

**Northwest Pipeline GP**  
**Washougal Compressor Station**  
**Air Operating Permit**

**SW98-7-R2**

**Final Permit Issued: September 19, 2011**

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

AIR OPERATING PERMIT #: SW98-7-R2

ISSUED TO:

Northwest Pipeline GP  
295 Chipeta Way  
PO Box 58900  
Salt Lake City, UT 84158-0900

PLANT SITE:

Northwest Pipeline GP  
Washougal Compressor Station  
1309 NE Brown Road  
Washougal, WA 98671

NATURE OF BUSINESS:

Natural Gas Compressor Station

SIC/NAICS:

4922/486210

AIRS NUMBER:

53-011-00144

EFFECTIVE DATE:

September 19, 2011

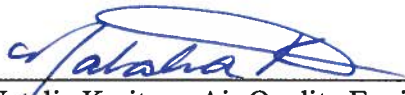
EXPIRATION DATE:

September 19, 2016

RENEWAL APPLICATION DUE:

March 19, 2016

PERMIT ENGINEER:

  
\_\_\_\_\_  
Natalia Kreitzer, Air Quality Engineer

9/19/11  
Date

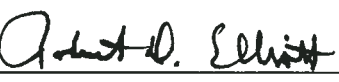
REVIEWED BY:

  
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Paul T. Mairose, Chief Engineer

9/19/11  
Date



APPROVED BY:

  
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Robert D. Elliott, Executive Director

9/19/11  
Date

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**I. ABBREVIATIONS**List of Common Abbreviations

Administrator	EPA Region X Administrator
ADP	Air Discharge Permit (aka Order of Approval)
AOP	Air Operating Permit
BACT	Best Available Control Technology
CFR	Code of Federal Regulations
CO	Carbon monoxide
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 "#"
g/hp-hr	Grams per horsepower-hour
gr/dscf	Grains per dry standard cubic foot
HAP	Hazardous air pollutant
hp	Horsepower
IEU	Insignificant emission unit
IEU#	Refers to an insignificant emission unit numbered "#"
K#	Refers to a specific recordkeeping requirement numbered "#"
lb/hr	Pounds per hour
lb/MMBtu	Pounds per million British thermal units
M#	Refers to a specific monitoring requirement numbered "#"
MMBtu	Million British Thermal Units
NSPS	New Source Performance Standards (40 CFR 60)
NSR	New source review
NO <sub>x</sub>	Oxides of nitrogen
O <sub>2</sub>	Oxygen
@ X% O <sub>2</sub>	Corrected to X% oxygen content
P#	Refers to a specific standard provision numbered "#"
PM	Particulate matter
PM <sub>10</sub>	Particulate matter less than 10 microns (µm) in diameter
PM <sub>2.5</sub>	Particulate matter less than 2.5 microns (µm) in diameter
ppm	Parts per million
ppmv	Parts per million by volume
PTE	Potential to emit
R#	Refers to a specific reporting requirement numbered "#"
RACT	Reasonably Available Control Technology
RCW	Revised Code of Washington
Region 10	Region 10 of the U.S. Environmental Protection Agency
Req #	Requirement number "#"
RMP	Risk Management Plan under 40CFR Part 68
RPM	Revolutions per minute
SIP	State Implementation Plan
SO <sub>2</sub>	Sulfur dioxide
SWCAA	Southwest Clean Air Agency
TAP	Toxic air pollutants per WAC 173-460
tpy	Tons per year
VOC	Volatile organic compound
WAC	Washington Administrative Code
WDOE	Washington Department of Ecology

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 Washington Administrative Code (WAC) 173-401 and Title V of the 1990 Federal Clean Air Act (FCAA) Amendments. The terms and conditions of this permit describe the emissions limitations, operating requirements, ambient monitoring, recordkeeping requirements, and reporting frequencies for the permitted source.

Permit terms and conditions are divided into the following categories: General Terms and Conditions, Operating Terms and Conditions, Monitoring Terms and Conditions, Recordkeeping Terms and Conditions, and Reporting Terms and Conditions. As used in this permit, there is no distinction between "terms" and "conditions." As such, "condition" shall mean the same as "terms and conditions" as referred to in Title V of the 1990 Federal Clean Air Act Amendments. The conditions required under this permit are determined necessary to assure and provide for certification of compliance with applicable local, state, and federal air pollution regulations and standards.

A comprehensive list of the local, state, and federal air pollution requirements applicable to emissions units and other air pollution sources located at the permittee's facility is provided in Sections V through IX. These requirements were determined applicable based on the equipment specifications and regulatory history of each emissions unit as described in the Basis Statement for this permit. These requirements are drawn from numerous regulations date of each requirement generally coincides with the most recent rulemaking activity. In some cases, there are multiple effective dates that reflect differences in federal versus state/local applicability. This situation is most notable with requirements that are in the Washington SIP. To clarify which version of a requirement is applicable to the facility, the effective dates of applicable requirements are presented in the table below.

SWCAA has not been delegated authority by EPA for selected subparts of 40 CFR 60 or 40 CFR 63. All monitoring, reporting, or recordkeeping for those subparts that is required to be sent to the EPA Administrator shall be sent to both SWCAA and the EPA Administrator. Unless otherwise specified in the delegation agreement, once authority for specific subparts of 40 CFR 60, or 40 CFR 63 have been delegated to SWCAA by EPA, all monitoring, reporting, or recordkeeping that is required to be sent to the EPA Administrator shall only be sent to SWCAA.

<u>Regulation/Permit</u>	<u>SIP Federal Effective Date</u>	<u>State/Local Effective Date</u>	<u>Notes / Exceptions</u>
<b><i>Federal Regulations</i></b>			
40 CFR 51	--	7/1/10	
40 CFR 52	--	7/1/10	
40 CFR 60	--	7/1/10	
40 CFR 61	--	7/1/10	
40 CFR 63	--	7/1/10	
40 CFR 68	--	7/1/10	
40 CFR 72	--	7/1/10	
40 CFR 75	--	7/1/10	
<b><i>State Regulations</i></b>			
WAC 173-400-171	9/20/1993	5/20/2009	

