoring is required by an applicable requirement. M1 is designed to provide periodic assurance of compliance and record any necessary corrective action. This requirement pertains to the visual technique for evaluating visible emissions, not the continuous monitor method. Demonstration of compliance is required in some cases via visible emissions evaluation. An individual educated in the procedures of visible emission observation and evaluation is to perform the periodic compliance assurance monitoring. A Certified Observer, certified in accordance with EPA Method 9, is to perform the visible emission observations based on the method in Appendix A of the Air Operating Permit.

M3. Particulate Matter Emissions Monitoring

This monitoring requirement is used to provide, by itself or in combination with other monitoring requirements, a reasonable assurance of compliance with the general requirements drawn from SWCAA 400 and specific requirements drawn from SWCAA 05-2636, SWCAA 11-2972, SWCAA 12-3016, and SWCAA 14-3093. A particulate matter exhaust standard of 0.1 gr/dscf applies to both combustion and non-combustion emission units. These requirements do not directly establish any specific regime of monitoring or recordkeeping. Consequently, SWCAA has implemented monitoring and recordkeeping requirements under the "gap filling" provisions of WAC 173-401-615 where no other monitoring is required by an applicable requirement. M2 is designed to assure compliance through periodic facility inspections and prompt corrective action within 2 hours of observing particulate matter fallout or excess visible emissions whenever necessary. The permittee is required to resolve the particulate matter fallout or excess emissions problem within 24 hours of initial discovery, or notify SWCAA by the next working day of progress made towards resolution. Excess emissions are emissions above the state standard or permit limit. The site inspection and visual observation are surrogate methods for assessing the relative emissions from non-combustion emission units EU-4, EU-5, and EU-6 that have demonstrated emissions well below the general standards.

Both Coal Plant units (EU-1 and EU-2) are equipped with electrostatic precipitators that remove over 99.5% of the particulate matter from coal combustion leaving emission concentrations less than one-tenth of the standard in Req-9. Combustion of fuel oil in the auxiliary boiler (EU-3) does not produce emission concentrations near this standard either. Monitoring for the standards in Reqs-9 and 11 makes use of observations that will readily indicate if control equipment or material handling management practices are seriously deficient. The site inspection and visual observation are surrogate methods for assessing the relative emissions from emission units EU-1, EU-2, and EU-3 that have demonstrated emissions well below the general standards.

Condition 8 of Air Discharge Permit SWCAA 11-2972 requires that the water pressure of the spray/fog nozzles be maintained at 80 psig or greater during operation of the coal unloading facility, however no monitoring of the water pressure was required (although a visual inspection is required monthly). Consequently, SWCAA has implemented monitoring and recordkeeping requirements under the "gap filling" provisions of WAC 173-401-615 that require the spray pressure to be measured during the monthly inspection and recoded in accordance with Section VIII K1(a).

M4. Fugitive Emissions Monitoring

This monitoring requirement is used to provide, by itself or in combination with other monitoring requirements, a reasonable assurance of compliance with the general requirements drawn from SWCAA 400 and the specific requirement from SWCAA 01-2403 to control fugitive dust from operation of the fly ash pugmill. SWCAA 400 does not directly establish any specific regime of monitoring or recordkeeping for these standards. Consequently, SWCAA has implemented monitoring and recordkeeping requirements under the "gap filling" provisions of WAC 173-401-615 for those general requirements. M3 is designed to assure compliance through a combination of periodic facility inspections, use of

reasonable precautions and good work practices, and prompt corrective action whenever necessary.

M5. Complaint Monitoring

This monitoring requirement is used to provide, by itself or in combination with other monitoring requirements, a reasonable assurance of compliance with the general requirements drawn from SWCAA 400 and specific requirements in SWCAA 01-2350R4, SWCAA 11-2972, SWCAA 12-3016, and SWCAA 16-3188. SWCAA 400, SWCAA 01-2350R4, Condition 3 of SWCAA 12-3016, and SWCAA 16-3188 do not directly establish any specific regime of monitoring or recordkeeping for these requirements. Consequently, for these rules SWCAA has implemented monitoring and recordkeeping requirements under the "gap filling" provisions of WAC 173-401-615. M4 is designed to assure compliance through prompt complaint response and corrective action whenever necessary.

M6. Operations Monitoring

The requirements cited in this monitoring section are "gap-filling" monitoring under the authority of WAC 173-401-615(1). No requirements rely solely on this monitoring condition to assure compliance. These requirements ensure sufficient monitoring where the applicable rule or permit does not provide an adequate assurance of compliance with the applicable requirement. M5 is designed to assure compliance through operation of pollution control equipment according to manufacturer specifications and/or consistent with good engineering and maintenance practices, and by taking corrective action whenever necessary. Emissions control equipment is operated to minimize overall long-term emissions. Manufacturer specifications should be followed except in instances where alternative practices are equivalent or better. The goal is to maintain performance rather than follow exact manufacturer specifications.

M7. Coal Plant SO_2 General Standard Monitoring

This monitoring requirement in combination with M8 is used to provide a reasonable assurance of compliance with the general SO_2 emission concentration limit contained in SWCAA 400. SWCAA 400-040(6) limits the emission of sulfur dioxide from combustion sources to a maximum of 1,000 ppmv corrected to a specified oxygen percentage as noted in SWCAA 400-050(3). The combustion sources at this facility combust pulverized coal and fuel oil (No. 2 distillate diesel oil). EU-3 is fueled exclusively with fuel oil, and its monitoring requirement consists only of quarterly certification of fuel sulfur content. A CEM mandated by the Acid Rain Program continuously measures the SO_2 concentrations of the flue gasses emitted by EU-1 and EU-2 and determines 60-minute averages (see M9).

SWCAA 97-2057R1 requires the use of coal sulfur content sampling to fill in missing CEM data periods, and certification of fuel oil burned in the auxiliary boiler and BW21 and BW22 but does not detail the frequency of such monitoring. This requirement provides the explanation of the minimum monitoring necessary to comply with these requirements. Monitoring of coal sulfur content by monthly composite sampling is required for comparison and potential backup purposes in the event of missing CEMS data. The conversion between fuel sulfur content and SO_2 concentration relies upon an approximate linear relationship based

on operational experience with a coal sulfur content of 1% by weight corresponding to an SO_2 bypass stack concentration of 1,000 ppm. Quarterly certification of fuel oil sulfur content is required to demonstrate compliance with the 1,000 ppm requirement, but the frequency of each sulfur content determination depends on the fuel suppliers' shipments and is not a continuous monitoring requirement. The maximum level of sulfur in the fuel oil consumed is 0.5% by weight. The following calculation demonstrates how the 1,000 ppmvd sulfur dioxide limit cannot be exceeded when burning fuel oil with a sulfur content of 0.5% or less:

$$\text{ppm}\,SO_2 @ 7\%O_2 = \frac{7.206\,\text{lb oil}}{\text{gallon}} \bullet \frac{1\,\text{gallon}}{0.141\,\text{MMBtu}} \bullet \frac{0.005\,\text{lbS}}{\text{lb oil}} \bullet \frac{\text{lb}\cdot\text{mole}}{32\,\text{lbS}} \bullet \frac{385\,\text{scf}}{\text{lb}\cdot\text{mole}} \bullet \frac{\text{MMBtu}}{9{,}190\,\text{dscf}} \bullet \frac{(20.9 - 7\%O_2)}{20.9} \bullet 10^6$$

$$\text{ppm}\,SO_2 @ 7\%O_2 = 22.2$$

M8. Coal Plant Stack Sampling Monitoring Requirements

This monitoring requirement is used to provide, by itself or in combination with other monitoring requirements, a reasonable assurance of compliance with the general requirements drawn from SWCAA 400, the specific emission limits contained in SWCAA 97-2057R1, Second Revision of BART Order No. 6426 and 40 CFR 63 Subpart UUUUU. SWCAA 400-052 specifies a frequency for source testing of all applicable combustion units, which are those which emit 100 tons per year or more of NO_X, CO, particulate matter, SO_2, or VOC. Emissions tests are required every two calendar years for those pollutants for which the source emits 100 tons per year or more. The use of continuous emissions monitors is an acceptable alternative to the specified sampling schedule. The permittee operates CEMS at each stack for NO_X and SO_2 that meet Acid Rain requirements. In addition, CO is continuously monitored from both scrubbed flues. Requirement M9 is designed to elaborate on the SWCAA-only regulation, integrate its requirements with those from the RACT Order, and provide periodic assurance of compliance with the particulate matter exhaust concentration standards.

Past source testing at the bypass stacks has indicated compliance with the particulate matter emission limits by a wide margin. With one exception during a scrubber upset, source tests on scrubbed flues have demonstrated compliance with the PM emission limits by an adequate margin. Because continuous methods are used to quantify emissions of SO_2, NO_X, and CO, compliance with the PM emission limits has been repeatedly demonstrated by a wide margin, and because opacity monitor data utilized as part of a CAM plan, and equipment maintenance review provides additional assurance that PM emission limits are met, periodic source testing is adequate to provide a reasonable assurance of continuous compliance with the PM emission limit.

Ammonia slip monitoring must be conducted at least annually, and as frequently as semiannually in accordance with the requirements of the Second Revision of BART Order No. 6426. Between source emission tests, urea usage is monitored in accordance with M25. Large increases in urea usage without corresponding decreases in NO_X emissions would indicate the possibility of increased ammonia slip.

M9. Coal Plant Continuous Monitoring Provisions

This monitoring requirement is used to provide, by itself or in combination with other monitoring requirements, a reasonable assurance of compliance with the general requirements drawn from SWCAA 400, the specific emission limits contained in SWCAA 97-2057R1, Second Revision of BART Order No. 6426, 40 CFR 63 Subpart UUUUU, and to provide compliance with the Acid Rain requirements.

CEMS for SO_2, NO_X, CO, CO_2, Hg, and moisture monitor exhaust concentrations and allow for the calculation of mass emission rates of these pollutants from the coal-fired boiler. A COMS for measuring the opacity of emissions has been retained at each bypass stack but will not be installed on the scrubber flues because condensed water vapor makes opacity monitoring at these flues impossible. Note that TransAlta received an official exemption from the Acid Rain Program COMS requirements for the scrubbed stacks in accordance with 40 CFR 75.14(b) [see letter from Sam Napolitano (EPA) to Lou Florence (TransAlta) dated July 28, 2011]. SWCAA 97-2057R1 requires the use of an SO_2/O_2 CEMS on the bypass stacks. NO_X and CO_2 CEMS are not required on the bypass stacks by SWCAA 97-2057R1, local, state, or federal (40 CFR 75) regulations. The CEMS and/or COMS are calibrated daily in the active stack to ensure accurate measurements. An O_2 monitor measures and records O_2 concentration in the stack gas discharged to the atmosphere consistent with the Acid Rain monitoring provisions, although the requirement for operating an O_2 monitor is based on SWCAA 97-2057R1, Sections 21 and 27a, and SWCAA 400-040(6) and 400-050(3) which specify that the 1-hour average SO_2 concentration data be on a dry basis corrected to 7% O_2. The correction method uses the as-measured SO_2 concentration for each clock hour and the corresponding actual O_2 concentration to standardize the SO_2 data to 7% O_2, as shown:

$$SO_2, \text{dry @ } 7\%\ O_2 = [(20.9 - 7) / (20.9 - O_2\%, \text{dry})] * SO_2, \text{dry @ actual } O_2\%$$

This monitoring is to be used for demonstrating compliance with the specific pollutant emissions limits and standards in the permit. The monitors are to be installed, operated, maintained, and calibrated in accordance with the Acid Rain Program monitoring requirements and Subpart UUUUU as applicable. SWCAA 400-040 does not directly establish any specific regime of continuous monitoring or recordkeeping for the COMS. Consequently, SWCAA has used the monitoring requirements from SWCAA 97-2057R1 Section 36 and recordkeeping requirements under the "gap filling" provisions of WAC 173-401-615. Requirement M9(c) is designed to assure compliance with the state visible emissions standard using the COMS 6-minute average opacity data. Monitoring of 1-minute average opacity also meets this monitoring requirement because 6-minute averages may be calculated from 1-minute average data. This method of evaluation is deemed adequate to demonstrate compliance with the visible emissions standard of SWCAA 400-040(1), which is primarily a visual observation method. SWCAA 97-2057R1 Section 36 specifies that evaluation of the visible emission standard occur by both COMS and visual observation using Method 9 as prescribed in Appendix A to the permit.

Missing data procedures for the Acid Rain Program are specified for those hours when the CEMS does not measure or record valid data for the applicable monitors. The requirements specify methods for substituting data depending on factors such as the length of the missing data period and monitor system data availability rate. For compliance with the SO_2 concentration standard of SWCAA 400-040(6), the missing data procedures are identical to

those of 40 CFR 75.30 - 75.33 when the length of the missing data period is four hours or less. However, when monitor out-of-service periods are greater than four hours, data from an on-line coal analyzer, any as-burned coal analyses conducted by the permittee, and plant operating data is evaluated. For state and local rules and permits, the purpose of missing data substitution is to represent true and actual emissions as closely as possible. Therefore, the data or combination of data that best represents actual emissions is used to determine the SO_2 concentrations.

