

April 20, 2022

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


Subject: Issuance of FINAL Title V Air Operating Permit SW01-12-R4

Dear Mr. Lydon:

The comment period for your draft Air Operating Permit (SW01-12-R4) ended on February 18, 2022. The proposed permit, dated February 22, 2022, was 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.gov/permits/title5final.asp>. If you have any questions or comments, please contact me at (360) 574-3058 ext. 131.

Sincerely,



Clint Lamoreaux
Air Quality Engineer





TransAlta Centralia Mining, LLC
Centralia Mine

Air Operating Permit
SW01-12-R4

April 20, 2022

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

AIR OPERATING PERMIT NUMBER: SW01-12-R4

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

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

NATURE OF BUSINESS: Coal Mining Operations

**STANDARD INDUSTRIAL
CLASSIFICATION CODE (SIC):** 1221

**NORTH AMERICAN INDUSTRY
CLASSIFICATION SYSTEM CODE
(NAICS):** 212111

**AEROMETRIC INFORMATION
RETRIEVAL SYSTEM NUMBER:** 53-041-00046


EFFECTIVE DATE: April 20, 2022

EXPIRATION DATE: April 20, 2027


RENEWAL APPLICATION DUE DATE: October 20, 2026



**PERMIT
ENGINEER:**

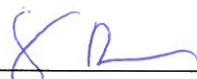


Clinton H. Lamoreaux, P.E.
Chief Engineer




Date

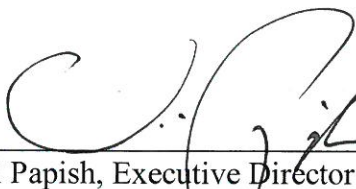
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BY:**



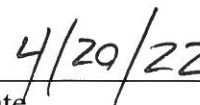
Danny Phipps
Air Quality Engineer



Date



Uri Papish, Executive Director



Date

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I. ABBREVIATIONS

List of Common Abbreviations

Administrator	EPA Region X Administrator
ADP	Air Discharge Permit
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
ppmv _d	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, hereafter referred to as the "Permit," is authorized under the procedures established in Washington Administrative Code (WAC) 173-401 and Title V (US Code §7661 *et seq.*) of the Federal Clean Air Act (FCAA). 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 and standards applicable to the Permittee's facility and to assure and provide for certification of compliance with those requirements. As listed in Sections V through VIII, the requirements describe the emissions limitations, operating requirements, ambient monitoring, recordkeeping requirements, and reporting frequencies for the facility and cite the originating local, state, or federal regulation or requirement. Federal requirements may be direct (e.g. FCAA or CFR citation) or established under the Washington State Implementation Plan (SIP). Each citation in the table also 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 authority that can enforce *all* requirements – federal, state, and local requirements – listed in the Permit. However, the EPA and private citizens may also take enforcement actions under the Permit for those requirements that are federally enforceable; federal regulations, regulations that have a SIP date, and terms of ADPs are federally enforceable. Rules, regulations, and permits that are not SIP approved or federally promulgated are not federally enforceable and are denoted as "*Local*" to indicate they are only enforceable by SWCAA.

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

Federal Regulations	Regulation Version Effective Date	SWCAA Delegation Effective Date
40 CFR 51	January 14, 2022	Not Delegated
40 CFR 52	January 14, 2022	Not Delegated
40 CFR 60 Subpart A	January 14, 2022	July 1, 2019
40 CFR 60 Subpart Y	January 14, 2022	July 1, 2019
40 CFR 60 Subpart IIII	January 14, 2022	July 1, 2019
40 CFR 61 Subpart A	January 14, 2022	July 1, 2019
40 CFR 61 Subpart M	January 14, 2022	July 1, 2019
40 CFR 63 Subpart A	January 14, 2022	July 1, 2019
40 CFR 63 Subpart ZZZZ	January 14, 2022	July 1, 2019
40 CFR 64	July 1, 2000 (this is found in WAC 173-401-615(4))	Not Delegated

Federal Regulations	Regulation Version Effective Date	SWCAA Delegation Effective Date
40 CFR 68	January 14, 2022	Not Delegated
40 CFR 82 Subpart B	January 14, 2022	Not Delegated
40 CFR 82 Subpart F	January 14, 2022	Not Delegated
40 CFR 98	January 14, 2022	Not Delegated

State and local regulations may have both an effective date that is included in the SIP and a different effective date as *Local* only requirements.