<u>Regulation/Permit</u>	<u>SIP Federal Effective Date</u>	<u>State/Local Effective Date</u>	<u>Notes / Exceptions</u>
WAC 173-400-700	--	5/20/2009	
WAC 173-400-720	--	5/20/2009	
WAC 173-401	--	10/17/2002	
WAC 173-406	--	12/24/1994	
WAC 173-407	--	7/20/2008	
WAC 173-425	10/18/1990	4/13/2000	
WAC 173-441	--	1/1/2011	
WAC 173-460	--	8/21/1998	Local version of state rule.
<b><i>Local Regulations</i></b>			
SWCAA 400-030	11/21/1996	11/15/2009	SIP approval excludes section (84) or the second sentence of sections (14) & (49)
SWCAA 400-040(1)(a)&(b)	9/21/1995	11/15/2009	SIP approval excludes sections (1)(c) and (1)(d)
SWCAA 400-040(2)	--	11/15/2009	
SWCAA 400-040(3)	9/21/1995	11/15/2009	
SWCAA 400-040(4)	--	11/15/2009	
SWCAA 400-040(5)	9/21/1995	11/15/2009	
SWCAA 400-040(6)	9/21/1995	11/15/2009	SIP approval excludes exception provision of section (6)(a)
SWCAA 400-040(7)	9/21/1995	11/15/2009	
SWCAA 400-040(8)(a)	9/21/1995	11/15/2009	
SWCAA 400-050(1)&(3)	9/21/1995	11/15/2009	
SWCAA 400-050(2)	9/21/1995	11/15/2009	
SWCAA 400-052	9/21/1995	11/15/2009	
SWCAA 400-060	9/21/1995	11/15/2009	
SWCAA 400-070	9/21/1995	11/15/2009	SIP version of SWCAA 400-070 does not include sections (5), (7), and (9) – (15). SIP version of SWCAA 400-070(7) has been renumbered to SWCAA 400-070(8)
SWCAA 400-075	--	11/15/2009	
SWCAA 400-081	9/21/1995	11/15/2009	
SWCAA 400-091	9/21/1995	11/15/2009	
SWCAA 400-100	9/21/1995	11/15/2009	SIP approval excludes section (4) and the first sentence of section (3)(a)(iv)
SWCAA 400-101	11/21/1996	11/15/2009	
SWCAA 400-105	9/21/1995	11/15/2009	
SWCAA 400-107	9/21/1995	11/15/2009	
SWCAA 400-109	11/21/1996	11/15/2009	SIP approval excludes sections (3)(b), (3)(c), (3)(g), (3)(h) & (3)(i)
SWCAA 400-110	11/21/1996	11/15/2009	
SWCAA 400-111	11/21/1996	11/15/2009	

<u>Regulation/Permit</u>	<u>SIP Federal Effective Date</u>	<u>State/Local Effective Date</u>	<u>Notes / Exceptions</u>
SWCAA 400-113	11/21/1996	11/15/2009	
SWCAA 400-114	11/21/1996	11/15/2009	
SWCAA 400-115	--	11/15/2009	
SWCAA 400-120	--	11/15/2009	
SWCAA 400-141	--	11/15/2009	
SWCAA 400-151	9/21/1995	11/15/2009	
SWCAA 400-171	9/21/1995	11/15/2009	
SWCAA 400-270	9/21/1995	11/15/2009	
SWCAA 425	--	8/1/2002	
SWCAA 476	--	3/18/2001	
 <i><b>Air Discharge Permits</b></i>			
SWCAA ADP 05-2596	--	2/2/06	

**III. EMISSION UNIT IDENTIFICATION**

<u>Emission Unit</u>	<u>Unit Name</u>	<u>Unit Description</u>
EU-1	Reciprocating Engine	This unit is a natural gas fired Cooper-Bessemer model 12/14V250C2, engine number 47862, turbocharged 12 cylinder, two cycle reciprocating engine-driven compressor rated at 4,000 horsepower (hp), equipped with CleanBurn™ technology. It is used to drive a compressor which provides pressure in natural gas transmission lines. RPM and torque can be varied based on demand with emissions varying accordingly.
EU-2	Turbine	This unit is a Solar Turbines, Inc. Taurus 60-T7800S (SOLONOX), gas turbine rated at 7,800 hp output. Natural gas from the pipeline is run through the turbine compressor which provides pressure in natural gas transmission lines.
EU-3	Boiler	This unit is a Sellers model C60W, serial number 100553 (front plate), natural gas fired process heater (boiler) with a heat input rate of 2.5 MMBtu per hour. It is used to produce hot water for process heating.
EU-4	Generator Engine	This unit is a Caterpillar 452 KW, 606 hp, generator model SR4, engine model 3412 STD, engine number 7DB01091, emergency electrical generator which is natural gas fired. It is used to provide emergency electrical power during power outages.
EU-5	Fire Pump Engine	This unit is a Detroit Diesel-Allison, Inc diesel fire pump, 80 hp model PDFP 04YT2502 serial number U693769A manufactured in August 1995. It is used to provide water a hydrant used by the fire department.



**IV. PERMIT PROVISIONS**

**40 CFR 51.212**  
**40 CFR 52.12, 40 CFR 52.33**  
**40 CFR 60.11**

**P1. Credible Evidence**

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. Insignificant Emission Unit - Restriction** **WAC 173-401-530(6)**

Any emissions 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.

**P3. Permit Duration** **WAC 173-401-610**

This permit shall be valid for a fixed term of 5 years.

**WAC 173-401-500(5)**  
**WAC 173-401-620(2)(e)**

**P4. Confidentiality of Records and Information** **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.

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 Administrator.

Upon request, the permittee shall 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 EPA Administrator along with a claim of confidentiality. Permitting authorities shall maintain confidentiality of such information in accordance with RCW 70.94.205.

**P5. Standard Conditions** **WAC 173-401-620(2)**

- (a) *Duty to comply.* The permittee must comply with all conditions of this Chapter 401 permit. 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 shall 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 shall 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 shall maintain confidentiality of such information in accordance with RCW 70.94.205.
- (f) *Permit fees.* The permittee shall 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 shall subject the permittee to civil and criminal penalties as prescribed in RCW 70.94.430 and 70.94.431.
- (g) *Emission 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.

**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 70.94.030(19).

**P8. Emergency Provision WAC 173-401-645**

An "emergency" as defined in WAC 173-401-645(1) shall constitute an affirmative defense to an action brought for noncompliance with technology based emission limitations. The burden of proof lies with the permittee. The affirmative defense of emergency shall 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 the permitting authority 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.

**P9. Permit Expiration – Application Shield 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.

**P10. 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 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.

**P11. Reopening 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 AOP 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.

**P12. Excess Emissions**

**SWCAA 400-107**

The permittee shall report excess emissions to SWCAA as soon as possible. Excess emissions due to startup or shutdown conditions or due to scheduled maintenance shall be considered unavoidable provided the source reports as required under by SWCAA 400-107(1) and adequately demonstrates that the excess emissions could not have been prevented or avoided.

Excess emissions due to upsets shall be considered unavoidable provided that the permittee reports as soon as possible but no later than 48 hours after discovery, and adequately demonstrates that:

- (a) The event was not caused by poor or inadequate design, operation, or maintenance, or any other reasonably preventable conditions;
- (b) The event was not of a recurring pattern indicative of inadequate design, operation, or maintenance;
- (c) The operator took immediate and appropriate corrective action in a manner consistent with 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; and
- (d) The owner or operator(s) actions in response to the excess emissions were documented by properly signed, contemporaneous operating logs, or other relevant evidence.

**V. GENERAL TERMS AND CONDITIONS**

**G1. Certification of Submittals**

**WAC 173-401-520**

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

**G2. 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, shall promptly submit such supplementary facts or

corrected information. In addition, the permittee shall 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.

**WAC 173-401-630(2)**

**SWCAA 400-105(3)**

**SWCAA 400-106(1)(a)**

**G3. Inspection and Entry**

The permittee shall 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.

**G4. Schedule of Compliance**

**WAC 173-401-630(3)**

The permittee shall 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.

**G5. Permit Renewal**

**WAC 173-401-710(1)**

The permittee shall submit a complete permit renewal application to SWCAA no later than the date established in the permit.

This permit expires on September 19, 2016. A complete renewal application is due no later than March 19 2016.