Missing data substitution procedures of 40 CFR 75 are not utilized to demonstrate compliance with the NO_X emission limit from the Second Revision of BART Order No. 6426 or the SO_2, PM, or Hg emission limits from 40 CFR 63 Subpart UUUUU. Reported emissions for comparison with these limits are intended to be more representative of actual emissions than the more conservative reporting required by 40 CFR 75 (Acid Rain Program Monitoring).

Electric output monitoring was added under the "gap filling" provisions of WAC 173-401-615 in order to allow the calculation of SO_2, PM, and Hg emission rates in units of lb/MWh or lb/GWh for comparison with the emission limits in 40 CFR 63 Subpart UUUUU.

Section M9(s) describes the requirements to monitor the bypass stack for SO_2, Hg, and PM in accordance with 40 CFR 63.10006(c) and 40 CFR 63.10010(a)(4). 40 CFR 63.10010(a)(4) indicates that if a relevant CEMS is not installed on the bypass stack, bypass hours are counted as deviations from the monitoring requirements. Based on a review of EPA's December 2011 Response to Public Comments, it appears that EPA intends to count a failure to monitor the bypass stack for either Hg or PM as a deviation from Subpart UUUUU requirements only if the bypass stack is used outside of startup or shutdown. Otherwise is appears that EPA would simply count unmonitored bypass hours as monitor downtime. In EPA's response to Commenter 17675, EPA writes:

"... The EPA has modified the bypass stack monitoring requirements. Under 40 CFR Part 75, the EPA allows the use of a maximum potential concentration value on a bypass stack. That approach works within the broad context of an emissions trading program but does not work when evaluating compliance with a specific emission limit over a shorter period. Thus, the final rule provides two other options for a source. One is to monitor the bypass stack consistent with the proposed rule. The other is to treat any hours of bypass stack emissions as periods of monitor downtime. In general, this is consistent with the EPA's approach to startup and shutdown periods, in that we treat those periods as subject to a work practice standard. That generally obviates the need to monitor the bypass stack as the emission limit does not apply during the periods when the source is most likely to operate a bypass stack..."

In the past many facilities, although not this facility, have operated certain pollution control equipment only seasonally, therefore the bypass stack was routinely used during normal operation. The requirement in Subpart UUUUU to monitor the bypass stack addresses this possibility.

M10. 40 CFR 63 Subpart UUUUU Recordkeeping and Startup Monitoring

This recordkeeping requirement is taken directly from 40 CFR 63 Subpart UUUUU and the general requirements of 40 CFR 63.8 and 40 CFR 63.10 that apply to Subpart UUUUU

M11. Coal Plant Startup, Shut Down, and Outage Operation Procedures for RACT Order

This monitoring requirement is used to provide, by itself or in combination with other monitoring requirements, a reasonable assurance of compliance with the specific requirements contained in SWCAA 97-2057R1. Pursuant to SWCAA 400-081 "Start-up and Shutdown," technology based emission standards and control technology determinations must take into consideration the physical and operational ability of a source to comply with the applicable standards during start-up or shutdown. Where it is determined that a source is not capable of achieving continuous compliance with an emission standard during start-up or shutdown, SWCAA must include appropriate emission limitations, operating parameters, or other criteria to regulate performance of the source during start-up or shutdown.

M9 ensures sufficient monitoring to excuse unavoidable excess emissions or demonstrate compliance with the permit. The use of terms, test methods, units, averaging periods, and other conventions will be consistent with the applicable requirements. Emissions control equipment is operated to minimize overall emissions, except to the extent equipment operation will cause degradation of its long-term performance.

Exceedances of the PM and opacity limitations are excused under SWCAA 97-2057R1 based on SWCAA 400-107 during on-line preventive maintenance and manual ESP rapping which may cause short duration emissions increases, and during startup and shutdown when the ESPs are out of service. Excess emissions due to scheduled maintenance are considered unavoidable if the permittee adequately demonstrates the excess emissions could not have been avoided through reasonable design, better scheduling for maintenance, or through better operation and maintenance practices. ESP component maintenance and manual rapping of ESP plates are among the maintenance activities that often result in short duration excess emissions, however these excess emissions are considered unavoidable and necessary to enhance long-term equipment performance and, as such, are excused from penalty.

Shutdown of one FGD system requires opening of the damper to the associated bypass stack. This operation has been known to cause excess opacity. The cause of the excess opacity is believed to be re-entrainment of ash deposited in the duct near the damper. Excess opacity due to opening of the bypass damper and re-entrainment of ash deposits is unavoidable, and therefore will be excused from penalty providing:

(a) The permittee reports the excess emission as soon as possible but no later than 48 hours after discovery;

(b) The permittee adequately demonstrates that the cause of the excess opacity was opening of the bypass duct (e.g. the excess opacity was contemporaneous with bypass duct opening); and

(c) The permittee adequately demonstrates that directing flue gas to the bypass stack was unavoidable (e.g. the FGD shutdown was not reasonably preventable).

Hourly SO_2 emissions during shutdown, startup, and maintenance of the SO_2 emission control technology in excess of 250 ppm are excused under SWCAA 400-107 provided the alternative hourly SO_2 limits of Req-20 are not exceeded. Shutdown and startup periods are defined based on an ESP temperature of 220°F or below, and the startup period begins when fuel is

introduced into a boiler to raise its temperature to operating conditions. ESP operation during startup and shutdown of EU-1 or EU-2 will degrade the overall ESP performance. When ESP temperature is below about 220°F, and especially when the boiler is combusting fuel oil, continued operation can result in fouling of the precipitator plates, which decreases long-term PM collection efficiency. Operation of the SO_2 emission control technology when the ESPs are off line and not removing PM is expected to foul or possibly plug key components, so the SO_2 emission control technology is not required to be placed in operation until the upstream ESPs are functioning. The end of the startup period is defined based on identifiable operating events.

Emissions in excess of both the 250 ppm hourly SO_2 limit and the alternative shutdown, startup, and SO_2 emission control technology outage limits of Req-20 may be excused provided the permittee meets the burden of proof regarding unavoidable emissions under SWCAA 400-107, especially subsections (4), (5), and (6). For unit startups, shutdowns, and on-line maintenance when the SO_2 emission control technology is out of service, the permittee is expected to blend lower sulfur coal into the boiler fuel supply prior to a planned outage of the SO_2 control system. The permittee submitted a scrubber startup, shutdown, and maintenance procedure in correspondence dated September 19, 2002. The document outlines the procedures implemented by the permittee to maintain compliance with the emission limits and operational requirements imposed by applicable air regulations and permits.

If burning high sulfur coal, sulfur dioxide emissions in excess of the 1,000 ppm limit in Req-19 are unavoidable during the first 6 – 8 hours (the length of time required to burn through coal stored in the silos) of a forced outage of the flue gas desulfurization (FGD) system if the cause of the forced outage is itself unavoidable. Good air pollution control practice for minimizing emissions during a forced outage of the FGD system include changing the coal blend so that emissions will be reduced below the 1,000 ppm limit after the high-sulfur coal blend is burned out of the silos. The permittee has indicated that the coal blend will be changed within approximately 15 minutes of notification of a scrubber problem.

M12. Coal Plant SO_2 12-Month Period Emission Evaluation

This monitoring requirement is used to provide, by itself or in combination with other monitoring requirements, a reasonable assurance of compliance with the specific requirements contained in SWCAA 97-2057R1. Calculation of the annual tons of SO_2 emitted for comparison with the limitations must include all hourly SO_2 emission data, including startups, shutdowns, upsets, and forced or planned emission control system outages. An exceedance of the annual limitation is defined as any consecutive 12 calendar months in which SO_2 emissions exceed the tons per year SO_2 limitations applicable at the time. Although each day in the last month of the 12-month exceedance period can be treated as a separate day of violation, an alternative day-by-day evaluation method can be used by the permittee to more specifically identify the violation period. According to the alternative evaluation method, the number of violation days is equal to the number of 365-day emission summations, ending within the last month of the exceedance period, in which the SO_2 emissions exceed the annual limitation. This alternative evaluation method is the same as a 365-day rolling total, rolled each calendar day.

M13. Coal Plant SO_2 Monitoring of Bypass Stacks

This monitoring requirement is used to provide, by itself or in combination with other monitoring requirements, a reasonable assurance of compliance with the specific requirements contained in SWCAA 97-2057R1. The owners of the Centralia Plant had sole discretion to select the SO_2 and NO_X emission control technologies provided they met the applicable emission limits. The control technology configuration could include the maintenance of the original stacks for bypass provided a CEMS was maintained to monitor SO_2 emissions from the bypass stacks.

If the bypass stacks do not contain certified functional CEMS for SO_2, any emergency bypass emissions released through these stacks will be considered an upset condition reportable to SWCAA as a deviation from permit conditions. All SO_2 emissions released from the facility, regardless of where, how, or under what operating condition, is included in the plant SO_2 total for comparison with the annual limitation.

M14. Coal Plant Fuel Oil Usage Evaluation

This monitoring requirement is used to provide, by itself or in combination with other monitoring requirements, a reasonable assurance of compliance with the specific requirements contained in SWCAA 97-2057R1 and the fuel usage monitoring requirement of 40 CFR 63.7525(k). The permittee is required to monitor fuel oil usage in all of the boilers. The permittee accepted a voluntary limit on the amount of fuel oil consumed by the auxiliary boiler (EU-3) so it would not be necessary to evaluate RACT for this unit. RACT may have otherwise been applicable because the auxiliary boiler's potential-to-emit was sufficient to qualify it as a major source on its own, even though emissions calculated from actual fuel usage resulted in emissions substantially below the major source threshold. To evaluate fuel usage compared to the consumption limit, the auxiliary boiler must be equipped with a separate fuel meter or be supplied by its own unique fuel tank to identify fuel consumed in the auxiliary boiler. If the auxiliary boiler consumes fuel oil containing the maximum allowed 0.5% sulfur by weight, the SO_2 emissions from EU-3 will be larger than emissions of other criteria pollutants from EU-3. Emissions are calculated based on emission factors from U.S. EPA AP-42 §1.3. An example of this SO_2 emission calculation using the maximum allowed annual fuel consumption is shown below:

$$\frac{600{,}000\ \text{gallons}}{\text{year}} \bullet \frac{7.206\ \text{lb oil}}{\text{gallon}} \bullet \frac{0.005\ \text{lb S}}{\text{lb oil}} \bullet \frac{1\ \text{lb}\cdot\text{mole S}}{32\ \text{lb S}} \bullet \frac{64\ \text{lbs SO}_2}{\text{lb}\cdot\text{mole SO}_2} \bullet \frac{1\ \text{ton}}{2{,}000\ \text{lbs}} = 21.6\ \text{tons per year}$$

The daily fuel monitoring requirement of 40 CFR 63.7525(k) is used to demonstrate that the boiler remains in the "limited use" subcategory and is exempt from many of the requirements of 40 CFR 63 Subpart DDDDD.

M15. Black Stop Diesel Generator Engine Source Testing Requirements

Requirements removed – the Black Stop Generator Engine was permanently retired at the end of 2020.

M16. Black Stop Diesel Generator Engine Startup and Shutdown

Requirements removed – the Black Stop Generator Engine was permanently retired at the end of 2020.

M17. Black Stop Diesel Generator Engine Fuel Certification

Requirements removed – the Black Stop Generator Engine was permanently retired at the end of 2020.

M18. Black Stop Diesel Generator Engine Hours Monitoring

Requirements removed – the Black Stop Generator Engine was permanently retired at the end of 2020.

M19. Maintenance Activities Monitoring

The data provided by this monitoring requirement, in conjunction with source testing, provides a reasonable assurance that emissions that are not monitored continuously are within permitted limits. Each occurrence of maintenance and repairs to the fly ash unloading pugmill or turbine lube oil mist eliminators that may affect emissions is recorded. This data is available to plant personnel and SWCAA upon inspection. This data can be periodically reviewed by SWCAA and plant personnel to determine if emission factors used to calculate emissions remain valid.

For example, the replacement of filters in the lube oil mist eliminators could affect emissions if a slightly different filter were installed, therefore filter replacements for the turbine lube oil mist eliminators must be documented.

his monitoring term was included in SWCAA 01-2403 because it can be a valuable inspection tool that requires minimal effort on the part of the permittee.

M20. Particulate Matter Compliance Assurance Monitoring for BW22

The permittee was required to submit a Compliance Assurance Monitoring (CAM) plan for particulate matter emissions from EU-2 in accordance with 40 CFR 64 for the permit renewal in 2004. CAM is applicable to emissions from both the bypass and FGD stacks of EU-2. The permittee's CAM plan was approved as incorporated into the Air Operating Permit. The CAM plan utilizes opacity as a surrogate indicator of particulate matter control device operation and particulate matter emissions.

The CAM plan for the bypass stacks was required because the permittee is allowed to use the bypass stack for limited periods of time outside of startup, shutdown, and extreme emergency conditions. To date, the bypass stacks have not been used except during startup, shutdown, and upsets. Because facilitywide SO_2 emissions are limited to 10,000 tons per year, use of the unscrubbed bypass stack rapidly utilizes the allowable annual emissions (at a rate of ~5 tons per hour), therefore use of these stacks outside of startup, shutdown, and extreme emergencies is unlikely. Any significant use of the bypass stack can result in

restrictions on plant operation to maintain compliance with the 10,000 ton per year SO_2 limit.