State Regulations	SIP Regulation Version Effective Date	State Regulation Version Effective Date
WAC 173-400-117	December 29, 2012	November 25, 2018
WAC 173-400-171	September 16, 2018	November 25, 2018
WAC 173-400-700	April 1, 2011	November 25, 2018
WAC 173-400-720	7/1/2016 Except: 173-400-720(4)(a)(i through iv) and 173-400-720(4)(b)(iii)(C)	November 25, 2018
WAC 173-401	—	September 16, 2018
WAC 173-441	—	October 16, 2016
WAC 173-460	—	August 21, 1998*
* 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 August 21, 1998.		

SWCAA Regulations	SIP Regulation Version Effective Date	SWCAA Regulation Version Effective Date
SWCAA 400-036	October 9, 2016	September 10, 2021
SWCAA 400-040	October 9, 2016 (excludes (1)(a), (1)(c), (1)(d), (2), and (4))	March 21, 2020
SWCAA 400-050	October 9, 2016 (excludes (3), (5), and (6))	September 10, 2021
SWCAA 400-060	October 9, 2016	September 10, 2021
SWCAA 400-070	10/9/2016 (Except: 400-070(2)(a); 400-070(3)(b); 400-070(5); 400-070(6); 400-070(7); 400-070(8)(c); 400-070(9); 400-070(10); 400-070(11); 400-070(12); 400-070(14); and 400-070(15)(c))	September 10, 2021
SWCAA 400-072	October 9, 2016 (except (5)(a)(ii)(B), (5)(d)(ii)(B), (5)(d)(iii)(A), (5)(d)(iii)(B), and all reporting requirements related to TAPs)	September 10, 2021

SWCAA Regulations	SIP Regulation Version Effective Date	SWCAA Regulation Version Effective Date
SWCAA 400-075	—	September 10, 2021
SWCAA 400-076	—	September 10, 2021
SWCAA 400-100	—	September 10, 2021
SWCAA 400-103	—	September 10, 2021
SWCAA 400-105	October 9, 2016 (excludes reporting requirements related to TAPs)	September 10, 2021
SWCAA 400-106	October 9, 2016 (except (1)(d)–(1)(g) and (2))	September 10, 2021
SWCAA 400-107	September 21, 1995	September 10, 2021
SWCAA 400-109	October 9, 2016 (except TAP emissions thresholds (3)(d), (3)(e)(ii), and (4))	September 10, 2021
SWCAA 400-110	October 9, 2016 (except (1)(d))	September 10, 2021
SWCAA 400-111	October 9, 2016 (except (7))	September 10, 2021
SWCAA 400-112	October 9, 2016 (except (6))	September 10, 2021
SWCAA 400-114	November 9, 2003	September 10, 2021
SWCAA 400-115	—	September 10, 2021
SWCAA 400-116	November 9, 2003	September 10, 2021
SWCAA 400-120	—	September 10, 2021
SWCAA 400-130	October 9, 2016	September 10, 2021
SWCAA 400-205	March 18, 2001	September 10, 2021
SWCAA 400-235	—	September 10, 2021
SWCAA 400-270	—	September 10, 2021
SWCAA 400 Appendix A	October 9, 2016	September 10, 2021
SWCAA 425	—	June 18, 2017
SWCAA 476	—	March 22, 2020

The Air Discharge Permits (ADPs) listed in the table below were issued under state/local authority and a federally approved new source review program; therefore, the terms of these permits are federally enforceable, unless otherwise identified. There are no additional Regulatory Orders or Prevention of Significant Deterioration (PSD) permits applicable to this facility.

Regulatory Orders and Permits	Effective Date
07-2758	11/21/2007

III. EMISSIONS UNIT IDENTIFICATION

The following emission units or processes and control equipment have been identified at the facility. The EU Number will be used throughout the remainder of the Permit to identify the emission unit or process and any associated control equipment.

EU No.	Generating Equipment or Activity	Emission Control	CAM Applicable
EU-1	Parts Cleaning	Proper operation of cleaning tanks	No
EU-2	Smudge Pots	None	No
EU-3	Sump 84 Pump Engine	Ultra-low sulfur fuel	No
EU-4	Southeast Packwood Spoils Sump Engine (CP-100)	Ultra low sulfur fuel, EPA Tier 2 certification	No
EU-5	5419 (diesel engine)	None	No
EU-6	5425 (diesel engine)	None	No
EU-7	5421 (diesel engine)	None	No
EU-8	5422 (diesel engine)	None	No
EU-9	5407 (diesel engine)	None	No
EU-10	5450 (diesel engine)	None	No

IV. PERMIT PROVISIONS

P1. Credible Evidence

40 CFR 60.11
40 CFR 61.12
SWCAA 400-235 (Local)

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 precludes 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 (Local)

The Permittee is responsible for clearly identifying information that is considered proprietary and confidential prior to submittal to SWCAA. Information considered to be proprietary and confidential may 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 EPA. [WAC 173-401-500(5)]

Upon request, the Permittee must also furnish to SWCAA 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 EPA along with a claim of confidentiality. SWCAA must maintain confidentiality of such information in accordance with RCW 70A.15.2510 [WAC 173-401-620(2)(e)]

P3. 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) must not exceed the emissions thresholds specified in WAC 173-401-530(4) until this Permit is modified pursuant to WAC 173-401-725.