**G6. 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.

**G7. Misrepresentation and Tampering**

**SWCAA 400-105(6&7)**

The permittee shall not make any false material statement, representation or certification in any form, notice, or report. The permittee shall 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.

WAC 173-400-700

WAC 173-460 (effective 8/21/98)

SWCAA 400-109, SWCAA 400-110

SWCAA 400-141

**G8. New Source Review**

The permittee shall not construct or modify a source that is required to be reviewed under SWCAA 400-110, 400-111, 400-141 and/or WAC 173-460 (effective 8/21/98) without first receiving an approval or permit under such provisions. Portable sources may be exempt from this requirement if they fulfill the criteria described in G9.

SWCAA 400-110(5) - SIP version

**G9. Portable Sources**

SWCAA 400-110(6)

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) The owner(s) and/or resident(s) of immediately adjacent properties shall be notified by the owner(s) or operator(s) of the portable source in writing at least 10 business days prior to commencement of operations at the proposed location with copies mailed to SWCAA. Written notification to the adjacent landowners/residents shall be by certified mail with return receipt requested. Such written notification shall include a complete description of the proposed operation, the associated emissions control provisions and equipment, the total estimated project emissions, the name, address and phone number of the person in charge of the operation, and the address and phone number for SWCAA. Written notification shall indicate that all comments shall be directed to SWCAA.

**G10. 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 or equipment installed at an existing stationary source or emission unit, the permittee shall file an air discharge permit application with SWCAA. Construction shall 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 (30) days of receipt of a complete application.

**G11. Outdoor Burning**

SWCAA 425

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

**40 CFR 61, Subpart M**  
**SWCAA 400-075**  
**SWCAA 476**

**G12. Asbestos**

The permittee shall 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.

**G13. Protection of Stratospheric Ozone**

**40 CFR 82, Subparts B & F**

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

**G14. Chemical Accident Prevention Provisions**

**40 CFR 68**

40 CFR 68 requires risk management plans be developed for the substances and thresholds listed in Section 68.130. The permittee shall 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.

**G15. Reporting of Emissions of Greenhouse Gases**

**WAC 173-441**

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<sub>2</sub>e or more per calendar year. The permittee shall prepare and submit greenhouse gas reports to Ecology in accordance with the provisions of WAC 173-441-050 for each affected facility.

**VI. OPERATING TERMS AND CONDITIONS**

The following table lists all federal, state, and/or locally enforceable requirements applicable to the Permittee. The legal authority for each requirement is listed below each requirement. Applicable requirements identified as having "plantwide" applicability apply to both EUs and IEUs. Some of the requirements 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.#	Requirements	Emission Point	Monitoring
Req-1	NO <sub>x</sub> emissions from the turbine shall not exceed 42 ppm corrected to 15% O <sub>2</sub> . Reference Method – EPA Method 20 40 CFR 60.4320(a) SWCAA 400-115	EU2	M1 NO <sub>x</sub> Standard

Req.#	Requirements	Emission Point	Monitoring
Req-2	Permittee shall not burn any fuel which contains total potential sulfur emissions in excess of 26 ng SO <sub>2</sub> /J (0.06 lb SO <sub>2</sub> /MMBtu) heat input. Reference Method – ASTM D5287  40 CFR 60.4330(a)(2) SWCAA 400-115	EU2	M2 Compliance Certification
Req-3	The turbine, air pollution control equipment, and monitoring equipment shall be operated in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown and malfunction.  40 CFR 60.11(d) 40 CFR 60.4333(a) SWCAA 400-115	EU2	M3 Turbine Monitoring
Req-4	Effective May 3, 2013, the emergency generator may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by the manufacturer, the vendor, or the insurance company associated with the engine. Required testing of such units should be minimized.  40 CFR 63.6640(f)(2)(ii)	EU4	M4 Generator Monitoring
Req-5	Effective May 3, 2013, the emergency generator may operate up to 50 hours per year in non-emergency situations in addition to the time operated for maintenance checks and readiness testing. 40 CFR 63.6640(f)(2)(iii)	EU4	M4 Generator Monitoring
Req-6	Effective May 3, 2013, the permittee shall conduct the following maintenance for the fire pump: a. Change oil and filter every 1,000 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; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary; 40 CFR 63.6602 & Table 2c, Section 2 40 CFR 63.6625(e)	EU5	M5 Fire Pump Engine Monitoring Plan
Req-7	At all times the fire pump must be operated and maintained in a manner consistent with safety and good air pollution control practices for minimizing emissions.  40 CFR 63.6625(e) & 40 CFR 63.6605(b)	EU5	M5 Fire Pump Engine Monitoring Plan
Req-8	Effective May 3, 2013, the Permittee shall minimize the time the fire pump spends at idle and minimize the fire pump's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes.  40 CFR 63.6625(h)	EU5	N/A
Req-9	Permittee shall not cause or permit any emission which exceeds 20% opacity for more than three minutes (aggregate) in any one hour period except as provided in SWCAA 400-040(1). Reference Method – SWCAA Method 9 (SWCAA 400 App. A) SWCAA 400-040(1)	Plantwide	M6 Opacity Monitoring
Req-10	Permittee shall not cause or permit fallout of particulate matter beyond the source's property boundary in sufficient quantity to interfere unreasonably with use and enjoyment of the property on which the fallout occurs.  SWCAA 400-040(2)	Plantwide	M7 Fugitive Emissions Monitoring
Req-11	Permittee shall take reasonable precautions to prevent the release of air contaminants from any operation that emits fugitive emissions.  SWCAA 400-040(3) ADP 05-2596, Condition 7	Plantwide	M7 Fugitive Emissions Monitoring
Req-12	Operations that cause or contribute to odors that unreasonably interfere with any other property owner's use and enjoyment of their property shall use recognized good practice and procedures to reduce those odors to a reasonable minimum.  SWCAA 400-040(4) ADP 05-2596, Condition 8	Plantwide	M7 Fugitive Emissions Monitoring
Req-13	Permittee shall not cause or permit the emission of any air contaminant detrimental to persons, property or business.  SWCAA 400-040(5)	Plantwide	M8 Complaint Monitoring