For the FGD stack, opacity in the ductwork upstream of the scrubber of less than 30% provides an adequate assurance that particulate matter emissions from the applicable FGD stack will be less than the permit limit. Source testing at this facility has demonstrated that the scrubber is highly efficient at removing particulate matter from the flue gas. Particulate matter emission levels well below the indicator range will adversely affect scrubbing liquor chemistry and gypsum quality and potentially result in damage to the scrubber, therefore the permittee is highly motivated to maintain opacity levels well below the 30% level.

When an excursion occurs, the Permittee is required to suhmit a report that includes the "ESP field settings" along with the fields out of service. The ESP field settings are the secondary voltage and secondary current, consistent with 40 CFR 63 Subpart UUUUU.

M21. Coal Unloading Facility

The data provided by this monitoring requirement is used to calculate annual emissions of particulate matter from the coal unloading facility.

M22. FGD Bleed Treatment Lime Storage Silo

Differential pressure across the dust collector must be recorded at least monthly to assist in evaluating whether the dust collector is operating properly. Large changes in differential pressure can indicate operational problems. The number of hours the silo is actively vented must be recorded annually to allow the calculation of emissions from the silo. In conjunction with the monthly inspections required by M3, this data will provide a reasonable assurance of ongoing compliance with the particulate matter emission limits.

M23. Journal Shop

The amount of each type of welding rod that is used in the Journal Shop must be monitored and recorded to calculate annual emissions. The Journal Shop baghouse is designed to provide a high level of control and utilizes both primary filters and secondary HEPA filters. SWCAA believes that unless there is an obvious upset condition (for which monitoring is required), the unit will comply with particulate matter emission limits.

M24. Reserved

M25. SNCR System Monitoring

In accordance with Condition 4 of the Second Revision of BART Order No. 6426, ammonia monitoring is required only when urea injection exceeding 1.5 gallons per minute is used for NO_X control. Condition 7 requires reporting of the urea concentration and injection rate within 30 days of first injecting urea in a calendar year, but does not include monitoring, or any reporting after those 30 days. Urea flow rate monitoring is necessary for SWCAA and Ecology to know when ammonia testing is required; therefore, this

provision was added under the "gap filling" monitoring provisions of WAC 173-401-615(1).

M26. Coal Plant Emergency Engine Monitoring

These requirements come directly from 40 CFR 60 Subpart IIII (for Emergency Diesel Generator 2), 40 CFR 63 Subpart ZZZZ (for Emergency Diesel Generator 1), and SWCAA 16-3188. For the purposes of Subparts IIII and ZZZZ, the engines are classified as emergency compression ignition engines with a site rating of less than 500 horsepower. For this classification of engine in each rule, the applicable requirements are all operating or maintenance requirements. The permittee must document how many hours each engine is operated, and for what purpose it was operated, to demonstrate that the engines are indeed being operated as emergency engines. Because all operating and maintenance activities must be documented, and all operating hours accounted for, these monitoring provisions provide a reasonable assurance of compliance with the applicable requirements. A review of the documentation for a specific engine will conclusively determine the compliance status of the unit with respect to the operating and maintenance requirements.

M27. Fire Pump Engine Monitoring

M27(a) comes directly from SWCAA 16-3188 and provides a reasonable assurance of compliance with the fuel sulfur limitations and allows for the calculation of annual sulfur dioxide emissions.

M27(b) comes directly from SWCAA 16-3188 and provides a reasonable assurance of compliance with the hours limitation and allows for a calculation of annual emissions.

Unless new testing is conducted after the issuance date of SWCAA 16-3188 (June 1, 2016), the following emission factors are to be used:

Pollutant	**Fire Pump Engine Emission Factors (lb/hr)**
NO_X	1.12
CO	0.54
PM	0.050
PM_{10}	0.050
$PM_{2.5}$	0.050

M27(c) provides a reasonable assurance of compliance with the maintenance requirements of 40 CFR 63 Subpart IIII. Subpart IIII requires that certain maintenance activities be undertaken as specified frequencies (measured in the number of hours an engine has operated) but does not include any provision for monitoring how many hours an engine has operated. SWCAA has required the permittee to document the hour meter reading at each incident of maintenance and repairs under the "gap filling" provisions of WAC 173-401-615. Since maintenance activities must occur at least once per year, this means that at least once per year there will be written documentation of the number of hours of operation between maintenance events. Also, at any time after the first maintenance event, the

permittee or the inspector can compare the hour meter reading for an engine to the hour meter reading during the last maintenance event to determine whether the maintenance schedule is being met.

M28. Coal Unloading Facility Emergency Diesel Sump Pump Engine Monitoring

M28(a) comes directly from SWCAA 11-2972 and provides a reasonable assurance of compliance with the fuel sulfur limitations and allows for the calculation of annual sulfur dioxide emissions.

M28(b) comes directly from SWCAA 11-2972 and provides a reasonable assurance of compliance with the hours limitation and allows for a calculation of annual emissions.

Unless new testing is conducted after the issuance date of SWCAA 11-2972 (April 14, 2011), the following emission factors are to be used:

Pollutant	Emission Factors (lb/hr)
NO_X	2.54
CO	0.44
PM	0.055
PM_{10}	0.055
$PM_{2.5}$	0.055

M28(c) provides a reasonable assurance of compliance with the maintenance requirements of 40 CFR 60 Subpart IIII. Subpart IIII requires that certain maintenance activities be undertaken as specified frequencies (measured in the number of hours an engine has operated) but does not include any provision for monitoring how many hours an engine has operated. SWCAA has required the permittee to document the hour meter reading at each incident of maintenance and repairs under the "gap filling" provisions of WAC 173-401-615. Since maintenance activities must occur at least once per year, this means that at least once per year there will be written documentation of the number of hours of operation between maintenance events. Also, at any time after the first maintenance event, the permittee or the inspector can compare the hour meter reading for an engine to the hour meter reading during the last maintenance event to determine whether the maintenance schedule is being met.

This documentation can be compared with the written maintenance instructions provided or approved by the manufacturer to determine the status of compliance with this requirement.

M29. Mercury Control System and Fly Ash Material Handling

The number of hours each unit is operated must be logged to allow for the calculation of annual emissions. Annual emissions must be calculated using the emission factors shown below unless new emission factors are developed through source testing.

Filter	(lb/hr)
SEA System 1	0.048
SEA System 2	0.048
Sorbent Silo 1	0.015
Sorbent Silo 2	0.015
Fly Ash Bin 11	0.63
Fly Ash Bin 12	0.63
Fly Ash Bin 14	0.63
Fly Ash Bin 14 Air Slide to Bin 11 Air Slide	0.039
Fly Ash Bin 11 to Weigh Hopper Air Slide	0.039
Fly Ash Bin 14 to 6050 Air Slide	0.026

The above emission rates listed in the table above are based on the design flow rate for each unit and the permitted emission concentration (0.005 gr/dscf).

M30. Fly Ash Baghouses - Source Emission Testing Requirements

Initially, periodic source emissions testing was coupled with the use of a baghouse leak detection system to provide a reasonable assurance with the permitted emission limits. This was the same approach taken by EPA in NSPS and MACT standards (e.g. NSPS Subpart Y) issued after November 15, 1990 to assure compliance with numeric particulate matter limits; therefore, this approach was presumed to be equivalent to CAM. A CAM Plan was later developed for these baghouses in accordance with 40 CFR 64 and is included as M34. The CAM Plan replaced the previous requirement to operate the baghouse leak detectors in accordance with the requirements in 40 CFR 62.256(c).

The initial alarm setpoints of 100 pA were established based on the results of source emissions testing conducted October 2011 during which the following results were obtained:

Baghouse	Bin 11	Bin 12	Bin 14
Filterable PM	0.0001 gr/dscf	0.0002 gr/dscf	0.0001 gr/dscf
Leak Detector Output	23 pA	18 pA	42 pA

The system utilizes a Tribo-Flow model 4001-1111-0I-154N detector. Manufacturer literature indicates that the equipment is designed for a detection limit on the order of 0.0005 gr/dscf; therefore, the instrument response during the initial testing appears to be a low baseline. The 100 pA alarm setpoint is significantly less than 10 times this baseline for all stacks and well below the response expected at a concentration of 0.005 gr/dscf (the permit limit).

M31. Fly Ash Bin Baghouses – Compliance Assurance Monitoring

The permittee was required to submit a Compliance Assurance Monitoring (CAM) plan for particulate matter emissions from EU-17, EU-18, and EU-19 in accordance with 40 CFR 64 for the permit renewal in 2014. CAM is applicable to these units because

uncontrolled PM emissions would be expected to exceed 100 tons per year each. The permittee's CAM plan was approved as incorporated into the Air Operating Permit. The CAM plan utilizes an electrostatic particle detection system (also known as a baghouse leak detection system) as a surrogate indicator of particulate matter control device operation and particulate matter emissions. This is the same approach taken by EPA in NSPS and MACT standards (e.g. NSPS Subpart Y) issued after November 15, 1990 to assure compliance with numeric particulate matter limits; therefore, this approach is presumed to satisfy CAM requirements.

During initial source emissions testing in October 2011, emissions from the baghouses were measured at 0.0001 – 0.0002 gr/dscf. This level is generally at the method detection limit and 25-50 times lower than the applicable emission limit of 0.005 gr/dscf. During the testing the electrostatic particle detector readings were 18 – 42 pA. Based on this testing, TransAlta's initial alarm setpoint of 100 pA was sufficiently protective of the permit limit that no additional testing was necessary to establish an appropriate upper limit to the indicator range.

Alarm setpoints for these types of detectors may need to be adjusted from time to time due to changes in stack conditions, ambient conditions, or detector replacements. Where such detectors are referenced in NSPS/MACT regulations (e.g. 40 CFR 60 Subpart Y, 40 CFR 63 Subpart SSSSSS), sources are allowed to change the alarm setpoints quarterly in accordance with their site-specific monitoring plan. TransAlta's CAM plan (analogous to a site specific monitoring plan under NSPS/MACT regulations) indicates that changes to the alarm setpoint would be based upon the results of source emissions testing. SWCAA incorporated this provision into the Permit.

M32. Reserved

M33. Coal-Fired Boiler Tune-up and Startup/Shutdown Monitoring

40 CFR 63 Subpart UUUUU requires periodic tune-ups in accordance with specific requirements. In addition, all "applicable control technologies" must be engaged when firing anything other than "clean fuels". In this case, the only other fuel is coal.

A semiannual compliance report must be submitted that includes the date of the most recent tune-up and a report if there were any deviations from the work practice standards (consisting of the tune-up and the startup and shutdown provision). 40 CFR 63.10032(a)(1) requires sources to maintain all documentation supporting each semiannual report. This requirement describes this documentation as it pertains to the work practice standards (tune-ups and startup/shutdown provisions).

Full documentation of each tune-up as required by section (a) provides all of the records necessary to determine if all the tune-up requirements are being met.

The information in section (b) is necessary to determine:

a. That "clean fuels" are being burned during startup;
b. When the unit is in startup or shutdown, because the emission limits from Subpart UUUUU do not apply during startup or shutdown; and

c. That the relevant emission control equipment is being engaged when required.

M34. Auxiliary Boiler Tune-up Monitoring

40 CFR 63 Subpart DDDDD requires periodic tune-ups in accordance with specific requirements. The initial tune-up must be fully documented in to comply with 40 CFR 63.7555(a)(1), but there is no specific requirement to fully document subsequent tune-ups. Consequently, SWCAA has implemented this documentation requirement for subsequent tune-ups under the "gap filling" provisions of WAC 173-401-615.

Full documentation of each tune-up as required by this requirement provides all of the records necessary to determine if all the tune-up requirements are being met.

M35. Fine Coal Handling

The requirements listed this monitoring condition are all included in both 40 CFR 60 Subpart Y and SWCAA 14-3093. Because the permittee has not committed to a single monitoring strategy, both of the allowable strategies were included. The total amount of coal transferred is required by Subpart Y and necessary to calculate annual emissions.

M36. Acid Rain, RACT, and NSR CEMS Data Recordkeeping Requirements

This recordkeeping section is taken from 40 CFR 75.57, 75.58, and 75.59 and supplemented by specific requirements from SWCAA 97-2057R1, and the "gap filling" provisions of WAC 173-401-615(2).

The Acid Rain Program requires that pertinent records be maintained for at least three years from the date of the record. However, the recordkeeping provisions of the Air Operating Permit regulations, WAC 173-401-615(2)(c), require retention of records for a period of five years.

The basis for recordkeeping requirements for 1-hour SO_2 standard concentrations (dry @ 7% O_2) is the "gap filling" provisions of WAC 173-401-615(2). Data from the plant computer system not required by the Acid Rain Program is not saved for archiving in the same way that data consistent with 40 CFR 75.57 - 75.59 is recorded.

