

# Statement of Basis for the Air Operating Permit—Final

## **Northwest Pipeline LLC Sumas Compressor Station**

Sumas, Washington

**June 19, 2019**



*Serving Island, Skagit & Whatcom Counties*

**PERMIT INFORMATION**  
**NORTHWEST PIPELINE LLC, SUMAS COMPRESSOR STATION**  
**4738 Jones Road, Sumas, Washington 98295**

**SIC: 4922**  
**NAICS: 486210**

**NWCAA ID: 1434-V-W**  
**EPA ICIS ID:**  
**WANCA0005307300031**

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## SECTION 1 INTRODUCTION

The Northwest Pipeline LLC, Sumas Compressor Station (also identified herein as the permittee, “NWP-SCS”, “Sumas Compressor Station”, or “the facility”) is required to have an air operating permit because the facility has the potential to emit more than 100 tons per year of carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), and more than 10 tons per year of formaldehyde, a Hazardous Air Pollutant (HAP) (see table 1-1 below). The facility also has the potential to emit more than 100,000 tons of CO<sub>2e</sub> and more than 100 tons of greenhouse gases on a mass basis per year. These air pollutants are defined as regulated air pollutants in the Washington Administrative Code (WAC) 173-401. These and other emissions are all produced by the burning of natural gas in the fuel-burning units at the facility.

**Table 1-1 Title V Applicability**

<b>Pollutant</b>	<b>Facility Annual PTE (TPY)<sup>1</sup></b>	<b>Title V Threshold (TPY)</b>	<b>Title V (Yes/No)</b>
NO <sub>x</sub>	1577	100	Yes
CO	383	100	Yes
VOC	50	100	No
SO <sub>2</sub>	19	100	No
PM <sub>10</sub> & PM <sub>2.5</sub>	20	100	No
Formaldehyde (HAP)	34	10	Yes
Total HAPs	47	25	Yes

<sup>1</sup> Facility-wide annual PTE provided in AOP renewal application submitted by NWP-SCS.

The purpose of this Statement of Basis is to set forth the legal and factual evidence for the conditions in the NWP-SCS AOP #007R3 and to provide background information for permit review by interested parties. This Statement of Basis is not a legally enforceable document in accordance with WAC 173-401-700(8).

### 1.1 AOP History

The Northwest Clean Air Agency (NWCAA) issued the original air operating permit (AOP 007) for the facility on December 3, 1998. The original permit was modified in May 2000 to include an additional surrogate monitoring parameter in Section 5. The permit was modified again on August 20, 2001 to change the name of the Corporate Responsible Official (RO) for the facility. The original permit expired on December 3, 2003.

A new permit (AOP 007R1) was issued on August 18, 2006. AOP 007R1 was modified to change the name of the company (Northwest Pipeline Corporation became Northwest Pipeline GP), and the name of the responsible official (Barry Orgill replaced Larry Hjalmarson as RO). In addition, the AOP was updated to the current NWCAA AOP format, and issued as AOP 007R1M1 on May 19, 2009. AOP 007R1M1 expired on August 18, 2011.

The facility submitted a renewal application on February 3, 2011, which was deemed complete on February 16, 2011. AOP 007R2 was issued on April 18, 2012. AOP 007R2 was modified

(becoming 007R2M1) and issued on June 5, 2014 to reflect a company name change (Northwest Pipeline GP to Northwest Pipeline LLC).

AOP 007R2M1 expired on April 18, 2017. NWP-SCS submitted a renewal application on April 14, 2016, which was deemed complete June 14, 2016.

## **1.2 Permit Changes in AOP #007R3**

Throughout the AOP, formatting and language was updated to current NWCAA standards. Changes specific to each permit section are listed below.

### **1.2.1 General Information and Attest**

EPA's facility database changed resulting in the end of EPA AFS, which was replaced by EPA ICIS. NWP-SCS's EPA AFS ID was removed and replaced by the facility's EPA ICIS ID. The NAICS code was also updated.

Both the responsible official and corporate inspection contacts were updated to reflect personnel and responsibility changes at NWP-SCS.

Dates were updated to reflect the new application received, issuance, expiration, and renewal application dates.

### **1.2.2 Section 2 Standard Terms and Conditions**

AOP Section 2 (Standard Terms and Conditions) was updated with the latest NWCAA standard version of applicable requirements, containing any new or modified regulations and updated reference dates.

### **1.2.3 Section 3 Standard Terms and Conditions for NSPS and NESHAP**

AOP Section 3 (Standard Terms and Conditions for NSPS and NESHAP) was updated with the latest versions of applicable requirements, containing any new or modified regulations and updated reference dates.

40 CFR Part 60 Subpart GG – Standards for Performance for Stationary Gas Turbines is the only NSPS that applies at this facility.

