TransAlta Centralia Mining, LLC

Centralia Mine

Title V Basis Statement

Issued: January 10, 2012

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

PERMIT #: SW01-12-R2
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

[Signature]
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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 / NAICS Number: 1221 / 21211

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, PM_{10}, 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.

WAC 173-401-200(19)(b) states that fugitive emissions are not counted towards Title V applicability unless the facility belongs to one of the listed source categories. Fossil fuel boilers totaling more than two hundred fifty million British thermal units per hour heat input are one of the listed source categories. TransAlta Centralia Generation fits into this category. Fugitive emissions are counted towards Title V applicability from all emission units at the listed source. The listed source encompasses all emission units at the listed source and all emission units at support facilities that are part of the source; therefore fugitive emissions were quantified below for the Centralia Mine.

**Facilitywide Potential To Emit Summary (Centralia Mine Only)**

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emissions (tons per year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen oxides</td>
<td>178.56</td>
</tr>
<tr>
<td>Carbon monoxide</td>
<td>87.13</td>
</tr>
<tr>
<td>Volatile organic compounds</td>
<td>19.07</td>
</tr>
<tr>
<td>Sulfur dioxide</td>
<td>17.28</td>
</tr>
<tr>
<td>Particulate Matter</td>
<td>3,405.09</td>
</tr>
<tr>
<td>PM_{10}</td>
<td>1,039.50</td>
</tr>
<tr>
<td>PM_{2.5}</td>
<td>195.36</td>
</tr>
<tr>
<td>Combined HAPs</td>
<td>1.62</td>
</tr>
<tr>
<td>Individual HAP</td>
<td>1.50</td>
</tr>
<tr>
<td>CO_{2} equivalent</td>
<td>10,590</td>
</tr>
</tbody>
</table>
Potential emissions were calculated with the assumption that all non-emergency engines operate 8,760 hours per year at full rated capacity unless restricted by a permit condition, and that the Emergency Generator Diesel Engine operates up to 500 hours per year. Potential fugitive dust emissions were estimated by multiplying 2005 emissions (a year with more mining activity than most earlier years) by 120%.

8. Current Permitting Action:
   This Title V Air Operating Permit is being issued in response to a Title V renewal application submitted by TransAlta Centralia Mining, LLC in accordance with the deadline contained in Air Operating Permit SW01-12-R1-A. The Air Operating Permit issued in response to TransAlta's renewal application has been updated as appropriate and includes new requirements from 40 CFR 60 Subpart III and 40 CFR 63 Subpart ZZZZ.

9. Attainment Area:
   The Centralia Mine is located in an area that is in attainment for all criteria pollutants.

10. Facility Description:
    The Centralia Mine began coal mining operations in 1971 and ceased mining on November 27, 2006. The mine continues to conduct year round ditching maintenance and water treatment with major reclamation activities carried out each year during the drier summer season. No future mining is anticipated with the exception of the possibility of reprocessing coal mine waste located in specific impoundments constructed for those waste materials. That project is still under investigation and has not yet been approved or permitted.

    The Centralia Mine was purchased in May 2000 by TransAlta Centralia Mining, LLC (TCM). TCM operated the mine through November of 2006 at which time coal production ceased. The mine is located six miles northeast of the City of Centralia in Lewis County, Washington. The mine supplied 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 was to produce coal for use at the Centralia Power Plant. The entire mine was best described as a series of related processes. These processes included land preparation, mining, coal processing, and maintenance and support activities related to these operations. While coal is no longer produced, many of the related activities are still conducted as part of the overall mine reclamation process. Note that the facility does not currently have coal processing capability.

    During the mining and reclamation processes, the primary pollutant is particulate matter emitted as fugitive dust.

    Raw materials used at the mine include fuel for vehicles and pump engines, sandblast grit (when in operation) and miscellaneous chemicals for parts cleaning and other incidental activities.
Reclamation Activities
As noted above, the mine is currently not producing coal. Activities at the mine are limited in the winter months to ditch and road maintenance, primarily with small excavators and dozers. During the drier summer months, reclamation activities are conducted to restore the terrain to the permitted post mining topography. These activities include ditch construction, overburden and spoil material handling, topsoil placement and some minor amounts of land clearing. Prior to overburden material removal, all surface vegetation including trees, stumps, and other woody debris is cleared and typically mulched into the topsoil being salvaged by small excavators and trucks. Large hydraulic shovels are then used to load overburden and spoil material into a fleet of approximately 11 haul trucks used to haul material for backfilling the mined pits up to final topography. Scrapers are used on a limited basis to spread rock and move soil in specific instances. Other activities in the summer include pond cleanout with smaller excavators and articulating trucks.