The Acid Rain regulation specifies the type and format of data to be recorded for flow and SO_2 emissions from Acid Rain affected units. The data recordkeeping requirements pursuant to SWCAA 97-2057R1 for 1-hour SO_2 standard concentration (dry @ 7% O_2) are parallel to those of the Acid Rain Program, but for a smaller quantity of required data. The data recordkeeping requirements for rolling 12-month SO_2 emissions (tons per year) are specified, and the additional data to be included in this summation stated for recordkeeping purposes.

The data recordkeeping requirements for hourly NO_X corresponding to unit generating load of 360 MW gross or greater are parallel to those of the Acid Rain Program, but for a smaller quantity of required data pursuant to SWCAA 97-2057R1 Section 30.

M37. 40 CFR 63 Subpart DDDDD Recordkeeping

This recordkeeping requirement is taken directly from 40 CFR 63.7555 and 40 CFR 63.7560.

M38. 40 CFR 60 Subpart Y Recordkeeping

This recordkeeping requirement is taken directly from 40 CFR 60 Subpart Y. The amount of coal processed will be the amount of coal conveyed to the permittee's facility and used to calculate annual emissions.

VIII. EXPLANATION OF SELECTED REPORTING TERMS AND CONDITIONS

R1. Deviations from Permit Conditions and CAM Excursions

The permittee is required to report all permit deviations promptly. This reporting requirement is taken directly from WAC 173-401-615(3) and is included in some form in PSD-01-01 Amendment 2 Condition 22(d)(1), Second Revision of BART Order No. 6426 Section 11,SWCAA 97-2057R1 Sections 23, 28, 29, and 37, SWCAA 01-2403 Section 11(e)(1), SWCAA 01-2350R4 Conditions 28(a & b), SWCAA 11-2984 Conditions 15 and 16, SWCAA 14-3093 Conditions 17 and 18, and SWCAA 16-3188 Conditions 12 and 13. SWCAA defines "prompt" in the permit in relation to the degree and type of deviation likely to occur and the applicable requirement. Excess emissions of SO_2, particulate matter, or opacity are to be reported to SWCAA during the current business day or next business morning. A written report may be requested by SWCAA and is required for any SO_2 emission control technology forced outage longer than 72 hours. Any emissions released through a bypass duct without a certified functioning CEMS are defined as an upset condition which must be reported to SWCAA during the current business day or by the next business morning and must be documented to SWCAA within 5 days of occurrence. All other deviations must be reported no later than 30 days following the end of the month during which the deviation was discovered. This reporting frequency is taken from WAC 173-401-615(3).

R2. Complaint Reports

The permittee is required to report all complaints to SWCAA within three business days of receipt to ensure prompt complaint response. This reporting section is based on WAC 173-401-615(3), and SWCAA's definition of "prompt" for reporting of complaints.

R3. Quarterly Reports

The permittee is required to report specific monitoring records and provide a certification of monitoring records on a quarterly basis for the Acid Rain Program. Although a semiannual report on the status of, and certification of monitoring records is required by WAC 173-401-615(3), quarterly reporting of specified monitoring records is required under 40 CFR 75.64, with compliance certification according to 40 CFR 75.64(c). Non-Acid Rain reporting requirements for the coal plant are derived from 40 CFR 63 Subpart UUUUU, the Second Revision of BART Order No. 6426, SWCAA 97-2057R1 Sections 27d, 43, and 45, and WAC 173-401-615(3). Non-Acid Rain reporting requirement for the combustion turbine facility

are specified in SWCAA 01-2350R4 and PSD-01-01 Amendment 2. Although records are reported quarterly, certification of non-Acid Rain monitoring records is only required every six months consistent with WAC 173-401-615(3).

No specific NO_X reporting requirements were included in the SWCAA 97-2057R1 to demonstrate compliance with the NO_X emission limits that apply at 360 MW or greater, therefore section R3(e) was added using the "gap-filling" provisions of WAC 173-401-615.

For Subpart UUUUU reports, no special SO_2 CEMS data reporting are listed because reporting of SO_2 data (and supporting diluent and/or moisture monitors) is covered by the Acid Rain Program reporting requirements (see the Acid Rain Permit and 40 CFR 75). EPA guidance indicates that Acid Rain Program requirements must not be detailed in Title V permits. The Acid Rain Permit incorporates the appropriate requirements by reference. The Hg CEMS reporting requirements mirror the Acid Rain Program reporting requirements for SO_2 and require utilization of the same data reporting system. SWCAA will have access to the data through EPA's system upon submission.

R4. Semiannual Reports

The permittee is required to provide a report of all monitoring records and provide a certification of all reports on a semi-annual basis. Semiannual reporting and certification of monitoring records is required by WAC 173-401-615(3). A Responsible Official must certify all reports required by the Title V permit.

In addition, specific reporting elements required by 40 CFR 63 Subpart UUUUU have been listed.

R5. Annual Reports and Compliance Certification

The permittee is required to report and certify compliance with all permit terms and conditions on an annual basis. Annual compliance certification is required by WAC 173-401-630(5) for all requirements, including Acid Rain Program requirements. Since 2005, a separate Acid Rain Program certification has not been required.

All of the items other than the compliance certification are used to calculate annual emissions from individual emission units.

R6. Emission Inventory Reports

The permittee is required to report an inventory of emissions from the source on an annual basis. Annual reporting of emissions inventory is required under SWCAA 400-105 to be submitted to SWCAA by March 15th for the previous calendar year unless an extension is approved by SWCAA. SWCAA's Executive Director may extend the submittal date to April 15th (the deadline in WAC 173-400-105).

R7. Source Test Plans and Reports

The permittee is required to notify SWCAA in advance of all required source testing so that SWCAA personnel may be present during testing. The permittee must also report test results within 45 days of test completion to allow timely review by SWCAA. Operating conditions are also to be included in all test reports to relate emissions to the method of operation. Source testing described in monitoring requirements M8 and M15 are examples of source test results subject to this reporting requirement.

R8. Acid Rain Notification of Certification and Recertification Test Dates and Applications and Other General Reporting Provisions

This reporting section is taken from 40 CFR 75.60, 75.61 and 75.63 to indicate that the reporting requirements in these Acid Rain sections apply. Advance notification within specified time periods is required for the date each unit commences commercial operation, CEMS certification and recertification tests, relative accuracy test audits, and COMS certification and recertification tests at Acid Rain affected units. An application for certification or recertification is required for Acid Rain affected units. Each certification application is to be submitted in electronic or paper format as specified by the EPA Administrator. The permittee must comply with All Acid Rain reporting requirements in 40 CFR 75.60.

R9. BART Order Milestone and Urea Injection Reports

This reporting section is taken directly from the Second Revision of BART Order No. 6426.

R10. 40 CFR 63 Subpart DDDDD Reports for Auxiliary Boiler

This reporting section is taken from 40 CFR 63.7545(e) and 40 CFR 63.9. The Notification of Compliance Status must include an identification of which category each boiler is in for the purposes of 40 CFR 63 Subpart DDDDD. The Auxiliary Boiler (EU-3) is in the "Limited Use Boiler" subcategory.

R11. 40 CFR 63 Subpart UUUUU Reports

This reporting section is taken from 40 CFR 63 Subpart UUUUU and includes all reports not required to be submitted each quarter or semiannually.

R12. 40 CFR 60 Subpart Y Performance Monitoring Reports

This reporting section is taken from 40 CFR 63 Subpart Y and applies to the periodic visible emission evaluation reports required by Subpart Y.

IX. COMPLIANCE HISTORY

The following Notices of Violation (NOV) were issued for the time period beginning 5 years before the current permit term.

NOC/ NOV No.	Violation Date	Notes
5881	7/12/2015	Bypass of the Unit 2 scrubber during normal operation. The bypass occurred because maintenance personnel accidentally locked out the pH probe signals, rather than the level probe signals, when performing a monthly preventative maintenance flush on the level probes
5882	7/23/2015	Failure to complete SNCR optimization testing by the end of calendar year 2014.
6111	6/18/2016	Partial bypass of Unit 1 scrubber and associated opacity exceedance. The Unit 1 scrubber was partially bypassed between 11:20 and 11:48 on Saturday June 18, 2016. The partial bypass occurred when the connection between a damper actuator and control motor broke during a startup of Unit 1.
6121	8/22/2017	Unit 2 selective non-catalytic reduction (SNCR) system was offline between 05:52 and 11:28 when the urea tank ran empty. TransAlta's report of the incident indicated that they were maintaining a low level in the tank after some foundation concern following an earlier subsurface water leak. Subsequently the urea need increased due to increased operations and urea deliveries were not increased to compensate.
6123	7/28/2017, 8/3/2017, 10/9/2017	Exceedances of voluntary SO_2 emission limit established to protect NAAQS. Primary cause may have been that increasing emissions were not noticed in time by control room operators.
6125	8/5/2017 – 9/14/2017 U1 7/21/2017 – 9/13/2017 U2	Exceedances of the 30-boiler operating day rolling average mercury emission limit. Caused in part by under-feeding carbon adsorbent.
6426	2017	Improper operation of SNCR systems for Units 1 and 2 for calendar year 2017. Included under-injection of urea, use of incorrect injection devices, and use of incorrect urea concentrations.
6427	12/27/2017 – 1/23/2018	The mercury emissions from Unit 2 exceeded 1.2 lb/TBtu (30-boiler operating day rolling average) from December 27, 2017 through January 23, 2018.
10101	8/3/2018 – 8/10/2018	The mercury emissions from Unit 1 exceeded 1.2 lb/TBtu (30-boiler operating day rolling average) from August 3, 2018 through August 10, 2018.
10102	9/1/2018	Unit 1 scrubber bypass between approximately 05:25 and 06:01. The bypass was initiated by an inadvertent mouse click that resulted in one of the two ducts (duct 11) being placed in bypass mode.

NOC/ NOV No.	Violation Date	Notes
10103	11/8/2018	During the startup of Unit 1 on November 8, 2018 the selective non-catalytic reduction (SNCR) system was not engaged as early as it should have been to control NO_X emissions. During this startup a set of fans on the boiler tripped, which also tripped the SNCR system offline. The fact that the SNCR system had been tripped offline was not noticed by the operators until the shift change at 7:00 a.m. TransAlta reported that based on the steam flow the SNCR system should have been operational between 05:00 and 06:00. Operators noticed the issue and started the SNCR system between 07:00 and 08:00.
10106	1/1/2018 – 4/13/2019	Improper operation of the SNCR systems on both Units 1 and 2.

X. APPENDICES

Appendix A of the Air Operating Permit contains the methods by which visible emissions from the permittee's operations are to be evaluated when performing required monitoring. SWCAA has exercised its latitude under SWCAA 400-105(4) "Source Testing" to approve an alternative test method in advance for visible emissions. Approval has been granted via signature of SWCAA's Control Officer in this permit. The federal requirements still require that EPA Method 9 be performed. The difference between the Appendix A visible emission method and EPA Method 9 is the data reduction method used.

Appendix B of the Air Operating Permit contains the Acid Rain Permit for the Centralia Plant. The Acid Rain permit is effective beginning on the same date as this Air Operating Permit through the expiration date of this Air Operating Permit. Nearly all requirements in the Acid Rain permit are incorporated by reference to the applicable regulation; therefore changes in the applicable regulation are automatically incorporated into the permit.

Appendix C of the Air Operating Permit contains TransAlta's Small Engine Maintenance Plan used to meet the maintenance requirements of 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ for specific engines.

