

TransAlta Centralia Mining, LLC

Centralia Mine

Title V Basis Statement

Issued: June 4, 2008

Southwest Clean Air Agency
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PERMIT #: SW01-12-R1-A

PREPARED FOR: TransAlta Centralia Mining, LLC
Centralia Mine
913 Big Hanaford Road
Centralia, WA 98531-9100

PLANT SITE: Centralia Mine
1015 Big Hanaford Road
Centralia, WA 98531-9100

PERMIT ENGINEER: Clint 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 Mining, LLC
2. Facility Name: Centralia Mine
3. Responsible Official: Bob Nelson – Mine Director
4. Inspection Contact Person: Tim LeDuc
5. Unified Business Identification Number: 601-985-875
6. SIC Number: 1221

7. Basis for Title V Applicability:

The Centralia Mine is a support facility for, and under the same ownership and control as, the adjacent power plant (TransAlta Centralia Generation, LLC). The power plant has the potential to emit more than 100 tons/yr of sulfur dioxide, nitrogen oxides, particulate matter less than 10 microns, and carbon monoxide, all of which are criteria air pollutants listed under the Federal Clean Air Act, more than 100 tons/yr of volatile organic compounds (VOCs), and the potential to emit more than 25 tons/yr of all hazardous air pollutant (HAP) emissions, combined, which are listed under Section 112 of the Clean Air Act. TransAlta Centralia Mining, LLC has requested that a separate Title V permit be issued for the mine and the power plant.

8. Current Permitting Action:

The Title V Air Operating Permit was revised to incorporate the requirements of Air Discharge Permit 06-2698 issued October 30, 2006 and Air Discharge Permit 07-2758 issued November 21, 2007. Air Discharge Permit 06-2698 approved installation of the Southeast Packwood Spoils Sump Engine. Air Discharge Permit 07-2758 approved installation of the Sump 84 Pump Engine and superseded Air Discharge Permit 06-2698. In addition, SWCAA has utilized this opportunity to update regulatory citations, make administrative updates and improve the permit format in accordance with suggestions made by EPA Region 10 staff

9. Attainment Area:

The Centralia Mine is located in an area that is in attainment for all criteria pollutants.

10. Facility Description:

Note: The Centralia Mine ceased mining operations on November 27, 2006. The mine continues to conduct ditch maintenance, water diversion maintenance, and some reclamation activity. The mine may re-open in the future depending upon the outcome of current permitting activities and economic viability. The description that follows pertains to active mining operations.

The Centralia Mine is a surface coal mine owned and operated by TransAlta Centralia Mining, LLC. The mine is located six miles northeast of the City of Centralia in Lewis County, Washington. The mine supplies coal to the adjacent Centralia Steam Electric

Generating Plant (Power Plant), which is owned and operated by TransAlta Centralia Generation, LLC. A fence divides the power plant and mine properties.

The primary purpose of the mine is to produce coal for use at the Centralia Steam Electric Generating Plant. The entire mine can be described as a series of related processes. The processes include land preparation, mining, coal processing, and maintenance and support activities related to these operations.

During the mining process, air pollutants are emitted as fugitive emissions.

Raw materials used at the mine include water for coal processing, fuel for vehicles, and miscellaneous chemicals for coal processing, laboratory analysis, parts cleaning, and other incidental activities.

Mining Facility, Land Preparation and Mining

The mine presently consists of four active mining areas: West Packwood, Central Packwood, Pit 7, and Kopiah. Additional mining areas may be opened and closed during the life of the mine. The mining areas are the site of several earthmoving, coal retrieval, and loading activities. Prior to overburden material removal, all surface vegetation including trees, stumps, and other woody debris is cleared and piled for burning. Scrapers then remove the topsoil. A water injected air rotary drilling method is used to drill blast holes in the overburden. A mixture of ammonium nitrate and fuel oil is used as a blasting agent in the drill holes to fracture the overburden. Electric and hydraulic shovels are then used to load the burden material and coal into trucks. The lower overburden material, located directly above the coal, is removed by walking electric draglines. A fleet of approximately 49 haul trucks is used to haul material from the mining pit to either the spoil dumps or the Run-of-Mine (ROM) coal processing facility. Smudge pots burning #1 fuel oil may be used to mark the road in active mining areas.

Heavy equipment operations cause emissions of fugitive dust. Fugitive dust emissions are inventoried by SWCAA. Pollutant emissions due to the combustion of fuel in the mobile equipment is not regulated or inventoried by SWCAA.

Coal Processing

The Run-of-Mine (ROM) coal is dumped in the tipple area adjacent the processing plant(s). Some of the coal is stockpiled temporarily for blending in order to maintain specified sulfur levels in the coal. (The power plant will require coal with an average sulfur content of less than ~1.2% to maintain compliance with its 1,000 ppmvd @ 7% O₂ SO₂ limit when the stack gas is not scrubbed.)

Coal is crushed by the crushing units and conveyed to the Jig and/or Heavy Media processing plants via enclosed conveyors. Coal is separated from non-coal material in the processing plants and conveyed via enclosed conveyors to the power plant stockpile.

Maintenance and Support Activities

Maintenance and support activities at the Centralia Mine include the coal analysis laboratory, parts cleaning, spray coating, abrasive blasting, fuel storage, water pumping, and welding activities.

11. SWCAA Air Discharge Permits and Consent Order:

The following table lists each Air Discharge Permit and Consent Order 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.