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 was previously processed and cleaned prior to delivery to the adjacent power plant. During the summer of 2010 and the spring of 2011, the two previously permitted processing plants (Jig and Heavy Media) and the adjacent coal lab were demolished. As such, TransAlta Centralia Mining currently is unable to process/clean ROM coal. If any future mining at the Centralia Mine site is conducted, new processing facilities will be required. Those facilities will be permitted under the New Source Review previsions prior to installation.

Maintenance and Support Activities
Maintenance and support activities at the Centralia Mine include equipment servicing, 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.

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

II. EMISSIONS UNIT DESCRIPTIONS

EU-1 Sandblast Booth

EU-1 consists of an enclosed sandblasting booth in the dragline shop. The sandblasting 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 (all air is recirculated), 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 Parts Cleaning

EU-2 consists of approximately twenty-two tanks containing a petroleum-based solvent (Shellsol D60 or similar) 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-3 Smudge Pots

EU-3 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-4 Spray Booth

EU-4 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 Airgaard 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 manahelic gage.

Diesel Engines

The facility operates 12 stationary diesel engines used to drive water pumps and one engine used to drive an emergency generator. The table below lists these engines and how they are categorized for the purposes of 40 CFR 63 Subpart ZZZZ. Because all of the engines are subject to specific requirements found in Air Discharge Permits or 40 CFR 63 Subpart ZZZZ, they cannot be considered insignificant emission units. Note that the permittee also operates a number of small non-road engines (compressors, welders, pumps and light plants) that are not subject to the Air Operating Permit program.
<table>
<thead>
<tr>
<th>Engine Identification</th>
<th>Engine Horsepower</th>
<th>Construction Date</th>
<th>Subpart ZZZZ Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pump Engine #5453</td>
<td>275</td>
<td>2005</td>
<td>Existing non-emergency compression ignition engines 100 ≤ HP ≤ 500 located at a major source of HAP emissions.</td>
</tr>
<tr>
<td>Pump Engine #5454</td>
<td>275</td>
<td>2005</td>
<td>Existing non-emergency compression ignition engines &lt; 100 HP located at a major source of HAP emissions.</td>
</tr>
<tr>
<td>Sump 84 Pump Engine</td>
<td>225</td>
<td>2005</td>
<td></td>
</tr>
<tr>
<td>5400</td>
<td>250</td>
<td>Pre 2002</td>
<td></td>
</tr>
<tr>
<td>5419</td>
<td>150</td>
<td>Pre 2002</td>
<td></td>
</tr>
<tr>
<td>5425</td>
<td>210</td>
<td>Pre 2002</td>
<td></td>
</tr>
<tr>
<td>5420</td>
<td>80</td>
<td>Pre 2002</td>
<td></td>
</tr>
<tr>
<td>5421</td>
<td>90</td>
<td>Pre 2002</td>
<td></td>
</tr>
<tr>
<td>5422</td>
<td>80</td>
<td>Pre 2002</td>
<td></td>
</tr>
<tr>
<td>5438</td>
<td>62</td>
<td>Pre 2002</td>
<td></td>
</tr>
<tr>
<td>5451</td>
<td>90</td>
<td>Pre 2002</td>
<td></td>
</tr>
<tr>
<td>Emergency Generator Diesel Engine (3412)</td>
<td>749</td>
<td>Pre 2002</td>
<td>Existing emergency compression ignition engines located at a major source of HAP emissions.</td>
</tr>
<tr>
<td>Southeast Packwood Spoils Sump Engine (CP-100 Sump Pump)</td>
<td>71</td>
<td>August 2006</td>
<td>New non-emergency compression ignition engine located at a major source of HAP emissions (only subject to 40 CFR 60 Subpart III)</td>
</tr>
</tbody>
</table>

**EU-5 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

**EU-6 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
EU-7 Sump 84 Pump Engine

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

EU-8 Southeast Packwood Spoils Sump Engine (CP-100)