Terms and conditions related specifically to 40 CFR Part 63 Subpart DDDDD – National Emissions Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, And Institutional Boilers and Process Heaters (aka the Boiler MACT) were added as they apply to all three process heaters at the facility. The units to which the Boiler MACT apply are the A-Aux Sellers C100 process heater, the C-Plant Sellers C60 process heater, and the D-Plant Sellers C60 Process heater.

Terms related to 40 CFR Part 63 Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines were updated as they still apply to two emergency generators; the A-Aux Cummins GTA 855 250 kW (335 hp 4SRB) generator installed in 1993, and the D-Plant Caterpillar-3412 390 kW (362 hp 4SRB) generator installed in 2003.

SSM requirements of 40 CFR Part 63 Subpart A do not apply under either NESHAP.

Source testing general requirements (notification and conduct) were removed under the Part 63 subsection, as there are no applicable requirements for source testing under these regulations.

#### **1.2.4 Section 4 Generally Applicable Requirements**

Changes made to the Generally Applicable Requirements sections in AOP #007R3 are summarized in the following list:

- NWCAA 410, which states that it is unlawful to emit sulfur oxides such that ambient standards are exceeded outside plant boundaries, was removed from Section 4 in AOP #007R2. NWCAA 410 was not included in AOP #007R3 either because, while the regulation applies, NWP-SCS is only able to burn pipeline grade natural gas. Sulfur in natural gas is limited in NWCAA 520.14. In addition, without requiring an ambient monitoring station, NWCAA 410 is not enforceable. Language and citation dates were updated. Citations were added or updated where needed. The order of conditions is updated reflect current practice.
- Changes to parts of WAC 173-400 that are referenced in Section 4 of the AOP.
- Terms 4.15 - 4.20 addressing visible emissions and particulate matter were updated with new MR&R language that clarifies expectations and recordkeeping. Descriptions were updated to reflect rule updates.
  - The previous AOP's MR&R simply stated to make observations of visible emissions (VE) and if any VE was seen to take corrective action and notify NWCAA. WAC 173-401-615(1)(b) requires, when an applicable standard does not require periodic testing or monitoring, that periodic monitoring be added to assure compliance.
  - To meet the requirements of WAC 173-401-615(1)(b), the MR&R was updated to require quarterly visible observations and appropriate record keeping. If any emissions are visible then one of three options may be taken by the facility to bring VE back to zero, or verify compliance with VE limits by a certified observer.
  - As all units at the facility are fired using pipeline grade natural gas, which does not normally create VE, quarterly observations are deemed appropriate. However, if, at any time, VE is observed, even if not part of a quarterly observation, NWP-SCS must still take action as described in the MR&R.
- Terms 4.21 – 4.24 addressing SO<sub>2</sub> were updated with current rule language and removing references to rule parts that cannot apply (e.g. sulfur content limits for fuel types not used by the facility).

#### **1.2.5 Section 5 Specifically Applicable Requirements**

The following changes in Section 5 of the Northwest Pipeline LLC AOP #007R3 were made:

- Citations were updated and made consistent across all terms. Language updated and edited where needed. The Sellers process heater naming convention was updated to indicate their location at the facility to remove confusion. Naming convention of the emergency generators was also made consistent to clarify.
- Conditions applicable to the three Sellers process heaters from 40 CFR Part 63 Subpart DDDDD were added to Section 5.

## **SECTION 2 FACILITY DESCRIPTION**

### **2.1 Facility History**

The Northwest Pipeline LLC operates a natural gas pipeline system from the Washington-Canada border near Sumas, Washington to the San Juan Gas Fields in New Mexico. The gas pipeline system serves commercial, industrial, utility, and cogeneration customers in Washington, Oregon, Nevada, and California. The NWP-SCS is located 1.4 miles east of Sumas, Washington and just south of the Canadian border, and transports natural gas from the border to the Mount Vernon compressor station. The Sumas and Mount Vernon stations are two of many natural gas compressor stations located approximately every 50 miles along the pipeline.

The NWP-SCS was originally constructed in 1956, and initially consisted of four Ingersoll-Rand 412 KVS 2000 horsepower (HP) reciprocating engines (Units 1-4) and associated support services. A Clark TCV-12 4000 HP engine was installed in 1966 (Unit 5), and a second, identical engine (Unit 6) was added to the station in 1968. Two Solar Mars T-12000 gas turbines were installed in 1993 (Units 7-8). In early 2003 the Solar Mars T-12000 turbines were modified by adding new Solar Mars 90S turbine elements to the existing turbine units. In addition, one new Solar Mars turbine (Unit 9) was added to the facility as part of the 2003 project.

The 2003 project also included the addition of one 270 kW Caterpillar standby emergency power generator, and one Sellers C60 boiler/heater rated at 2.5 MM Btu/hr to augment existing auxiliary equipment consisting of a 250 kW standby emergency generator, a 390 kW standby emergency generator, a 4.2 MMBtu/hr water heater/boiler, and a 2.5 MMBtu/hr water heater/boiler.