<u>Number</u>	<u>App. #</u>	<u>Date Issued</u>	<u>Description</u>
94-1641	L-320	8-11-94	Modification and partial replacement of coal crushing system
94-1641R1	L-338	6-28-96	Modification of coal crushing and PM control systems
97-1995	L-348	4-11-97	Installation of particulate filters to control emissions of PM from spray coating and sandblasting operations
97-1995R1	L-472	1-22-01	Replacement of the PM filters in the sandblast booth with a Torit Downflow dust collector
01-2332	L-477	2-21-01	Replacement of ROM system. Expansion of Heavy Media plant
01-2332R1	L-494	4-23-02	Removal of rotary crusher spray pressure requirement (crusher was enclosed)
03-2480	N/A	8-25-03	Consent Order between SWCAA, TransAlta and Sterling Breen Crushing to resolve temporary use of crusher without NSR
03-2481	L-518	10-2-03	Approval for installation of two new diesel engines, one for driving a water pump, one for driving a compressor on a portable drill rig
05-2625	L-563	9-6-05	Approval for installation of two new diesel Cat C-9 engines to drive water pumps. Superseded 03-2481.
06-2698	L-589	10-30-06	Approval for installation of the Southeast Packwood Spoils Sump Engine. Superseded 05-2625
07-2758	L-610	11-21-07	Approval for installation of the Sump 84 Pump Engine. Superseded 06-2698

II. EMISSIONS UNIT DESCRIPTIONS**EU-1 Sandblast Booth**

EU-1 consists of an enclosed sandblasting booth in the dragline shop. The blast booth utilizes approximately 226 pounds per hour of blast media. Total blast media usage can be calculated from this usage rate and the hours of operation. The sandblasting booth has a dedicated dust collection system designed to control particulate matter emissions from the booth.

The dust collector is a Torit Downflo DFO 4-32 with 6,080 square feet of oval Ultra-Web II filter media in a total of 32 filters. The manufacturer claims a dust collection efficiency of 99.999+% on particles greater than 1 µm in diameter under normal operating conditions. A fan rated at 20,000

cubic feet per minute (cfm) at 8" w.c. is used to provide air flow. Air exiting the dust collector is directed to each end of the blast enclosure providing a "sweeping" action from the room ends towards the exhaust located at the center. The unit does not currently exhaust to the ambient air, but is permitted to vent a portion of the air flow outside the building to maintain a slightly negative pressure on the blast building.

EU-2 Coal Processing

EU-2 currently consists of two parallel processing systems. Up until 2001, EU-2 consisted of a single feeder-breaker, the Jig Processing Plant, the Heavy Media Plant, and associated conveyors. In 2001 new conveyors, an apron feeder, and rotary breaker were installed. The Heavy Media Plant was substantially altered and expanded to handle up to 100% of the coal-processing throughput. The new equipment was designed to process up to 9.2 million tons of raw coal per year; this was an increase from a maximum of approximately 7.5 million tons from the mine in the past.

Currently, the Jig Processing Plant is fed by the old feeder-breaker and associated equipment. The expanded Heavy Media Plant is fed by the new rotary-breaker and associated equipment, as well as being intermittently fed by the old tipple and feeder-breaker. The Jig Processing Plant and associated feeder-breaker and conveyors will be retired when the expanded Heavy Media Plant proves reliable and fully capable of handling the entire coal processing load. Until then, the Jig Processing Plant and associated feeder-breaker will be retained as an active processing plant.

The Run of Mine (ROM) coal is dumped in the tipple area adjacent to the processing plants. Some of the coal is stockpiled temporarily for blending in order to maintain specified sulfur levels in the coal. (The power plant will require coal with an average sulfur content of less than ~1.2% to maintain compliance with its 1,000 ppmvd @ 7% O₂ SO₂ limit when the stack gas is not scrubbed.)

Fugitive emissions of particulate matter from coal processing are controlled with wet suppression at the crushers. The coal separation processes are wet and therefore do not require further wet suppression to eliminate fugitive dust.

Jig Processing Equipment

One feeder-breaker, rated at 2,200 tons per hour (TPH) is used for crushing the ROM coal to a diameter of less than six inches. To prevent plugging, water is continuously added as required to the chute that feeds the crusher unit and the chute that exits the feeder-breaker. The ROM coal is conveyed from the feeder-breaker to the Jig Processing Plant via enclosed conveyors. This feeder-breaker was installed as a replacement in 1994.

The Jig Processing Plant, rated at 1,000 TPH, separates coal from the heavier non-coal material. The plant uses a process known as "jigging" to stratify the different materials based on their densities. The jigging process operates as follows: raw coal is conveyed from the feeder-breaker into water-filled wash boxes. Pulses of air from the box bottom raise the water; the water level is then allowed to drop, resulting in the gravity separation of the material. The clean coal is extracted and crushed, while the coal fines are separated from the water in the Fine Coal System using a series of cyclones, spiral

classifiers and a centrifuge. All non-coal material is loaded into trucks for transport back to the mining area. The clean coal from the Jig Plant is combined with the clean coal from the heavy media plant and transported via enclosed conveyor to the power plant stockpile.

Two McNally Baum jigs comprise the Jig Plant. Each jig has two compartments and seven cells. The Jig Plant was installed in 1972; the density controls were updated in 1995. The Fine Coal System was added in 1989 and updated in 1995.

Heavy Media Processing Equipment

One fully enclosed rotary-breaker, rated at 1,750 tons per hour (TPH) is used for crushing the ROM coal to a diameter of less than six inches. To prevent plugging, water is continuously added to the chute that feeds the crusher unit and directly into the rotary-breaker enclosure. The ROM coal is conveyed from the rotary breaker to the Heavy Media Processing Plant via conveyors. This rotary-breaker was installed as a replacement in 2001.

The Heavy Media Plant, originally installed in 1984 and substantially modified and expanded in 2001, uses a magnetite/water mixture to float the coal. The coal floats in the mixture while the non-coal material sinks. The larger coal is separated from the non-coal material in a coarse cleaning process. A fine coal system, consisting of screens, cyclones, and centrifuges, was added in 1989 and is used to separate the fine coal from the water. The clean coal is transported via enclosed conveyor to the power plant stockpile, while non-coal material is transported by truck to the mine for disposal.