XI. PERMIT ACTIONS

Air Operating Permit SW98-8 (original Title 5 permit)

1. Final Permit Issued: August 6, 1999

Air Operating Permit SW98-8-R1 (administrative permit amendment)

1. Final Permit Issued: July 12, 2000

Air Operating Permit SW98-8-R2 (first renewal)

1. Final Permit Issued: August 6, 2004

Air Operating Permit SW98-8-R2-A (modification)

1.	Final Permit Issued:	May 12, 2005

Air Operating Permit SW98-8-R2-B (modification)

1.	Final Permit Issued:	March 25, 2008

Air Operating Permit SW98-8-R3 (second renewal)

1.	Renewal Permit Application Submitted:	February 3, 2009
2.	Permit Application Deemed Complete:	March 17, 2009
3.	Permit Application Sent to EPA:	May 15, 2009
4.	Draft Permit Issued:	May 15, 2009
5.	Proposed Permit Issued:	July 21, 2009
6.	Final Permit Issued:	September 16, 2009

Air Operating Permit SW98-8-R3-A (modification)

1.	"Reopening for Cause" Letter to Permittee:	July 12, 2011
2.	Draft Permit Issued:	September 14, 2011
3.	Proposed Permit Issued:	October 26, 2011
4.	Final Permit Issued:	December 21, 2011

Air Operating Permit SW98-8-R4 (third renewal)

1.	Renewal Permit Application Submitted:	September 16, 2013
2.	Permit Application Deemed Complete:	January 8, 2014
3.	Permit Application Sent to EPA:	January 8, 2014
4.	Draft Permit Issued:	June 6, 2014
5.	Proposed Permit Issued:	July 16, 2014
6.	Final Permit Issued:	September 16, 2014

Air Operating Permit SW98-8-R4-A (modification)

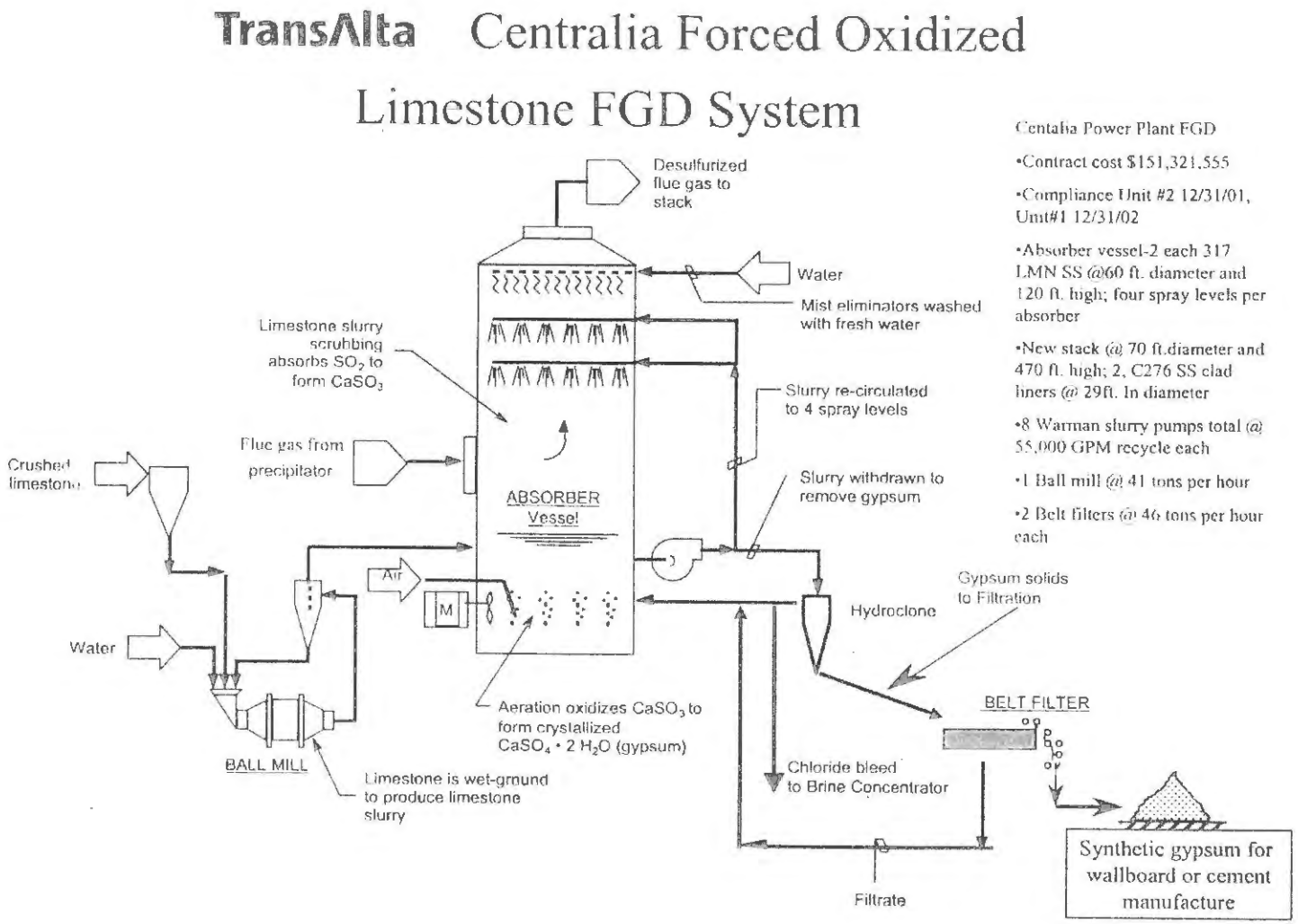
1.	Reopening for Cause" Letter to Permittee:	April 24, 2015
2.	Draft Permit Issued:	November 20, 2015
3.	Proposed Permit Issued:	January 7, 2016
4.	Final Permit Issued:	March 14, 2016

Air Operating Permit SW98-8-R5 (fourth renewal)

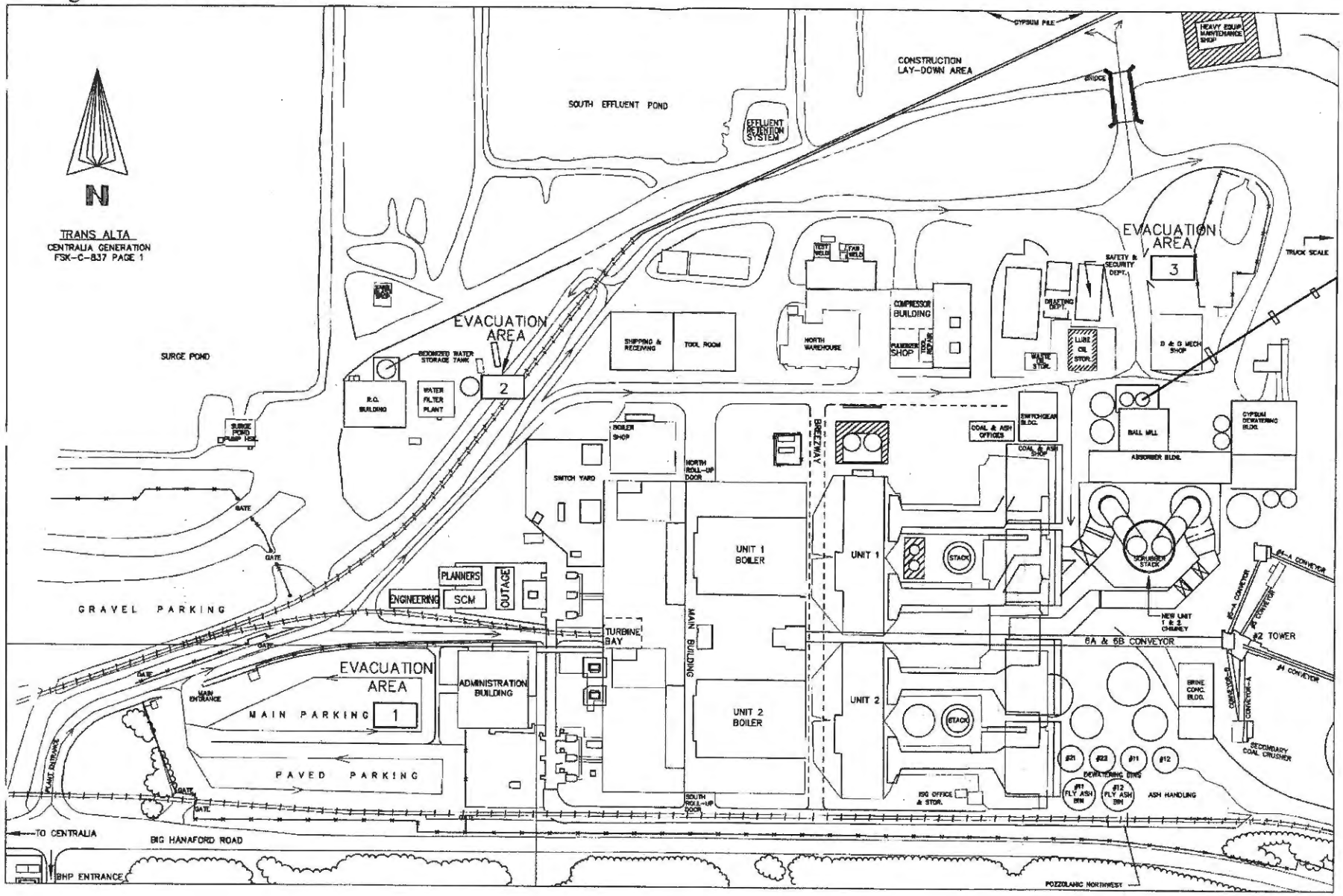
1.	Renewal Permit Application Submitted:	September 13, 2018
2.	Permit Application Deemed Complete:	April 19, 2019
3.	Permit Application Sent to EPA:	July 18, 2019
4.	Draft Permit Issued:	July 18, 2019
5.	Proposed Permit Issued:	August 27, 2019
6.	Final Permit Issued:	October 14, 2019

XII. PLANT DRAWINGS

Drawing 1 – Forced Oxidized Limestone FGD System



Drawing 2 - Coal Plant Schematic



Appendix A
Applicable Requirement Review

CFR 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines		
Requirement	**Title V Permit Location**	**Comments**
60.4200	—	"Am I subject to this subpart?" Informational. This subpart applies to the Coal Unloading Facility Emergency Diesel Sump Pump Engine, Emergency Diesel Generator 2, and the Fire Pump Engine.
60.4201	—	"What emission standards must I meet for non-emergency engines if I am a stationary CI internal combustion engine manufacturer?"
60.4202	—	"What emission standards must I meet for emergency engines if I am a stationary CI internal combustion engine manufacturer?"
60.4203	—	"How long must my engines meet the emission standards if I am a manufacturer of stationary CI internal combustion engines?"
60.4204	—	"What emission standards must I meet for non-emergency engines if I am an owner or operator of a stationary CI internal combustion engine?" Section (b) states that 2007 model year and later non-emergency engines must comply with 40 CFR 60.4201 as applicable. This applies to the Fire Pump Engine. Compliance is met through engine certification and proper operation and maintenance. This engine is Tier 3 EPA certified which meets this requirement. No active requirement.
60.4205	—	"What emission standards must I meet for emergency engines if I am an owner or operator of a stationary CI internal combustion engine?" Section (a) states that the pre-2007 model year engines must meet the requirements in Table 1. This applies to the Coal Unloading Facility Emergency Diesel Sump Pump. Compliance is met through engine certification and proper operation and maintenance. This engine is Tier 2 EPA certified which meets the Table 1 requirement. Section (b) states that 2007 model year and later emergency engines must comply with 40 CFR 60.4202 as applicable. This applies to Emergency Diesel Generator 2. Compliance is met through engine certification and proper operation and maintenance. This engine is Tier 3 EPA certified which meets this requirement. No active requirements in this section.
60.4206	—	"How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine?" Informational. No exemption or modification of any other requirement in this section.
60.4207	Req-60, Req-68	"What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this subpart?"
60.4208	—	"What is the deadline for importing or installing stationary CI ICE produced in previous model years?"
60.4209	—	"What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?" Requires compliance with monitoring requirements of 40 CFR 60.4211.

CFR 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines		
Requirement	**Title V Permit Location**	**Comments**
60.4209(a)	Req-54	Requires emergency engines that do not meet the requirements for non-emergency engines to install a non-resettable hour meter. This applies to Emergency Diesel Generator 2 which is a 2016 model year certified to EPA Tier 3 for emergency use only.
60.4209(b)	—	Requirements for engines using particulate filters to comply with standards. The engines as this facility do not utilize particulate filters.
60.4210	—	"What are my compliance requirements if I am a stationary CI internal combustion engine manufacturer?"
60.4211	"What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?"	
60.4211(a)	Req-64, Req-67	Operation and maintenance requirements.
60.4211(b)	—	For applicable pre-2007 model year engines, requires demonstration of compliance by one of several methods. This is applicable to the Coal Unloading Facility Emergency Diesel Sump Pump Engine and compliance was demonstrated by purchasing a certified engine (option 1). There are no ongoing requirements.
60.4211(c)	—	For 2007 and later model year engines, requires compliance by purchasing an engine certified to the appropriate standards. This is applicable to the Fire Pump Engine and Emergency Diesel Generator 2. Both units were certified to the appropriate standards. There are no ongoing requirements.
60.4211(d)	—	This section applies to engines with a displacement $\geq$ 30 liters per cylinder. The engines at this facility are all smaller than this.
60.4211(e)	—	Requirements for modified or reconstructed engines. There are no modified or reconstructed engines at this facility.
60.4211(f)	Req-56, Req-57, Req-61	Operating limits for emergency engines.
60.4211(g)	Req-64, Req-67	Alternatives for engines not installed, configured, operated or maintained in accordance with manufacturer's instructions.
60.4211(f)	—	Requirements applicable to engines with auxiliary emission control devices. None of the engines at this facility utilize such units.
60.4212	—	"What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of less than 30 liters per cylinder?" Testing is not required for any of the engines at this facility.
60.4213	—	"What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of greater than or equal to 30 liters per cylinder?" The engines at this facility are all smaller than this.