In June of 2004, the turbine engine of Unit 8 was replaced because of faulty bearings. The unit was still under warranty from Solar and was replaced with an identical unit because field repair was not possible. Also, it should be noted that as maintenance schedules dictate, the facility replaces the engines on turbines with manufacturer refurbished, functionally equivalent engines. According to the facility, Solar is no longer keeping Mars 90 parts, using instead Mars 100 engines to replace the engines on the Mars 90 turbines. The resulting turbines function in an identical manner (as also evidenced by the annual stack tests) with the units they replace.

Figure 2-1 shows the map location of the facility within Whatcom County, Washington.

Figure 2-2 shows an aerial photograph of the facility.

Figure 2-3 shows the plot plan of the facility.



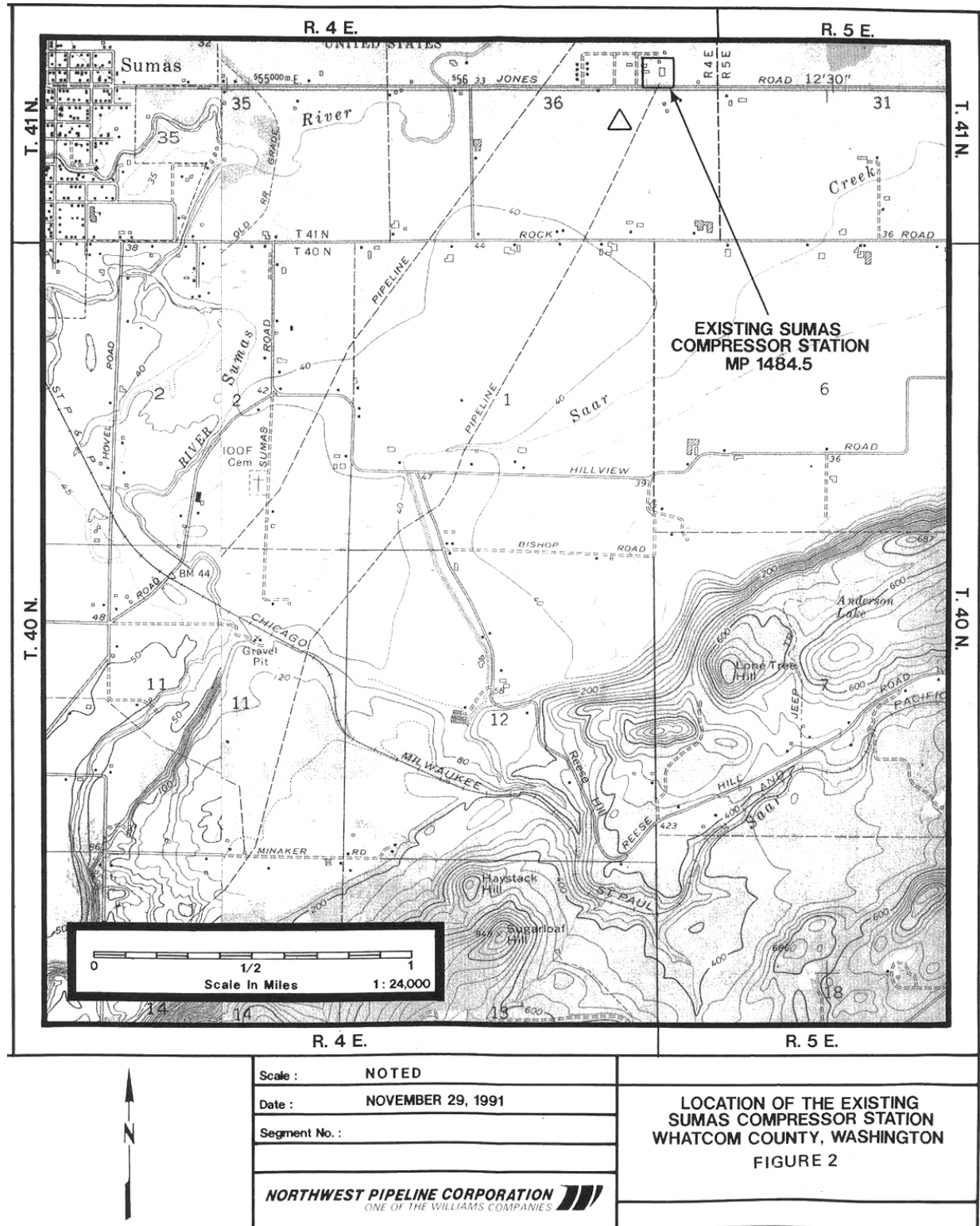


Figure 2-1: Location Map

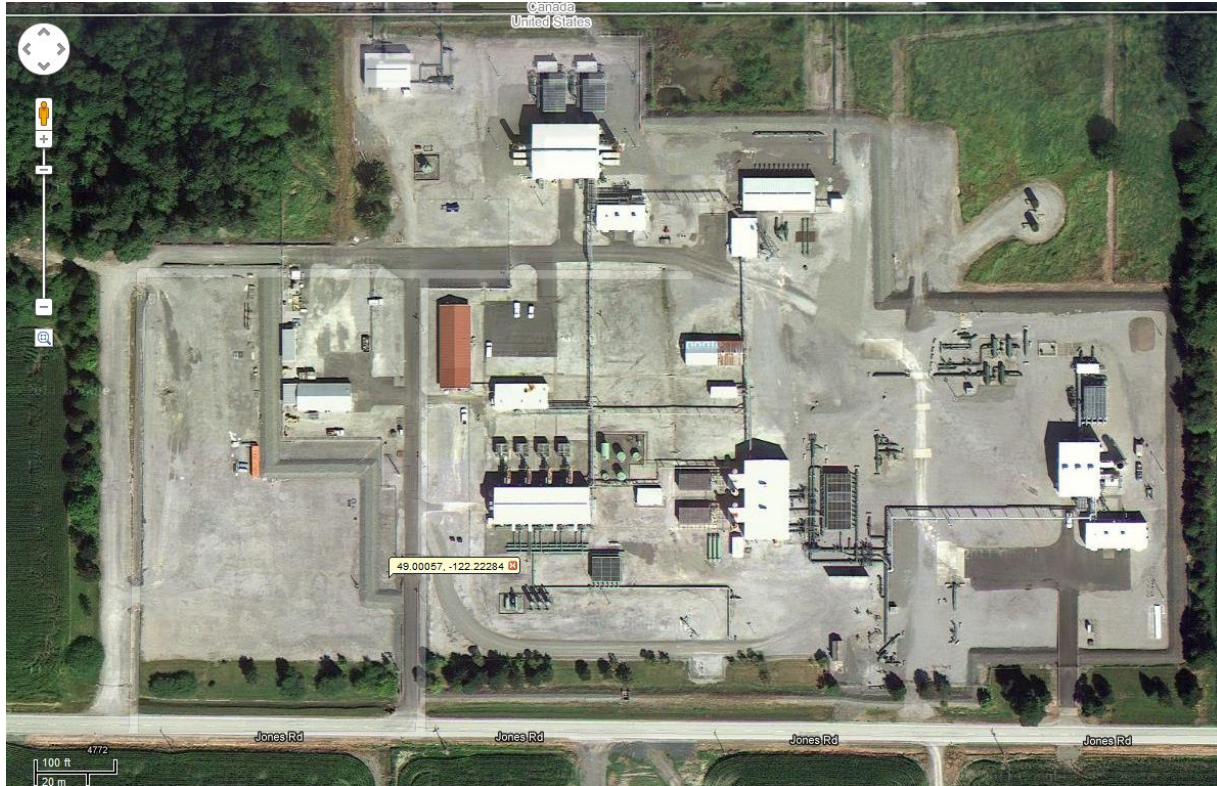


Figure 2-2: An aerial photograph of the NWP-SCS, taken from Google maps

### SUMAS COMPRESSOR STATION PLOT PLAN.

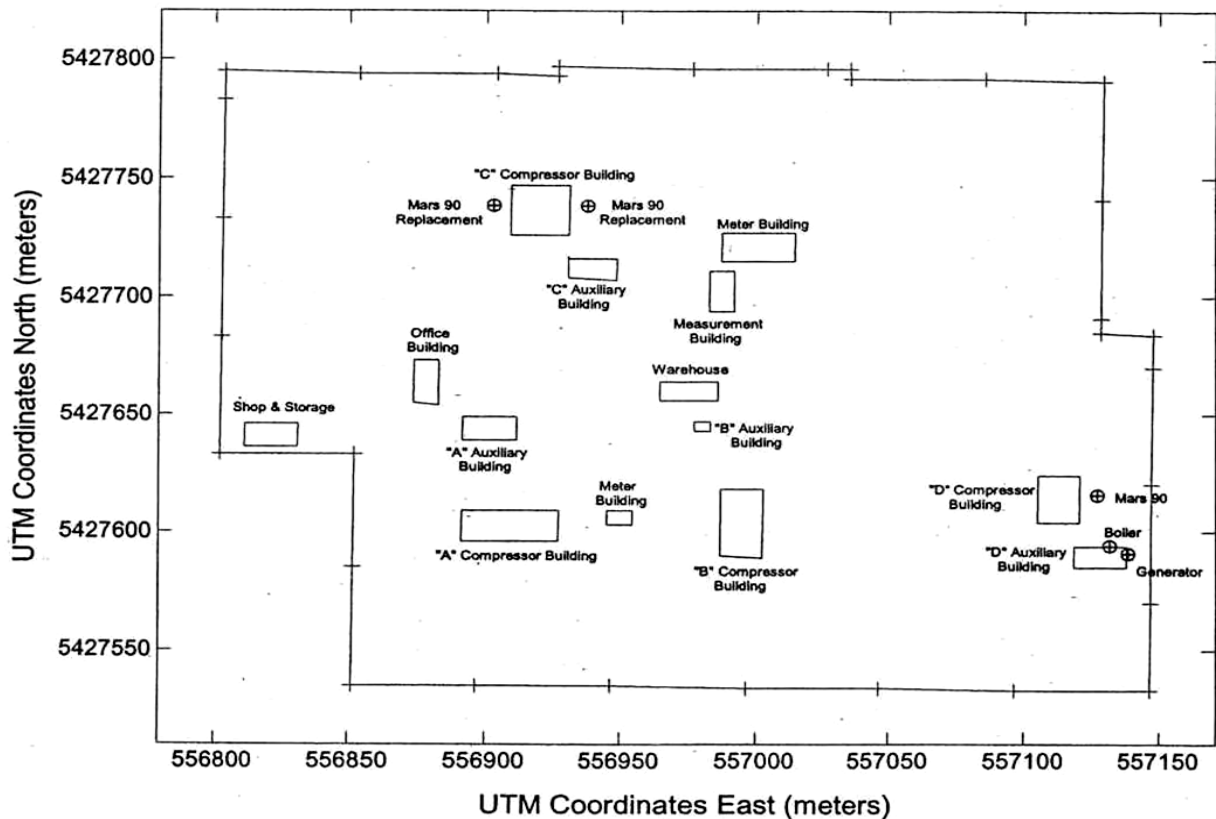


Figure 2-3: Site Plot Plan

## 2.2 Emission Units and Control

Primary emission sources at the facility include the four Ingersoll-Rand 412KVS natural gas-fired reciprocating engines, two Clark TCV -12 natural gas-fired reciprocating engines, and three Solar Mars 90 