EU-3 Coal Laboratory

EU-3 consists of the coal laboratory. The coal laboratory uses perchloroethylene to forecast the quality and recovery rates of different coal seams in the mine. Perchloroethylene is emitted to the atmosphere through a roof vent in the laboratory building.

EU-4 Parts Cleaning

EU-4 consists of approximately twenty-two tanks containing a petroleum-based solvent (Shellsol D60) used for parts cleaning. Shellsol D60 has a VOC content of 6.5 pounds per gallon. Tank capacities range from 5 to 600 gallons. The total solvent capacity of all of the washers combined is approximately 1,300 gallons. Volatile organic compounds are released from the surface of each tank to the ambient air.

EU-5 Smudge Pots

EU-5 consists of approximately 200 smudge pots firing #1 fuel oil that are used to mark the road in active mining areas where haul road beds change often and electric lighting is not available. The pots are primarily a source of carbon monoxide and particulate matter emissions.

EU-6 Spray Booth

EU-6 consists of an enclosed spray booth for painting equipment in the dragline shop. Painting operations include the use of the following three spray guns:

1. One Iwata model LPH-95 high volume, low pressure spray gun. The Iwata spray gun applies coatings with a maximum pressure of 10 psig. The Iwata spray gun has a tested transfer efficiency of 65% when properly operated;
2. One Binks model 7 spray gun; and
3. One Binks model 50A airless spray gun is used only for very large jobs.

Emissions from the spray booth are controlled with a ventilation system that exhausts through a set of primary and secondary filters. The primary filters are ECO Air filters, measuring 24" in length, 24" in width and 2" in thickness with an average particulate matter arrestance efficiency of 85%. The secondary filters are currently PrePleat 40 or Airgaurd Type DP filters, measuring 24" in length, 24" in width and 2" in thickness. The filters have a specified average particulate matter arrestance efficiency between 90% and 93%. The pressure drop across the filter system is monitored with a magnahelic gage.

EU-7 Diesel Engines

EU-7 consists of the following five diesel engines, and any stationary diesel engines at the facility that burn more than 1 million Btu of fuel and emit greater than 2.0 tons per year of NO_x or 5.0 tons per year of CO:

210 Horsepower Diesel Engine S/N WF3751N1157174: This engine is used to drive a Crisafuli water pump. The unit is currently located at Pond 45 but is mounted on a portable skid and can be moved to another site at the mine if necessary. To-date, the unit has been used only at Pond 45. Specific engine information is listed below:

TransAlta ID:	5452
Engine Make:	Detroit Diesel Series 40
Engine Manufactured by:	Navistar International
Engine Family:	DT 466
Engine Model:	Navistar International Model IAL210
Engine Serial Number:	WF3751N1157174
Engine Horsepower:	210
Year Built:	1999
Year Installed:	1999
Fuel Type:	Diesel

Pump Engine #5453: This engine is used to drive a water pump. Specific engine information is listed below:

Engine Make:	Caterpillar
Engine Model:	C9

Engine Serial Number: CLJ08535
Engine Horsepower: 275 horsepower
Year Built: 2005
Fuel Type: Diesel
Certification: EPA Tier II non-road

Pump Engine #5454: This engine is used to drive a water pump. Specific engine information is listed below:

Engine Make: Caterpillar
Engine Model: C9
Engine Serial Number: CLJ08536
Engine Horsepower: 275 horsepower
Year Built: 2005
Fuel Type: Diesel
Certification: EPA Tier II non-road

Southeast Packwood Spoils Sump Engine (new): This engine is used to drive a water pump. Specific engine information is listed below:

Engine Make: John Deere
Engine Model: 4045D
Engine Serial Number: 605949
Engine Horsepower: 71 horsepower
Built: August 2006
Fuel Type: Diesel
Certification: EPA Tier II marine (same specifications as EPA Tier II nonroad)

Sump 84 Pump Engine (new): This engine is used to drive a water pump. The pump will be initially located at Sump 84. Specific engine information is listed below:

Engine Make: John Deere
Engine Model: 6068H
Engine Serial Number: 020535
Engine Horsepower: 225 horsepower
Built: 2005
Fuel Type: Diesel
Certification: EPA Tier III

In 2003, TransAlta Centralia Mining submitted a list of stationary diesel engines used at the facility to drive water pumps. Three of the engines are large enough (burn greater than 1 MMBtu/hr of diesel fuel) and may be operated for long enough each year to exceed the insignificant emission thresholds of WAC 173-401-530(4). Assuming an engine efficiency of 7,000 Btu/hp-hr, any diesel engine approximately 143 horsepower and above (1,000,000 Btu/hr / 7,000 Btu/hp-hr) can exceed the 1 MMBtu/hr insignificant emission unit threshold of WAC 173-401-533(2)(g). Emissions of NO_x are largest relative to the insignificant emission level threshold for NO_x of 2.0 tons per year.

Using an emission factor of 0.031 lb/hp-hr from AP-42 Table 3.3-1 (10/96), emissions of NO_x may exceed 2.0 tons per year for the following engines:

TransAlta Identification	Engine Make/Model	Engine Horsepower	Estimated Annual Operation (Hours)	NO_x Emissions (tons per year)
5425	Caterpillar 3306	210	4,000	13.02
5450	Caterpillar 3306	210	1,500	4.88

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. Emission units were determined to be insignificant as follows:

IEU-1 Emergency Diesel Generator

The generator is driven by a Caterpillar 3412 engine (serial number 81Z08682) rated at 749 horsepower. The emergency generator is used to run electric water pumps at the Creek Diversion/Stormwater Retention Pond 32 system in the event of an electrical failure. Sediment pond 32 is part of a project to divert water from a creek around the mining operation. The generator is operated infrequently for testing, and consumes less than 300 gallons of fuel annually, therefore the emissions from this unit are below the emission thresholds of WAC 173-401-530(4). The most significant emissions from this unit are nitrogen oxides (NO_x). Assuming 104 hours of operation per year (2 hours per week), and an emission factor of 0.024 pounds of NO_x per horsepower per hour (AP-42 Table 3.4-1, 10/96), a total of 0.93 tons of NO_x are emitted annually. Emissions of NO_x are largest relative to the insignificant emission level threshold for NO_x of 2.0 tons per year.