P4. Standard Provisions**WAC 173-401-620(2)**
SWCAA 400-103 (Local)

- (a) *Duty to comply.* The Permittee must comply with all conditions of this Permit. Any Permit noncompliance constitutes a violation of RCW 70A.15 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 must 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 SWCAA, within a reasonable time, any information that the SWCAA 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 SWCAA 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 EPA along with a claim of confidentiality. SWCAA must maintain confidentiality of such information in accordance with RCW 70A.15.2510.
- (f) *Permit fees.* The Permittee must pay fees in accordance with RCW 70A.15.2270 and SWCAA's fee schedule. Failure to pay fees in a timely fashion subjects the Permittee to civil and criminal penalties as prescribed in RCW 70A.15.3150, RCW 70A.15.3160, and SWCAA 400-103(9).

- (g) *Emissions trading.* No permit revision is required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this Permit.
- (h) *Severability.* If any provision of this Permit is held to be invalid, all unaffected provisions of the Permit remain in effect and 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 SWCAA 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 FCAA Section 505(b).
- (j) *Permit continuation.* This Permit and all terms and conditions contained herein do 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) remains in effect until the renewal Permit has been issued or denied if a timely and complete application has been submitted.

P5. Federally Enforceable Requirements**WAC 173-401-625**

All terms and conditions in a Permit, including any provisions designed to limit a source's potential to emit, are enforceable by the EPA and citizens under the FCAA.

Notwithstanding the above, 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 "*Local*" and are not federally enforceable under the FCAA. Terms and conditions so designated are not subject to the EPA and affected states review requirements of WAC 173-401-700 through WAC 173-401-820.

P6. Permit Shield**WAC 173-401-640**

Compliance with the conditions of this Permit is deemed compliance with all applicable requirements that are specifically identified in this Permit as of the date of Permit issuance. Nothing in this Permit alters or affects the following:

- (a) The provisions of section 303 of the FCAA (emergency orders), including the authority of the EPA 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 the EPA to obtain information from a source pursuant to section 114 of the FCAA; and

- (e) The ability of SWCAA to establish or revise requirements for the use of reasonably available control technology (RACT) as defined in RCW 70A.15.

P7. Emergency Provision**WAC 173-401-645**

An "emergency" as defined in WAC 173-401-645(1) constitutes an affirmative defense to an action brought for noncompliance with technology based emission limitations. The affirmative defense of emergency must be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

- (a) An emergency occurred and that the Permittee can identify the causes(s) of the emergency;
- (b) The permitted facility was at the time being properly operated;
- (c) During the period of the emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the Permit; and
- (d) The Permittee submitted notice of the emergency to SWCAA within two working days of the time when emission limitations were exceeded due to the emergency or shorter periods of time specified in an applicable requirement. This notice fulfills the requirement of WAC 173-401-615(3)(b) unless the excess emissions represent a potential threat to human health and safety. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

Burden of proof lies with the Permittee.

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 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)**

SWCAA may revoke a Permit only upon the request of the Permittee or for cause. SWCAA must 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 must include an explanation of the basis for the proposed action and afford the Permittee/applicant an opportunity to meet with SWCAA prior to the authority's final decision. A revocation issued under WAC 173-401-710(4) 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. Changes not Requiring Permit Revision/Off Permit Changes**WAC 173-401-722****WAC 173-401-724**

The Permittee may make changes described in WAC 173-401-722 and WAC 173-401-724 without revising this Permit, provided that the changes satisfy the criteria set forth in those sections, including the requirements to notify SWCAA and EPA. Changes made by the Permittee under WAC 173-401-722 may or may not qualify for a Permit shield and changes under WAC 173-401-724 do not qualify for a Permit shield.

P11. Reopenings for Cause**WAC 173-401-730**

This Permit must be reopened and revised under any of the following circumstances:

- (a) Additional applicable requirements become applicable to a source with a remaining permit term of 3 or more years. Such a reopening must 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 EPA, excess emissions offset plans will be deemed to be incorporated into the Permit;
- (c) SWCAA or the EPA determines that the Permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the Permit; or
- (d) SWCAA or the EPA determines that the Permit must be revised or revoked to assure compliance with the applicable requirements.