turbines. Minor emission sources include auxiliary equipment – the standby compressors and the water heater/boiler units. In addition, fugitive emissions originate from the gas pipeline and the fuel system servicing the turbines and reciprocating engines. All combustion sources at the facility are fueled with pipeline grade natural gas.

The reciprocating engines' emissions are not controlled by air pollution control equipment. However, the three gas turbines' NO<sub>x</sub> emissions are minimized by incorporation of SoLoNO<sub>x</sub> technology into the units. SoLoNO<sub>x</sub> - equipped turbines use proprietary lean-premixed combustion technology to ensure a uniform air/fuel mixture and to reduce the formation of regulated pollutants including NO<sub>x</sub>. The gas turbine systems do not have water injection or other pollution control equipment.

Table 2-1 shows a listing of the emission unit identification currently installed at the facility.

**Table 2-1 Emission Unit Identification**

Unit/ Location	Source and Description	Control Equipment	Fuel Type	Maximum Fuel Rate, MMBTU/hr	Install Date
1/ A-Plant	Ingersoll-Rand 412KVS Reciprocating Engine, spark- ignited, four-stroke, lean burn	None	Natural Gas	18.07	1956
2/ A-Plant	Ingersoll-Rand 412KVS Reciprocating Engine, spark- ignited, four-stroke, lean burn	None	Natural Gas	18.07	1956