IEU-2 Large Storage Tanks

IEU-2 consists of two 50,000 gallon diesel storage tanks, three 20,000 gallon portable diesel storage tanks, two 15,000 gallon gasoline storage tanks (one of which has been decommissioned and is no longer in use), and one 12,000 gallon antifreeze tank. These tanks are insignificant according to WAC 173-401-530(4) because emissions are below the threshold levels set by that regulation. The 50,000 gallon diesel storage tank is the largest potential emitter of the tanks. Using the Tanks 4.0 emission estimation program supplied by the EPA, annual emissions from one 50,000 gallon diesel storage tank total less than 48 pounds per year. The insignificant emission unit threshold level designated by WAC 173-401-530(4) is 2.0 tons per year of volatile organic compounds.

IEU-3 Categorically Exempt Emission Units

IEU-3 consists of lubricating oil tanks, oxygen storage tanks, and portable drums and totes. All of these tanks are categorically defined as insignificant emission units in WAC 173-401-532.

IEU-4 Welding

IEU-4 consists of approximately 68 welding sources used throughout the mine. Welding operations are used to repair the large mining equipment. On average the welding operations consume between 82 and 140 pounds of welding rod per day. Welding at the Centralia Mine is insignificant as defined by WAC 173-401-533(2)(i) because less than one ton of welding rod is consumed per day.

IEU-5 Space Heaters

IEU-5 consists of one or more 600,000 Btu/hr "salamander" space heaters. These units are insignificant as defined by WAC 173-401-533(2)(g) because they combust kerosene, #1 fuel oil, or #2 fuel oil and consume less than one million Btu of fuel per hour each.

IEU-6 Small Storage Tanks

IEU-6 consists of approximately one 50,000 gallon sulfuric acid storage tank (93% H₂SO₄) which the Permittee does not expect to use, six used motor oil tanks (200, 250, 300, 1,500 (2), and 10,000 gallons), one used gear oil tank (1,000 gallons), one stove oil tank (2,500 gallons), one small diesel tank (500 gallons), two kerosene tanks (350 and 500 gallons), three used antifreeze tanks (two 1,000 and one 3,700 gallons), and one or more propane tanks (<40,000 gallons). These storage tanks are all insignificant as defined by WAC 173-401-533 because of size or fluid composition.

IEU-7 Small Reciprocating Engines

IEU-7 consists of approximately nine gasoline-fired compressors (20,373 - 127,334 Btu/hr), two diesel-fired compressors (76,000 Btu/hr each), 20 diesel-fired welders (63,667 - 178,286 Btu/hr), 19 diesel-fired pumps (434,000 - 1,750,000 Btu/hr), four gasoline-fired pumps (56,000 Btu/hr), and eight diesel-fired light plants (50,900 - 76,350 Btu/hr). The gasoline-fired engines are insignificant as defined by WAC 173-401-533(2)(f) because their firing rates are less than 500,000 Btu/hr each. Most of the diesel-fired engines are insignificant as defined by WAC 173-401-533(2)(g) because their firing rates are less than one million Btu/hr each or annual emissions are less than the insignificant emission thresholds listed in WAC 173-401-530(4). The following diesel-fired engines are used to drive water pumps and are insignificant by the criteria of WAC 173-401-533(2) or WAC 173-401-530(4):

TransAlta Identification	Engine Make/Model	Engine Horsepower	Estimated Annual Operation (Hours)
5400	Detroit 871	250	500
5401	Detroit 453	80	100 - 500
5406	Caterpillar 3208	150	< 100
5407	Caterpillar 3208	150	100 - 500
5418	Caterpillar 3208	150	100 - 500
5419	Caterpillar 3208	150	4,000
5420	Detroit 453	80	100 - 500
5421	Caterpillar 3304	90	100 - 500

TransAlta Identification	Engine Make/Model	Engine Horsepower	Estimated Annual Operation (Hours)
5422	Detroit 453	80	200
5423	Caterpillar 3306	210	< 100
5424	Caterpillar 3306	210	< 100
5431	Caterpillar 3306	250	< 100
5433	Caterpillar 3306	250	< 100
5437	Caterpillar 3304	125	< 100
5438	Isuzu B-4BG1	62	200
5440	Caterpillar 3306	250	100 – 500
5443	Caterpillar 3306	190	< 100
5445	Caterpillar 3306	210	< 100
5451	Caterpillar 3304	90	1,500

IEU-8 Fugitive Emissions

IEU-8 consists of fugitive emissions of particulate matter from the active mining area, dragline operation, mine shovel operation, truck loading, haul road losses, scraper operation, newly reclaimed area, and truck dumping. These operations are classified as insignificant emission units by WAC 173-401-530(1)(d) because they generate only fugitive emissions.

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

P10. Excess Emissions

[SWCAA 400-107, WAC 173-400-107]

WAC 173-400-107 and SWCAA 400-107 establish criteria and procedures for determining when excess emissions are considered unavoidable. Such emissions that meet the requirements to be classified as unavoidable are considered excess and reportable but are excused and not subject to penalty. Notification of excess emissions is required as soon as possible and shall occur no later than 48 hours 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.

It is unlikely that any of the permittee's emission units can cause excess emissions due to startup, shutdown or scheduled maintenance. The coal crusher included in EU-2 would have the potential to emit excess opacity and particulate matter only if the wet suppression system was not operating properly. An excess opacity event would most likely be related to a failure of the wet suppression system and not startup, shutdown or scheduled maintenance of the crusher.

