SWCAA
Southwest Clean Air Agency

11815 NE 99th Street, Suite 1294
Vancouver, WA 98682
(360) 574-3058
www.swcleanair.org

April 27, 2017

Mike Lydon
TransAlta Centralia Mining, LLC
913 Big Hanaford Road
Centralia, Washington 98531

Re: Issuance of FINAL Title V Air Operating Permit SW01-12-R3

Dear Mr. Lydon:

The comment period for your draft Air Operating Permit (SW01-12-R3) ended on March 3, 2017. The proposed permit dated March 7, 2017 was been submitted to Region 10 of the Environmental Protection Agency for the mandatory 45 day review period. The EPA's 45-day review period has passed without comment from EPA; therefore the Southwest Clean Air Agency is issuing the final Air Operating Permit as proposed.

Copies of the Final Air Operating Permit and Title V Basis Statement accompany this letter. In addition, copies of these documents will be available on SWCAA's website at http://www.swcleanair.org/permitsAOPfinals.asp. If you have any questions or comments, please contact me at (360) 574-3058 ext. 131.

If you have any questions or comments, please contact me at (360) 574-3058 extension 131.

Sincerely,

Clint Lamoreaux
Air Quality Engineer

Attn: Tim LeDuc

enclosures

AIR OPERATING PERMIT #: SW01-12-R3

ISSUED TO: TransAlta Centralia Mining, LLC
913 Big Hanaford Road
Centralia, WA 98531-9100

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

NATURE OF BUSINESS:	Coal Mining Operations
SIC / NAICS:	1221 / 212111
AIRS NUMBER:	53-041-00046
EFFECTIVE DATE:	April 27, 2017
EXPIRATION DATE:	April 27, 2022
RENEWAL APPLICATION DUE:	October 27, 2021

PERMIT ENGINEER: Clint H. Lamoreaux, Air Quality Engineer — April 27, 2017 Date

REVIEWED BY: Paul T. Mairose, Chief Engineer — 4/27/17 Date

PAUL T. MAIROSE STATE OF WASHINGTON 21507 REGISTERED PROFESSIONAL ENGINEER

APPROVED BY: Uri Papish, Executive Director — 5/4/17 Date

TransAlta Centralia Mining, LLC

Centralia Mine

Air Operating Permit

SW01-12-R3

Issued: April 27, 2017

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

TABLE OF CONTENTS

I. ABBREVIATIONS

List of Common Abbreviations

Administrator	EPA Region X Administrator
AOP	Air Operating Permit
BACT	Best Available Control Technology
CO	Carbon monoxide
CFR	Code of Federal Regulations
EPA	U.S. Environmental Protection Agency
EU	Emission unit
EU-#	Refers to a specific emission unit numbered "#"
FCAA	Federal Clean Air Act
G#	Refers to a specific general term and condition numbered "#"
gr/dscf	Grains per dry standard cubic foot
HAP	Hazardous air pollutant
IEU	Insignificant emission unit
IEU#	Insignificant emission unit numbered "#"
K#	Refers to a specific recordkeeping requirement numbered "#"
lb/hp-hr	Pounds per horsepower per hour
M#	Refers to a specific monitoring requirement numbered "#"
NO_X	Oxides of nitrogen
NSPS	New Source Performance Standards (40 CFR 60)
NSR	New source review
O_2	Oxygen
P#	Permit provision numbered "#"
PM	Particulate matter
ppmvd	Parts per million by volume, dry
PTE	Potential to emit
R#	Refers to a specific reporting requirement numbered "#"
RCW	Revised Code of Washington
Region 10	Region 10 of the U.S. Environmental Protection Agency
Req-#	Applicable requirement numbered "#"
ROM coal	Run of Mine coal – raw, unprocessed coal
SIP	State implementation plan
SO_2	Sulfur dioxide
SQER	Small Quantity Emission Rate identified in WAC 173-460
SWCAA	Southwest Clean Air Agency – Formerly Southwest Air Pollution Control Authority
TAP	Toxic air pollutant
tpy	Tons per year
VOC	Volatile organic compound
WAC	Washington Administrative Code

Terms not otherwise defined in this permit have the meaning assigned to them in the referenced regulations.

II. REGULATORY BASIS

This Air Operating Permit (AOP) is authorized under the procedures established in WAC 173-401 and Title V of the 1990 Federal Clean Air Act Amendments. As used in this Permit, "term", "condition", standard", and "requirement" have the same meaning as "applicable requirement" specified under 40 CFR 70.2 and WAC 173-401-200.

The Permit is intended to contain a comprehensive list of the local, state, and federal air pollution regulations, standards, and other requirements applicable to the Permittee's facility and to assure compliance with those requirements. Sections V through IX describe the applicable requirements and contain a citation for the originating local, state, or federal regulation or requirement. Each citation in the tables includes one or two effective dates of the cited regulation. Where there are two dates for the same regulatory citation, the underlying requirement is substantially the same, but the date of the regulation used for enforcement purposes would be different (e.g. federally enforceable versus SWCAA enforceable).

SWCAA is the primary enforcement authority and can enforce all requirements listed in the Permit. However, EPA and private citizens may also take certain enforcement actions under the Permit for those requirements that are federally enforceable. Any requirement that is not federally enforceable is identified as "State Only" or "Local Only". Federal regulations, regulations that are approved elements of Washington's State Implementation Plan (SIP), and terms of Air Discharge Permits related to criteria air pollutants are federally enforceable requirements. State or local rules and regulations that are not approved in the Washington SIP are not federally enforceable. Requirements in Air Discharge Permits unrelated to criteria air pollutants are not federally enforceable.

The following tables list the applicable regulations and effective dates of the regulations applicable to the facility. State or local rules without a date listed under the "SIP Regulation Version" are not federally enforceable.

Federal Regulations	Regulation Version	Local Delegation Date
40 CFR 51	7/1/2016	—
40 CFR 52	7/1/2016	—
40 CFR 60	7/1/2016	—
40 CFR 60 Subpart Y	7/1/2016	On May 24, 2010 EPA delegated the version of the rules in effect January 1, 2009
40 CFR 60 Subpart IIII	7/1/2016	
40 CFR 61	7/1/2016	—
40 CFR 63	7/1/2016	—
40 CFR 63 Subpart ZZZZ	7/1/2016	—
40 CFR 68	7/1/2016	—

State Regulations	SIP Regulation Version	State Regulation Version
WAC 173-400-720	—	7/1/2016
WAC 173-401	—	3/5/2016
WAC 173-425	10/18/1990	4/13/2000

State Regulations	SIP Regulation Version	State Regulation Version
WAC 173-441	—	10/16/2016
WAC 173-460[1]	—	8/21/1998
WAC 173-490	3/22/1991	3/5/1998

Local Regulations	SIP Regulation Version	Local Regulation Version
SWCAA 400-036	—	10/9/2016
SWCAA 400-040(1)	9/21/1995	10/9/2016
SWCAA 400-040(2)	—	10/9/2016
SWCAA 400-040(3)	9/21/1995	10/9/2016
SWCAA 400-040(4)	—	10/9/2016
SWCAA 400-040(5)	9/21/1995	10/9/2016
SWCAA 400-040(6)	9/21/1995	10/9/2016
SWCAA 400-040(7)	9/21/1995	10/9/2016
SWCAA 400-040(8)(a)	9/21/1995	10/9/2016
SWCAA 400-060	9/21/1995	10/9/2016
SWCAA 400-070	9/21/1995	10/9/2016
Note that the SIP approved version of SWCAA 400-070 does not include the sections currently numbered (5), (7), and (9) – (15). The SIP approved version of SWCAA 400-070(7) has been renumbered SWCAA 400-070(8) in the current version of SWCAA 400.		
SWCAA 400-075	—	10/9/2016
SWCAA 400-100	9/21/1995	10/9/2016
SWCAA 400-105	9/21/1995	10/9/2016
SWCAA 400-107	9/21/1995	10/9/2016
SWCAA 400-109	11/21/1996	10/9/2016
SWCAA 400-110	11/21/1996	10/9/2016
SWCAA 400-112	11/21/1996	10/9/2016
SWCAA 400-114	11/21/1996	10/9/2016
SWCAA 400-115	—	10/9/2016
SWCAA 400-116	11/21/1996	10/9/2016
SWCAA 400-120	—	10/9/2016
SWCAA 400-151	9/21/1995	10/9/2016
SWCAA 400-171	9/21/1995	10/9/2016
SWCAA 400-270	9/21/1995	10/9/2016
SWCAA 425	—	8/1/2002
SWCAA 476	—	3/18/2001

Regulatory Orders / Permits	Date Issued
07-2758	11/21/2007
14-3093	4/30/2014

For specific subparts of 40 CFR 60, 40 CFR 61, or 40 CFR 63 for which SWCAA has not been delegated implementation and enforcement authority by EPA, all monitoring, reporting, or recordkeeping that is required to be sent to the EPA Administrator must be sent to both SWCAA

[1] Note that a newer version of WAC 173-460 has been published, however it has not been adopted by SWCAA. The version being enforced by SWCAA was effective 8/21/1998.

and the EPA Administrator. Unless otherwise specified in the delegation agreement, once specific subparts of 40 CFR 60, 40 CFR 61, or 40 CFR 63 have been delegated to SWCAA by EPA, all reports or notifications that must be sent to the "Administrator" only need to be sent to SWCAA.

III. EMISSION UNIT IDENTIFICATION

The following table contains emission unit identifications. Descriptions of each emission unit are contained in the Basis Statement for this Air Operating Permit.