3/ A-Plant	Ingersoll-Rand 412KVS Reciprocating Engine, spark- ignited, four-stroke, lean burn	None	Natural Gas	18.07	1956
4/ A-Plant	Ingersoll-Rand 412KVS Reciprocating Engine, spark- ignited, four-stroke, lean burn	None	Natural Gas	18.07	1956
5/ B-Plant	Clark TCV-12 4000 hp Reciprocating Engine, spark- ignited, two-stroke, lean burn	None	Natural Gas	33.18	1966
6/ B-Plant	Clark TCV-12 4000 hp Reciprocating Engine, spark- ignited, two-stroke, lean burn	None	Natural Gas	33.18	1968
7/ C-Plant	Solar Mars 90S Gas Turbine	Dry low-NO <sub>x</sub> (SoLoNO <sub>x</sub> )	Natural Gas	100.03 @ 59 °F	2003
8/ C-Plant	Solar Mars 90S Gas Turbine	Dry low-NO <sub>x</sub> (SoLoNO <sub>x</sub> )	Natural Gas	100.03 @ 59 °F	2003*
*Note: Unit 8 replaced with identical turbine in June, 2004 due to bearing failure.					
9/ D-Plant	Solar Mars 90S Gas Turbine	Dry low-NO <sub>x</sub> (SoLoNO <sub>x</sub> )	Natural Gas	100.03 @ 59 °F	2003
10/ D-Plant	Sellers C60 water heater/boiler	None	Natural Gas	2.5	2003
11/ A-Aux	Sellers C100 water heater/boiler	None	Natural Gas	4.2	1990
12/ C-Plant	Sellers C60 water heater/boiler	None	Natural gas	2.5	1993
13/ A-Aux	Cummins GTA 855, 335 hp, 250 kW emergency electrical generator	None	Natural Gas		1993
14/ D-Plant	Caterpillar-3408, 362 hp, 270 kW emergency electrical generator	Three-way catalytic converter	Natural Gas		2003
15/ C-Plant	Caterpillar-3412, 522 hp, 390 kW electrical generator	None	Natural Gas		1993