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

P12. Unavoidable Excess Emissions**SWCAA 400-107(2)**

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 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, must be reported to SWCAA as soon as possible, but no later than forty-eight (48) hours after discovery. The owner or operator of a "source" has the burden of proving to SWCAA or the decision-making authority in an enforcement action that excess emissions were unavoidable.

- (a) *Startup or shutdown.* Excess emissions due to an upset or malfunction during a startup or shutdown event shall be treated as an upset or malfunction.
- (b) *Upsets or malfunctions.* Excess emissions due to upsets or equipment malfunctions will be considered unavoidable provided the Permittee reports as required under of SWCAA 400-107(1) and adequately demonstrates that:
 - (1) The event was not caused by poor or inadequate design, operation, maintenance, or any other reasonably preventable condition;
 - (2) The event was not of a recurring pattern indicative of inadequate design, operation, or maintenance;
 - (3) 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;
 - (4) Repairs were made in an expeditious fashion if the emitting equipment could not be shutdown during the malfunction or upset to prevent the loss of life, prevent personal injury or severe property damage, or to minimize overall emissions;
 - (5) 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;
 - (6) The amount and duration of the excess emissions (including any bypass) were minimized to the maximum extent possible; and
 - (7) All practicable steps were taken to minimize the impact of the excess emissions on ambient air quality.

V. GENERAL TERMS AND CONDITIONS

G1. Asbestos

40 CFR 61 Subpart M (§61.140)
SWCAA 400-075 (Local)
SWCAA 476 (Local)

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 Subpart B (§82.30)
40 CFR 82 Subpart F (§82.150)**

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) and (3)**

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

- (a) Enter upon the Permittee's premises where a source is located or emissions-related activity is conducted, or where records must be kept under the conditions of 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) Sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the Permit or applicable requirements.

G7. 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. The Permittee must meet on a timely basis any applicable requirements that become effective during the permit term. The Permittee must comply with any approved schedule of compliance in accordance with WAC 173-401-510(2)(h)(iii).

G8. Permit Renewal Application**WAC 173-401-710(1)**
WAC 173-401-610

The Permittee must submit a complete permit renewal application to SWCAA no later than the date established in the Permit. Permit expiration terminates the Permittee'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 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.

This Permit expires on April 20, 2027. A renewal application is due on April 20, 2026 and a complete application is due no later than October 20, 2026.

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(1)(d).

G10. Reporting of Emissions of Greenhouse Gases**WAC 173-441 (Local)**

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 of carbon dioxide equivalent (CO₂e) or more per calendar year. The Permittee must prepare and submit greenhouse gas reports to Ecology for each affected facility in accordance with WAC 173-441.

G11. Misrepresentation and Tampering**SWCAA 400-105(5) and (6)**

The Permittee must not make any false material statement, representation or certification in any form, notice, or report required under RCW 70A.15, or any ordinance, resolution, regulation, permit or order in force pursuant thereto.

The Permittee must not render inaccurate any monitoring device or method required under RCW 70A.15, or any ordinance, resolution, regulation, permit, or order in force pursuant thereto.

G12. Emission Testing and Monitoring**SWCAA 400-106**

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

The Permittee 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 Permittee must be given an opportunity to observe the sampling and to obtain a sample at the same time.

G13. Portable Sources

SWCAA 400-036
SWCAA 400-110(6)

Portable sources which locate temporarily at the site a source are allowed to operate at the temporary location without filing an ADP application provided that:

- (a) The source/emissions units are registered with SWCAA;
- (b) The source/emissions units have an ADP 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 ADP 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 ADP application pursuant to SWCAA 400-109 or obtaining an ADP pursuant to SWCAA 400-110 provided the requirements of SWCAA 400-036 are met.

G14. New Source Review

WAC 173-400-117
WAC 173-400-720
WAC 173-460-040 (Local)
SWCAA 400-072
SWCAA 400-076 (Local)
SWCAA 400-109
SWCAA 400-110
SWCAA 400-820

The Permittee must submit an application and approval must be issued or written confirmation of exempt status must be received before commencing construction of the proposed installations, modifications, changes, or alternations. Alternatively, for sources meeting the category criteria in SWCAA 400-072, the Permittee may submit a Small Unit Notification and begin installation after SWCAA has confirmed compliance with the provisions of SWCAA 400-072 in writing. Portable sources may be exempt from this requirement if they fulfill the criteria described in **G13**.