Req.#	Requirements	Emission Point	Monitoring																								
Req-14	<p>Permittee shall not cause or permit any emissions unit to emit a gas containing in excess of 1,000 ppm of sulfur dioxide on a dry basis, corrected to 7% O<sub>2</sub> or 12% CO<sub>2</sub> as required by the applicable emission standard for combustion sources, and based on the average of sixty (60) consecutive minutes.</p> <p>Reference Method – 40 CFR 60 Appendix A Method 6 SWCAA 400-040(6)</p>	Plantwide	M2 Compliance Certification																								
Req-15	<p>Permittee shall 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.</p> <p>SWCAA 400-040(7)</p>	Plantwide	M2 Compliance Certification																								
Req-16	<p>Permittee shall take reasonable precautions to prevent emissions of fugitive dust and operate the source to minimize emissions.</p> <p>SWCAA 400-040(8)(a) ADP 05-2596, Condition 7</p>	Plantwide	M7 Fugitive Emission Monitoring																								
Req-17	<p>Permittee shall 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 SWCAA 400-050(1)&amp;(3)</p>	Plantwide	M6 Opacity Monitoring																								
Req-18	<p>Permittee shall not cause or permit emissions of particulate matter from a general process unit in excess of 0.1 gr/dscf of exhaust gas.</p> <p>Reference Method – 40 CFR 60 Appendix A Method 5 SWCAA 400-060</p>	Plantwide	M6 Opacity Monitoring																								
Req-19	<p>Combined emissions from plant operations shall not exceed:</p> <table border="0"> <thead> <tr> <th>Pollutant</th> <th>Emission Limit</th> </tr> </thead> <tbody> <tr> <td>CO</td> <td>114.4 ton/yr</td> </tr> <tr> <td>NO<sub>x</sub></td> <td>143.3 ton/yr</td> </tr> <tr> <td>SO<sub>2</sub></td> <td>1.5 ton/yr</td> </tr> <tr> <td>VOCs</td> <td>29.3 ton/yr</td> </tr> <tr> <td>PM</td> <td>15.2 ton/yr</td> </tr> <tr> <td>Benzene</td> <td>0.25 ton/yr</td> </tr> <tr> <td>Formaldehyde</td> <td>16.4 ton/yr</td> </tr> </tbody> </table> <p>ADP 05-2596, Condition 1</p>	Pollutant	Emission Limit	CO	114.4 ton/yr	NO <sub>x</sub>	143.3 ton/yr	SO <sub>2</sub>	1.5 ton/yr	VOCs	29.3 ton/yr	PM	15.2 ton/yr	Benzene	0.25 ton/yr	Formaldehyde	16.4 ton/yr	Plantwide	M9 Engine Testing, M10 Turbine Testing, M11 Boiler and Generator Limits								
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Req-20	<p>Emissions from the reciprocating engine shall not exceed the following:</p> <table border="0"> <thead> <tr> <th>Pollutant</th> <th>Emission Limit</th> <th>Reference Method</th> </tr> </thead> <tbody> <tr> <td>CO</td> <td>2.0 grams/hp-hour* and 77.2 ton/yr</td> <td>EPA Method 10</td> </tr> <tr> <td>NO<sub>x</sub></td> <td>3.0 grams/hp-hour* and 115.8 ton/yr</td> <td>EPA Method 7E</td> </tr> <tr> <td>SO<sub>2</sub></td> <td>0.44 ton/yr</td> <td>EPA Method 6</td> </tr> <tr> <td>VOCs</td> <td>0.5 grams/hp-hour* and 19.3 ton/yr</td> <td>EPA Method 18 or 25A</td> </tr> <tr> <td>PM</td> <td>3.01 lb/hr and 13.2 ton/yr</td> <td>EPA Method 5</td> </tr> <tr> <td>Benzene</td> <td>0.056 lb/hr and 0.25 ton/yr</td> <td>EPA Method 18</td> </tr> <tr> <td>Formaldehyde</td> <td>3.5 lb/hr and 15.3 ton/yr</td> <td>EPA Method 320</td> </tr> </tbody> </table> <p>* At 100% torque, 250 rpm</p> <p>ADP 05-2596, Condition 2</p>	Pollutant	Emission Limit	Reference Method	CO	2.0 grams/hp-hour* and 77.2 ton/yr	EPA Method 10	NO <sub>x</sub>	3.0 grams/hp-hour* and 115.8 ton/yr	EPA Method 7E	SO <sub>2</sub>	0.44 ton/yr	EPA Method 6	VOCs	0.5 grams/hp-hour* and 19.3 ton/yr	EPA Method 18 or 25A	PM	3.01 lb/hr and 13.2 ton/yr	EPA Method 5	Benzene	0.056 lb/hr and 0.25 ton/yr	EPA Method 18	Formaldehyde	3.5 lb/hr and 15.3 ton/yr	EPA Method 320	EU1	M9 Reciprocating Engine Testing and Recording Requirements
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PM	3.01 lb/hr and 13.2 ton/yr	EPA Method 5																									
Benzene	0.056 lb/hr and 0.25 ton/yr	EPA Method 18																									
Formaldehyde	3.5 lb/hr and 15.3 ton/yr	EPA Method 320																									
Req-21	<p>Emissions from the turbine shall not exceed the following:</p> <table border="0"> <thead> <tr> <th>Pollutant</th> <th>Emission Limit</th> <th>Reference Method</th> </tr> </thead> <tbody> <tr> <td>CO</td> <td>50 ppm<sub>v</sub>* @15% O<sub>2</sub> and 34.54 ton/yr</td> <td>EPA Method 10</td> </tr> <tr> <td>NO<sub>x</sub></td> <td>25 ppm<sub>v</sub>* @15% O<sub>2</sub> and 28.37 ton/yr</td> <td>EPA Method 7E or 20</td> </tr> <tr> <td>SO<sub>2</sub></td> <td>0.98 ton/yr</td> <td>EPA Method 6</td> </tr> <tr> <td>VOCs</td> <td>25 ppm<sub>v</sub> @15% O<sub>2</sub> and 9.89 ton/yr</td> <td>EPA Method 18 or 25A</td> </tr> <tr> <td>PM</td> <td>0.43 lb/hr and 1.87 ton/yr</td> <td>EPA Method 5</td> </tr> <tr> <td>Benzene</td> <td>6.4x10<sup>-4</sup> lb/hr and 0.002 ton/yr</td> <td>EPA Method 18</td> </tr> <tr> <td>Formaldehyde</td> <td>0.25 lb/hr and 1.08 ton/yr</td> <td>EPA Method 320</td> </tr> </tbody> </table> <p>* At ≥ 90 percent NGP</p> <p>ADP 05-2596, Condition 3</p>	Pollutant	Emission Limit	Reference Method	CO	50 ppm <sub>v</sub> * @15% O <sub>2</sub> and 34.54 ton/yr	EPA Method 10	NO <sub>x</sub>	25 ppm <sub>v</sub> * @15% O <sub>2</sub> and 28.37 ton/yr	EPA Method 7E or 20	SO <sub>2</sub>	0.98 ton/yr	EPA Method 6	VOCs	25 ppm <sub>v</sub> @15% O <sub>2</sub> and 9.89 ton/yr	EPA Method 18 or 25A	PM	0.43 lb/hr and 1.87 ton/yr	EPA Method 5	Benzene	6.4x10 <sup>-4</sup> lb/hr and 0.002 ton/yr	EPA Method 18	Formaldehyde	0.25 lb/hr and 1.08 ton/yr	EPA Method 320	EU2	M10 Turbine Testing and Recording Requirements M3 Turbine Monitoring
Pollutant	Emission Limit	Reference Method																									
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Req.#	Requirements	Emission Point	Monitoring																		
Req-22	<p>Emissions from the boiler shall not exceed the following:</p> <table border="0"> <thead> <tr> <th><u>Pollutant</u></th> <th><u>Emission Limit</u></th> <th><u>Reference Method</u></th> </tr> </thead> <tbody> <tr> <td>CO</td> <td>0.206 lb/hr and 0.90 ton/yr</td> <td>EPA Method 10</td> </tr> <tr> <td>NO<sub>x</sub></td> <td>0.245 lb/hr and 1.07 ton/yr</td> <td>EPA Method 7E or 20</td> </tr> <tr> <td>SO<sub>2</sub></td> <td>0.04 ton/yr</td> <td>EPA Method 6</td> </tr> <tr> <td>VOCs</td> <td>0.014 lb/hr and 0.06 ton/yr</td> <td>EPA Method 18 or 25A</td> </tr> <tr> <td>PM</td> <td>0.019 lb/hr and 0.08 ton/yr</td> <td>EPA Method 5</td> </tr> </tbody> </table> <p>ADP 05-2596, Condition 4</p>	<u>Pollutant</u>	<u>Emission Limit</u>	<u>Reference Method</u>	CO	0.206 lb/hr and 0.90 ton/yr	EPA Method 10	NO <sub>x</sub>	0.245 lb/hr and 1.07 ton/yr	EPA Method 7E or 20	SO <sub>2</sub>	0.04 ton/yr	EPA Method 6	VOCs	0.014 lb/hr and 0.06 ton/yr	EPA Method 18 or 25A	PM	0.019 lb/hr and 0.08 ton/yr	EPA Method 5	EU3	M11 Boiler and Generator Engine Recording Requirements
<u>Pollutant</u>	<u>Emission Limit</u>	<u>Reference Method</u>																			
CO	0.206 lb/hr and 0.90 ton/yr	EPA Method 10																			
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VOCs	0.014 lb/hr and 0.06 ton/yr	EPA Method 18 or 25A																			
PM	0.019 lb/hr and 0.08 ton/yr	EPA Method 5																			
Req-23	<p>Emissions from the emergency generator shall not exceed the following:</p> <table border="0"> <thead> <tr> <th><u>Pollutant</u></th> <th><u>Emission Limit</u></th> <th><u>Reference Method</u></th> </tr> </thead> <tbody> <tr> <td>CO</td> <td>17.2 lb/hr and 1.72 ton/yr</td> <td>EPA Method 10</td> </tr> <tr> <td>NO<sub>x</sub></td> <td>10.2 lb/hr and 1.02 ton/yr</td> <td>EPA Method 7E or 20</td> </tr> <tr> <td>SO<sub>2</sub></td> <td>0.002 ton/yr</td> <td>EPA Method 6</td> </tr> <tr> <td>VOCs</td> <td>0.14 lb/hr and 0.01 ton/yr</td> <td>EPA Method 18 or 25A</td> </tr> <tr> <td>PM</td> <td>0.090 lb/hr and 0.01 ton/yr</td> <td>EPA Method 5</td> </tr> </tbody> </table> <p>ADP 05-2596, Condition 5</p>	<u>Pollutant</u>	<u>Emission Limit</u>	<u>Reference Method</u>	CO	17.2 lb/hr and 1.72 ton/yr	EPA Method 10	NO <sub>x</sub>	10.2 lb/hr and 1.02 ton/yr	EPA Method 7E or 20	SO <sub>2</sub>	0.002 ton/yr	EPA Method 6	VOCs	0.14 lb/hr and 0.01 ton/yr	EPA Method 18 or 25A	PM	0.090 lb/hr and 0.01 ton/yr	EPA Method 5	EU4	M11 Boiler and Generator Engine Recording Requirements
<u>Pollutant</u>	<u>Emission Limit</u>	<u>Reference Method</u>																			
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VOCs	0.14 lb/hr and 0.01 ton/yr	EPA Method 18 or 25A																			
PM	0.090 lb/hr and 0.01 ton/yr	EPA Method 5																			
Req-24	<p>Visible emissions shall 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). Reference Method – SWCAA Method 9</p> <p>ADP 05-2596, Condition 6</p>	EU1-EU4	M6 Opacity Monitoring																		
Req-25	<p>All equipment shall be fired on natural gas only with a total sulfur content of 20.0 grains per 100 standard cubic feet or less.</p> <p>ADP 05-2596, Condition 10</p>	Plantwide	M2 Compliance Certification																		
Req-26	<p>The reciprocating engine shall be maintained at levels greater than or equal to 175 rpm on a one hour average except during startup and shut down.</p> <p>ADP 05-2596, Condition 11</p>	EU1	M12 Reciprocating engine RPM and Torque																		
Req-27	<p>The stack height of the reciprocating engine and turbine shall not be less than 84 feet above ground level unless modeling is performed and approved by SWCAA that demonstrates compliance with all applicable regulations and standards at a lower stack height.</p> <p>ADP 05-2596, Condition 12</p>	EU1, EU2	M2 Compliance Certification																		
Req-28	<p>Hours of operation of the emergency generator shall not exceed 200 hours per year.</p> <p>ADP 05-2596, Condition 13</p>	EU6	M11 Boiler and Generator Engine Recording Requirements																		