## 2.3 Emissions Inventory

NWP-SCS qualifies as a major source subject to the requirements of the Clean Air Act (CAA) Title V program because it has the potential to emit more than 100 tons of carbon monoxide (CO) and nitrogen oxides (NO<sub>x</sub>), and greater than 10 tons per year of formaldehyde, a HAP.

Table 2-2 shows the facility-wide emissions of criteria pollutants reported by the facility as identified in the annual emissions inventory submitted to the NWCAA, in tons per year. Table 2-3 shows emissions history of HAPs, which are also Washington State air toxics, in pounds per year.

**Table 2-2 NWP-SCS Annual Emissions of Criteria Pollutants, Tons per Year**

Year	NO <sub>x</sub>	CO	VOC	PM <sub>10</sub>	SO <sub>2</sub>
2011	210	33	12	4	7
2012	241	29	9	4	7
2013	143	18	7	4	9
2014	198	26	10	5	9
2015	233	33	11	6	13
2016	237	30	10	5	13
2017	242	32	10	6	11

**Table 2-3 NWP-SCS Annual Emissions of HAPs, Pounds per Year**

Toxic Air Pollutant	2011	2012	2013	2014	2015	2016	2017
ACETALDEHYDE		1,260	663	1,120	1,115	977	1,011
ACROLEIN		1,103	541	980	1,007	859	933
BENZENE		246	119	1,000	244	205	231
FORMALDEHYDE	8,800	9,307	5,370	8,200	8,987	8,008	8,145
TOLUENE		251	224	800	352	337	315
XYLENE		71	90	600	122	124	105

## 2.4 Monitoring History

In 1994, the permittee applied for and received permission from the Washington State Department of Ecology (WDOE) and the Northwest Clean Air Agency (NWCAA) to develop and install a predictive emissions monitoring system (PEMS) for the Solar Mars T-12000 gas turbines. The system was completed and tested with Relative Accuracy Test Audits (RATA) to meet the requirements of Title 40 Code of Federal Regulations Appendices B and F.

Based on the RATA results (and internal testing done by NWP-SCS), the permittee requested approval to replace the system at the Sumas Compressor Station with periodic testing and calculated emissions from stack test data, based on hours of operation, and fuel usage. Approval was given by the WDOE and the NWCAA with the condition that each gas turbine would be tested once every twelve months for two years and with the option of a reduced testing frequency after the two years based on prior approval by the agencies. Further, the parties agreed that NWP-SCS would conduct stack tests on one of the four identical Ingersoll-

Rand reciprocating engines and on one of the two identical Clark reciprocating engines every five years.

As part of the original AOP development process, it became evident that the periodic stack testing agreement made by the NWP-SCS, the NWCAA, and the WDOE was not acceptable to the EPA Region 10 as periodic monitoring requirements under WACs 173-401-605(1) and 173-401-615(1) and (2). In response, the permittee developed and submitted a monitoring plan describing surrogate parameter monitoring and operation and maintenance procedures that they would perform. The plan was designed to comply with both PSD permit conditions and the periodic monitoring requirements of the operating permit program. Surrogate parameter monitoring (PEMS) proposed in the Monitoring Plan replaced the proposed predictive system, and was incorporated into the AOP.

In March 1999, an engine malfunction at Unit #8 at the Sumas Compressor Station was detected during a compliance source test at which NO<sub>x</sub> emissions were monitored at abnormally high levels. It was evident to both the NWCAA and the facility managers that the PEMS parameters were not adequate to detect this type of mechanical failure. Because WAC 173-401-600 requires that each permit contain terms and conditions that assure compliance with all applicable requirements at the time of permit issuance, and as the surrogate monitoring parameters were insufficient to assure compliance; the NWCAA requested a submittal of additional monitoring parameters for both compressor stations. The facility managers submitted a letter on October 25, 1999 suggesting additional monitoring parameters. A letter to the NWCAA dated December 11, 1999 clarified the parameters further. The suggested parameters, with some language revision, were included in Specifically Applicable Requirements section of the permit. The modified permit was approved and re-issued on May 1, 2000.