G10. Portable Sources

[SWCAA 400-110(6) (local only), SWCAA 400-110(5) – SIP Only, WAC 173-400-035, WAC 173-400-110(5) (SIP)]

WAC 173-400-035 and SWCAA 400-110 establish 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 sources requirements. Among those categories listed in SWCAA 400-101, which are exempt, are operations with potential to emit less than 1 ton/yr of all criteria pollutants plus volatile organic compounds, combined.

V. EXPLANATION OF OPERATING TERMS AND CONDITIONS**Req. 1-7 General Standards for Maximum Emissions**

[SWCAA 400-040, WAC 173-400-040]

WAC 173-400-040 and SWCAA 400-040 establish 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.

Req-6 prohibits any concealment or masking. At present, the permittee does not operate any equipment capable of masking emissions, therefore monitoring is limited to the annual compliance certification.

Req. 8 Emission Standards for General Process Units

[SWCAA 400-060, WAC 173-400-060]

WAC 173-400-060 and SWCAA 400-060 establish 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.

EPA Method 5 is listed in the Reference Method test column for Req-8. EPA Method 5 currently has a limited applicability to TransAlta's facility. The only emission units currently configured with a point source exhaust are the coal laboratory (which does not emit particulate matter) and the spray booth. The sandblasting booth is not currently configured to exhaust to the ambient air but could be so configured in the future.

Req. 9 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 use of abrasive blasting for equipment maintenance. SWCAA 400-070(8) requires that abrasive blasting 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 reasonably 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. The Centralia Mine has a dedicated blast booth equipped with a particulate matter emission control system. The blast booth is capable of fully enclosing almost any piece of equipment that could require abrasive blasting. For this reason monitoring is limited to the annual compliance certification.

Req. 10, 11 Standards of Performance for Coal Preparation Plants
[40 CFR 60.250 et seq. (Subpart Y), WAC 173-400-115, SWCAA 400-115]

Subpart Y sets particulate matter and opacity standards for coal preparation plants. Opacity from coal processing and conveying equipment, coal storage systems, and coal transfer and loading systems is limited to 20% as determined by EPA Method 9. This regulation is applicable to the permittee's jig and heavy media processing equipment.

Req. 12 – 16 Air Discharge Permit for Coal Processing
[SWCAA 94-1641R1]

Air Discharge Permit SWCAA 94-1641R1 established emission limits, monitoring, recordkeeping, and reporting requirements for the processing of raw coal. SWCAA 94-1641R1 was written in response to an Air Discharge Permit application submitted May 26, 1994 for replacement of the coal crusher. These requirements are only applicable to the jig processing equipment in EU-2. When the jig processing equipment is retired (when the expanded heavy media plant proves reliable), these requirements will be obsolete.

The coal processed at the Centralia Mine has a very high moisture content (approximately 24%). Additional water is added to the coal prior to and during crushing. Because of the inherent moisture and added water, there is very little possibility of generating fugitive dust. The emission factor cited in Req-12 is based on the AIRS Facility Subsystem Source Classification Codes and Emission Factor Listing for Criteria Air Pollutants, EPA 450/4-90-003 dated March 1990. The 90% estimated control efficiency cited for particulate control in Req-12 is based on SWCAA's experience with wet suppression of crushing operations and specific knowledge and observations of the conditions at the Centralia Mine. Numerous inspections have confirmed that fugitive emissions from coal crushing at the Centralia Mine are minimal.

Req-13 limits the opacity of emissions to zero percent. This limit was set as part of the BACT evaluation of this source. In SWCAA's experience, rock crushing operations can easily meet the zero percent opacity limit (not to be exceeded for more than 3 minutes in any

one hour) with the proper application of wet suppression. This is especially true of material from the Centralia Mine because of the high inherent moisture content.

Req. 17 – 21 Air Discharge Permit for Coal Processing
[SWCAA 01-2332R1]

Air Discharge Permit SWCAA 01-2332R1 establishes emission limits, monitoring, recordkeeping, and reporting requirements for the processing of raw coal with the expanded heavy media plant and associated equipment. These requirements are applicable only to the expanded heavy media plant and associated equipment. Air Discharge Permit SWCAA 01-2332 was written to approve the installation and operation of new coal processing equipment and an expected increase in coal throughput in response to an Air Discharge Permit application received December 26, 2000. The equipment began operating in November of 2001. At that time it was noted that no fugitive dust could be generated by the rotary breaker because it had been fully enclosed. This meant that the fugitive dust emission limits and monitoring requirements in SWCAA 01-2332 were unnecessary. The permittee submitted an Air Discharge Permit application on December 14, 2001 to remove the redundant requirements. Air Discharge Permit SWCAA 01-2332R1 was issued on April 23, 2002 to incorporate these changes.

The coal processed at the Centralia Mine has a very high moisture content (approximately 24%). Additional water is added to the coal prior to and during crushing. Because of the inherent moisture and added water, there is very little possibility of generating fugitive dust.

Req-17 is a limit on the amount of fugitive dust from coal transfer points. Fugitive emissions from coal transfer points are calculated using equation 1 from AP-42 Section 13.2.4 (1/95). AP-42 provides emission factors generated using this equation a rating of "A," which indicates that the emission factor was generated from a large sampling of results generated using sound methodology. Equation 1 is shown below:

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

Where: E = emission factor (pounds PM emitted per ton of material crushed)
k = dimensionless multiplier, 1.0 for total PM, 0.35 for PM₁₀, 0.11 for PM_{2.5}
U = mean wind speed (miles per hour)
M = material moisture content (%)

Req-18 limits the opacity of emissions to zero percent. This limit was established as part of the BACT review of this source. In SWCAA's experience, crushing operations can easily meet the zero percent opacity limit (not to be exceeded for more than 3 minutes in any one hour) with the proper application of wet suppression. This is especially true of material from the Centralia Mine because of the high inherent moisture content.