EU #	Generating Equipment/Activity	Emission Control
EU-1	Sandblast Booth (retired)	Particulate matter filtration system
EU-2	Parts Cleaning	Proper operation of cleaning tanks
EU-3	Smudge Pots	None
EU-4	Spray Booth (retired)	Particulate matter filtration system
EU-5	Pump Engine #5453	Low sulfur fuel
EU-6	Pump Engine #5454	Low sulfur fuel
EU-7	Sump 84 Pump Engine	Ultra-low sulfur fuel
EU-8	Southeast Packwood Spoils Sump Engine (CP-100)	Ultra low sulfur fuel, EPA Tier 2 certification
EU-9	5400 (diesel engine) (retired in 2012)	None
EU-10	5419 (diesel engine)	None
EU-11	5425 (diesel engine)	None
EU-12	5420 (diesel engine)	None
EU-13	5421 (diesel engine)	None
EU-14	5422 (diesel engine)	None
EU-15	5438 (diesel engine) (removed in 2014)	None
EU-16	5451 (diesel engine) (removed in 2014)	None
EU-17	Emergency Generator (removed in 2013)	None
EU-18	5407 (diesel engine)	None
EU-19	5450 (diesel engine)	None
EU-20	Fine Coal Recovery	Enclosure and wet suppression

IV. PERMIT PROVISIONS

P1. Credible Evidence 40 CFR 51.212, 40 CFR 52.12, 40 CFR 52.33, 40 CFR 60.11

For the purposes of submitting compliance certifications or establishing whether a violation of any term or condition of this permit has occurred or is occurring, nothing shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether the Permittee would have been in compliance with a specific term or condition if the appropriate performance or compliance test or procedure would have been performed.

P2. Confidentiality of Records and Information WAC 173-401-500(5)
WAC 173-401-620(2)(e)
SWCAA 400-270

The permittee is responsible for clearly identifying information that is considered proprietary and confidential prior to submittal to SWCAA. Requests for proprietary and confidential information shall be released only after legal opinion by SWCAA's legal counsel, and notice to the permittee of the intent to release or deny the release of information. [SWCAA 400-270]

In the case where the permittee has submitted information to SWCAA under a claim of confidentiality, SWCAA may also require the source to submit a copy of such information directly to the Administrator. [WAC 173-401-500(5)]

Upon request, the permittee must also furnish to the permitting authority copies of records required to be kept by the permittee or, for information claimed to be confidential, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality. Permitting authorities must maintain confidentiality of such information in accordance with RCW 70.94.205. [WAC 173-620(2)(e)]

P3. Permit Duration WAC 173-401-610

This permit shall be valid for a fixed term of 5 years from the date of issuance.

P4. Standard Provisions WAC 173-401-620(2)

(a) *Duty to comply*. The permittee must comply with all conditions of this AOP. Any permit noncompliance constitutes a violation of Revised Code of Washington (RCW) Chapter 70.94 and, for federally enforceable provisions, a violation of the FCAA. Such violations are grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

(b) *Need to halt or reduce activity not a defense*. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

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

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

(e) *Duty to provide information*. The permittee must furnish to the permitting authority, within a reasonable time, any information that the permitting authority may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. Upon request, the permittee must also

furnish to the permitting authority copies of records required to be kept by the permittee or, for information claimed to be confidential, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality. Permitting authorities must maintain confidentiality of such information in accordance with RCW 70.94.205.

(f) *Permit fees.* The permittee must pay fees in accordance with RCW 70.94.162 as a condition of this permit in accordance with the permitting authority's fee schedule. Failure to pay fees in a timely fashion willl subject the permittee to civil and criminal penalties as prescribed in RCW 70.94.430 and 70.94.431.

(g) *Emissions trading.* No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit.

(h) *Severability.* If any provision of this permit is held to be invalid, all unaffected provisions of the permit shall remain in effect and be enforceable.

(i) *Permit appeals.* This permit or any conditions in it may be appealed only by filing an appeal with the Pollution Control Hearings Board and serving it on the permitting authority within thirty days of receipt of the permit pursuant to RCW 43.21B.310. This provision for appeal in this section is separate from and additional to any federal rights to petition and review under § 505(b) of the FCAA.

(j) *Permit continuation.* This permit and all terms and conditions contained herein shall not expire until the renewal permit has been issued or denied if a timely and complete application has been submitted. An application shield granted pursuant to WAC 173-401-705(2) shall remain in effect until the renewal permit has been issued or denied if a timely and complete application has been submitted.

P5. Insignificant Emission Unit - Permit Revision WAC 173-401-530(6)

Any emission unit or activity that qualifies as insignificant solely on the basis of provisions in WAC 173-401-530(1)(a) shall not exceed the emissions thresholds specified in WAC 173-401-530(4) until this permit is modified pursuant to WAC 173-401-725.

P6. Federally Enforceable Requirements WAC 173-401-625

(a) All terms and conditions in an air operating permit, including any provisions designed to limit a source's potential to emit, are enforceable by the Administrator and citizens under the FCAA, except as indicated in paragraph (b) below.

(b) Notwithstanding subsection (a), any terms and conditions included in this permit that are not required under the FCAA or under any of its applicable requirements are specifically designated as "state" or "local" only, and are not federally enforceable under the FCAA. Terms and conditions so designated are not subject to the requirements of WAC 173-401-810.

P7. Permit Shield WAC 173-401-640

Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements that are specifically identified in this permit as of the date of permit issuance. Nothing in this permit shall alter or affect the following:

(a) The provisions of section 303 of the FCAA (emergency orders), including the authority of the Administrator under that section;

(b) The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;

(c) The applicable requirements of the acid rain program, consistent with section 408(a) of the FCAA;

(d) The ability of EPA to obtain information from a source pursuant to section 114 of the FCAA; and

(e) The ability of the permitting authority to establish or revise requirements for the use of reasonably available control technology (RACT) as defined in RCW 70.94.

P8. Permit Expiration – Application Shield WAC 173-401-705(2) WAC 173-401-710(3)

Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted consistent with WAC 173-401-710(1) and WAC 173-401-500. All terms and conditions of the permit shall remain in effect after the permit expires if a timely and complete permit application has been submitted. Operation under the terms and conditions of the expired permit will be allowed until SWCAA takes final action on the renewal application.

P9. Permit Revocation WAC 173-401-710(4)

The permitting authority may revoke a permit only upon the request of the permittee or for cause. The permitting authority shall provide at least thirty days written notice to the Permittee prior to revocation of the permit or denial of a permit renewal application. Such notice shall include an explanation of the basis for the proposed action and afford the permittee/applicant an opportunity to meet with the permitting authority prior to the authority's final decision. A revocation issued under this section may be issued conditionally with a future effective date and may specify that the revocation will not take effect if the permittee satisfies the specified conditions before the effective date.

P10. Reopenings for Cause WAC 173-401-730

This permit shall be reopened and revised under any of the following circumstances:

(a) Additional applicable requirements become applicable to a major air operating permit source with a remaining permit term of 3 or more years. Such a reopening shall be

completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions have been extended pursuant to WAC 173-401-620(2)(j);

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

(c) The permitting authority or Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit; or

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

Proceedings to reopen and issue this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Reopenings under this section shall not be initiated before a notice of such intent is provided to the air operating permit source by the permitting authority. Such notice shall be made at least 30 days in advance of the date that the permit is to be reopened, except that the permitting authority may provide a shorter time period in the case of an emergency.

P11. Unavoidable Excess Emissions SWCAA 400-107

The provisions of SWCAA 400-107 do not apply to federal standards, emission limits or standards contained in a PSD permit issued solely by EPA, or to any event that causes a monitored exceedance of any relevant ambient air quality standard.

Excess emissions which the owner or operator wishes to be considered as unavoidable, shall be reported to the Agency as soon as possible, but no later than 48 hours after discovery. The owner or operator of a "source" shall have the burden of proving to the Agency or decision-making authority in an enforcement action that excess emissions were unavoidable.

(a) **Startup or shutdown.** Excess emissions due to startup or shutdown conditions shall be considered unavoidable provided the "source" reports as required under section (1) of SWCAA 400-107 and adequately demonstrates that:
   (i) Excess emissions could not have been prevented through careful planning and design;
   (ii) Startup or shutdown was done as expeditiously as practicable;
   (iii) All emission monitoring systems were kept in operation unless their shutdown was necessary to prevent loss of life, personal injury, or severe property damage;
   (iv) The emissions were minimized consistent with safety and good air pollution control practice during the startup or shutdown period;
   (v) If a bypass of control equipment occurs, that such bypass was necessary to prevent loss of life, personal injury, or severe property damage; and
   (vi) Excess emissions that occur due to upsets or malfunctions during routine startup or shutdown are treated as upsets or malfunctions under section (c) below.

(b) **Maintenance.** Excess emissions due to scheduled maintenance shall be considered unavoidable if the "source" reports as required under section (1) of SWCAA 400-107 and adequately demonstrates that the excess emissions could not have been avoided through reasonable design, better scheduling for maintenance or through better operation and maintenance practices.

(c) **Upsets or malfunctions.** Excess emissions due to upsets or equipment malfunctions shall be considered unavoidable provided the "source" reports as required under section (1) of SWCAA 400-107 and adequately demonstrates that:

(i) The event was not caused by poor or inadequate design, operation, maintenance, or any other reasonably preventable condition;

(ii) The event was not of a recurring pattern indicative of inadequate design, operation, or maintenance;

(iii) The operator took immediate and appropriate corrective action in a manner consistent with safety and good air pollution control practice for minimizing emissions during the event, taking into account the total emissions impact of the corrective action, including slowing or shutting down the emission unit as necessary to minimize emissions, when the operator knew or should have known that an emission standard or permit condition was being exceeded;

(iv) All emission monitoring systems and pollution control systems were kept operating to the extent possible unless their shutdown was necessary to prevent loss of life, personal injury, or severe property damage; and

(v) The amount and duration of the excess emissions (including any bypass) were minimized to the maximum extent possible.