CFR 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines		
Requirement	**Title V Permit Location**	**Comments**
60.4214	M26	"What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine?" The only remaining applicable requirement is a requirement for Emergency Diesel Generator 2 to keep records of operation in emergency and non-emergency service.
60.4215	—	"What requirements must I meet for engines used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands?"
60.4216	—	"What requirements must I meet for engines used in Alaska?"
60.4217	—	"What emission standards must I meet if I am an owner or operator of a stationary internal combustion engine using special fuels?" This facility does not have approval to utilize special fuels.
60.4218	—	"What parts of the General Provisions apply to me?" Refers to Table 8.
60.4219	—	"What definitions apply to this subpart?" Informational.
Table 1	—	"Emission Standards for Stationary Pre-2007 Model Year Engines With a Displacement of <10 Liters per Cylinder and 2007-2010 Model Year Engines >2,237 KW (3,000 HP) and With a Displacement of <10 Liters per Cylinder" Informational listing of the emission standards. This section is applicable to the Coal Unloading Facility Emergency Diesel Sump Pump Engine. Compliance was demonstrated by purchasing a EPA Tier certified engine that exceeds the standards in Table 1.
Table 2	—	"Emission Standards for 2008 Model Year and Later Emergency Stationary CI ICE <37 KW (50 HP) With a Displacement of <10 Liters per Cylinder." No engine in this category at the facility.
Table 3	—	"Certification Requirements for Stationary Fire Pump Engines." No engine in this category at the facility. The Fire Pump Engine at this facility is used for non-emergency use as well as fire protection and therefore is not a "fire pump engine" for the purposes of this subpart.
Table 4	—	"Emission Standards for Stationary Fire Pump Engines." The Fire Pump Engine at this facility is used for non-emergency use as well as fire protection and therefore is not a "fire pump engine" for the purposes of this subpart.
Table 5	—	"Labeling and Recordkeeping Requirements for New Stationary Emergency Engines." Not a requirement for the owner/operator.
Table 6	—	"Optional 3-Mode Test Cycle for Stationary Fire Pump Engines." Not a requirement for the owner/operator.
Table 7	—	"Requirements for Performance Tests for Stationary CI ICE With a Displacement of ≥30 Liters per Cylinder." No engine in this category at the facility.
Table 8	—	"Applicability of General Provisions to Subpart IIII." Table 8 was not listed directly in the permit, rather the individual General Provisions were independently identified.

CFR 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines		
Requirement	**Title V Permit Location**	**Comments**
Applicable General Requirements Identified by Table 8		
60.1	—	General applicability of the General Provisions
60.2	—	Definitions
60.3	—	Units and abbreviations
60.4	—	Address. Informational.
60.5	—	Determination of construction or modification
60.6	—	Review of plans
60.7	—	Notification and Recordkeeping. There are no notification requirements applicable to this engine.
60.8	—	Performance tests. No performance tests are required.
60.9	—	Availability of information. Informational
60.10	—	State Authority. Informational.
60.11	P1	Compliance with standards and maintenance requirements. No active requirements, however, the credible evidence provision was included in P1.
60.12	—	Circumvention (masking or concealing emissions that would violate an applicable standard). The only applicable emission standards apply to initial certification.
60.13	—	Monitoring requirements. Only applies to stationary CI ICE with a displacement of ≥30 liters per cylinder.
60.14	—	Modification. Modification is subject to New Source Review.
60.15	—	Reconstruction. Reconstruction is subject to New Source Review.
60.16	—	Priority list
60.17	—	Incorporations by reference
60.18	—	General control device requirements. No control devices.
60.19	—	General notification and reporting requirements. There are no notification requirements applicable to the engines at this facility.

63 Subpart DDDDD – National Emissions Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters		
Requirement	**Title V Permit Location**	**Comments**
63.7480	—	"What is the purpose of this subpart?"
63.7485	—	"Am I subject to this subpart?"
63.7485	—	"Am I subject to this subpart?" This subpart is applicable to the Auxiliary Boiler.
63.7490	—	"What is the affected source of this subpart?"
63.7491	—	"Are any boilers or process heaters not subject to this subpart?"
63.7495	—	"When to I have to comply with this subpart?" All applicable compliance dates are past.

63 Subpart DDDDD – National Emissions Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters		
Requirement	**Title V Permit Location**	**Comments**
63.7499	—	"What are the subcategories of boilers and process heaters?" Informational. The Auxiliary Boiler is in the "limited-use" subcategory.
63.7500	"What emission limitations, work practice standards, and operating limits must I meet?"	
63.7500(a)	Req-40	Requirements to comply with applicable elements in tables, and general duty clause. Only the general duty clause applies to the Auxiliary Boiler because it is in the "limited-use" subcategory (see 75.000(c)).
63.7500(c)	Req-41	Tune-up requirements and exemption from specific requirements.
63.7500(d)	—	Tune-ups for small boilers.
63.7500(e)	—	Requirements for specific subcategories
63.7500(f)	—	Statement that standards apply to all normal operation. No operating standards applicable to the Auxiliary Boiler.
63.7505	Req-41	"What are my general requirements for complying with this subpart?"
63.7510	Req-41	"What are my initial compliance requirements and by what date must I conduct them?" Applies to the initial tune-up.
63.7515	Req-41	"When must I conduct subsequent performance tests, fuel analyses, or tune-ups?" Only the tune-up requirements apply to the Auxiliary Boiler.
63.7520	—	"What stack tests and procedures must I use?" No stack test is required.
63.7521	—	"What fuel analysis, fuel specification, and procedures must I use?" No requirements for the Auxiliary Boiler.
63.7522	—	"Can I use emissions averaging to comply with this subpart?" Only 1 affected unit at this facility, and no applicable emission limits apply.
63.7525	M14	"What are my monitoring, installation, operation, and maintenance requirements?"
63.7530	—	"How do I demonstrate initial compliance with the emission limitations, fuel specifications and work practice standards?" No requirements in this section for units subject only to the work practice standards.
63.7533	—	"Can I use efficiency credits earned from implementation of energy conservation measures to comply with this subpart?" Applies to emission limits. There are no applicable emission limits for the Auxiliary Boiler.
63.7535	—	"Is there a minimum amount of monitoring data I must obtain?" No continuous monitoring requirements for the Auxiliary Boiler.
63.7540	Req-41	"How do I demonstrate continuous compliance with the emission limitations, fuel specifications and work practice standards?" Section (12) requires a tune-up every 5 years.
63.7541	—	"How do I demonstrate continuous compliance under the emissions averaging provision?" Emissions averaging does not apply.
63.7545	—	"What notifications must I submit and when?" The only applicable requirements was the initial notification of compliance status, which has been completed.
63.7550	R10	"What reports must I submit and when?" Compliance reports must be submitted every 5 years.

63 Subpart DDDDD – National Emissions Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters		
Requirement	**Title V Permit Location**	**Comments**
63.7555	M34	"What records must I keep?"
63.7560	M34, M41	"63.7560 In what form and how long must I keep my records?"
63.7565	—	"What parts of the General Provisions apply to me?" Informational
63.7570	—	"Who implements and enforces this subpart?" Informational
63.7575	—	Definitions
Table 1	—	"Emission Limits for New or Reconstructed Boilers and Process Heaters"
Table 2	—	"Emission Limits for Existing Boilers and Process Heaters"
Table 3	Req-41	"Work Practice Standards"
Table 4	—	"Operating Limits for Boilers and Process Heaters"
Table 5	—	"Performance Testing Requirements"
Table 6	—	"Fuel Analysis Requirements"
Table 7	—	"Establishing Operating Limits"
Table 8	—	"Demonstrating Continuous Compliance"
Table 9	—	"Reporting Requirements"
Table 10	—	"Applicability of General Provisions to Subpart DDDDD". Informational.
Table 11	—	"Alternative Emission Limits for New or Reconstructed Boilers and Process Heaters That Commenced Construction or Reconstruction After June 4, 2010, and Before May 20, 2011"
Table 12	—	"Table 12 to Subpart DDDDD of Part 63—Alternative Emission Limits for New or Reconstructed Boilers and Process Heaters That Commenced Construction or Reconstruction After May 20, 2011, and Before December 23, 2011"
Table 13	—	"Table 13 to Subpart DDDDD of Part 63—Alternative Emission Limits for New or Reconstructed Boilers and Process Heaters That Commenced Construction or Reconstruction After December 23, 2011, and Before April 1, 2013"

63 Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines		
Requirement	**Title V Permit Location**	**Comments**
63.6580	—	"What is the purpose of subpart ZZZZ?"
63.6585	—	"Am I subject to this subpart" All of the stationary engines are subject, however no requirements from subpart ZZZZ apply to the units that are also subject to Subpart IIII.

63 Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines		
Requirement	**Title V Permit Location**	**Comments**
63.6590	—	"What parts of my plant does this subpart cover?" The Black Stop Diesel Generator Engine and Emergency Diesel Generator 1 are subject to requirements from subpart ZZZZ. The Black Stop Diesel Generator Engine is an existing emergency engine > 500 bhp at a major HAP source. Emergency Diesel Generator 1 is an existing emergency engine < 500 hp at a major HAP source.
63.6595	—	"When do I have to comply with this subpart?"
63.6600	—	"What emission limitations and operating limitations must I meet if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?" This section exempts emergency stationary RICE from compliance with the emission limits in Tables 1a, 2a, 2c, and 2d, and the operating limits in Tables 1b and 2b. This section provides exemptions but no direct requirements.
63.6601	—	"What emission limitations must I meet if I own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP and less than or equal to 500 brake HP located at a major source of HAP emissions?" No engines in this category at the facility.
63.6602	Req-51, Req-52	"What emission limitations and other requirements must I meet if I own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions?" References the applicable emission limits in Table 2c. The only applicable emission limit category in Table 2c is "Non-emergency, non-black start CI stationary RICE 100≤HP≤300 HP" with a CO emission limit of 230 ppmvd @ 15% O_2.
63.6603	—	"What emission limitations, operating limitations, and other requirements must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?" This facility is a major source.
63.6604	—	"What fuel requirements must I meet if I own or operate a stationary CI RICE?" None of the engines at this facility fall into one of the specific categories listed in this section.
63.6605	Req-55, M42	"What are my general requirements for complying with this subpart?" This section is a general duty clause.
63.6610	—	"By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?" There are no applicable testing requirements for engines at this facility.

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Requirement	**Title V Permit Location**	**Comments**
63.6611	—	"By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a new or reconstructed 4SLB SI stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions?" No engines in this category at the facility.
63.6612	M4	"By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions?" There are no applicable testing requirements for engines at this facility.
63.6615	—	"When must I conduct subsequent performance tests?" Requires subsequent testing as per Table 3. This facility does not have any engines subject to performance testing requirements.
63.6620	—	"What performance tests and other procedures must I use?" This facility does not have any engines subject to performance testing requirements.
63.6625	Req-52, Req-53, Req-54, Req-94	"What are my monitoring, installation, collection, operation, and maintenance requirements?" Only sections (e), (f), and (h), and optionally (i) apply to any engines at this facility. Section (e)(2) and (f) apply to Emergency Diesel Generator 1 only.
63.6630	—	"How do I demonstrate initial compliance with the emission limitations, operating limitations, and other requirements?" The engines at this facility are not subject to any of the limitations or requirements for which a compliance demonstration is required.
63.6635	—	"How do I monitor and collect data to demonstrate continuous compliance?" Continuous compliance monitoring is not required for any of the engines at this facility.
63.6640	"How do I demonstrate continuous compliance with the emission limitations, operating limitations, and other requirements?"	
63.6640(a)	Req-51, Req-53	Section (a) requires compliance with applicable requirements in Tables 1a, 1b, 2a, 2b, 2c, and 2d in accordance with Table 6.
63.6640(b)	R4	Deviation reporting requirements. Included as part of routine semiannual reporting.
63.6640(c)	—	Requirements for specific 4SLB and 4SRB. This facility does not have any engines in this category.
63.6640(d)	—	Exemptions for "engine burn-in". No engines at this facility are this new.
63.6640(e)	—	Section (e) requires reporting of deviations from Part 63 "General Provisions" for non-exempted engines. Emergency engines are exempt.
63.6640(f)	Req-56, Req-90	Operating limitations for emergency engines.

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Requirement	**Title V Permit Location**	**Comments**
63.6645	—	"What notifications must I submit and when?" In accordance with 40 CFR 63.6645(a)(5) the general notification requirements in (a) do not apply to existing emergency engines.
63.6650	R4	"What reports must I submit and when?" The general requirement to report deviations in the semiannual Title V report is found in 63.6650(f).
63.6655	M19, M26	"What records must I keep?" Maintenance and operating records must be kept.
63.6660	VII	"In what form and how long must I keep my records?" This section and 63.10(b) are included in the introductory paragraphs of Section VII.
63.6665	—	"What parts of the General Provisions apply to me?" References Table 8. This section itself is informational and not included in the permit. This section exempts existing emergency engines > 500 bhp at major HAP sources (Black Stop Diesel Generator Engine) from the general provisions. While Emergency Diesel Generator 1 is not specifically exempted, there are no active general requirements for this unit.
63.6670	—	"Who implements and enforces this subpart?" This section is informational.
63.6675	—	"What definitions apply to this subpart?" This section is a reference for other sections and does not contain any directly applicable requirements.
Table 1a	—	"Table 1a to Subpart ZZZZ of Part 63—Emission Limitations for Existing, New, and Reconstructed Spark Ignition, 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions" No engines in this category at this facility.
Table 1b	—	"Table 1b to Subpart ZZZZ of Part 63—Operating Limitations for Existing, New, and Reconstructed SI 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions" No engines in this category at this facility.
Table 2a	—	"Table 2a to Subpart ZZZZ of Part 63—Emission Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP and New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions". No engines in this category at this facility.
Table 2b	—	"Table 2b to Subpart ZZZZ of Part 63—Operating Limitations for New and Reconstructed 2SLB and CI Stationary RICE >500 HP Located at a Major Source of HAP Emissions, New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions, Existing CI Stationary RICE >500 HP" No engines in this category at this facility.