With the conversion of the Solar Mars T-12000 turbines to Solar Mars 90 turbines and the installation of an additional Solar Mars 90 at the facility, NWP-SCS proposed a continuation of the PEMS system to continuously monitor NO<sub>x</sub> and CO emissions from the three turbines. Required operating conditions for the PEMS were written into PSD Permit 01-08 and NWCAA OAC 793.

In November, 2003, Unit #8 again failed to demonstrate compliance during a compliance test due to a malfunction. As in 1999, the PEMS system did not indicate a compliance problem and failed to serve its primary purpose. WDOE, the NWCAA, and NWP-SCS subsequently agreed that the PEMS was ineffective and would be replaced by a monitoring procedure using a portable emission analyzer measuring emissions on a prescribed schedule as detailed in PSD-01-08 Second Amendment and NWCAA OAC 793a. For the three Solar Mars turbines, this schedule requires monitoring not less frequently than once every 336 hours of operation.

In May, 2005, NWP-SCS requested that the reference method stack tests for PM<sub>10</sub>, SO<sub>2</sub>, and VOC be eliminated and that the reference method NO<sub>x</sub> tests be reduced to an annual basis. The justification for the elimination of the PM<sub>10</sub>, SO<sub>2</sub>, and VOC tests was that a sufficient number of tests have been completed to demonstrate that the units are operating as designed. The permittee maintained that ongoing tests are expensive and would accomplish little. The justification for a reduction in the NO<sub>x</sub> testing was that the portable analyzers have proven to be accurate. The NWCAA agreed with both arguments and reduced or eliminated the testing as requested via NWCAA OAC 793b.

In 2006, NWP-SCS requested that the testing frequency for the portable analyzers be reduced from once every 336 hours of operation (approximately every 2 weeks) to every 672 hours of operation (approximately every month). Three years of testing with the portable analyzers has shown them to be effective. Accordingly, the NWCAA issued OAC 793c and WDOE issued PSD-01-08 Amendment 3 which both include an option for reduced testing.

In 2011 NWP-SCS requested a fourth amendment to PSD-01-08, As part of the changes, CO monitoring was clarified and simplified by removing requirements to calculate CO mass emissions from periodic monitoring data. CO periodic monitoring data mirrors that of the NOX periodic monitoring described above. In addition, annual CO compliance tests are required.

**Table 2-4: NWP-SCS Reference Method Stack Test Frequency**

POLLUTANT	TEST METHOD	FREQUENCY
Opacity of emissions	EPA Method 9	Annual
Nitrogen oxides (NO <sub>x</sub> )	EPA Method 20	Annual
Carbon Monoxide (CO)	EPA Method 10	Annual

**Note:** All testing will be done at peak load except for NO<sub>x</sub>, which will be tested at four points in the operating range including the minimum point and peak load.

## 2.5 Compliance History

### 2.5.1 Notices of Violation

The Northwest Pipeline LLC, Sumas Compressor Station was initially registered by the NWCAA on May 31, 1990. There were no notices of violations issued between that initial registration and November, 2003. However, on December 29, 2003 the facility was issued a Notice of Violation by the Northwest Clean Air Agency when the NO<sub>x</sub> limit of 25 ppmvd (3-hour average at 15% O<sub>2</sub>) was exceeded during a semi-annual stack test that took place in November, 2003. The test was not completed due to safety concerns relating to operation of the turbine. However, NWP-SCS does not contest that Unit #8 would have failed the test.

As a result of this failure to demonstrate compliance with an emission standard, the facility was issued a "Notice of Imposition of Penalty" and assessed a penalty in the amount of \$5000.00 on March 29, 2004.

In June 2016 NWCAA identified that the 2015 annual compliance certification was not submitted by the due date of February 28, 2016. NWP-SCS submitted the report late on June 14, 2016. A notice of violation was issued on September 15, 2016, followed by a "Notice of Imposition of Penalty" assessing a penalty of \$1,000. NWP-SCS paid the penalty in November 2016.

No other NOVs were issued against the facility.

### 2.5.2 Compliance Reports

The Northwest Pipeline LLC, Sumas Compressor Station AOP requires periodic, quarterly, semiannual, and annual reports to be submitted to the NWCAA as part of the facility's ongoing compliance demonstration. When a permit deviation occurs, the facility is required to submit a periodic report within 30 days after the end of the month during which the deviation occurred identifying any excess emissions and provide a discussion as to the cause and what was done to correct the problem. In the case where the deviation represents a potential threat to human health or safety "prompt" means as soon as possible, but in no case later than twelve hours after the deviation is discovered.

The facility submits quarterly summary reports of emissions and process information. In addition, semiannual reports are submitted providing for the certification by the responsible corporate official of the truth, accuracy, and completeness of reports submitted during the

previous six-month period. Annually, the responsible corporate official also certifies compliance with all requirements in the AOP term-by-term and whether the facility was fully or intermittently in compliance with each term.