V. GENERAL TERMS AND CONDITIONS

G1. Asbestos 40 CFR 61 Subpart M
SWCAA 400-075
SWCAA 476

The permittee must comply with the provisions of SWCAA 476 "Standards for Asbestos Control, Demolition and Renovation" when conducting any renovation, demolition, or asbestos storage activities at the facility.

G2. Chemical Accident Prevention 40 CFR 68

The permittee must comply with the requirements of the Chemical Accident Prevention Provisions of 40 CFR 68 no later than the following dates:

(a) Three years after the date on which a regulated substance, present above the threshold quantity, is first listed under 40 CFR 68.130; or

(b) The date on which a regulated substance is first present above a threshold quantity in a process. [40 CFR 68.10]

G3. Protection of Stratospheric Ozone 40 CFR 82, Subparts B and F

The permittee must comply with the standards for recycling and emissions reduction as provided in 40 CFR Part 82, Subparts B and F.

G4. Duty to Supplement or Correct Application WAC 173-401-500(6)

The permittee, upon becoming aware that relevant facts were omitted or incorrect information was submitted in a permit application, must promptly submit such supplementary facts or corrected information. In addition, an applicant must provide additional information as necessary to address any requirements that become applicable to the source after the date it filed a complete application but prior to release of a draft permit.

G5. Certification WAC 173-401-520

All application forms, reports, and compliance certifications must be certified by a responsible official. Certification must state that, based on information and belief formed after reasonable inquiry, the statements and information contained in the submittal are true, accurate, and complete.

G6. Inspection and Entry WAC 173-401-630(2)
SWCAA 400-105(2 & 3)

The permittee must allow inspection and entry, upon presentation of credentials and other documents as may be required by law, by the permitting authority or an authorized representative to perform the following:

(a) Enter upon the permittee's premises where an air operating permit source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;

(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;

(c) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and

(d) As authorized by SWCAA 400-105 and the FCAA, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

G7. Emission Testing and Monitoring SWCAA 400-106

(a) SWCAA may conduct or require that emission testing be conducted of any "source" or emission unit within the jurisdiction of SWCAA to determine compliance, evaluate control equipment performance, evaluate RACT or quantify emissions.

(b) The operator of a "source" must provide the necessary platform and sampling ports for SWCAA personnel or others to perform a test of an emission unit. SWCAA must be allowed to obtain a sample from any emission unit. The operator of the "source" must be given an opportunity to observe the sampling and to obtain a sample at the same time.

G8. Schedule of Compliance WAC 173-401-630(3)

The permittee must continue to comply with all applicable requirements with which the source is currently in compliance, and meet on a timely basis any applicable requirements that become effective during the permit term.

G9. Permit Renewal Application WAC 173-401-710(1)

The permittee must submit a complete permit renewal application to SWCAA no later than the date established in the permit. This permit expires on April 27, 2022. A renewal application is due on April 27, 2021 and a complete renewal application is due no later than October 27, 2021.

G9. Transfer of Ownership or Operational Control WAC 173-401-720(1)(d)

A change in permittee due to transfer of ownership or operational control of an affected source requires a request for administrative permit amendment as governed by WAC 173-401-720.

G10. Portable Sources SWCAA 400-110(5) – [SIP Only]
SWCAA 400-110(6) – [Local Only]
SWCAA 400-036 – [Local Only]

Portable sources which locate temporarily at the site of an air operating permit source shall be allowed to operate at the temporary location without filing an Air Discharge Permit application provided that:

(a) The source/emissions units are registered with SWCAA;

(b) The source/emissions units have an Air Discharge Permit to operate as a portable source;

(c) The owner(s) or operator(s) notifies SWCAA of the intent to operate at the new location at least ten business days prior to starting the operation;

(d) The owner(s) or operator(s) supplies sufficient information including production quantities and hours of operation, to enable SWCAA to determine that the operation will comply with the emission standards for a new source, and will not cause a violation of applicable ambient air quality standards and, if in a nonattainment area, will not interfere with scheduled attainment of ambient standards; and

(e) Portable sources that do not have a valid air discharge permit issued by SWCAA, but do have a valid approval issued by a Washington air pollution control authority after July 1, 2010, may operate within SWCAA jurisdiction without filing an air discharge permit application pursuant to SWCAA 400-109 or obtaining an air discharge permit pursuant to SWCAA 400-110 provided the requirements of SWCAA 400-036 are met.

G11. Misrepresentation and Tampering SWCAA 400-105(5 & 6) – [Local Only]

(a) The permittee must not make any false material statement, representation or certification in any form, notice, or report.

(b) The permittee must not render inaccurate any monitoring device or method required under Chapter 70.94 RCW, or any ordinance, resolution, regulation, permit, or order in force pursuant thereto.

G12. New Source Review WAC 173-400-720
WAC 173-460-040 [Local Only]
SWCAA 400-109
SWCAA 400-110

The permittee must not construct or modify a source that requires an air discharge permit application under SWCAA 400-109 or review under SWCAA 400-110, WAC 173-400-720 or WAC 173-460 (effective 8/21/98) without first receiving an approval or permit pursuant to those provisions. Portable sources may be exempt from this requirement if they fulfill the criteria described in **G10 – Portable Sources**. This requirement is not applicable to emission units that comply with the provisions of SWCAA 400-072.

G13. Replacement or Substantial Alteration of Emission Control Technology at an Existing Stationary Source

SWCAA 400-114

Prior to replacing or substantially altering emission control technology installed at an existing stationary source or emission unit, the permittee must file an air discharge permit application with SWCAA. Construction must not commence on a project subject to review until SWCAA issues a final air discharge permit or other regulatory order. However, any air discharge permit application filed under this section shall be deemed to be approved without conditions if the Agency takes no action within thirty days of receipt of a complete application.

G14. Outdoor Burning WAC 173-425
SWCAA 425 – [Local Only]

The permittee is prohibited from conducting outdoor burning except as allowed by SWCAA 425.

G15. Reporting of Emissions of Greenhouse Gases WAC 173-441 – [State Only]

WAC 173-441 requires owners and operators of affected facilities to quantify and report emissions of greenhouse gases from applicable source categories listed in WAC 173-441-120. This regulation applies to any facility located in Washington State with total greenhouse gas emissions of ten thousand metric tons CO_2e or more per calendar year. The permittee must prepare and submit greenhouse gas reports to Ecology in accordance with the provisions of WAC 173-441-050 for each affected facility.

G16. Process Equipment SWCAA 400-116(1)

Any process equipment, including features, machines, and devices constituting parts of or called for by plans, specifications, or other information submitted for approval or required as part of an approval must be maintained and operate in good working order. SWCAA reserves the right to take any and all appropriate action to maintain compliance with approval conditions, including directing the facility to cease operations of defective or malfunctioning equipment until corrective action can be completed.

G17. Pollution Control Equipment SWCAA 400-116(2)

Any equipment that serves as air contaminant control or capture equipment must be maintained and operate in good working order at all times in accordance with good operations and maintenance practices and in accordance with SWCAA approval conditions. The Agency reserves the right to take any and all appropriate action to maintain compliance with approval conditions, including directing the facility to cease operations of defective or malfunctioning equipment until corrective action can be completed.

VI. OPERATING TERMS AND CONDITIONS

The following table lists all federal, state, and/or locally enforceable operating terms and conditions applicable to the permittee. The legal authority for each requirement is enclosed in brackets below each requirement. Applicable requirements identified as having "plantwide" applicability apply to both EUs and IEUs. Some of the rules have been partially adopted into the Washington State Implementation Plan (SIP). Only those parts adopted into the Washington SIP are federally enforceable. Requirements that are not required under the FCAA are denoted as state or local only. Monitoring requirements are used to provide a reasonable assurance of compliance with the applicable requirements, and may or may not involve the use of a reference test method.

Req. #	Requirement	Emission Point	Monitoring
Req-1	Permittee must not cause or permit any emission which exceeds 20% opacity for more than three minutes in any one hour. Reference Method: SWCAA Method 9 [SWCAA 400-040(1)]	Plantwide	M1
Req-2	Permittee must not cause or permit fallout of particulate matter beyond the source's property boundary in sufficient quantity to interfere unreasonably with the use and enjoyment of the property on which the fallout occurs. [SWCAA 400-040(2) Local Only]	Plantwide	M1, M2
Req-3	Permittee must take reasonable precautions to prevent the release of fugitive emissions from any emission unit which is a source of fugitive emissions. [SWCAA 400-040(3)]	Plantwide	M5

Req. #	Requirement	Emission Point	Monitoring
Req-4	Permittee must use recognized good practice and procedures to reduce odors to a reasonable minimum. [SWCAA 400-040(4) Local Only]	Plantwide	M2
Req-5	The permittee must not cause or permit the emission of any air contaminant if it is detrimental to the health, safety, or welfare of any person, or causes damage to property or business. [SWCAA 400-040(5)]	Plantwide	M2
Req-6	Permittee must not cause or permit the installation or use of any means which conceals or masks an emission which would otherwise violate any provisions of SWCAA 400-040. [40 CFR 60.12 (applicable to CP-100 (EU-8) and Fine Coal Recovery (EU-20)), 40 CFR 63.4 (applicable to engines other than CP-100 (EU-8)) SWCAA 400-040(7)]	Plantwide	N/A
Req-7	Permittee must take reasonable precautions to prevent emissions of fugitive dust and operate the source to minimize emissions. Reference Method: SWCAA Method 9 [SWCAA 400-040(8)(a)]	Plantwide	M2, M5
Req-8	Permittee must not cause or allow emissions of particulate matter from a general process unit (excludes combustion) in excess of 0.1 gr/dscf of exhaust gas. Reference Method: EPA Method 5 [SWCAA 400-060]	Plantwide	M1, M3
Req-9	Permittee must conduct all abrasive blasting inside a booth or structure designed to capture the blast grit, overspray, and removed material except that outdoor blasting of structures or items too large to be reasonably handled indoors or in an enclosure must employ control measures such as curtailment during windy periods, wet blasting, and/or enclosure with tarps of the area being blasted. [SWCAA 400-070(7) SIP Only SWCAA 400-070(8) Local Only (renumbered)]	Plantwide	N/A
Req-10	Emissions of nitrogen oxides from Pump Engines #5453 and #5454 must not exceed 15.59 tons per year each. Annual emissions must be calculated using an emission factor of 3.56 lb/hr unless a more accurate emission factor becomes available from the manufacturer or from engine-specific source testing. Reference Method: EPA Method 7E [SWCAA 07-2758 Condition 3]	EU-5, EU-6	M3