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Requirement	**Title V Permit Location**	**Comments**
Table 2c	Req-51, Req-52, Req-94, Req-95	"Table 2c to Subpart ZZZZ of Part 63—Requirements for Existing Compression Ignition Stationary RICE Located at a Major Source of HAP Emissions and Existing Spark Ignition Stationary RICE ≤500 HP Located at a Major Source of HAP Emissions".
Table 2d	—	"Table 2d to Subpart ZZZZ of Part 63—Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions" This facility is a major source of HAP.
Table 3	—	"Table 3 to Subpart ZZZZ of Part 63—Subsequent Performance Tests" There are no engines in the categories listed in Table 3 at this facility.
Table 4	—	"Table 4 to Subpart ZZZZ of Part 63—Requirements for Performance Tests". No engines at this facility are required to conduct performance tests.
Table 5	—	"Table 5 to Subpart ZZZZ of Part 63—Initial Compliance With Emission Limitations, Operating Limitations, and Other Requirements". None of the engines at this facility are subject to initial compliance demonstrations.
Table 6	Req-53	"Table 6 to Subpart ZZZZ of Part 63—Continuous Compliance With Emission Limitations, and Other Requirements". The work practice standard requirements addressed here do not apply to engines > 500 bhp such as the Black Stop Diesel Generator Engine.
Table 7	—	"Table 7 to Subpart ZZZZ of Part 63—Requirements for Reports". The only applicable engines at this facility are existing emergency engines. There are no reporting requirements for existing emergency engines.
Table 8	—	"Table 8 to Subpart ZZZZ of Part 63—Applicability of General Provisions to Subpart ZZZZ." Table 8 was not listed directly in the permit, rather the individual General Provisions were independently identified as applicable.
Applicable General Requirements Identified by Table 8		
63.1	—	General applicability of the General Provisions
63.2	—	Definitions
63.3	—	Units and abbreviations
63.4	—	Prohibited activities and circumvention
63.5	—	Construction and reconstruction notification. Construction or reconstruction would require NSR.
63.6(a)	—	Applicability. Informational
63.6(b)(1)-(4)	—	Compliance dates for new and reconstructed sources. Informational
63.6(b)(5)	—	Notification for new or reconstructed sources. Construction or reconstruction would require NSR.
63.6(b)(7)	—	Compliance dates for new and reconstructed area sources that become major sources. Informational. This facility is already a major source.
63.6(c)(1)-(2)	—	Compliance dates for existing sources. Compliance dates have passed.

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Requirement	**Title V Permit Location**	**Comments**
63.6(c)(5)	—	Compliance dates for existing area sources that become major sources. Informational. This facility is already a major source.
63.6(f)(2)	—	Methods for determining compliance. Informational.
63.6(f)(3)	—	Finding of compliance. Informational
63.6(g)(1)-(3)	—	Use of alternate standard. Informational.
63.6(i)	—	Compliance extension procedures and criteria
63.6(j)	—	Presidential compliance exemption
63.7(a)(1)-(2)	—	Performance test dates. All initial testing has been completed.
63.7(a)(3)	—	CAA section 114 authority
63.7(b)(1)	—	Notification of performance test
63.7(b)(2)	—	Notification of rescheduling
63.7(c)	—	Quality assurance/test plan
63.7(d)	—	Testing facilities
63.7(e)(2)	—	Conduct of performance tests and reduction of data. Informational
63.7(e)(3)	—	Test run duration. Run duration already specified in rule.
63.7(e)(4)	—	Administrator may require other testing under section 114 of the CAA. Informational
63.7(f)	—	Alternative test method provisions. Informational. No reasonable reason to utilize an alternative test method.
63.7(g)	—	Performance test data analysis, recordkeeping, and reporting. Source test report requirements are detailed in R6, however Subpart ZZZZ testing requirements in the permit are primarily informational because all initial testing has been completed.
63.7(h)	—	Waiver of tests. Informational.
63.8(a)(1)	—	Applicability of monitoring requirements.
63.8(a)(2)	—	Performance specifications
63.8(b)(1)	—	Alternative Monitoring.
63.8(b)(2)-(3)	—	Multiple effluents and multiple monitoring systems
63.8(c)(1)	—	Continuous monitoring system (CMS) operation and maintenance. No CMS at this facility.
63.8(c)(1)(ii)	—	Continuous monitoring system parts
63.8(c)(2)-(3)	—	Monitoring system installation
63.8(c)(4)	—	Continuous monitoring system requirements
63.8(c)(6)-(8)	—	CMS requirements
63.8(d)	—	CMS quality control
63.8(e)	—	CMS performance evaluation. Except that §63.8(e) only applies as specified in §63.6645.
63.8(f)(1)-(5)	—	Alternative monitoring method
63.8(f)(6)	—	Alternative to relative accuracy test
63.8(g)	—	Data reduction for CMS

63 Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines		
Requirement	**Title V Permit Location**	**Comments**
63.9(a)	—	Applicability and State delegation of notification requirements
63.9(b)(1)-(5)	—	Initial notifications. Except that §63.9(b) only applies as specified in §63.6645.
63.9(c)	—	Request for compliance extension
63.9(d)	—	Notification of special compliance requirements for new sources
63.9(e)	—	Notification of performance test
63.9(g)(1)	—	Notification of performance evaluation
63.9(g)(3)	—	Notification that criterion for alternative to RATA is exceeded. Except that §63.9(g) only applies as specified in §63.6645.
63.9(h)(1)-(6)	—	Notification of compliance status
63.9(i)	—	Adjustment of submittal deadlines
63.9(j)	—	Change in previous information submitted. Due to the nature of the equipment at this facility and SWCAA's review, no such notice will be necessary.
63.10(a)	—	Administrative provisions for recordkeeping/reporting
63.10(b)(1)	VII	Record retention
63.10(b)(2)(vi)-(xi)	—	Records
63.10(b)(2)(xii)	—	Record when under waiver
63.10(b)(2)(xiii)	—	Records when using alternative to RATA
63.10(b)(2)(xiv)	—	Records of supporting documentation
63.10(b)(3)	—	Records of applicability determination
63.10(c)	—	Additional records for sources using CEMS
63.10(d)(1)	—	General reporting requirements. Reporting specified as per the applicable standard.
63.10(d)(2)	—	Report of performance test results
63.10(d)(4)	—	Progress reports. No progress reports required.
63.10(e)(1) and (2)(i)	—	Additional CMS Reports
63.10(e)(3)	—	Excess emission and parameter exceedances reports (CEMS)
63.10(f)	—	Waiver for recordkeeping/reporting. Informational.
63.12	—	State authority and delegations
63.13	—	Addresses. Informational
63.14	—	Incorporation by reference
63.15	—	Availability of information

40 CFR 60 Subpart UUUUU – National Emission Standards for Hazardous Air Pollutants: Coal and Oil-Fired Electric Utility Steam Generating Units		
Requirement	**Title V Permit Location**	**Comments**
63.9980	—	"What is the purpose of this subpart"
63.9981	—	"Am I subject to this subpart" This facility is subject to this regulation.
63.9982	—	"What is the affected source for this subpart" Defines the affected source. For this facility the Unit 1 and Unit 2 EGU's are classified as "existing".
63.9983	—	"Are any EGUs not subject to this subpart?" None of the exemptions apply to this facility.
63.9984	—	"When do I have to comply with this subpart?" All of the compliance dates have passed.
63.9985	—	"What is a new EGU?" TransAlta's EGUs are not new.
63.9990	—	"What are the subcategories of EGUs?" TransAlta's coal may exceed 8,300 Btu/lb, therefore these units fall into the category of "designed for coal greater than or equal to 8,300 Btu/lb" subcategory – listed elsewhere as "Coal-fired unit not low rank virgin coal."
63.9991	Req-15, Req-20, Req-25, Req-38	"What emission limitations, work practice standards, and operating limits must I meet?" This section refers to the requirements in Tables 1 – 4. Where those requirements are cited, this section that points to those requirements is cited as well.
63.10000	"What are my general requirements for complying with this subpart?"	
63.10000(a)	.Req-15, Req-20, Req-25, Req-37	States that must comply with the requirements of this subpart and includes the startup and shutdown exceptions where work-practice standards apply in lieu of emission limits.
63.10000(b)	Req-38	Requirements to operate consistent with good air pollution control practices for minimizing emissions.
63.10000(c)	—	Initial performance testing requirements. All initial performance testing has been completed; therefore, these requirements are not included in the Air Operating Permit.
63.10000(d)	M9	Requires the generation of a site-specific monitoring plan for any CMS or CEMS used to demonstration compliance with an applicable emission limit. This requirement does not apply to affected sources with existing monitoring plans prepared in accordance with 40 CFR 60 Appendix B, or 40 CFR 75. This facility utilizes a CEMS with a monitoring plan in accordance with 40 CFR 75 for SO_2 to demonstrate compliance with acid gas limitations and therefore this CEMS is exempt from this requirement. The plan elements are considered to be met for Hg sorbent trap monitoring systems installed, operated, and quality-assured in accordance with Appendix A of Subpart UUUUU. This facility utilizes a sorbent trap monitoring system to monitor Hg emissions in accordance with Appendix A of Subpart UUUUU, therefore the plan elements are met. The only remaining requirements are to operate the Hg monitoring system in accordance with the site-specific monitoring plan (i.e. Appendix A).

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Requirement	**Title V Permit Location**	**Comments**
63.10000(e)	Req-36	Requirement to conduct periodic tune-ups according to 40 CFR 63.10021(e).
63.10000(f)	—	Requires that EGUs remain subject to this subpart at least 6 months after the EGU met definition of a subject EGU. This section is information and does not contain additional applicable requirements.
63.10000(g)	—	States that EGUs no longer meeting the definition of an EGU subject to this part must comply with any new requirements on the date no longer subject to this subpart. This section is information and does not contain additional applicable requirements.
63.10000(h)	—	Requirements related to EGUs that become subject after April 16, 2015. The only EGUs at this facility were already subject to this subpart as of April 16, 2015 therefore this does not apply to the EGUs at this facility.
63.10000(i)	—	Requirements for EGUs that cease to operate in a manner that causes the EGU to meet the definition of an EGU subject to this subpart. This section is not currently applicable. No change in applicability is anticipated in the permit term.
63.10000(j)	—	Requirement to have operational pollution control equipment as required for the EGU classification (subject or not subject to this subpart) as of the date the relevant standard is applicable. This section is not currently applicable. No change in applicability is anticipated in the permit term.
63.10000(k)	—	Requirement to have operational pollution monitoring equipment as required for the EGU classification (subject or not subject to this subpart) as of the date the relevant standard is applicable. This section is not currently applicable. No change in applicability is anticipated in the permit term.
63.10000(l)	M33, M10	No later than the date an EGU is subject, must have all necessary monitoring in place for PM or non-Hg HAP metals during startup and shutdown. Must collect, record, report, and maintain data for startup and shutdown periods to demonstrate compliance with work practice standards.
63.10000(m)	M33, M10	If using paragraph (2) of startup definition, must have all necessary monitoring in place for PM or non-Hg HAP metals on or before applicability date. Must collect, record, report and maintain applicable data.
63.10000(n)	—	If permanently convert to natural gas or biomass firing, the EGU is no longer subject to this subpart. This section is information and does not contain additional applicable requirements.
63.10005	Req 15, Req-20, Req-25	What are my initial compliance requirements and by what date must I conduct them? Although all initial compliance requirements have been completed, the reference in 63.10005(a) that clarifies that where two emission limits are specified compliance may be demonstrated with either limit, was listed for reference where two limits were specified.

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Requirement	**Title V Permit Location**	**Comments**
63.10006	When must I conduct subsequent performance tests or tune-ups?	
63.10006(a)	—	Requirements for units using PM CPMS. This facility conducts quarterly testing in lieu of PM CPMS.
63.10006(b)	—	Requirements for LEE units. The EGUs at this facility do not meet LEE requirements, therefore this section is not applicable.
63.10006(c)	M9	Requirement to conduct periodic filterable PM testing or total HAP metals in accordance with Table 5, 63.10007, 63.10000(c) except as provided in 63.10021(d)(1).
63.10006(d)	—	HCl testing requirements for units that do not use CEMS to demonstrate compliance with acid gas limitations. This facility uses a SO_2 CEMS to demonstrate compliance therefore this section is not applicable.
63.10006(e)	—	Requirements for acid gas monitoring for liquid oil-fired EGUs.
63.10006(f)	M9	Time between performance tests. This applies to the quarterly PM testing.
63.10006(g)	—	Emissions averaging provisions. This facility does not conduct emissions averaging and starting in 2021 will only operate one unit.
63.10006(h)	—	LEE test provisions. The EGUs at this facility do not meet LEE requirements, therefore this section is not applicable.
63.10007	What methods and other procedures must I use for the performance test?	
63.10007(a)	M8, M9, R7	Requirements to comply with general test requirements of 63.7 and develop a site-specific test plan. Permanent testing facilities have been installed in accordance with 63.7(d).
63.10007(b)	M8, M9	Requirement to conduct performance tests in accordance with Table 5.
63.10007(c)	—	Requirements for tests for facilities with PM CEMS. This facility utilizes quarterly PM testing option in lieu of PM CEMS, therefore this section is not applicable.
63.10007(d)	M8, M9	Requirement to conduct 3 separate runs and meet the time and volume requirements of Table 1 or 2.
63.10007(e)	M9	This section explains how to use the performance test results to determine compliance with applicable emission limits. M8 contains a general reference to conduct the testing in accordance with 63.10007.
63.10007(f)	M9	Default values for startup and shutdown period CEMS calculations. This would apply to the SO_2 CEMS.
63.10007(f)	M8	Requirement to provide documentation of performance tests to the EPA Administrator upon request.
63.10009	—	May I use emissions averaging to comply with this subpart. This facility has not utilized the option to use emissions averaging.
63.10010	What are my monitoring, installation, operation, and maintenance requirements?	
63.10010(a)	M8	Allowable locations for CEMS and sorbent trap monitoring systems based on the stack configuration. The applicable equipment at this facility are the SO_2 CEMS and the Hg sorbent trap monitoring systems.
63.10010(b)	M9	O_2/CO_2 monitoring requirements.