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)

Table of Grandfathered Engines

<table>
<thead>
<tr>
<th>EU #</th>
<th>Unit Identification</th>
<th>Engine Make/Model</th>
<th>Engine Horsepower</th>
<th>Construction Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU-9</td>
<td>5400</td>
<td>Caterpillar 3406¹</td>
<td>250</td>
<td>Pre 2002</td>
</tr>
<tr>
<td>EU-10</td>
<td>5419</td>
<td>Caterpillar 3208</td>
<td>150</td>
<td>Pre 2002</td>
</tr>
<tr>
<td>EU-11</td>
<td>5425</td>
<td>Caterpillar 3306</td>
<td>210</td>
<td>Pre 2002</td>
</tr>
<tr>
<td>EU-12</td>
<td>5420</td>
<td>Isuzu B-4BG1</td>
<td>72</td>
<td>Pre 2002</td>
</tr>
<tr>
<td>EU-13</td>
<td>5421</td>
<td>Caterpillar 3304</td>
<td>90</td>
<td>Pre 2002</td>
</tr>
<tr>
<td>EU-14</td>
<td>5422</td>
<td>Isuzu B-4BG1</td>
<td>72</td>
<td>Pre 2002</td>
</tr>
<tr>
<td>EU-15</td>
<td>5438</td>
<td>Isuzu B-4BG1</td>
<td>72</td>
<td>Pre 2002</td>
</tr>
<tr>
<td>EU-16</td>
<td>5451</td>
<td>Caterpillar 3304</td>
<td>90</td>
<td>Pre 2002</td>
</tr>
<tr>
<td>EU-17</td>
<td>3412 - Emergency Generator Diesel Engine – Pond 32</td>
<td>Caterpillar 3412</td>
<td>749</td>
<td>Pre 2002</td>
</tr>
</tbody>
</table>

¹ The engine currently installed in EU-10 (Unit 5400) was previously installed in Unit 5431.
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 Large Storage Tanks

IEU-1 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-2 Categorically Exempt Emission Units

IEU-2 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-3 Welding

IEU-3 consists of approximately 38 welding sources used throughout the mine. Welding operations are used to repair the large mining equipment. On average the welding operations consume between 5 and 25 pounds of welding rod or welding wire 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-4 Space Heaters

IEU-4 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-5 Small Storage Tanks

IEU-5 consists of approximately 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-6 Fugitive Emissions

IEU-6 consists of fugitive emissions of particulate matter from the active mining/reclamation areas, 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

P12. 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. Excess emissions that are classified as unavoidable by the criteria in SWCAA 400-107 must be reported as excess emissions but are excused from 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. Excess emissions due to an upset 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.

G10. Portable Sources
[SWCAA 400-110(6) - local only, SWCAA 400-110(5) – SIP only]

SWCAA 400-110 establishes procedures for approving the operation of portable sources of air emissions that locate temporarily at project sites. These requirements 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 that are exempt are operations with potential to emit less than 1 ton per year of all criteria pollutants other than PM\textsubscript{2.5}, and less than 0.5 tons per year of PM\textsubscript{2.5}.  


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 requirements as applying to IEUs.

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 EU 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 as the Reference Method test for Req-8. EPA Method 5 currently has a limited applicability to TransAlta's facility. The only emission unit currently configured with a point source exhaust is 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 - 20 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-10 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 M5.

Req-11 requires emissions of toxic air pollutants (TAPs) to be below the small quantity emission rate for each TAP listed in WAC 173-460 (as in effect August 21, 1998). 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 M5.

Req-12 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-13 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-14 and Req-15 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-16 and Req-17 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-18, Req-19, and Req-20 set reasonable operational requirements to minimize emissions. Req-19 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. 21 - 30 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.

Req. 30 - 31 Engine Requirements Originating from 40 CFR 60 Subpart IIII
[40 CFR 60 Subpart IIII]

40 CFR 60 Subpart IIII established emission limitations and operating requirements for "new" compression ignition engines. The only applicable unit at this facility is the Southeast Packwood Spoils Sump Engine. All of the applicable requirements for this engine have been included in the Air Operating Permit. Note that both Air Discharge Permit 07-2758 and Subpart IIII limit the sulfur content of the diesel fuel burned in this unit.