Req. #	Requirement	Emission Point	Monitoring
Req-11	Emissions of carbon monoxide from Pump Engines #5453 and #5454 must not exceed 2.85 tons per year each. Annual emissions must be calculated using an emission factor of 0.65 lb/hr unless a more accurate emission factor becomes available from the manufacturer or from engine-specific source testing. Reference Method: EPA Method 10 [SWCAA 07-2758 Condition 4]	EU-5, EU-6	M3, M4
Req-12	Emissions of nitrogen oxides from the Southeast Packwood Spoils Sump Engine must not exceed 3.84 tons per year. Annual emissions must be calculated using an emission factor of 0.88 lb/hr unless a more accurate emission factor becomes available from the manufacturer or from engine-specific source testing. Reference Method: EPA Method 7E [SWCAA 07-2758 Condition 5]	EU-8	M3
Req-13	Emissions of carbon monoxide from the Southeast Packwood Spoils Sump Engine must not exceed 2.54 tons per year. Annual emissions must be calculated using an emission factor of 0.58 lb/hr unless a more accurate emission factor becomes available from the manufacturer or from engine-specific source testing. Reference Method: EPA Method 10 [SWCAA 07-2758 Condition 6]	EU-8	M3, M4
Req-14	Emissions of nitrogen oxides from the Sump 84 Pump Engine must not exceed 6.52 tons per year. Annual emissions must be calculated using an emission factor of 1.49 lb/hr unless a more accurate emission factor becomes available from the manufacturer or from engine-specific source testing. Reference Method: EPA Method 7E [SWCAA 07-2758 Condition 7]	EU-7	M3
Req-15	Emissions of carbon monoxide from the Sump 84 Pump Engine must not exceed 5.65 tons per year. Annual emissions must be calculated using an emission factor of 1.29 lb/hr unless a more accurate emission factor becomes available from the manufacturer or from engine-specific source testing. Reference Method: EPA Method 10 [SWCAA 07-2758 Condition 8]	EU-7	M3, M4

Req. #	Requirement	Emission Point	Monitoring
Req-16	Visible emissions from Pump Engine #5453, Pump Engine #5454, the Southeast Packwood Spoils Sump Engine, and the Sump 84 Pump Engine must not exceed five percent opacity for more than 3 minutes in any one hour period as determined in accordance with SWCAA Method 9 (See Appendix A of SWCAA 400) except during startup. The startup period ends when the earlier of the following operating events occurs: a. The engine has reached normal operating temperature; or b. The engine has been operating for 15 minutes. Reference Method: SWCAA Method 9 [SWCAA 07-2758 Condition 9]	EU-5, EU-6, EU-7, EU-8	M1
Req-17	For Pump Engine #5453, Pump Engine #5454, the Southeast Packwood Spoils Sump Engine, and the Sump 84 Pump Engine, a nonresettable time totalizer must be installed on each engine, maintained operable, and used to measure hours of operation. [SWCAA 07-2758 Condition 11]	EU-5, EU-6, EU-7, EU-8	N/A
Req-18	Pump Engine #5453 and Pump Engine #5454 must only be fired on #2 diesel fuel or better. The sulfur content of the fuel fired in Pump Engine #5453 and Pump Engine #5454 must not exceed 0.05% by weight. The sulfur content of the fuel fired in the Sump 84 Pump Engine must not exceed 0.0015% by weight. A fuel certification from the fuel supplier may be used to demonstrate compliance with this requirement. [SWCAA 07-2758 Condition 12]	EU-5, EU-6, EU-7	M3
Req-19	The sulfur content of the fuel fired in the Southeast Packwood Spoils Sump Engine must not exceed 0.0015% by weight. The fuel fired in the Southeast Packwood Spoils Sump Engine must either have a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume. A fuel certification from the fuel supplier may be used to demonstrate compliance with this requirement. [40 CFR 60.4207(b) SWCAA 400-115 SWCAA 07-2758 Condition 12]	EU-8	M3
Req-20	Except as provided in 40 CFR 60.4211(g), the Southeast Packwood Spoils Sump Engine must be operated and maintained according to the manufacturer's written instructions and the permittee may only change those settings that are permitted by the manufacturer. The manufacturer's written instructions have been summarized in Appendix B of this Permit. 40 CFR 60.4211(g) contains alternative requirements, including a source test requirement, if the permittee chooses to deviate from the manufacturer's written instructions. [40 CFR 60.4211(a) SWCAA 400-115]	EU-8	K1

Req. #	Requirement	Emission Point	Monitoring
Req-21	The permittee must conduct the following maintenance for existing non-emergency engines with a site rating of less than 100 horsepower. a. Change oil and filter every 500 hours of operation or annually, whichever comes first except as provided in 40 CFR 63.6625(i); b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; and c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. [40 CFR 63.6640(a) & Table 2c SWCAA 400-075] Notes: 1. Sources have the option to utilize an oil analysis program as described in 40 CFR 63.6625(i) in order to extend the specified oil change requirement in Table 2c of Subpart ZZZZ. 2. Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.	EU-12, EU-13, EU-14	K1, K3

Req. #	Requirement	Emission Point	Monitoring
Req-22	The permittee must operate and maintain each existing non-emergency engine with a site rating of equal to or less than 100 horsepower, other than the Southeast Packwood Spoils Sump Engine, according the following schedule: The following activities must be conducted daily when operating: a. Check engine oil and coolant level; b. Check fuel filter water bowl; c. Check air cleaner dust unloader and restriction indicator gage; d. Conduct walk around inspection; e. Check lamps; The following activities must be conducted every 500 hours of operation or every 12 months, whichever comes first: f. Check manual belt tensioner and belt wear; g. Change engine oil and replace oil filter; h. Check crankcase ventilation system; i. Check air intake hoses, connections, and system; j. Replace fuel filter elements; k. Check automatic belt tensioner and belt wear; l. Check engine electrical ground connection; m. Check cooling system – add coolant as needed; n. Conduct cooling solution analysis – add SCAs as required; o. Pressure test cooling system; p. Check engine speeds; The following activities must be conducted every 2,000 hours of operation or every 24 months, whichever comes first: q. Check crankshaft vibration damper; r. Flush and refill cooling system; s. Test thermostats; t. Check and adjust engine valve clearances; u. Test glow plugs; v. Check fuses; w. Bleed fuel system; and x. Replace fan and alternator belts. When problems that could adversely affect emissions are encountered, they must be corrected as soon as practical in accordance with good air pollution practices for minimizing emissions. [40 CFR 63.6625(e), 63.6640(a), Section 9 of Table 6 SWCAA 400-075]	EU-12, EU-13, EU-14	M3, K1, K3

Req. #	Requirement	Emission Point	Monitoring
Req-23	The permittee must minimize the time each existing non-emergency engine spends at idle and minimize each engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 CFR 63.6625(h) SWCAA 400-075]	EU-5, EU-6, EU-7, EU-10, EU-11, EU-12, EU-13, EU-14, EU-18, EU-19	N/A
Req-24	Carbon monoxide emissions from each non-emergency stationary engine with a site rating of equal to or greater than 100 horsepower and less than or equal to 300 horsepower must not exceed 230 ppmvd @ 15% O_2. Reference Methods: As specified in Table 4 of 40 CFR 63 Subpart ZZZZ Compliance with the carbon monoxide emission limit is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in 40 CFR 63.6620 and Table 4 of 40 CFR 63 Subpart ZZZZ. [40 CFR 63.6602 & Table 2c, 40 CFR 63.6605(a), 40 CFR 63.6630(a), Table 5 SWCAA 400-075]	EU-5, EU-6, EU-7, EU-10, EU-11, EU-18, EU-19	M3, M4
Req-25	At all times each stationary engine must be operated and maintained in a manner consistent with safety and good air pollution control practices for minimizing emissions. [40 CFR 63.6605(b) SWCAA 400-075]	EU-5, EU-6, EU-7, EU-10, EU-11, EU-12, EU-13, EU-14, EU-18, EU-19	M3
Req-26	Emissions from fine coal recovery must not exceed: Pollutant — Emission Limit PM — 0.009 tons per year PM_{10} — 0.003 tons per year $PM_{2.5}$ — 0.0005 tons per year Annual emissions must be calculated from actual material throughput consistent with the methodology in Section 6 of the Technical Support Document for Air Discharge Permit 14-3093. [SWCAA 14-3093 Condition 1]	EU-20	M1, M5, K2
Req-27	Visible emissions from fine coal handling and conveying equipment must not exceed 0% opacity for more than 3 minutes in any one hour period as determined in accordance with SWCAA Method 9 (See Appendix A of SWCAA 400). [SWCAA 14-3093 Condition 2]	EU-20	M1, M5