**VII. MONITORING TERMS AND CONDITIONS**

To assure compliance with all applicable requirements, the permittee shall perform the monitoring program specified below. These monitoring requirements also ensure that the equipment is being maintained as per 40 CFR 60.11(d) where applicable. Each monitoring requirement is indexed according to the underlying requirement(s). Pursuant to WAC 173-401-530(2)(c), none of the following monitoring requirements apply to IEUs.

The permittee shall make a record of all required monitoring activities as described in Section K1 of this permit.

**M1. NO<sub>x</sub> Standard 40 CFR 60.4320(a), SWCAA 400-115**

This monitoring requirement applies to Req-1.

Compliance with the standard shall be demonstrated either by selecting one of the following three compliance options:

- (a) Periodic source testing as described in 40 CFR 60.4340(a). Source testing must be performed annually in accordance with 40 CFR 60.4400 to demonstrate continuous compliance. If the NO<sub>x</sub> emission result from the performance test is less than or equal to 75 percent of the NO<sub>x</sub> emission limit for the turbine, the permittee may reduce the frequency of subsequent performance tests to once every two years (no more than 26 calendar months following the previous performance test). If the results of any subsequent performance test exceeds 75 percent of the NO<sub>x</sub> emission limit for the turbine, the permittee must resume annual performance tests;
- (b) Operation of a continuous monitoring system as described in 40 CFR 60.4345. The operating plan must be approved by SWCAA. The permittee shall submit a certification statement to SWCAA every six months that certifies that the quality assurance plan has been followed at all times or that exceptions have been reported. Any revision to the quality assurance plan must be reported with the semiannual report.; or
- (c) Continuous parameter monitoring as described in 40 CFR 60.4340(b)(ii) with a parameter monitoring plan as described in 40 CFR 60.4355. Superseded copies of the parameter monitoring plan must be maintained on site for a period of five years after the revision of the plan. The permittee shall submit a copy of the parameter monitoring plan to SWCAA or EPA upon request. The permittee shall submit a certification statement to SWCAA every six months that certifies that the parameter monitoring plan has been followed at all times or that exceptions have been reported. Any revision to the parameter monitoring plan must be reported with the semiannual report.

**M2. Compliance Certification WAC 173-401-615(1)**

This monitoring requirement applies to Reqs-2, 14, 15, 25 and 27.

The permittee shall certify the following in each semi-annual report:

- (a) Only pipeline quality natural gas with a valid tariff sheet specifying that the total sulfur content is 20.0 grains of sulfur or less per 100 standard cubic feet is used as fuel for all permitted combustion units at the facility (excluding insignificant emission sources). Records of monitoring activities shall be maintained in accordance with Section VIII of this permit;
- (b) Installed equipment does not conceal or mask any emissions which are otherwise in violation of general standards; and

- (c) The height of the reciprocating engine and turbine stacks are not less than 84 feet above ground level or the stack heights are lower than 84 feet however modeling has been performed and approved by SWCAA that demonstrates compliance with all applicable regulations and standards at the lower stack height.