Req. 32 - 38 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 this facility fall into three 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 stationary diesel engines to SWCAA on March 16, 2011. The portions of the maintenance plan relevant to engine emissions are applicable requirements and are listed in Req-36.
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. Air Discharge Permit 94-1641R1 is obsolete because the affected equipment was removed in 2011.

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 crushe because complete enclosure of the unit had rendered these conditions obsolete. Air Dicharge Permit 01-2332R1 is obsolete because the affected equipment was removed in during the summer of 2010 and the spring of 2011.

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.

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 WAC 173-400, SWCAA 400, SWCAA 07-2758, and SWCAA 97-1995R1. With the exception of the requirements drawn from 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 and EU-4 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 the remaining emission units are unlikely and/or are only addressed by generally applicable requirements; therefore opacity observations have only been required when indicated by a compliant if otherwise unusual emissions are observed.

EU-3 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 complaint if otherwise unusual emissions are observed. In addition, the lighting pots of EU-3 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 WAC 173-400 and SWCAA 400. 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 and EU-4 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, and SWCAA 97-1995R1. 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. 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.

M6. Diesel Engines Operations Monitoring

This monitoring requirement is used to provide a reasonable assurance of compliance with the applicable requirements drawn from SWCAA 07-2758, 40 CFR 60 Subpart IIII, and 40 CFR 63 Subpart ZZZZ. 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, the Sump 84 Pump Engine, and the Southeast Packwood Spoils Sump Engine under the "gap filling" provisions of WAC 173-401-615.
In addition, because 40 CFR 60 Subpart ZZZZ sets limits on how an existing emergency generator may be used but does not specify any monitoring or recordkeeping to assure compliance, SWCAA has required the permittee to document how many hours are spent for emergency operation, including what classified the operation as an emergency, and how many hours were spent for non-emergency operation each year under the "gap filling" provisions of WAC 173-401-615.

Where Subpart ZZZZ requires that certain maintenance activities be undertaken every 500-1,000 hours or annually, whichever comes first, it does not include any provision for monitoring hours of operation. 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.

M7. **Subpart ZZZZ Performance Testing Requirements**

This monitoring requirement consists of applicable requirements found in 40 CFR 60 Subpart ZZZZ. Only the category of engines subject to numerical emission limits require performance testing. For the existing non-emergency compression ignition engines \( 100 \leq \text{HP} \leq 500 \) horsepower, only an initial performance test is required by Subpart ZZZZ. EPA determined that subsequent performance testing was not justified in the rule to demonstrate compliance with the numerical emission limits in this size category. Subsequent performance testing is required only if engines are rebuilt or overhauled, or if an exhaust catalyst is replaced because these activities can affect the emission rates from the engine. In EPA's February 17, 2010 response to comments on proposed revisions to Subpart ZZZZ, EPA wrote:

"EPA believes that it is appropriate to require testing for stationary engines that have been rebuilt or overhauled even though the engines may only normally be required to conduct an initial performance test and no subsequent testing. The rebuilding or overhaul of the engine may change the combustion characteristics of the engine."

In a separate section EPA wrote:

"As the commenters noted, the rule does not specify a time for conducting a performance test after a catalyst change. However, the performance test after a catalyst change should be conducted as soon as possible to demonstrate that the engine is still in compliance with the applicable standards."

40 CFR 63 Subpart ZZZZ requires only an initial performance test for existing non-emergency compression ignition engines \( \leq 500 \) horsepower because subsequent testing was not considered worthwhile for engines in this size category. For larger engines, performance tests must be completed every 3 years or 8,760 hours of operation,
whichever comes first. It appears that EPA has determined that this testing frequency is adequate to provide a reasonable assurance of compliance with more stringent limitations on engines over 500 horsepower. SWCAA added periodic testing of engines subject to numeric emission limits under the "gap filling" provisions of WAC 173-401-615 because combustion characteristics could change with usage and no other surrogate measure of compliance was available. Because operating hours are being monitored, SWCAA chose the more flexible option of testing each applicable engine at least once every 8,760 hours of operation without including the 3 year deadline. SWCAA does not expect that combustion characteristics will degrade significantly when the engines are not operating.