G15. 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 ADP application with SWCAA. Construction must not commence on a project subject to review until SWCAA issues a final ADP or other regulatory order. However, any ADP application filed under this section is deemed to be

approved without conditions if SWCAA takes no action within thirty (30) days of receipt of a complete application.

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, such as an ADP, 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's approval conditions. 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.

G18. Adjustment for Atmospheric Conditions**SWCAA 400-205**

Varying the rate of emission of a pollutant according to atmospheric conditions or ambient concentrations of that pollutant is prohibited, except as directed according to air pollution episode regulations as specified at SWCAA 400-230(5).

G19. Outdoor Burning**SWCAA 425 (Local)**

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

VI. OPERATING TERMS AND CONDITIONS

The following table lists federal, state, and locally enforceable requirements applicable to the Permittee. The effective date for each applicable requirement is listed in Section II, which also describes the enforceability of the term. Those specific requirements that are enforceable only by SWCAA are denoted with "*Local*." Any requirement with "Facility-wide" listed in the Emission Unit column, applies universally to all emission units or activities, regardless of whether identified as an EU or an IEU. 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 Unit	Monitoring
Req-1	The permittee must not cause or permit any emission that exceeds 20% opacity for more than three minutes in any one hour. Reference Method: SWCAA Method 9 SWCAA 400-040(1)	Facility-wide	M2
Req-2	The 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) <i>Local</i>	Facility-wide	M2, M3
Req-3	The permittee must take reasonable precautions to prevent and minimize fugitive emissions from plant operations. SWCAA 400-040(3)	Facility-wide	M2, M3
Req-4	The permittee must use recognized good practice and procedures to reduce odors to a reasonable minimum. SWCAA 400-040(4) <i>Local</i>	Facility-wide	M3
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)	Facility-wide	M3
Req-6	The permittee must not cause or permit any emission unit to emit a gas containing sulfur dioxide in excess of 1,000 ppm of sulfur dioxide on a dry basis, corrected to 7% O ₂ , and based on the average of any period of sixty consecutive minutes. Reference Method: 40 CFR 60 Appendix A Methods 3A, 6 or 6C SWCAA 400-040(6)	Facility-wide	M4
Req-7	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) 40 CFR 63.4 (applicable to engines other than CP-100) SWCAA 400-040(7)	Facility-wide	R4
Req-8	The permittee must take reasonable precautions to prevent emissions of fugitive dust and operate the source to minimize emissions. SWCAA 400-040(8)(a)	Facility-wide	M3, M6

Req. #	Requirement	Emission Unit	Monitoring
Req-9	<p>The permittee must not cause or permit emissions of particulate matter from a combustion or incineration emissions unit in excess of 0.1 gr/dscf of exhaust gas corrected to 7% oxygen.</p> <p>Reference Method: 40 CFR 60 Appendix A Method 5</p> <p>SWCAA 400-050(1 and 4) – <i>Section (4) is Local Only</i></p>	Facility-wide	M3, M4
Req-10	<p>The 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.</p> <p>Reference Method: 40 CFR 60 Appendix A Method 5</p> <p>SWCAA 400-060</p>	Facility-wide	M2, M4
Req-11	<p>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.</p> <p>SWCAA 400-070(8)</p>	Facility-wide	R4
Req-12	<p>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.</p> <p>Reference Method: EPA Method 7E</p> <p>ADP 07-2758 Condition 5</p>	EU-4	M4
Req-13	<p>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.</p> <p>Reference Method: EPA Method 10</p> <p>ADP 07-2758 Condition 6</p>	EU-4	M4

Req. #	Requirement	Emission Unit	Monitoring
Req-14	<p>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.</p> <p>Reference Method: EPA Method 7E</p> <p style="text-align: center;">ADP 07-2758 Condition 7</p>	EU-3	M4
Req-15	<p>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.</p> <p>Reference Method: EPA Method 10</p> <p style="text-align: center;">ADP 07-2758 Condition 8</p>	EU-3	M4, M5
Req-16	<p>Visible emissions from 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:</p> <ul style="list-style-type: none"> a. The engine has reached normal operating temperature; or b. The engine has been operating for 15 minutes. <p>Reference Method: SWCAA Method 9</p> <p style="text-align: center;">ADP 07-2758 Condition 9</p>	EU-3, EU-4	M2
Req-17	<p>For 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.</p> <p style="text-align: center;">ADP 07-2758 Condition 11</p>	EU-3, EU-4	R4
Req-18	<p>The sulfur content of the fuel fired in the combustion units (including all diesel engines) must not exceed 0.0015% by weight.</p> <p style="text-align: center;">SWCAA 400-050(2) ADP 07-2758 Condition 12</p>	Facility-wide	M4