**M3. Turbine Monitoring** **ADP 05-2596, Condition 20**

This monitoring requirement applies to Req-3 and 21.

The turbine combustion temperature and gas producer speed shall be continuously monitored.

**40 CFR 63.6640**

**M4. Emergency Generator Engine Hours Monitoring** **ADP 05-2596, Condition 22**

This monitoring requirement applies to Requirements 4 and 5 for EU4.

The permittee shall install a non-resettable time totalizer to measure hours of operation of the emergency generator engine. The permittee shall record the hours of operation of the emergency generator engine once per month.

Effective May 3, 2013, the Permittee shall document how many hours are spent for non-emergency, non maintenance, non readiness testing operation.

Effective May 3, 2013, the Permittee shall have documentation onsite from the manufacturer, vendor or insurance company associated with the engine stating that maintenance checks and/or readiness testing is recommended.

Records of monitoring activities shall be maintained in accordance with Section VIII K1(d) of this permit.

**M5. Fire Pump Engine Monitoring Plan** **40 CFR 63.6625(e), 40 CFR 63.6655**

This monitoring requirement applies to Requirements 6, 7, and 8.

Effective May 3, 2013, the permittee shall conduct the following monitoring for EU5:

- a. The fire pump engine shall be operated and maintained in accordance with the manufacturer's emission-related operation and maintenance instructions or the Permittee's own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions
- b. The Permittee shall document and record each incidence of maintenance and repairs conducted to demonstrate compliance with the emissions-related maintenance requirements. Activities that must be documented include, but are not limited to: oil and oil filter changes, air cleaner inspections, and inspection of hoses and belts. (63.6655(e))

Records of monitoring activities shall be maintained in accordance with Section VIII K1(d) of this permit.

**M6. Opacity Monitoring** **WAC 173-401-615(1)**

This monitoring requirement applies to Reqs-9, 17, 18 and 24.

The permittee shall perform monthly inspections by performing a brief qualitative observation of each emission unit and affected operation during daylight hours for the purpose of identifying potential opacity violations. If no visible emissions are observed, the permittee shall make a record as per Section VIII of this permit. Whenever any visible emissions are observed, the permittee shall identify the equipment causing the emissions. The permittee shall within 60 minutes of observing visible emissions confirm whether the equipment involved is experiencing a malfunction and whether all air pollution control equipment is operating properly. The permittee shall either eliminate visible emissions within 24-hours of initial discovery or demonstrate compliance with applicable opacity limits by recording opacity within three working days using the visual emission evaluation method in SWCAA 400 Appendix A. Implementation of corrective action does not relieve the permittee from the obligation of reporting permit deviations as specified in WAC 173-401-615(3). Records of monitoring activities shall be maintained in accordance with Section VIII of this permit.

**M7. Fugitive Emissions Monitoring****WAC 173-401-615(1)**

This monitoring requirement applies to Reqs-10, 11, 12 and 16.

This permittee shall record, and maintain record of, any air quality, odor or fallout related complaints received by the permittee or forwarded to the permittee by SWCAA regarding the compressor station property excluding noise or right-of-way issues. These complaints shall be investigated no later than one work day after the permittee has been notified. Investigation shall verify the validity of each complaint, the cause of emissions which prompted the complaint, and what, if any, corrective action was taken in response to the complaint.

In addition to complaint response, the permittee shall perform monthly inspections by performing a brief qualitative observation of any potential source of fugitive emissions including, but not limited to, dust and odors, etc. during daylight hours for the purpose of identifying excess fugitive emissions. If no fugitive emissions are observed, the permittee shall make a record as per Section VIII of this permit. Whenever any fugitive emissions are observed the permittee shall identify the source causing the emissions. The permittee shall within 60 minutes of discovery confirm whether the source involved is experiencing a malfunction, and whether reasonable precautions and good work practices are being employed to minimize emissions. Reasonable precautions and good work practices include, but are not limited to, worker training programs, closed doors and windows, vertical exhaust of ventilation equipment, and proper operation of ventilation systems. Implementation of corrective action does not relieve the permittee from the obligation of reporting permit deviations as specified in WAC 173-401-615(3). Records of monitoring activities shall be maintained in accordance with Section VIII of this permit.

**M8. Complaint Monitoring****WAC 173-401-615(1)**

This monitoring requirement applies to Req-13.

This permittee shall record, and maintain record of, any air quality, odor or fallout related complaints received by the permittee or forwarded to the permittee by SWCAA regarding the compressor station property excluding noise or right-of-way issues. These complaints shall be investigated no later than one work day after the permittee has been notified. Investigation shall verify the validity of each complaint, the cause of emissions which prompted the complaint, and what, if any, corrective action was taken in response to the complaint. Permittee shall take appropriate corrective action for all valid complaints. Records of monitoring activities shall be maintained in accordance with Section VIII of this permit.

**SWCAA 400-052, ADP 05-2596, Condition 23**

**M9. Reciprocating Engine Testing and Recording Requirements**

This monitoring requirement applies to Reqs-19 and 20.

The permittee shall test the reciprocating engine at least once every five years. If the engine has operated more than 5,000 hours since the last emission test, testing shall be performed during the next calendar year. Source testing shall be performed at two operating conditions, one of which must be representative of maximum intended operating conditions. The second load condition shall consist of a load (<85% torque and <218 rpm, <85% torque and ≥218 rpm, or ≥85% torque and <218 rpm) that the engine has most frequently operated at since the last source test or another load condition agreed upon by SWCAA. EPA Method 7E shall be used for NO<sub>x</sub>. EPA Method 10 shall be used for CO and EPA Method 18 or 25A for VOCs. EPA Method 5 with back half condensable matter by Method 202, combined, or Method 17, or equivalent shall be used for PM. EPA Method 320, EPA Proposed Method 323 or equivalent as defined in Appendix B shall be used for formaldehyde. SWCAA Method 9 (Appendix A) for a minimum of 6 minutes shall be used for opacity.

The permittee shall record monthly hours of operation at each of the four load conditions (<85% torque and <218 rpm, <85% torque and ≥218 rpm, or ≥85% torque and <218 rpm).

The permittee shall continuously record rpm and torque while the unit is in operation. Compliance with the annual emission limits for NO<sub>x</sub>, CO, VOCs, PM and formaldehyde shall be demonstrated by summing the hours of operation for each of the four load condition ranges (shown in R3(d)) and applying the corresponding emission rates in pounds per hour from the most recent source test data.

SO<sub>2</sub> compliance shall be determined based on the annual average sulfur content of the natural gas and a maximum heat input of 28.92 MMBtu per hour to obtain an emission factor as follows:

$$XX \frac{\text{grains S}}{100 \text{ cf}} \times 28.92 \frac{\text{MMBtu}}{\text{hour}} \times \frac{\text{lb}}{7000 \text{ grains}} \times \frac{\text{cf}}{0.001 \text{ MMBtu}} \times 2 \frac{\text{lb SO}_2}{\text{lb S}} = X \frac{\text{lb SO}_2}{\text{hour}}$$

For benzene compliance shall be calculated using the emission factor in pounds per hour shown in the Technical Support Document (TSD) for ADP 05-2596 and actual hours of operation:

<u>Pollutant</u>	<u>Factor</u>
Benzene	0.056 lb/hr

Records of monitoring activities shall be maintained in accordance with Section VIII of this permit.