VIII. EXPLANATION OF RECORDKEEPING TERMS AND CONDITIONS

K1. Basic Recordkeeping

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

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, 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 from all units except EU-2 (parts cleaning) and EU-3 (smudge pots) 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). 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.
40 CFR 63.6650 requires semi-annual submittal of a compliance report for specific classifications of existing engines. Until SWCAA receives delegation of 40 CFR 63 Subpart ZZZZ, these compliance reports must be submitted to EPA Region 10.

A Responsible Official must certify all reports required by the Title V 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). 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 2, 4, and 5 may not be quantifiable. The majority of the emissions from this facility are fugitive and are emitted from IEU-6. Emissions from non-road mobile engines are not addressed by this permit or inventoried. Other non-road engines (e.g., portable welders and light poles) 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 400-106. This requirement will apply to testing conducted to satisfy 40 CFR 63 Subpart ZZZZ carbon monoxide testing requirements. 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.

**R7. Subpart ZZZZ Notification Requirements**

This reporting section summarizes the reporting requirements of 40 CFR 63 Subpart ZZZZ as it applies to the permittee's engines. Until EPA delegates enforcement of Subpart ZZZZ to SWCAA, all notifications must be sent to EPA as well as SWCAA.

As required by 40 CFR 63.6645(a) and 40 CFR 63.9(b), initial notification is required for the Permittee's engines that are existing non-emergency compression ignition engines 100 ≤ HP ≤ 500. In accordance with 40 CFR 63.9(b)(1)(iii):
"Affected sources that are required under this paragraph to submit an initial notification may use the application for approval of construction or reconstruction under § 63.5(d) of this subpart, if relevant, to fulfill the initial notification requirements of this paragraph."

The Permittee has submitted Air Discharge Permit applications for all of the engines that would be required to provide initial notification. For each application, SWCAA has developed an Air Discharge Permit and shared these permits with EPA Region 10; therefore all initial notification requirements have been satisfied.

X. COMPLIANCE HISTORY

The following Field Notices of Correction (FNOC) or Field Notices of Violation (FNOV) were issued since the beginning of the last full permit term (January 10, 2007).

<table>
<thead>
<tr>
<th>FNOC/ FNOV#</th>
<th>Date Issued</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>3525</td>
<td>3/16/07</td>
<td>Failure to maintain and report hours of operation of stationary diesel engines for calendar year 2006. When the mine closed in November 2006, these records were lost.</td>
</tr>
<tr>
<td>4604</td>
<td>7/30/09</td>
<td>Failure to obtain a nonroad engine permit from SWCAA prior to installation of nonroad engines. On Friday April 24, 2009, the TransAlta Centralia Mine Substation C-phase transformer suffered a catastrophic failure. Three diesel generator engines were installed on an emergency basis to temporarily provide power to critical systems including wastewater treatment and river pumping.</td>
</tr>
</tbody>
</table>

1 Field Notice of Correction (FNOC) / Field Notice of Violation (FNOV).

XI. APPENDICES

Appendix A contains the method by which visible emissions from the permittee's operations are to be evaluated when performing required monitoring. There are currently no federal visual emission limits for equipment at this facility, so EPA Method 9 does not need to be addressed.

Appendix B contains the manufacturer's emissions-related maintenance requirements for the Southeast Packwood Spoils Sump Engine (CP-100). 40 CFR 60.4211 requires that this engine be operated in accordance with these requirements.

XII. PERMIT ACTIONS

Air Operating Permit SW01-12-R1
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

Permit No. SW01-12-R2  
Page 19  
Issued January 10, 2012
TransAlta Centralia Mining, LLC

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

Air Operating Permit SW01-12-R1-A
1. "Reopening for Cause" Letter to Permittee: July 20, 2007
3. Proposed Permit Issued: April 8, 2008
4. Final Permit Issued: June 4, 2008

Air Operating Permit SW-01-12-R2
1. Renewal Permit Application Submitted: July 8, 2011
2. Permit Application Deemed Complete: August 19, 2011
3. Permit Application Sent to EPA: August 19, 2011
4. Draft Permit (SW01-12-R2) Issued: October 6, 2011
5. Proposed Permit (SW01-12-R2) Issued: November 22, 2011
6. Final Permit (SW01-12-R2) Issued: January 10, 2012
XIII. FACILITY LAYOUT