Req. #	Requirement	Emission Unit	Monitoring
Req-19	<p>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.</p> <p style="text-align: center;">40 CFR 60.4207(b) SWCAA 400-050(2) SWCAA 400-115 ADP 07-2758 Condition 12</p>	EU-4	M4
Req-20	<p>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.</p> <p style="text-align: center;">40 CFR 60.4211(a) SWCAA 400-115</p>	EU-4	M1

Req. #	Requirement	Emission Unit	Monitoring
Req-21	<p>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 to the following schedule:</p> <p>The following activities must be conducted daily when operating:</p> <ul style="list-style-type: none"> 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; <p>The following activities must be conducted every 500 hours of operation or every 12 months, whichever comes first:</p> <ul style="list-style-type: none"> 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; <p>The following activities must be conducted every 2,000 hours of operation or every 24 months, whichever comes first:</p> <ul style="list-style-type: none"> 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. <p>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.</p> <p style="text-align: center;">40 CFR 63.6625(e), 63.6640(a), Section 9 of Table 6 SWCAA 400-075</p>	EU-7, EU-8	M1, M4, M6

Req. #	Requirement	Emission Unit	Monitoring
Req-22	<p>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.</p> <p style="text-align: center;">40 CFR 63.6625(h) SWCAA 400-075</p>	EU-3, EU-4, EU-6, EU-7, EU-8, EU-9, EU-10	R4
Req-23	<p>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% O₂.</p> <p>Reference Methods: As specified in Table 4 of 40 CFR 63 Subpart ZZZZ</p> <p>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.</p> <p style="text-align: center;">40 CFR 63.6602 & Table 2c 40 CFR 63.6605(a) 40 CFR 63.6630(a), Table 5 SWCAA 400-075</p>	EU-3, EU-5, EU-6, EU-9, EU-10	M4, M5
Req-24	<p>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.</p> <p style="text-align: center;">40 CFR 63.6605(b) SWCAA 400-075</p>	EU-3, EU-5, EU-6, EU-7, EU-8, EU-9, EU-10	M4

VII. MONITORING AND RECORDKEEPING TERMS AND CONDITIONS

The permittee must conduct each of the monitoring and recordkeeping activities listed below. All monitoring information required by this permit must be recorded and readily available on-site for inspection. [WAC 173-401-615(2)]

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. [ADP 07-2758 Condition 16]

All records and supporting information 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, WAC 173-401-615(2)(c), 40 CFR 63.10(b)(1), 40 CFR 63.6660]

Pursuant to WAC 173-401-530(2)(c), the following monitoring or recordkeeping requirements do not apply to IEUs unless specified.

M1. General Recordkeeping**WAC 173-401-615(2)
ADP 07-2758 Conditions 14 & 15(b)**

Except for data recorded by an automated system, each record required by this Permit must include, at a minimum, the date and the name of the person making the record entry. For those records required for a control device or process, if the control device or process is not operating during a specific time period, a record must be made to that effect.

The Permittee is required to keep the following records as applicable:

- (a) Inspections and Certifications
 - (1) Date and time of the inspection or certification;
 - (2) Name and title of the person who conducted the inspection or certification;
 - (3) Identification of the unit or activity being inspected or certified;
 - (4) Operating conditions of the unit or the type of activity occurring at the time of the inspection or certification;
 - (5) Compliance status of each monitored requirement; and
 - (6) Description of corrective action (if any) taken in response to a discovered permit deviation, excess emission, upset condition, or malfunction, as applicable.
- (b) Upset Conditions
 - (1) Excess emissions, and upset conditions that cause excess emissions, must be recorded for each occurrence. [ADP 07-2758 Condition 14 & 15(b) – applicable to diesel engines]
- (c) Sampling and Emissions Testing
 - (1) Date sampling was performed;
 - (2) Entity that performed the sampling;
 - (3) Name and title of the person or the entity that performed the sampling or testing;
 - (4) Techniques or methods used to take the sample;
 - (5) Operating conditions existing at the time of sampling or measurement;
 - (6) Date analytical analyses (if any) were performed;
 - (7) Entity that performed the analyses;
 - (8) Analytical techniques or methods used;
 - (9) Results of such analyses;
 - (10) Compliance status of each monitored requirement; and
 - (11) Description of corrective action taken in response to permit deviations and when action was initiated.
- (d) Periodic Monitoring and Emissions Records
 - (1) Date and time of parameter observation or emission calculation;
 - (2) Name of parameter observed or emission calculated;
 - (3) Observed parameter value or calculated emission value with appropriate units; and
 - (4) Periods that data was unavailable.
- (e) Excess Emissions and Permit Deviations
 - (1) Date and time of excess emission or permit deviation occurred;
 - (2) Description of the excess emission or permit deviation and an identification of the affected unit, process, or activity; and
 - (3) Description of corrective action taken in response to a discovered permit deviation, excess emission, upset condition, or malfunction, as applicable.