**M10. Turbine Testing and Recording Requirements** **ADP 05-2596, Condition 24**

This monitoring requirement applies to Reqs-19 and 21.

The turbine shall be tested every five calendar years no later than the end of the month of December at one load point representing the maximum speed (□>95% gas producer speed) (more frequent NO<sub>x</sub> testing may be required by monitoring requirement M1 NO<sub>x</sub> Standard). EPA Method 7E or 20 shall be used for NO<sub>x</sub>. EPA Method 10 shall be used for CO and EPA Method 18 or 25A for VOCs. SWCAA Method 9 (Appendix A) for a minimum of 6 minutes shall be used for opacity.

The permittee shall record monthly hours of operation.

Compliance with the annual emission limits from the turbine shall be calculated using the most recent source test results at maximum load conditions in pounds per hour and actual hours of operation.

SO<sub>2</sub> compliance shall be determined based on the annual average sulfur content of the natural gas and a maximum heat input of 64.68 MMBtu per hour to obtain an emission factor as follows:

$$XX \frac{\text{grains S}}{100 \text{ cf}} \times 64.68 \frac{\text{MMBtu}}{\text{hour}} \times \frac{\text{lb}}{7000 \text{ grains}} \times \frac{\text{cf}}{0.001 \text{ MMBtu}} \times 2 \frac{\text{lb SO}_2}{\text{lb S}} = X \frac{\text{lb SO}_2}{\text{hour}}$$

For all other pollutants, annual emissions shall be calculated using the emission factor in pounds per hour contained in the TSD for ADP 05-2596 and actual hours of operation.

<u>Pollutant</u>	<u>Factor</u>
PM	0.43 lb/hr
Benzene	0.00046 lb/hr
Formaldehyde	0.25 lb/hr

Records of monitoring activities shall be maintained in accordance with Section VIII of this permit.

**M11. Boiler and Generator Engine Recording Requirements ADP 05-2596, Conditions 4 & 5**  
 This monitoring requirement applies to Reqs-19, 22, 23 and 28.

The permittee shall record hours of operation for the boiler and generator engine monthly.

Emissions for the boiler shall be calculated annually using annual hours of operation and the following emission factors from the TSD for ADP 05-2596:

<u>Pollutant</u>	<u>Factor</u>
NO <sub>x</sub>	0.245 lb/hr
CO	0.206 lb/hr
VOC	0.014 lb/hr
SO <sub>2</sub>	0.009 lb/hr
PM	0.019 lb/hr

Emissions for the emergency generator engine shall be calculated annually using annual hours of operation and the following emission factors from the TSD for ADP 05-2596:

<u>Pollutant</u>	<u>Factor</u>
NO <sub>x</sub>	10.2 lb/hr
CO	17.2 lb/hr
VOC	0.14 lb/hr
SO <sub>2</sub>	0.016 lb/hr
PM	0.090 lb/hr

Records of monitoring activities shall be maintained in accordance with Section VIII of this permit.

**M12. Reciprocating Engine RPM and Torque****ADP 05-2596, Condition 17**

This monitoring requirement applies to Req-26.

The rpm and torque shall be continuously monitored and recorded during normal operation. The data shall be reported based on hourly averages. Records of monitoring activities shall be maintained in accordance with Section VIII of this permit.

**VIII. RECORDKEEPING TERMS AND CONDITIONS**

The permittee shall maintain files of all information, including all reports and notifications, recorded in a form suitable and readily available for expeditious inspection and review. The files shall be retained for at least five (5) years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The recordkeeping requirements listed below do not apply to insignificant emission units (IEUs) pursuant to WAC 173-401-530(2)(c).

**K1. General Recordkeeping****ADP 05-2596, Conditions 14-16, WAC 173-401-615(2)**

Permittee is required to keep the following records as applicable:

## (a) Inspections &amp; 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 as described in Sections V and VII of this Permit; 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) Complaints

- (1) Date and time of complaint;
- (2) Name of the complainant;
- (3) The nature of the complaint;
- (4) Date and time of follow-up inspection;
- (5) The name and title of the person who conducted the inspection or certification; and
- (6) Description of corrective action (if any) taken in response to complaint.

## (c) Sampling and testing

- (1) The date sampling was performed;
- (2) The entity that performed the sampling;
- (3) The analytical techniques used to take the sample;
- (4) The operating conditions existing at the time of sampling or measurement;
- (5) The date analyses were performed;
- (6) The entity that performed the analyses;
- (7) The analytical techniques or methods used;
- (8) The results of such analyses;
- (9) Compliance status of each monitored requirement as described in Section V and VII of this permit; and
- (10) Corrective action taken in response to permit deviations and when action was initiated.



## (d) Maintenance Activities

- (1) Date and time of the maintenance activity;
- (2) Name of the person who performed the maintenance;
- (3) Identification of the unit or activity being maintained; and
- (4) Description of the maintenance being conducted.

## (e) Excess Emissions and Upset Conditions

- (1) Date and time of excess emission or upset condition occurred;
- (2) Nature of the excess emission or upset condition 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) 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.

**IX. REPORTING TERMS AND CONDITIONS**

All required reports must be certified by a responsible official consistent with WAC 173-401-520. Certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information contained in the submittal are true, accurate, and complete. 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.

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

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

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

US EPA Region X  
Air Operating Permits  
1200 Sixth Avenue, AWT-107  
Seattle, WA 98101

**40 CFR 60.7(b)**

**WAC 173-401-615(3)(b)**

**SWCAA 400-107, SWCAA 400-115**

**ADP 05-2596 Conditions 26 and 27**

**R1. Deviations from Permit Conditions**

The permittee shall report deviations from permit requirements no later than thirty days after the end of the month during which the deviation is discovered. Deviations that represent a potential threat to human health or safety shall be reported as soon as possible but no later than twelve hours after the deviation is discovered. Excess emissions shall be reported as soon as possible. In accordance with SWCAA 400-107(1), excess emissions that the permittee wishes to be considered unavoidable must be reported as soon as possible, but no later than 48 hours after discovery.

All deviation reports shall be submitted in writing (e.g. e-mail, facsimile or letter). Each report shall include the following information:

- (a) Identification of the emission unit(s) involved;
- (b) Duration of the event including the beginning and end times; and
- (c) Description of the event, including:
  - (1) Whether or not the deviation was due to an upset condition;
  - (2) Probable cause of the deviations; and
  - (3) Description of corrective action taken in response to the event (if any).

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

The permittee shall report all complaints to SWCAA within three business days of receipt. Complaint reports shall include the following information:

- (a) Date and time of the complaint;
- (b) Name of the complainant;
- (c) Nature of the complaint; and
- (d) Description of corrective action taken in response to complaint (if any).