Req. 22 - 32 Requirements for Spray Coating and Sandblasting

[WAC 173-400-040, SWCAA 400-040, SWCAA 97-1995R1]

Air Discharge Permit SWCAA 97-1995R1 established emission limits, monitoring, recordkeeping, and reporting requirements for spray coating and sandblasting operations conducted in the Dragline Shop. SWCAA 97-1995R1 was written in response to an Air Discharge Permit application submitted on October 13, 2000 for replacement of the sandblast booth filtration system.

Req-22 establishes a VOC emission limit of 1.5 tons per year. This limit was established based on the expected use of coating materials and the VOC content of those coatings. The annual VOC emission rate is determined utilizing a mass balance and the information collected using M8.

Req-23 requires emissions of toxic air pollutants (TAPs) to be below the small quantity emission rate for each TAP listed in WAC 173-460. Emission modeling must be performed to ensure compliance with WAC 173-460 if emissions exceed the small quantity emission rate (SQER). No TAP emission modeling was performed for the permitting of this source, therefore the source must perform emissions modeling and undergo the New Source Review process if emissions of any TAP exceed the SQER for that TAP. Information submitted with the Air Discharge Permit application, and information obtained during subsequent inspections by SWCAA indicate that actual TAP emissions are all well below their respective SQER. It is assumed that unless significant changes in coating quantity or type are made, the permittee will be in compliance with this requirement. The annual emission rate of each TAP is determined utilizing a mass balance and the information collected using M8.

Req-24 establishes a PM emission limit of 0.5 tons per year from both sandblasting and spray-coating operations. At this time, sandblasting produces no point source emissions because the blast booth is not vented to the ambient air and all windows and doors are closed during sandblasting operations. Particulate matter emissions from spray coating shall be calculated using the total quantity of coatings sprayed, the average solids content of the coatings, a spray gun transfer efficiency of 65%, and a combined PM filter control efficiency of 98%.

Req-25 establishes an opacity limit of zero percent. This requirement is used to provide a reasonable assurance that the filtration systems are operating properly. If the filtration systems are operating properly, the opacity of emissions should be zero.

Req-26 and Req-27 require installation of a pressure gage across the sandblast booth and spray booth filtration media. The pressure drop across filtration media can be used to gage filter performance and determine the filter replacement schedule. SWCAA uses this data to assess system performance during inspections.

Req-28 and Req-29 set minimum filtration system design requirements. These requirements are based on the original specifications submitted to SWCAA in Air Discharge Permit application L-348.

Req-30, Req-31, and Req-32 set reasonable operational requirements to minimize emissions. Req-31 prohibits the use of an open container to evaporate VOCs and requires reasonable handling of VOC containing materials to prevent volatilization. The permittee has an active recycling program and is not motivated to eliminate VOC materials via evaporation, therefore monitoring was limited to the annual compliance certification.

Req. 33 - 44 Air Discharge Permit for Diesel Engines

[SWCAA 07-2758]

Air Discharge Permit 07-2758 approved the installation of the Sump 84 Pump Engine and carried forward the requirements for diesel engines from Air Discharge Permit 06-2698. Air Discharge Permit 06-2698 approved the installation of the Southeast Packwood Spoils Sump Engine and carried forward the requirements for diesel engines from Air Discharge Permit 05-2625. Air Discharge Permit 05-2625 approved the installation of two new diesel engines at the facility and carried forward requirements established in SWCAA 03-2481. Air Discharge Permits 03-2481, 05-2625, 06-2698, and 07-2758 established emission and operating limits below levels where add-on emission control equipment would be required to meet BACT.

VI. EXPLANATION OF OBSOLETE AND FUTURE REQUIREMENTS

1. Obsolete Air Discharge Permits

SWCAA Air Discharge Permit 94-1641 was issued on August 11, 1994 in response to Air Discharge Permit (ADP) Application L-320. ADP Application L-320 requested approval to modify and partially replace the coal crushing system. SWCAA Air Discharge Permit 94-1641 was superseded by Air Discharge Permit 94-1641R1 on June 28, 1996 in response to ADP Application L-338. ADP Application L-338 requested approval to modify the dust suppression system because of operational problems with the original system.

SWCAA Air Discharge Permit 97-1995 was issued on April 11, 1997 in response to ADP Application L-348. ADP Application L-348 requested approval to modify the existing spray coating and sandblasting ventilation systems. SWCAA Air Discharge Permit 97-1995 was superseded by Air Discharge Permit 97-1995R1 on November 22, 2000 in response to ADP Application L-472. ADP Application L-472 requested approval to replace the existing sandblast booth box filtration system with a more efficient cartridge filtration system.

SWCAA Air Discharge Permit 01-2332 was issued on February 21, 2001 in response to ADP Application L-477. ADP Application L-477 requested approval to add new coal processing equipment. The new coal processing equipment would eventually replace the Jig Processing Plant and associated rotary-crusher and coal handling equipment. SWCAA Air Discharge Permit 01-2332 was superseded by Air Discharge Permit 01-2332R1 on April 23, 2002 in response to ADP Application L-494. ADP Application L-494 requested the removal of emission limits and monitoring requirements related to the new rotary crusher because complete enclosure of the unit had rendered these conditions obsolete.

SWCAA Air Discharge Permit 03-2481 was issued on October 2, 2003 in response to ADP Application L-518. ADP Application L-518 requested approval to add two new diesel engines to the facility. Air Discharge Permit 03-2481 was superseded by Air Discharge Permit 05-2625 on September 6, 2005 in response to ADP Application L-563. ADP Application L-563 requested approval to add two new diesel engines used to drive water pumps. The requirements from Air Discharge Permit 03-2481 were carried forward in Air Discharge Permit 05-2625. Air Discharge Permit 05-2625 was superseded on October 30, 2006 by Air Discharge Permit 06-2698 in response to ADP Application L-563. ADP Application L-563 requested approval to install the Southeast Packwood Spoils Sump Engine. The requirements from Air Discharge Permit 05-2625 were carried forward in Air Discharge Permit 06-2698. ADP Application L-610 requested approval to install the Sump 84 Pump Engine. Air Discharge Permit 07-2758 approved the installation of the Sump 84 Pump Engine and carried forward the requirements for diesel engines from Air Discharge Permit 06-2698.