Req. #	Requirement	Emission Point	Monitoring
Req-28	Visible emissions from fine coal handling and conveying equipment must be less than 10% opacity (6-minute average) as determined in accordance with EPA Method 9. [40 CFR 60.254(b)(1)] [40 CFR 60.254(b)(1) SWCAA 14-3093 Condition 3]	EU-20	M1, M5
Req-29	The transfer of fine coal from the stacker to the fine coal stockpile (TP-05) must be controlled as necessary using a high pressure water spray system or other wet suppression system reviewed and approved by SWCAA to provide equivalent or superior control of particulate matter emissions. Each high pressure spray system must maintain 80 psig or greater during operation. A functional pressure gauge must be maintained onsite and a connection point provided for the gauge for the purpose of demonstrating compliance with this pressure limit. [SWCAA 14-3093 Condition 4]	EU-20	M1, M5
Req-30	The fine coal stockpile must be watered as necessary to control fugitive dust emissions. [SWCAA 14-3093 Condition 5]	EU-20	M1, M5
Req-31	Spray/fog nozzles in the wet suppression systems must be visually inspected once per week when in operation to ensure proper function. Clogged or defective nozzles must be replaced or repaired prior to subsequent operation. [SWCAA 14-3093 Condition 6]	EU-20	K2
Req-32	Additional wet suppression must be provided as necessary to control fugitive dust from material handling equipment in the event that process controls or enclosures are insufficient to meet the visible emission limits. [SWCAA 14-3093 Condition 7]	EU-20	M1, M5
Req-33	The permittee must develop, and operate in accordance with, a fugitive coal dust emissions control plan for any clean coal stockpile that is subject to 40 CFR 60 Subpart Y. [40 CFR 60.254(c)] [40 CFR 60.254(c) SWCAA 14-3093 Condition 8]	EU-20	N/A

VII. MONITORING TERMS AND CONDITIONS

To assure compliance with all applicable requirements, the permittee must perform the monitoring program specified below. Each monitoring requirement is indexed according to the underlying requirement(s). Pursuant to WAC 173-401-530(2)(c), the following monitoring requirements do not apply to IEUs except as indicated. Records of monitoring activities must be maintained in accordance with Section VIII of this permit.

M1. Visible Emission Monitoring

WAC 173-401-615(1)
SWCAA 14-3093 Condition 10

This monitoring requirement applies to EU-2, EU-3, EU-5, EU-6, EU-7, EU-8, EU-10, EU-11, EU-12, EU-13, EU-14, EU-18, EU-19, and EU-20.

The permittee must perform monthly inspections of EU-20 during daylight hours to identify potential particulate matter emissions violations. All other emission units must be inspected for visible emissions if indicated by a complaint or if otherwise unusual emissions are observed. Inspections must consist of an initial survey of the affected equipment. Whenever visible emissions are apparent during the initial survey, SWCAA Method 9 must be used to determine the opacity of emissions.

Whenever fallout of particulate matter beyond the permittee's property boundary sufficient to interfere unreasonably with the use and enjoyment of the property upon which the material is deposited, or visible emissions in excess of the standard are observed during the monthly inspection, or any other time, the permittee must determine which equipment is causing the emissions. The permittee must initiate corrective action within 2 hours of observing particulate matter fallout or excess visible emissions. The permittee must confirm whether the pertinent equipment is or is not experiencing a malfunction and whether all relevant air pollution control equipment is operating properly. Within 24 hours of initial discovery, permittee must resolve the particulate matter fallout or excess emissions problem, or notify SWCAA by the next working day of progress made in resolving the operational problem.

Implementation of corrective action does not relieve the permittee from the obligation of reporting permit deviations as specified in WAC 173-401-615(3).

M2. Complaint Monitoring

WAC 173-401-615(1)

This monitoring requirement applies to EU-2, EU-3, EU-5, EU-6, EU-7, EU-8, EU-10, EU-11, EU-12, EU-13, EU-14, EU-18, and EU-19.

The Permittee must record, and maintain record of, any air quality related complaints received by the Permittee or received by SWCAA and provided to the Permittee. Each complaint must be investigated no later than one workday after the permittee has been notified of the complaint. The permittee must determine the validity of each complaint and the cause of any emissions that may have prompted the complaint, and initiate corrective action, if needed, in response to the complaint. Within 24 hours of notification and investigation, the permittee must resolve the subject of the complaint, or notify SWCAA by the next working day of progress made in resolving the complaint.

M3. Diesel Engines Operations Monitoring

40 CFR 63.6655(e)
SWCAA 400-115
SWCAA 400-075
WAC 173-401-615(1)
SWCAA 07-2758 Conditions 12 & 15(a)

This monitoring requirement applies to EU-5, EU-6, EU-7, EU-8, EU-12, EU-13, EU-14, EU-18, and EU-19.

The hours of operation of each stationary diesel engine shall be recorded for each calendar year. [SWCAA 07-2758 Condition 15(a)]

The permittee must maintain an analysis of the sulfur content of each shipment of diesel fuel for EU-5, EU-6, EU-7, and EU-8 (Pump Engine #5453, Pump Engine #5454, the Sump 84 Pump Engine, and the Southeast Packwood Spoils Sump Engine). For diesel fuel utilized by EU-8 (the Southeast Packwood Spoils Sump Engine), the cetane index or aromatic content (percent by volume) must be documented. A certification from the fuel supplier satisfies this requirement. [WAC 173-401-615(1), SWCAA 07-2758 Condition 12]

The permittee must maintain a non-resettable hour meter on EU-8 (the Southeast Packwood Spoils Sump Engine) and document the date and hour meter reading each time an inspection, maintenance, or repair activity is conducted to demonstrate compliance with the emissions-related maintenance requirements of 40 CFR 60.4211(a) (listed in Appendix B of this Permit). [WAC 173-401-615(a)]

The permittee must conduct the following monitoring for EU-12, EU-13, and EU-14, (Units 5420, 5421, and 5422):[2]

(a) The permittee must document and record each incidence of inspection, maintenance, and repairs conducted in accordance with the permittee's emissions related maintenance requirements. [WAC 173-401-615(1)]
(b) The permittee must maintain a non-resettable hour meter on each engine and document the date and hour meter reading each time an inspection, maintenance, or repair activity is conducted. [WAC 173-401-615(1)]

[2] These requirements apply to all "existing" non-emergency engines with a site rating of less than 100 horsepower regulated by 40 CFR 63 Subpart ZZZZ.

M4. Subpart ZZZZ Performance Testing Requirements

63.7(d)
40 CFR 63.6612(a), Table 4, Table 5
40 CFR 63.6620(i)
SWCAA 400-075
WAC 173-401-615

This monitoring requirement applies to EU-5, EU-6, EU-7, EU-10, EU-11, EU-18, and EU-19.

The permittee shall conduct the testing as indicated below for each stationary engine with a site rating of equal to or greater than 100 horsepower and less than or equal to 500 horsepower:

(a) The permittee shall conduct an initial performance test for each stationary engine with a site rating of greater than or equal to 100 horsepower but less than or equal to 500 horsepower no later than October 30, 2013. Each performance test shall consist of three 1-hour long test runs to quantify CO emissions using the methodology listed in Table 4 of 40 CFR 63 Subpart ZZZZ. [40 CFR 63.6612(a)]

(b) The engine percent load during the initial performance test must be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application. A written report of the average percent load determination must be included in the notification of compliance status. The following information must be included in the written report: the engine model number, the engine manufacturer, the year of purchase, the manufacturer's site-rated brake horsepower, the ambient temperature, pressure, and humidity during the performance test, and all assumptions that were made to estimate or calculate percent load during the performance test must be clearly explained. If measurement devices such as flow meters, kilowatt meters, beta analyzers, stain gauges, etc. are used, the model number of the measurement device, and an estimate of its accuracy in percentage of true value must be provided. [40 CFR 63.6620(i)]

(c) The initial performance test must be repeated as soon as practical after replacement of an exhaust catalyst, engine rebuild, or engine overhaul. Note that if an engine is rebuilt or overhauled to the extent that the activity meets the definition of "reconstruction" in 40 CFR 63.2, then the engine will be subject to requirements as a new or reconstructed source. New or reconstructed non-emergency compression ignition engines with a site rating of less than or equal to 500 horsepower located at major HAP sources comply with 40 CFR 63 Subpart ZZZZ by complying with the applicable requirements of 40 CFR 60 Subpart IIII. [WAC 173-401-615]

(d) Subsequent testing shall be conducted at least once every 8,760 hours of operation using the methodology listed in Table 4 of 40 CFR 63 Subpart ZZZZ. [WAC 173-401-615]

(e) The permittee must provide safe access to test ports meeting the requirements of EPA Method 1, and adequate utilities to conduct required performance tests. [40 CFR 63.7(d)]

M5. Subpart Y Visual Observation Requirements

40 CFR 60.8
40 CFR 60.255
40 CFR 60.257
SWCAA 400-115
SWCAA 14-3093 Condition 15

This monitoring requirement applies to EU-20 (Fine Coal Recovery).