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Requirement	**Title V Permit Location**	**Comments**
63.10010(c)	M9	Requirement to monitor flow in accordance with 40 CFR 75. (required for Hg monitoring).
63.10010(d)	M9	Requirement to monitoring moisture in accordance with 40 CFR 75. Moisture data is necessary to correlate wet flow measurements with dry Hg measurements.
63.10010(e)	—	Requirements for sources utilizing HCl and/or HF CEMS. This facility utilizes the SO_2 CEMS option, therefore this requirement does not apply.
63.10010(f)	M9	Requirement to monitor SO_2 in accordance with 40 CFR 75 if utilizing the SO_2 CEMS option for acid gas monitoring. This option is used by this facility. This additional requirements in section (2) do not apply because this facility does not utilize a span of 30 ppm or less.
63.10010(g)	M9	Hg monitoring and data reduction requirements.
63.10010(h)	—	Requirements for source utilizing PM CPMS to demonstrate compliance with an operating limit. This facility does not utilize the PM CPMS option.
63.10010(i)	M9	Requirements for PM CEMS for sources complying with filterable PM limit in lieu of metal HAP limit. This facility utilizes the alternative quarterly PM testing option; however, the PM CEMS option was included in M8 as an alternative.
63.10010(j)	—	Requirements applicable to the use of a metal HAP CEMS. This facility utilizes the alternative quarterly PM testing option.
63.10010(k)	—	Requirements applicable to quarterly HCl and HF testing of liquid oil-fired EGUs.
63.10010(l)	M33	Quality assurance and site-specific monitoring plan requirements for startup monitoring systems.
63.10011	—	Initial compliance demonstration requirements. The references to 63.10011 were removed from Air Operating Permit because all initial demonstrations have been completed.
63.10020	"How do I monitor and collect data to demonstrate compliance?"	
63.10020(a)	—	General requirement to monitor in accordance with the requirements in 63.10020 and the site-specific monitoring plan. These referenced requirements are contained in other sections.
63.10020(b)	M9	Monitoring requirements and exceptions.
63.10020(c)	M9	Lists what data must be excluded from compliance calculations.
63.10020(d)	M9	Requires monitoring at all times with specific exceptions.
63.10020(e)	M10	Startup and shutdown work practice monitoring requirements.
63.10021	"How do I demonstrate continuous compliance with the emission limitations, operating limits, and work practice standards?"	
63.10021(a)	—	General requirement to demonstrate compliance with applicable requirements. These referenced requirements are contained in other sections.
63.10021(b)	M9	Describes how to use CEMS data to demonstrate compliance.

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Requirement	**Title V Permit Location**	**Comments**
63.10021(c)	—	Requirements for use of a PM CPMS. This facility does not utilize a PM CPMS.
63.10021(d)	M9	Contains details related to performance monitoring.
63.10021(e)	Req-36, R11	Tune-up requirements.
63.10021(f)	R11	Repeats the requirements to use ECMPS Client Tool for submittal of a variety of reports, specifies implications of weekend, holiday, and ECMPS outages. Although it does contain some exceptions for holidays, ECMPS system outages, etc, this section is primarily informational in nature, the specific reporting requirements are detailed elsewhere.
63.10021(g)	R4	Requirement to report deviations from emission limits, operating limits, or failed to conduct a tune-up.
63.10021(h)	M9	Requirement to following the startup or shutdown requirements in Table 3 and conduct all required monitoring during startup and shutdown. General requirements in this section that repeat the requirement to comply with another section are not reproduced in the permit.
63.10021(i)	R4	General requirement to report activities during startup and shutdown in accordance with 63.10031.
63.10022	—	"How do I demonstrate continuous compliance under the emissions averaging provision?" This facility has not utilized the option to use emissions averaging.
63.10023	—	"How do I establish my PM CPMS operating limit and determine compliance with it?" This facility does not utilize a PM CPMS.
63.10030	What notifications must I submit and when?	
63.10030(a)	M8, M9, R11	General requirement to submit the notifications required by 40 CFR 63.7, 63.8, and 63.9 as applicable – except that only certain provision of 63.9 apply (see 40 CFR 63.10040 and Table 9). The only remaining notifications are for performance tests and RATAs (30-days prenotification required for each in accordance with Table 9).
63.10030(b)	—	Initial notification deadline for existing units. Initial notifications have been submitted.
63.10030(c)	—	Initial notification deadline for "new" units. Initial notifications have been submitted.
63.10030(d)	M8	Performance test notification.
63.10030(e)	—	Initial Notice of Compliance Status report requirements. All initial notifications have been submitted.
63.10030(f)	—	Requirement to submit the notification in 40 CFR 63.10000(h)(2) and (i)(2) that apply. This is applicable to newly applicable EGUs and EGUs that modify their operation such that they are no longer subject to this subpart. Both units at this facility are "existing" and no change in applicability is anticipated in the permit term.
63.10031	What reports must I submit and when?	

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Requirement	**Title V Permit Location**	**Comments**
63.10031(a)(1)	R11	Hg CMS reporting requirements found in Appendix A are referenced here.
63.10031(a)(2)	—	Not applicable because this facility does not elect to monitor HCl and/or HF continuously. Instead, this facility continuously monitors SO_2 as a surrogate for HCl.
63.10031(a)(3)	—	Not applicable because this facility conducts quarterly PM stack tests instead of operating a PM CEMS.
63.10031(a)(4)	—	Not applicable because this facility conducts quarterly PM stack tests instead of operating a PM CEMS.
63.10031(a)(5)	R11	SO_2 CEMS reporting requirements.
63.10031(b)	R11	Semiannual reporting requirements.
63.10031(c)	R11	Semiannual report contents.
63.10031(d)	R11	Excess emissions and deviation reporting. Re-states the requirement in 40 CFR 63.10031(c)(1) to include the CMS summary report from 63.10(e)(3)(vi) in the semiannual report, and re-states the requirement from 40 CFR 63.10031(g) to report the applicable data elements from Section 13 of Appendix E in the quarterly reports that replace the semiannual reports in 2024.
63.10031(e)	R4	Requirement to report deviations in the semiannual Title V report unless the deviation has been reported in the semiannual or quarterly Subpart UUUUU reports and these reports are submitted with, or as part of, the semiannual Title V report.
63.10031(f)	R4	Compliance test reporting. The only applicable test is the filterable PM testing.
63.10031(f)(1)	R4	RATA test reporting. This facility does not have, and is not likely to install, PM, HCl, or HF CEMS, therefore references to these systems were removed.
63.10031(f)(2)	—	Provisions for commons stacks. This facility does not have any common stacks.
63.10031(f)(3)	—	Reserved
63.10031(f)(4)	R4	Semiannual compliance reports. This section re-states the requirement to submit semiannual reports in accordance with 63.10031(b) – (d) and the initial Notice of Compliance Status (NCS) reports required by 63.10030(e) and adds that they must be submitted as PDF files. All applicable NCS have been submitted.

40 CFR 60 Subpart UUUUU – National Emission Standards for Hazardous Air Pollutants: Coal and Oil-Fired Electric Utility Steam Generating Units		
Requirement	**Title V Permit Location**	**Comments**
63.10031(f)(5)	—	Requires all reports not in 63.10031(f), (f)(1), (f)(2) and (f)(4) to be submitted to the Administrator at the applicable address listed in 63.13. This requirement is at odds with 63.10021(f) which states that all reports must be submitted electronically using the ECMPS Client Tool, and the specific reporting requirements listed in the applicable reporting sections and Table 8. Because this section appears to be at odds with the intent of the revisions meant to simply report submission published in the Federal Register September 9, 2020, and is directly at odds with other submission requirements, it was not included in the Title V permit.
63.10031(f)(6)	R11	This section contains details of how to submit reports to ECMPS. Since it appears that all reports must be submitted to ECMPS, this requirement was included in the first paragraph of R11 as applicable to all reports.
63.10031(g)	R11	Details for quarterly report submissions that begin in 2024.
63.10031(h)	—	Initial Notice of Compliance Status reports submitted on or after January 1, 2024. All initial reports have been completed.
63.10031(i)	R11	This section is applicable to this facility because this facility uses the "paragraph (2)" definition of startup.
63.10031(j)	—	Applicable if use PM CEMS. This facility does not use PM CEMS.
63.10031(k)	—	Applicable if use PM or HAP metals CEMS. This facility does not use PM or HAP metal CEMS.
63.10032	What records must I keep?	
63.10032(a)	M10, M37	Records of notifications and reports.
63.10032(b)	M10	CEMS and CPMS recordkeeping.
63.10032(c)	M10	Requires maintaining records of the information listed in Table 7.
63.10032(d)	M10	Of the 3 requirements listed, only the requirement to keep records of monthly fuel use applies to this facility.
63.10032(e)	—	Recordkeeping for emissions averaging. This facility does not utilize emissions averaging.
63.10032(f)	M10	Startup and shutdown period records.
63.10032(g)	M10	Malfunction records.
63.10032(h)	M10	Records of responses to malfunctions.
63.10032(i)	M10	Records of fuel use during startup and shutdown.
63.10032(j)	—	Recordkeeping to prove EGU qualifies as limited-use liquid oil-fired.
63.10033	M10	Record form and retention requirements.
63.10040	—	Informational. Indicates that Table 9 shows which general provisions from part 63 apply.
63.10041	—	Who implements and enforces this subpart? This section does not contain applicable requirements.
63.10042	Req-15, Req-20, Req-25, Req-37	Definitions. The definition of "startup" contains two options and is relevant to several requirements.

40 CFR 60 Subpart UUUUU – National Emission Standards for Hazardous Air Pollutants: Coal and Oil-Fired Electric Utility Steam Generating Units		
Requirement	**Title V Permit Location**	**Comments**
Table 1	—	Emission Limits for New or Reconstructed EGUs.
Table 2	Req-15, Req-20, Req-25, M9	Emission Limits for Existing EGUs
Table 3	Req-36, Req-37, Req-38, Req-41, M9	Work Practice Standards
Table 4	—	Operating Limits for EGUs – applies only to PM CPMS. This facility does not use PM CPMS.
Table 5	Req-15, Req-20, Req-25, M9	Performance Testing Requirements
Table 6	—	Establishing PM CPMS Operating Limits. This facility does not use PM CPMS.
Table 7	Req-36, M9	Demonstrating Continuous Compliance.
Table 8	R4, R11	Reporting Requirements.
Table 9	M8, M9, M10	Applicability of General Provisions to Subpart UUUUU.
Appendix A	M9	Hg Monitoring Provisions.
Appendix B	—	HCl and HF Monitoring Provisions. This facility has elected to continuously monitor SO_2 in lieu of HCl and HF.

Second Revision of BART Order No. 6426		
Condition	**Title V Permit Location**	**Comments**
1.1	Req-27b	NO_X limits.
1.2	Req-27b	Requirement to calculate the 30-day rolling average in accordance with Condition 5.
1.3	—	Informational. Explains that the Permittee is not limited in how to achieve compliance with the NO_X limits.
2.1	Req-30	Ammonia emission limit
2.2	—	Informational. Explains that the injection of urea to meet the NO_X emissions limit is at the Permittee's discretion.
3.1	Req-31	End of coal burning by first unit.
3.2	Req-31	End of coal burning by second unit
3.3	Req-27b	References the requirement to comply with Condition 1.1.3.
3.4	Req-31	Describes when Conditions 3.1 and 3.2 would not apply.
4.1 except 4.1.4	M8	Ammonia testing requirements

Second Revision of BART Order No. 6426		
Condition	**Title V Permit Location**	**Comments**
4.1.4	Req-30	Describes how compliance with the 30-day rolling average ammonia limit is determined.
5	Req-27b, M9	Describes how NO_X emissions are monitored and averaged for compliance with the BART NO_X limit.
6	R9	Reporting the end of coal firing in each boiler.
7	R9	Urea usage letter
8	R1	BART Order malfunction emission exceedance reports
9.1.1 & 9.1.2	R3	BART Order quarterly reports
9.1.3	R7	Ammonia test reports must be submitted with 45 days of test completion.
9.2	R3	Emission monitoring report requirements.