2. Future Requirements

No future requirements are anticipated.

3. Title 40 CFR 60.7 "Notification and Record Keeping"

The coal processing plant is subject to the particulate matter and opacity standards promulgated in 40 CFR 60.250 et seq. (Subpart Y) "Standards of Performance for Coal Preparation Plants." Initial notification of the date of anticipated startup for the 1994 modifications was contained in Air Discharge Permit Application L-320 submitted to SWCAA on May 26, 1994. Formal notification of the date of actual startup (November 1994) was sent to SWCAA on March 23, 1995. The initial performance test was performed on March 13, 1995.

Initial notification of the date of anticipated startup for the 2001 modifications was contained in Air Discharge Permit Application L-477 submitted to SWCAA on December 26, 2000. Notification of the actual startup date was submitted on November 13, 2001 (the day of initial startup). Notification of the anticipated date for conducting the performance test required by Subpart Y was provided to SWCAA on March 13, 2002 (>30 days prior to testing).

4. Title 40 CFR 60.8 "Performance Tests"

The coal processing plant is subject to the particulate matter and opacity standards promulgated in 40 CFR 60.250 et seq. (Subpart Y) "Standards of Performance for Coal Preparation Plants," and therefore an initial performance test consisting of opacity observations is required within 60 days of achieving the maximum production rate but no later than 180 days after initial startup.

The initial performance test for the modifications completed November 1994 was conducted on March 13, 1995. The initial performance test for the 2001 modifications was performed April 15 - 19, 2002. A copy of the source test report was received by SWCAA on May 20, 2002.

VII. EXPLANATION OF MONITORING TERMS AND CONDITIONS

M1. Visible Emission Monitoring

This monitoring requirement is used to provide a reasonable assurance of compliance with the applicable requirements drawn from 40 CFR 60.250, WAC 173-400, SWCAA 400, SWCAA 07-2758, SWCAA 01-2332R1, SWCAA 97-1995R1, and SWCAA 94-1641R1. With the exception of the requirements drawn from SWCAA 01-2332R1 and SWCAA 97-1995R1, 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.

M1 requires a survey of EU-1, EU-2, and EU-6 to identify potential visible emissions. If emissions are not apparent during the initial survey, it is highly unlikely that the source is violating particulate matter or opacity standards and it is unnecessary to perform a formal Method 9 opacity observation. Visible emissions from EU-3, EU-4, EU-5, and EU-7 are only addressed by generally applicable requirements. EU-3 and EU-4 would not be expected to produce any opacity under any operating condition and therefore opacity observations have only been required when indicated by a compliant if otherwise unusual emissions are observed.

EU-5 consists of lighting pots combusting kerosene. It is possible for kerosene combustion to produce limited opacity, but based on past observations of this source it is highly unlikely that opacity in excess of the 20% standard could be achieved, and therefore opacity observations have only been required when indicated by a compliant if otherwise unusual emissions are observed. In addition, the lighting pots of EU-5 are re-fueled frequently and already under daily observation for re-fueling and maintenance purposes.

M2. Fugitive Emissions Monitoring

This monitoring requirement is used to provide a reasonable assurance of compliance with the applicable requirements drawn from 40 CFR 60.250, WAC 173-400, SWCAA 400, SWCAA 01-2332R1, and SWCAA 94-1641R1. With the exception of the requirements drawn from SWCAA 01-2332R1, these requirements do not directly establish any specific regime of fugitive emissions monitoring or recordkeeping. Consequently, SWCAA has implemented monitoring and recordkeeping requirements under the "gap filling" provisions of WAC 173-401-615.

M2 requires a survey of EU-1 – EU-6 to identify potential fugitive emissions. M2 is designed to assure compliance through a combination of periodic facility inspections and prompt corrective action whenever necessary.

M3. Complaint Monitoring

This monitoring requirement is used to provide a reasonable assurance of compliance with the applicable requirements drawn from WAC 173-400, SWCAA 400, SWCAA 01-2332R1, SWCAA 97-1995R1, and SWCAA 94-1641R1. These requirements do not

directly establish any specific regime of complaint monitoring or recordkeeping. Consequently, SWCAA has implemented monitoring and recordkeeping requirements under the "gap filling" provisions of WAC 173-401-615. M3 is designed to assure compliance through prompt complaint response and corrective action whenever necessary.

M4. Operations Monitoring

This monitoring requirement is used to provide a reasonable assurance of compliance with the applicable requirements drawn from WAC 173-400, SWCAA 400, and SWCAA 97-1995R1. 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. M4 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.

M5. Performance Testing Requirements

This monitoring requirement is used to provide a reasonable assurance of compliance with the applicable requirements drawn from 40 CFR 60.254 and SWCAA 01-2332R1. The performance testing requirements in SWCAA 01-2332R1 are drawn directly from 40 CFR 60.254. This is a one-time only requirement implemented to satisfy the federal New Source Performance Standard and demonstrate the initial capability of the equipment.

This testing requirement was satisfied by the test performed April 15 – 19, 2002.

M6. Coal Processing Monitoring Requirements

This monitoring requirement is used to provide a reasonable assurance of compliance with the applicable requirements drawn from SWCAA 94-1641R1 and SWCAA 01-2332R1. The requirements cited in this monitoring requirement are drawn directly from these same Air Discharge Permits. Dust suppression maintenance activities are recorded to provide SWCAA with records of system performance and assure that maintenance problems that may lead to excess emissions are not recurring events. The quantity of material crushed and processed is used to calculate emissions utilizing the formulas indicated in the Explanation of Operating Terms and Conditions section.