Initial performance testing of the coal processing and conveying equipment to demonstrate compliance with the opacity standard from 40 CFR 60.254 must be conducted in accordance to the requirements in 40 CFR 60.8 and the methods identified in 40 CFR 60.257. [40 CFR 60.255(b)] Subsequent monitoring and performance testing must be conducted in accordance with either the schedule provided in 40 CFR 60.255(b)(2) or 40 CFR 60.255(f). All performance testing consists of monitoring emissions from each point using EPA Method 9 for 30 to 60 minutes. [40 CFR 60.257(a)]

40 CFR 60.255(b)(2) requires subsequent testing within 90 operating days of the date the previous performance test was required to be completed if any 6-minute average opacity reading in the previous performance test exceeds 5% opacity. If all 6-minute average opacity readings in the most recent performance test are less than 5%, a new performance test must be conducted within 12 calendar months of the date that the previous performance test was required to be completed. [40 CFR 60.255(b)(2)]

40 CFR 60.255(f), as a compliance alternative to 40 CFR 60.255(b)(2), requires that the permittee either follow the steps listed in (a) – (c) below or utilize an approved site specific monitoring plan for a digital opacity compliance system as described in 40 CFR 60.255(f)(2). [40 CFR 60.255(f)]

(a) Conduct a 15-second observation for each affected facility each operating day during normal operation. Each observation must be recorded as either visible emissions observed or no visible emissions observed. Each observer determining the presence of visible emissions must meet the training requirements specified in §2.3 of Method 22 of appendix A-7 of 40 CFR 60. If visible emissions are observed during any 15-second observation, the owner or operator must adjust the operation of the affected facility and demonstrate within 24 hours that no visible emissions are observed from the affected facility. If visible emissions are observed, a Method 9, of appendix A-4 of 40 CFR Part 60, performance test must be conducted within 45 operating days. [40 CFR 60.255(f)(1)(i)]

(b) Conduct a monthly visible observation of all process and control equipment. If any deficiencies are observed, the necessary maintenance must be performed as expeditiously as possible. [40 CFR 60.255(f)(1)(ii)]

(c) Conduct a performance test using EPA Method 9 at least once every 5 calendar years. [40 CFR 60.255(f)(1)(iii)]

VIII. RECORDKEEPING TERMS AND CONDITIONS

All monitoring information required by this permit must be recorded. [WAC 173-401-615(2)(a)] Pursuant to WAC 173-401-530(2)(c), none of the following recordkeeping requirements apply to IEUs.

Each record required by this Permit must include the date and the name of the person making the record entry. If a control device or process is not operating during a specific time period, a record must be made to that effect. [SWCAA 07-2758 Condition 16, WAC 173-401-615(2)(a)]

All records required by this Permit must be kept for a minimum period of no less than five years and must be maintained in a form readily available for inspection by SWCAA representatives. [SWCAA 07-2758 Condition 17, SWCAA 14-3093 Condition 14, WAC 173-401-615(2)(c), 40 CFR 63.10(b)(1), 40 CFR 63.6660]

K1. General Recordkeeping

40 CFR 60.7
WAC 173-401-615(2)
SWCAA 07-2758 Conditions 14 & 15(b)
SWCAA 14-3093 Conditions 10 & 13

Permittee is required to keep the following records:

(a) Inspections & Certifications
- (i) The date, place, and time of the activity;
- (ii) Who conducted the inspection or certification;
- (iii) The operating conditions existing at the time of the activity;
- (iv) Compliance status of each monitored requirement as described in Sections VI and VII of this permit; and
- (v) Corrective action taken in response to permit deviations and when such action was initiated.

(b) Complaints
- (i) The date, and time of complaint;
- (ii) Name of the complainant;
- (iii) The nature of the complaint;
- (iv) Date and time of follow-up inspection; and
- (v) Corrective action taken in response to complaints and when such action was initiated.

(c) Upset Conditions

(d) Sampling and Emissions Testing
- (i) The date sampling was performed;
- (ii) The entity that performed the sampling;
- (iii) The analytical techniques used to take the sample or perform the observation;
- (iv) The operating conditions existing at the time of sampling or measurement;
- (v) The date analyses were performed;
- (vi) The entity that performed the analyses;

(vii) The analytical techniques or methods used to perform the analyses;
(viii) The results of such analyses;
(ix) Compliance status of each monitored requirement; and
(x) Corrective action taken in response to permit deviations and when such action was initiated.

(e) General Recordkeeping (parameter logging requirements, maintenance activities, etc.)
(i) The date and time the data was collected (as applicable); and
(ii) The relevant parameters or data.

K2. Fine Coal Recovery Recordkeeping 40 CFR 60.7
40 CFR 60.258(a)
SWCAA 400-115
SWCAA 14-3093 Conditions 11 & 12

The following information must be collected, recorded at the intervals specified below, and readily available on-site for inspection: [SWCAA 14-3093 Condition 11]

(a) Visual inspection and maintenance of spray/fog nozzles must be recorded for each occurrence.
(b) The total amount of coal produced must be recorded for each calendar month.
(c) Upset conditions that cause excess emissions must be recorded for each occurrence.

In accordance with 40 CFR 60 Subpart Y, the permittee must maintain a logbook containing the following information for the Fine Coal Recovery equipment: [40 CFR 60.7, 40 CFR 60.258(a), SWCAA 400-115, SWCAA 14-3093 Condition 12]

(d) The manufacturer's recommended maintenance procedures and the date and time of any maintenance and inspection activities and the results of those activities. Any variance from manufacturer recommendation, if any, must be noted. [40 CFR 60.258(a)(1)]
(e) The date and time of periodic coal preparation and processing plant visual observations, noting those sources with visible emissions along with corrective actions taken to reduce visible emissions. Results from the actions must be noted. [40 CFR 60.258(a)(2)]
(f) The amount and type of coal processed each calendar month. [40 CFR 60.258(a)(3)]
(g) The amount of chemical stabilizer or water purchased for use in the coal preparation and processing plant. [40 CFR 60.258(a)(4)]
(h) Monthly certification that the dust suppressant systems were operational when any coal was processed and that manufacturer's recommendations were followed for all control systems. Any variance from the manufacturer's recommendations, if any, must be noted. [40 CFR 60.258(a)(5)]

K3. 40 CFR 63 Subpart ZZZZ Recordkeeping 40 CFR 63.6655

This requirement applies to all the stationary diesel engines except the Southeast Packwood Spoils Sump Engine (EU-8).

The permittee must maintain the following records:

(a) A copy of each notification and report submitted to comply with 40 CFR 63 Subpart ZZZZ, including all documentation supporting any Initial Notification or Notification of Compliance Status that were submitted, according to the requirements of 40 CFR 63.10(b)(2)(xiv). [40 CFR 63.6655(a)(1)]
(b) Records of the occurrence and duration of each malfunction of operation. [40 CFR 63.6655(a)(2)]
(c) Records of performance tests and performance evaluations as required in 40 CFR 63.10(b)(2)(viii). [40 CFR 63.6655(a)(3)]
(d) Records of all required maintenance performed on the air pollution control and monitoring equipment. [40 CFR 63.6655(a)(4)]
(e) Records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR 63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. [40 CFR 63.6655(a)(5)]
(f) Records of emissions-related maintenance of engines with a site rating of less than 100 horsepower. [40 CFR 63.6655(d) & (e)]

IX. REPORTING TERMS AND CONDITIONS

All required reports must be certified by a responsible official consistent with WAC 173-401-520. Where an applicable requirement requires reporting more frequently than once every six months, the responsible official's certification need only be submitted once every six months, covering all required reporting since the date of the last certification.

Addresses of regulatory agencies are the following, unless otherwise instructed:

Southwest Clean Air Agency
11815 NE 99th Street, Suite 1294
Vancouver, WA 98682-2322

Clean Air Act Compliance Manager
US EPA Region 10, Mail Stop: OCE-101
1200 Sixth Avenue, Suite 900
Seattle, WA 98101

R1. Deviations from Permit Conditions and Upsets

40 CFR 63.6640(e)
SWCAA 400-075
WAC 173-401-615(3)(b)
SWCAA 400-107
SWCAA 07-2758 Conditions 14 & 19
SWCAA 14-3093 Conditions 17 & 18

Deviations from permit conditions must be reported to SWCAA as follows:
(a) As soon as possible, but no later than 12 hours after discovery for deviations that represent a potential threat to human health or safety;
(b) As soon as possible, but no later than 48 hours after discovery for excess emissions which the permittee wishes to claim as unavoidable pursuant to SWCAA 400-107(1); and
(c) No later than 30 days after the end of the month of discovery for all other deviations.

The permittee may provide initial notification to SWCAA via telephone. A message may be left on the answering machine for upset conditions that occur outside of normal business hours. [WAC 173-401-615(3)(b), SWCAA 14-3093 Conditions 17 & 18]

Excess emission reports must contain the following information:

(d) Identification of the emission unit(s) involved;
(e) A brief description of the event;
(f) Duration of the event; and
(g) Anticipated corrective action to prevent or minimize excess emissions, if any.

Upon request by the Agency, the owner(s) or operator(s) of the "source" must submit a full written report describing the known causes, the corrective actions taken, and the preventive measures implemented to minimize or eliminate the chance of recurrence.

Reports of all deviations from permit requirements must include:

(h) Whether or not the deviation is due to upset conditions;
(i) The probable cause of the deviation; and
(j) The corrective action taken, and when the corrective action was initiated.

All reports must be submitted in writing (e.g. e-mail, facsimile or letter).

For the diesel engines (EU-5 – EU-19), upset conditions with the potential to cause excess emissions must be reported to SWCAA immediately upon discovery. [SWCAA 07-2758 Condition 19]

R2. Complaint Reports WAC 173-401-615(3)

The permittee shall report all complaints to SWCAA within three business days of receipt. Complaint reports must include the date and time of the complaint, the name of the complainant, and the nature of the complaint.