- (f) Maintenance Activities
 - (1) Date and time of the maintenance activity;
 - (2) Name of the person/company who performed the maintenance;
 - (3) Identification of the unit or activity being maintained; and
 - (4) Description of the maintenance being conducted.
- (g) Changes at Source
 - (1) Date changes were made to the source that resulted in emissions of a regulated air pollutant but not otherwise regulated under the Permit;
 - (2) Description of the changes made to the source; and
 - (3) Quantity of emissions resulting from the changes.

M2. Visual Emissions Monitoring**WAC 173-401-615(1)**

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.

Each SWCAA Method 9 observation must consist of at least 6 minutes of recorded observations. For every reading in excess of the opacity standard, opacity of emissions must be read for an additional 6 minutes to a maximum total of 60 minutes or 13 readings in excess of the opacity standard.

Whenever excess visual emissions, fallout beyond the permittee's property boundary, or excessive fugitive emissions are observed during the inspection or at any other time, the permittee must:

- (a) Determine the source or cause of the emissions.
- (b) Confirm whether the equipment involved is experiencing a malfunction and whether good work practices are being employed to minimize emissions.
- (c) Within two hours of discovering excess visual emissions, excess fugitive emissions, or fallout beyond the permittee's property boundary, the permittee must initiate any necessary corrective action.
- (d) Within 24 hours of initial discovery, permittee must resolve the issue, or notify SWCAA by the next working day of progress made in resolving the issue.

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

M3. Complaint Monitoring**WAC 173-401-615**

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. [WAC 173-401-615(1)]

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

Complaint records must indicate: [WAC 173-401-615(2)]

- (a) The date and time of the complaint;
- (b) The name of the complainant (if provided);
- (c) The nature of the complaint;
- (d) The date and time of the follow-up inspection; and
- (e) Any corrective action taken in response to complaints and when such action was initiated.

M4. Operations Monitoring

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

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

The permittee must maintain an analysis of the sulfur content of each shipment of diesel fuel. For diesel fuel utilized by EU-4 (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), ADP 07-2758 Condition 12]

The permittee must maintain a non-resettable hour meter on EU-4 (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-7, and EU-8, (Units 5421 and 5422):¹

- (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)]

¹ 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.

M5. Subpart ZZZZ Performance Testing Requirements

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

The permittee must 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 (EU-3, EU-5, EU-6, EU-9, and EU-10):

- (a) The permittee must 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 must 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 III. [WAC 173-401-615]
- (d) Subsequent testing must 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 maintain a non-resettable hour meter on each engine and document the hour meter reading each time a performance test is conducted. [WAC 173-401-615(1)]
- (f) 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)]

M6. 40 CFR 63 Subpart ZZZZ Recordkeeping**40 CFR 63.10(b)(2)****40 CFR 63.6655****SWCAA 400-075**

This requirement applies to all the stationary diesel engines except the Southeast Packwood Spoils Sump Engine (EU-4).

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 63.10(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 63.10(b)(2)(vii), 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)]

VIII. 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. Pursuant to WAC 173-401-530(2)(c), reporting requirements are not applicable to IEUs unless specified.

Where a reporting schedule is specified (for example, quarterly, semi-annual, or annual), compliance with the reporting frequency is met when reports are submitted more frequently than required.

Each report that is required to be submitted to the Department of Ecology or the EPA must also be submitted to SWCAA by the deadline specified in the applicable requirement for that report. For submissions made electronically to an EPA database, the copy to SWCAA must be in a format approved by SWCAA. [WAC 173-401-615(3)]

All reports required by this Permit, and the supporting information for those reports, must be kept for a minimum period of no less than five years from the date of the report and must be maintained in a form readily available for inspection by SWCAA representatives. [WAC 173-401-615(2)(c)]

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: 20-C04
1200 Sixth Avenue, Suite 155
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
ADP 07-2758 Conditions 14 & 19

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)]

Reports of deviations from permit requirements must include: [WAC 173-401-615(3)(b)]

- (d) Whether or not the deviation is or was due to upset conditions;
- (e) The probable cause of the deviation; and
- (f) The corrective action taken, and when the corrective action was initiated.