M7. Sandblasting and Spray Coating Monitoring Requirements

This monitoring requirement is used to provide a reasonable assurance of compliance with the applicable requirements drawn from SWCAA 97-1995R1. The requirements cited in this monitoring requirement are drawn directly from Air Discharge Permit 97-1995R1. The MSDS information and quantity of all VOC, HAP, and TAP containing materials used at the facility is used to calculate VOC, HAP, and TAP emissions utilizing a material balance approach. The quantity of blast media usage was required in order to

calculate blast booth emissions using an emission factor when the emissions were vented to the ambient air. The final design of the blast booth filtration system did not include a vent to the ambient air, therefore there are no emissions from the enclosed blast booth and the blast media usage is no longer necessary to calculate emissions. However, recording of blast media usage will be retained in this permit as an active requirement until there is a modification to the applicable Air Discharge Permit. The differential pressures across the blast booth and spray booth filtration systems are recorded to provide SWCAA with records of system performance and assure that maintenance problems that may lead to excess emissions are not recurring events.

M8. Diesel Engines Monitoring

This monitoring requirement is used to provide a reasonable assurance of compliance with the applicable requirements drawn from SWCAA 07-2758. These requirements do not directly establish any specific regime of fuel sulfur content monitoring or recordkeeping. Consequently, SWCAA has implemented fuel sulfur content monitoring and recordkeeping requirements for pump engines 5453 and 5454 under the "gap filling" provisions of WAC 173-401-615.

VIII. EXPLANATION OF RECORDKEEPING TERMS AND CONDITIONS

K1. Basic Recordkeeping

This recordkeeping section is taken directly from SWCAA 97-1995R1 Section 12(l), SWCAA 01-2332R1 Section 14(h), SWCAA 07-2758 Condition 16, and WAC 173-401-615(2). Recordkeeping requirements were separated into Sections (a) through (d) to organize the requirements.

K1(d) "Sampling and Emission Testing" applies to source testing reports. SWCAA expects that the only source testing required was the performance testing of EU-2 during the performance demonstration detailed in M6.

IX. EXPLANATION OF REPORTING TERMS AND CONDITIONS

R1. Deviations from Permit Conditions

This reporting section is taken directly from WAC 173-401-615(3), SWCAA 400-107, SWCAA 97-1995R1, SWCAA 01-2332R1, and SWCAA 07-2758. The permittee is required to report all permit deviations no later than 30 days following the end of the month during which the deviation is discovered. Permit deviations due to excess emissions shall be reported to SWCAA as soon as possible. SWCAA may request a full report of any deviation if determined necessary. These deviations are also reported in each semi-annual report.

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).

R3. Semi-annual Reports

The permittee is required to provide a report on the status of all monitoring records and provide a certification of all reports on a semi-annual basis. Semi-annual 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.

The semi-annual report provides information on the status of all required monitoring. The actual results (e.g. measured pressure drops, opacity readings, etc.) do not need to be submitted unless specifically required by the permit.

R4. Annual Reports and Compliance Certification

Annual 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 SWCAA 401-630(5). 40 CFR 60.11(g) requires the permittee to consider credible evidence when submitting compliance certifications for NSPS affected units (EU-2). Any reports of deviations from permit conditions or certifications of intermittent compliance need to be accompanied by an explanation.

Annual Report: The contents of the annual report are specified.

R5. Emission Inventory Reports

The permittee is required to report an inventory of emissions from the source, and certify compliance with all permit terms and conditions on an annual basis. The annual emissions inventory must be submitted to SWCAA by March 15th for the previous calendar year as provided in SWCAA 400-105. WAC 173-400-105 sets a later emission inventory due date of April 15th. A complete emissions inventory includes quantifiable emissions from all EUs described in Section II and the IEUs described in Section III. Emissions from equipment comprising IEUs 3, 5, 6 and 7 may not be quantifiable. The majority of the emissions from this facility are fugitive and are emitted from IEU-8. Emissions from non-road mobile engines are not addressed by this permit. No distinction is made between painting in the field and painting in the paint shop.

R6. Source Test Reports

This reporting section is taken from SWCAA 01-2332R1 Appendix B and SWCAA 400-106. The reporting requirements are all derived from SWCAA 400-106 and simply repeated in SWCAA 01-2332R1. The permittee has fulfilled the obligation to perform the initial source test specified by Subpart Y (M6). It is expected that no future source tests will be necessary at this facility. If future source tests are required the permittee shall report test

results within 45 days of test completion to allow timely review by SWCAA. Operating conditions are to be included to relate emissions to the method of operation.

X. APPENDICES

Appendix A contains the method by which visible emissions from the permittee's operations are to be evaluated when performing required monitoring. The federal requirements mandate the use of EPA Method 9. The difference between SWCAA Method 9 detailed in Appendix A and EPA Method 9 is the data reduction method used.

XI. PERMIT ACTIONS

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|-----|--|--------------------|
| 1. | Renewal Permit Application Submitted: | August 30, 2006 |
| 2. | Permit Application deemed complete: | September 13, 2006 |
| 3. | Permit Application sent to EPA: | September 22, 2006 |
| 4. | Draft Permit (SW01-12-R1) Issued: | September 22, 2006 |
| 5. | Proposed Permit (SW01-12-R1) Issued: | October 31, 2006 |
| 6. | Final Permit (SW01-12-R1) Issued: | January 10, 2007 |
| 7. | Draft Permit (SW01-12-R1-A) Issued: | February 22, 2008 |
| 9. | Proposed Permit (SW01-12-R1-A) Issued: | April 8, 2008 |
| 11. | Final Permit (SW01-12-R1-A) Issued: | June 4, 2008 |