R3. Semi-annual Reports WAC 173-401-615(3)
40 CFR 60.258(b)
40 CFR 63.6650 & Table 7
40 CFR 63.6640(b)
SWCAA 400-075

Consistent with WAC 173-401-615(3) the permittee must submit to SWCAA by October 15th and April 15th for the six month periods January through June and July through December respectively, a report on the status of all monitoring requirements. All instances of deviation from permit requirements must be clearly identified. With respect to exceedances of the 10% opacity limit for the Fine Coal Recovery Equipment (Req-30, 40 CFR 254(b)(1), the report must include each observation during the semi-annual period where the 6-minute average opacity exceeded 10%. For all EPA Method 9 or SWCAA Method 9 monitoring conducted during the semi-annual period, a copy of the relevant opacity certification(s) must be submitted with the semi-annual report. The semi-annual report must contain a certification of any reports submitted during the semi-annual period that have not already been certified. The certification shall be consistent with WAC 173-401-520.

Subpart ZZZZ Reporting
This requirement applies to EU-5, EU-6, EU-7, EU-10, and EU-11.

The permittee must submit semi-annual compliance reports to EPA[1] and SWCAA by January 31st and July 31st for the six month periods January through June and July through December respectively. The semi-annual compliance reports are applicable to each stationary non-emergency engine with a site rating of greater than or equal to 100 horsepower. Each compliance report must include the following: [40 CFR 63.6650]

(a) Company name and address. [40 CFR 63.6650(c)(1)]
(b) A statement by the responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report. [40 CFR 63.6650(c)(2)]
(c) Date of the report and the beginning and ending dates of the reporting period. [40 CFR 63.6650(c)(3)]
(d) If there was a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken during a malfunction to minimize emissions in accordance with 40 CFR 63.6605(b), including actions taken to correct a malfunction. [40 CFR 63.6650(c)(4)]
(e) Identification of any deviations from any emission limitation during the reporting period. For each deviation the following information shall be reported: [40 CFR 63.6640(b), 40 CFR 63.6650(d)]
    (1) The total operating time of the engine at which the deviation occurred during the reporting period; and
    (2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable and the corrective action taken.
(f) If there were no deviations from any emission limitations during the reporting period, a statement that there were no deviations from the emission limitations during the reporting period. [40 CFR 63.6650(c)(5)]

[1] Reporting to EPA will be required until such time as EPA delegates implementation and enforcement of 40 CFR 63 Subpart ZZZZ to SWCAA.

R4. Annual Reports and Compliance Certification WAC 173-401-630(5)
SWCAA 07-2758 Condition 18(a)
SWCAA 14-3093 Conditions 20(a – c)

(a) Annual Compliance Certification: The permittee must submit to SWCAA and EPA a certification of compliance with all terms and conditions of this permit in accordance with WAC 173-401-630(5)(d). The permittee must submit by March 15th of the following year the following information for the period of January through December:

(i) Identification of each term or condition of the permit that is the basis of the certification;
(ii) Statement of compliance status;
(iii) Whether compliance was continuous or intermittent;

(iv) Method(s) used for determining the compliance status of the source, currently and over the reporting period consistent with WAC 173-401-615;
(v) Such other facts as SWCAA may require to determine the compliance status of the source; and
(vi) Such additional requirements as may be specified pursuant to Sections 114(a)(3) and 504(b) of the FCAA.

(b) Annual Reports: The permitte must report the following to SWCAA annually by March 15th for the previous calendar year:

(i) The number of hours each diesel engine operated; [SWCAA 07-2758 Condition 18(a)]
(ii) The total amount of fine coal produced for each month of the calendar year; [SWCAA 14-3093 Condition 20(a)]
(iii) The total amount of fine coal transferred to the power plant stockpile; and [SWCAA 14-3093 Condition 20(b)]
(iv) If available, the average moisture content of the fine coal produced (if this information is not provided, a conservative value of 8% shall be assumed). [SWCAA 14-3093 Condition 20(c)]

R5. Emission Inventory Reports

SWCAA 400-105
SWCAA 07-2758 Condition 18(b)
SWCAA 14-3093 Condition 20(d)

The permittee must submit an inventory of annual emissions from the source each calendar year to SWCAA by March 15th of the following year in accordance with SWCAA 400-105. The inventory must include stack and fugitive emissions of NO_X, CO, VOC, SO_2, PM, PM_{10}, $PM_{2.5}$, and toxic air pollutants identified in WAC 173-460 (as in effect August 21, 1998).

R6. Source Test Reports

WAC 173-401-615(3)
SWCAA 400-106
SWCAA 14-3093 Condition 19

Reports of all required source or emissions testing must be submitted to SWCAA within 45 days of test completion. Each report must include:

(a) A description of the source including manufacturer, model number and design capacity of the equipment, and the location of the sample ports or test locations.
(b) Time and date of the test and identification and qualifications of the personnel involved.
(c) A summary of results, reported in units and averaging periods consistent with the applicable emission standard or limit.
(d) A summary of control system or equipment operating conditions.
(e) A summary of production related parameters.
(f) A description of the test methods or procedures used including all field data, quality assurance/quality control procedures and documentation.
(g) A description of the analytical procedures used including all laboratory data, quality assurance/quality control procedures and documentation.
(h) Copies of field data and example calculations.

(i) Chain of custody information.
(j) Calibration documentation.
(k) Discussion of any abnormalities associated with the results.
(l) A statement signed by the senior management official of the testing firm certifying the validity of the source test report.

Within 60 days of completing each required EPA Method 9 performance evaluation for the Fine Coal Recovery project, owners or operators must submit the results to the following address:

United States Environmental Protection Agency
Energy Strategies Group
109 TW Alexander DR
mail code: D243-01
RTP, NC 27711

R7. Subpart ZZZZ Notification Requirements

40 CFR 63.7(b)(1 & 2)
40 CFR 63.9(e)
40 CFR 63.9(h)(2)(ii)
40 CFR 63.10(d)(2)
40 CFR 63.6640(b)
40 CFR 63.6645(h)(2)
SWCAA 400-075

This requirement applies to EU-5, EU-6, EU-7, EU-10, EU-11, EU-12, EU-13, and EU-14 only.

All notifications described below must be submitted to EPA and SWCAA.

(a) For each performance test required by Monitoring Condition M4, the permittee must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required by 40 CFR 63.7(b)(1) and 40 CFR 63.9(e). [40 CFR 63.7(b)(1), 40 CFR 63.9(e), & 40 CFR 63.6645(g)] In the event the permittee is unable to conduct the performance test on the date identified in the Notification of Intent due to unforeseeable circumstances beyond the permittee's control, the owner or operator must notify the Administrator as soon as practicable and without delay prior to the scheduled performance test date and specify the date when the performance test is rescheduled. [40 CFR 63.7(b)(2)]
(b) Before conducting a required performance test, the owner or operator of an affected source must develop and, if requested by the Administrator, must submit a site-specific test plan to the Administrator for approval in accordance with 40 CFR 63.7(c)(2). [40 CFR 63.7(c)(2) & 40 CFR 63.6645(a)]
(c) The permittee must submit a Notice of Compliance Status before the close of business on the 60th day following the completion of each performance test according to 40 CFR 63.10(d)(2). The Notice of Compliance Status must include the following information:
    (1) The name and address of the owner or operator; [40 CFR 63.9(b)(2)(i)]
    (2) The address (i.e., physical location) of the affected source; [40 CFR 63.9(b)(2)(ii)]
    (3) An identification of the relevant standard, or other requirement, that is the basis of the notification and the source's compliance date. [40 CFR 63.9(b)(2)(iii)] The

relevant standard is 40 CFR 63 Subpart ZZZZ. The compliance date is May 3, 2013;

(4) A brief description of the nature, size, design, and method of operation of the source and an identification of the types of emission points within the affected source subject to the relevant standard and types of hazardous air pollutants emitted; [40 CFR 63.9(b)(2)(iv)]

(5) A statement of whether the affected source is a major source or an area source; [4-CFR 63.9(b)(2)(v)]

(6) A statement by the owner or operator of the affected source as to whether the source has complied with the relevant standard or other requirements; and [40 CFR 63.9(h)(2)(i)(G]

(7) The results of the initial compliance demonstration (performance test) according to the requirements in 40 CFR 63.6645. [40 CFR 63.6630(c)]

X. NON-APPLICABLE REQUIREMENTS WAC 173-401-640(2)

This section lists all federal, state, and/or local requirements which might reasonably apply to the permittee, but are deemed nonapplicable after review by SWCAA. In accordance with WAC 173-401-640, the permittee is provided a permit shield for not complying with the requirements listed below where they have been identified to be non-applicable to specific emission units.

1. Prevention of Significant Deterioration, Review of Major Stationary Sources and Major Modifications - Source Applicability and Exemptions 40 CFR 52.21(i)

This section applies to all major stationary sources and major modifications with respect to each regulated pollutant, except as otherwise provided in this section. Requirements of this section shall not apply to a particular major stationary source or major modification if construction commenced on the source or modification before August 7, 1977. The permittee's facility became a major source due to the sale of the mine to TransAlta Centralia Mining, LLC on May 4, 2000, and has not since undergone modification that would trigger the requirement. Therefore, this regulation is not applicable. The sale of the mine brought the mine and adjacent power plant (itself a major source) under common ownership.

2. Registration Program SWCAA 400-100

The permittee is an air operating permit source. Pursuant to WAC 173-400-101(7), air operating permit sources are exempt from the registration program established under WAC 173-400-099, and implemented in accordance with WAC 173-400-100 through WAC 173-400-104. Pursuant to SWCAA 400-100(1)(b) air operating permit sources are exempt from the registration requirements of SWCAA 400-100.

3. Requirements for Sources in a Maintenance Plan Area SWCAA 400-111

The permittee is not located in a maintenance plan area for any criteria pollutant. Therefore, this regulation is not applicable.

4. Requirements for New Sources in Nonattainment Areas SWCAA 400-112

The permittee is not located in a nonattainment area for any criteria pollutant. Therefore, this regulation is not applicable.

5. Bubble Rules SWCAA 400-120

The permittee has not requested an emission bubble for any regulated pollutant. Therefore, this regulation is not applicable.