Excess emission reports must contain the following information: [SWCAA 400-107]

- (g) Identification of the emission unit(s) involved;
- (h) A brief description of the event including identification of known causes;
- (i) Date, time and duration of the event;
- (j) For exceedances of non-opacity emission limitations, an estimate of the quantity of excess emissions;
- (k) Corrective action taken in response to the event; and
- (l) Preventive measures taken or planned to minimize future recurrence.

For the diesel engines (EU-3 – EU-10), upset conditions with the potential to cause excess emissions must be reported to SWCAA immediately upon discovery. [ADP 07-2758 Condition 19]

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

R2. Complaint Reports**WAC 173-401-630(1)**

All air quality related complaints received by the permittee regarding activities controlled by the permittee and the results of any subsequent investigation or corrective action must be recorded for each occurrence and reported to SWCAA within three days of receipt. The report must include the date and time of the complaint, the name of the complainant (if available), the nature of the complaint, and the results of any subsequent investigation or corrective action related to 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. 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 must be consistent with WAC 173-401-520.

Subpart ZZZZ Reporting

This requirement applies to EU-3, EU-5, EU-6, EU-9, and EU-10.

The permittee must submit semi-annual compliance reports to 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)]

R4. Annual Reports and Compliance Certification

WAC 173-401-630(5)
ADP 07-2758 Condition 18(a)

- (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:
- (1) Identification of each term or condition of the permit that is the basis of the certification;
 - (2) Statement of compliance status;
 - (3) Whether compliance was continuous or intermittent;
 - (4) Method(s) used for determining the compliance status of the source, currently and over the reporting period consistent with WAC 173-401-615;
 - (5) Such other facts as SWCAA may require to determine the compliance status of the source; and
 - (6) Such additional requirements as may be specified pursuant to Sections 114(a)(3) and 504(b) of the FCAA.
- (b) Annual Reports: The permittee must report the following to SWCAA annually by March 15th for the previous calendar year:
- (1) The number of hours each diesel engine operated; [ADP 07-2758 Condition 18(a)]

R5. Emission Inventory Reports

SWCAA 400-105
ADP 07-2758 Condition 18(b)

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, SO₂, PM, PM₁₀, PM_{2.5}, and toxic air pollutants identified in WAC 173-460 (as in effect August 21, 1998). Each inventory report must be certified by a responsible official consistent with WAC 173-520.

R6. Source Test Plans and Reports

WAC 173-401-615(3)
SWCAA 400-106

A comprehensive test plan must be submitted to SWCAA for review and approval at least 10 business days prior to testing. SWCAA personnel must be notified of the test date at least three days prior to the testing campaign so that they may be present during testing.

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.

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-3, EU-5, EU-6, EU-9, and EU-10 only.

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

- (a) For each performance test required by M5, 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; [40 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)]

IX. NON-APPLICABLE REQUIREMENTS

WAC 173-401-640(2)

This section lists all federal, state, and/or local requirements that might reasonably apply to the permittee, but are deemed non-applicable after review by SWCAA. In accordance with WAC 173-401-640, the permittee is provided a permit shield for not complying with the requirements described below where they have been identified to be non-applicable to specific emission units. Certain subsections describe requirements that may apply to the permittee but are not "applicable requirements" for the purposes of the Air Operating Permit program and therefore will not be included in an Air Operating Permit.

N1. Prevention of Significant Deterioration, Review of Major Stationary Sources and Major Modifications - Source Applicability and Exemption

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.

N2. Registration Program **SWCAA 400-100**

Pursuant to SWCAA 400-100(1)(b) air operating permit sources are exempt from the registration requirements of SWCAA 400-100.

N3. 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.

N4. 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.

N5. Bubble Rules **SWCAA 400-120**

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

N6. 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.

N7. Federal Greenhouse Gas Reporting Requirements **40 CFR 98**

The EPA GHG reporting rule was finalized September 22, 2009. In the preamble EPA responds to a question regarding whether it is an applicable requirement for the purposes of Title V:

"As currently written, the definition of "applicable requirement" in 40 CFR 70.2 and 71.2 does not include a monitoring rule such as today's action, which is promulgated under CAA sections 114(a)(1) and 208.

These requirements will be enforced directly by the USEPA outside of the Air Operating Permit Program."

APPENDIX A

VISIBLE EMISSIONS EVALUATION 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.)	108 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 ₂ O)	0.5 kPa (2 H ₂ O)	0.5 kPa (2 H ₂ O)	0.5 kPa (2 H ₂ O)	0.5 kPa (2 H ₂ O)	0.5 kPa (2 H ₂ O)
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	640	640	640	640	800	800
24-Volt System	570	570	570	570	570	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.					

Continued on next page

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