**R3. Semi-annual Reports** **WAC 173-401-615(3)**  
**ADP 05-2596 Condition 25**

The permittee shall submit to SWCAA by September 15th and March 15th for the six month periods January through June and July through December, respectively, the following information:

- (a) A report on the status of all monitoring requirements of this permit, consistent with WAC 173-401-615(3). Any deviation from permit requirements shall be clearly identified.
- (b) Certification of any reports submitted during the semi-annual period that have not already been certified consistent with the provisions of WAC 173-401-520.
- (c) The permittee shall certify in each semi-annual report that only pipeline quality natural gas with a valid tariff sheet specifying that the total sulfur content is 20 grains of sulfur or less per 100 standard cubic feet is used as fuel for all permitted combustion units at the facility (excluding insignificant emission sources).
- (d) The permittee shall certify in each semi-annual report that either:
  - (1) The height of the reciprocating engine and turbine stacks are not less than 84 feet above ground level; or
  - (2) The stack heights are lower than 84 feet, however modeling has been performed and approved by SWCAA that demonstrates compliance with all applicable regulations and standards at the lower stack height.
- (e) If permittee opts to demonstrate compliance with the NO<sub>x</sub> standard contained in 40 CFR 60.4320(a) by operation of a continuous monitoring system as described in 40 CFR 60.4345. The permittee shall submit a certification statement to SWCAA every six months that certifies that the quality assurance monitoring plan has been followed at all times or that exceptions have been reported. Any revision to the parameter monitoring plan must be reported with the semiannual report.
- (f) If permittee opts to demonstrate compliance with the NO<sub>x</sub> standard contained in 40 CFR 60.4320(a) by operation of a parameter monitoring plan as described in 40 CFR 60.4355. The

permittee shall submit a certification statement to SWCAA every six months that certifies that the parameter monitoring plan has been followed at all times or that exceptions have been reported. Any revision to the parameter monitoring plan must be reported with the semiannual report.

- (g) Total hours of reciprocating engine operation at the nearest to the following four loads and conditions:

<u>Load</u>	<u>Torque(%)</u>	<u>RPM</u>
1	<85	<218
2	<85	≥218
3	≥85	<218
4	≥85	≥218

- (h) Hours of operation for the turbine including both hours of operation in low NO<sub>x</sub> mode and not in low NO<sub>x</sub> mode.
- (i) The total hours of operation of the boiler and total hours of operation of the generator engine.
- (j) Hours of monitoring downtime for which the low NO<sub>x</sub> operating status of the turbine cannot be determined.
- (k) Air emissions for the reciprocating engine, turbine, boiler, generator engine and fire pump engine.

**R4. Annual Reports** **WAC 173-401-630(5), 40 CFR 60.11(g)**

The permittee shall submit to SWCAA and EPA certification of compliance with all terms and conditions of this permit in accordance with WAC 173-401-630(5)(d) for the period from January 1 to December 31 by April 15th of the following year. The certification shall include:

- Identification of each term or condition of the permit that is the basis of the certification;
- The compliance status;
- Whether compliance was continuous or intermittent; and
- The method(s) used to determine the compliance status.

When the permittee submits compliance certification for EU2 all credible evidence must be considered as in accordance with 40 CFR 60.11(g).

**R5. Emission Inventory Reports** **SWCAA 400-105, ADP 05-2596 Condition 25**

The permittee shall submit an inventory of annual emissions from the source each year to SWCAA by March 15th of the following year in accordance with SWCAA 400-105, unless an alternate date is approved by SWCAA. The inventory shall include emissions of NO<sub>x</sub>, SO<sub>2</sub>, CO, VOCs, PM, HAPs and TAPs. Annual emissions shall be calculated consistent with the TSD for ADP 05-2596.

**WAC 173-401-615(3)**

**R6. Source Test Reports** **SWCAA 400-106, ADP 05-2596 Condition 28**

Whenever source testing is required, the permittee shall submit test results to SWCAA within 45 days of test completion. SWCAA may approve an extension in writing if sufficient justification is provided to warrant an extension.

**X. NON-APPLICABLE TERMS AND CONDITIONS** **WAC 173-401-640(2)**

The following lists all federal, state, and/or local requirements that 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. Registration program** **WAC 173-400-099, SWCAA 400-100(2)**

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.

**2. Stationary Combustion Turbine MACT (Subpart YYYY)** **40 CFR 63.6080**

Subpart YYYY establishes HAP limits, testing, monitoring, recordkeeping and reporting requirements for turbines located at major HAP facilities. Lean premix gas-fired stationary combustion turbines constructed after January 14, 2003 must limit formaldehyde emissions to less than 91 ppbvd at 15% O<sub>2</sub>. This facility is a major HAP facility. However, on August 18, 2004 EPA stayed the effectiveness of two subcategories: lean premix gas-fired turbines and diffusion flame gas-fired turbines. The turbine at this facility is a lean premix gas-fired turbine therefore it is not subject to this subpart.

**3. Stationary Gas Turbine NSPS (Subpart GG)** **40 CFR 60.330**

Subpart GG applies to each turbine with a heat input at peak load greater than or equal to 10.7 gigajoules per hour (10 MMBtu/hour) that was installed or modified after October 3, 1982. The turbine was installed in 2006 and has a heat input of 64.7 MMBtu/hour. However, the turbine is subject to 40 CFR Part 60.4300 et seq. (Subpart KKKK), and is therefore not subject to this subpart.

**4. Chemical Accident Prevention Provision** **40 CFR 68**

40 CFR 68 "Chemical Accident Prevention Provision" does not apply to Northwest Pipeline's compressor stations because the compressor stations do not meet the definition of "stationary source". Under 40 CFR 68 Subpart A, definitions, the regulations state under the term "Stationary Source" the following: "...The term stationary source does not apply to transportation, including storage incident to transportation, of any regulated substance or any other extremely hazardous substance under the provisions of this part. ...Transportation includes, but is not limited to, transportation subject to oversight or regulation under 49 CFR parts 192, 194, 195, or a state natural gas or hazardous liquid program for which the state has in effect a certification to DOT under 49 U.S.C. section 60105..." Northwest Pipeline is a natural gas transmission company, is currently regulated under 49 CFR part 192 and thus is not required to submit a risk management plan.

**5. National Emission Standards for Hazardous Air Pollutants  
for Stationary Reciprocating Internal Combustion Engines 40 CFR 63.6650**

Subpart ZZZZ applies to stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. Engine EU1 is an existing 2 stroke lean burn stationary RICE with a site rating of more than 500 hp located at a major source of HAP emissions and does not have to meet any requirements of this subpart and subpart A, including initial notification (40 CFR 63.6590(b)(3)). Subpart ZZZZ is applicable to EU4, the emergency generator engine, and EU5, the fire pump engine.

**APPENDIX A - VISIBLE EMISSION 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, 2008.

**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 emission 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 - EQUIVALENT SOURCE TEST METHOD**

Permittee may use an alternate source test method for formaldehyde testing provided the accuracy of the alternate test method has been demonstrated as follows:

1. Accuracy shall be verified by performing simultaneous tests of both EPA Method 320 and the alternate test method.
2. The testing shall consist of a minimum of three 60 minute test runs.
3. The testing shall be performed on a two cycle reciprocating engine equipped with CleanBurn™ technology rated between 2,000 and 10,000 horsepower.
4. The results of each of the three test runs shall agree within 20%.