6. Acquisition and Use of Emission Reduction Credits SWCAA 400-130

The permittee has neither sought nor been issued emission reduction credits (ERCs). Therefore, this regulation is not applicable.

7. Creditable Stack Height and Dispersion Techniques WAC 173-400-200
SWCAA 400-200

No source may use dispersion techniques or excess stack height to meet ambient air quality standards or PSD increment limitations. The vast majority of pollutants emitted from this facility are fugitive, therefore stack height is not applicable to these sources. Since the time this facility was designated major, the facility has not undergone modification that would trigger the requirement. Therefore, this regulation is not applicable.

APPENDIX A

SWCAA METHOD 9
VISIBLE OPACITY DETERMINATION METHOD

1. Principle

The opacity of emissions from stationary sources is determined visually by a qualified observer.

2. Procedure

The observer must be certified in accordance with the provisions of Section 3 of 40 CFR Part 60, Appendix A, Method 9, as in effect on July 1, 2002.

2.1 Position

The observer shall stand at a distance sufficient to provide a clear view of the emissions with the sun oriented in the 140° sector to his/her back. Consistent with maintaining the above requirement, the observer shall, as much as possible, make his/her observations from a position such that his/her line of vision is approximately perpendicular to the plume direction, and when observing opacity of emissions from rectangular outlets (e.g., roof - monitors, open baghouses, noncircular stacks), approximately perpendicular to the longer axis of the outlet. The observer's line of sight should not include more than one plume at a time when multiple stacks are involved, and in any case, the observer should make his/her observations with his/her line of sight perpendicular to the longer axis of such a set of multiple stacks (e.g., stub stacks on baghouses).

2.2 Field Records

The observer shall record the name of the plant, emission location, type of facility, observer's name and affiliation, a sketch of the observer's position relative to the source, and the date on a field data sheet. The time, estimated distance to the emission location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), and plume background are recorded on a field data sheet at the time opacity readings are initiated and completed.

2.3 Observations

Opacity observations shall be made at the point of greatest opacity in that portion of the plume where condensed water vapor is not present. The observer shall not look continuously at the plume, but instead shall observe the plume momentarily at 15 second intervals.

2.3.1 Attached Steam Plumes

When condensed water vapor is present within the plume as it emerges from the emission outlet, opacity observations shall be made beyond the point in the plume at which condensed water vapor is no longer visible. The observer shall record the

approximate distance from the emission outlet to the point in the plume at which the observations are made.

2.3.2 Detached Steam Plumes

When water vapor in the plume condenses and becomes visible at a distinct distance from the emission outlet, the opacity of emissions should be evaluated at the emission outlet prior to the condensation of water vapor and the formation of the steam plume.

2.4 Recording Observations

Opacity observations shall be recorded to the nearest 5 percent at 15 second intervals on a field data sheet. A minimum of 24 observations shall be recorded. Each momentary observation recorded shall be deemed to represent the average opacity of emissions for a 15 second period.

2.5 Data Reduction

The number of observation at each opacity level shall be determined and recorded on the field data sheet. Opacity shall be determined by the highest 13 observations in any consecutive 60-minute period. The opacity standard or emissions limit is exceeded if there are more than 12 observations during any consecutive 60 minute period for which an opacity greater than the standard or emission limit is recorded. The opacity standard is a 1 hour standard (rolling 60 minutes). Only one violation of the standard per hour may be recorded meaning that a violation for any given consecutive 60 minute period may be recorded in substantially fewer than 60 minutes. No one hour time sets shall overlap for purpose of determining a violation or violations. Data used to establish a violation in one consecutive 60 minute period can not be used to establish a violation in a second consecutive 60 minute period. The opacity determination shall be recorded on the observational record sheet.

3. References

Federal Register, Vol. 36, No. 247, page 24895, December 23, 1971.

"Criteria for Smoke and Opacity Training School 1970 - 1971" Oregon-Washington Air Quality Committee."

"Guidelines for Evaluation of Visible Emissions" EPA 340/1-75-007

APPENDIX B

Manufacturer's Written Instructions Regarding Maintenance of the Southeast Packwood Spoils Sump Engine

The following activities shall be conducted daily when operating:

a. Check engine oil and coolant level;
b. Check fuel filter water bowl;
c. Check air cleaner dust unloader and restriction indicator gage;
d. Conduct walk around inspection;
e. Check lamps;

The following activities shall be conducted every 500 hours of operation or every 12 months, whichever comes first:

f. Check manual belt tensioner and belt wear;
g. Change engine oil and replace oil filter;
h. Check crankcase ventilation system;
i. Check air intake hoses, connections, & system;
j. Replace fuel filter elements;
k. Check automatic belt tensioner and belt wear;
l. Check engine electrical ground connection;
m. Check cooling system – add coolant as needed;
n. Conduct cooling solution analysis – add SCAs as required;
o. Pressure test cooling system;
p. Check engine speeds;

The following activities shall be conducted every 2,000 hours of operation or every 24 months, whichever comes first:

q. Check crankshaft vibration damper;
r. Flush and refill cooling system;
s. Test thermostats;
t. Check and adjust engine valve clearances;
u. Test glow plugs;
v. Check fuses;

The following activities shall be conducted as required:

w. Bleed fuel system; and
x. Replace fan and alternator belts.

Specifications

General OEM Engine Specifications

ITEM	4045DF270	4045TF270	4045TF/HF275	4045HF475	6068TF/HF275	6068HF475
Number of Cylinders	4	4	4	4	6	6
Bore	106 mm (4.19 in.)	106 mm (4.19 in.)	106 mm (4.19 in.)	106 mm (4.19 in.)	106 mm (4.19 in.)	106 mm (4.19 in.)
Stroke	127 mm (5.0 in.)	127 mm (5.0 in.)	127 mm (5.0 in.)	127 mm (5.0 in.)	127 mm (5.0 in.)	127 mm (5.0 in.)
Displacement	4.5 L (276 cu in.)	4.5 L (276 cu in.)	4.5 L (276 cu in.)	4.5 L (276 cu in.)	6.8 L (414 cu in.)	6.8 L (414 cu in.)
Compression Ratio	17.6:1	17.0:1	17.0:1	17.0:1	17.0:1	17.0:1
Aspiration	Natural	Turbocharged	Turbocharged	Turbocharged	Turbocharged	Turbocharged
Engine Firing Order	1-3-4-2	1-3-4-2	1-3-4-2	1-3-4-2	1-5-3-6-2-4	1-5-3-6-2-4
Valves Per Cylinder	1 Intake 1 Exhaust	1 Intake 1 Exhaust	1 Intake 1 Exhaust	2 Intake 2 Exhaust	1 Intake 1 Exhaust	2 Intake 2 Exhaust
Valve Clearance (Cold) Intake (Checking)	0.31-0.38 mm (0.012-0.015 in)	0.31-0.38 mm (0.012-0.015 in)	0.31-0.38 mm (0.012-0.015 in)	0.31-0.38 mm (0.012-0.015 in)	0.31-0.38 mm (0.012-0.015 in)	0.31-0.38 mm (0.012-0.015 in)
Exhaust (Checking)	0.41-0.48 mm (0.016-0.019 in)	0.41-0.48 mm (0.016-0.019 in)	0.41-0.48 mm (0.016-0.019 in)	0.41-0.48 mm (0.016-0.019 in)	0.41-0.48 mm (0.016-0.019 in)	0.41-0.48 mm (0.016-0.019 in)
Intake (Adjusting)	0.36 mm (0.014 in.)	0.36 mm (0.014 in.)	0.36 mm (0.014 in.)	0.36 mm (0.014 in.)	0.36 mm (0.014 in.)	0.36 mm (0.014 in.)
Exhaust (Adjusting)	0.46 mm (0.018 in.)	0.46 mm (0.018 in.)	0.46 mm (0.018 in.)	0.46 mm (0.018 in.)	0.46 mm (0.018 in.)	0.46 mm (0.018 in.)
Max. Crank Pressure	0.5 kPa (2 H_2O)	0.5 kPa (2 H_2O)	0.5 kPa (2 H_2O)	0.5 kPa (2 H_2O)	0.5 kPa (2 H_2O)	0.5 kPa (2 H_2O)
Vibration Damper Maximum Radial Runout	1.50 mm (0.060 in.)	1.50 mm (0.060 in.)	1.50 mm (0.060 in.)	1.50 mm (0.060 in.)	1.50 mm (0.060 in.)	1.50 mm (0.060 in.)
Battery Capacities (CCA) 12-Volt System 24-Volt System	640 570	640 570	640 570	640 570	800 570	800 570
Governor Regulation (Industrial)	7—10 %	7—10 %	7—10 %	7—10 %	7—10 %	7—10 %
Governor Regulation (Generator)	5 %	5 %	5%	5%	5 %	5%
Thermostat Start To Open Temperature	82°C (180°F)	82°C (180°F)	82°C (180°F)	82°C (180°F)	82°C (180°F)	82°C (180°F)
Thermostat Fully Open Temperature	94°C (202°F)	94°C (202°F)	94°C (202°F)	94°C (202°F)	94°C (202°F)	94°C (202°F)
Coolant Capacity	8.5 L (9 qt)	8.5 L (9 qt)	8.5 L (9 qt)	8.5 L (9 qt)	11.3 L (12 qt)	11.3 L (12 qt)
Recommended Radiator Pressure Cap	70 kPa (10 psi)	70 kPa (10 psi)	70 kPa (10 psi)	70 kPa (10 psi)	70 kPa (10 psi)	70 kPa (10 psi)
Crankcase Oil Fill Capacity	See "Engine Crankcase Oil Fill Quantities" later in this section.					

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