## **2.6 Permitting History**

### **2.6.1 Prevention of Significant Deterioration**

PSD permit 92-4 from the WDOE was issued August 8<sup>th</sup>, 1992 and was signed by the EPA on August 13<sup>th</sup>, 1992. This permit allowed the installation of two Solar Mars T-12000 gas-fired turbines (Units 7 and 8).

Amendment 1 of PSD 92-4 was issued on May 5<sup>th</sup>, 1998 and approved by the EPA on May 11, 1998. This amendment incorporated several minor changes into the permit. These included a clarification of source test frequency requirements, a reduction of the NO<sub>x</sub> averaging period from a rolling 34-hour average to an hourly average, and stack tests of the existing reciprocating compressor engines.

The turbines permitted under PSD permit 92-4 Amendment 1 were removed from the facility and replaced with turbines that are permitted under PSD Permit 01-08. It is the policy of WDOE, however, that old PSD permits are not superseded by newer PSD permits and that all of the requirements of PSD Permit 92-4 Amendment 1 are still applicable and in effect. In anticipation of the difficulties associated with enforcing requirements on nonexistent equipment, those requirements of PSD Permit 92-4 Amendment 1 that apply to nonexistent equipment are not included in this Air Operating Permit. Those requirements of Permit 92-4 that applied to the whole facility will be referenced.

PSD Permit 01-08 was approved on October 18<sup>th</sup>, 2002. This permit was initiated by the following project:

- Add 1 new Solar Mars 90S turbine driven centrifugal compressor (site rated at 12, 841 horsepower @ 59°F)
- Replace the engines of the 2 existing Solar Mars T-12000 turbines with new, lower emitting Solar Mars 90S engines (each site rated at 12, 841 horsepower @ 59°F)
- Add 1 natural gas fired Caterpillar 270 kW generator unit for backup power
- Add 1 natural gas fired Sellers C-60 boiler/heater rated at 2.5 MMBtu/hr.

The conditions contained in PSD 01-08 are detailed and extensive and identify fuel usage (natural gas from the pipeline), emission limitations for CO (in terms of ppm, lbs/day and tons/year), monitoring and reporting requirements, PEMS operating criteria, hours of operation for the standby emergency generator, and other operating and monitoring criteria.

After completion of one year of operation, it was determined that the parametric monitoring system (PEMS) could not provide accurate real time monitoring of emissions from the turbines. WDOE, the NWCAA, and NWP-SCS subsequently agreed that the PEMS would be replaced by a monitoring procedure using a portable emission analyzer measuring emissions on a prescribed schedule. For the three Solar Mars turbines, this schedule requires monitoring not less frequently than once every 336 hours of operation. PSD-01-08 First Amendment was issued on July 15<sup>th</sup>, 2004 to permit this change.

PSD-01-08 Second Amendment was issued on August 23, 2004, streamlining some of the monitoring requirements of the PSD permit. There were no changes to emission limits.

PSD-01-08 Amendment 3 was issued on June 14, 2006 and includes an option for reduced testing frequency with the portable analyzers and other changes to ease incorporation into the AOP.



PSD-01-08 Amendment 4 was issued on October 6, 2011. Several changes were made to the PSD:

- CO emission limits were changed from three hour averages to one hour averages.
- Monitoring and reporting requirements were amended so that the facility will report to the NWCAA and begin troubleshooting immediately if after three consecutive tests using the portable CO analyzer, noncompliance with the CO volumetric limit is indicated.

## **2.6.2 Northwest Clean Air Agency Orders of Approval to Construct**

The Northwest Pipeline LLC, Sumas Compressor Station has received Orders of Approval to Construct (OAC) from the NWCAA for specific equipment. Applicable requirements, reference test methods, and monitoring for continuing OAC requirements are addressed in Sections 3 and 4 of the permit.

### **2.6.2.1 NWAPA Order of Approval to Construct No. 259**

Issue Date: September 18, 1989

Permitted Equipment: 4.2 MMBtu/hr water heater/boiler

### **2.6.2.2 NWAPA Order of Approval to Construct No. 319**

Issue Date: September 14, 1992; revised May 14, 1998

Permitted Equipment: Unit 7 - Solar Mars T-12000 gas-fired turbine

Unit 8 - Solar Mars T-12000 gas-fired turbine

### **2.6.2.3 NWAPA Order of Approval to Construct No. 403**

Issue Date: October 21, 1992; revised January 2, 1996

Permitted Equipment: 390 kW standby generator

2.5 MMBtu/hr water heater/boiler

### **2.6.2.4 NWCAA Order of Approval to Construct No. 793**

Issue Date: October 18, 2002; revised August 9, 2004, July 22, 2005, and May 2, 2006

Permitted Equipment: 2.5 MM Btu/hr Sellers C60 boiler/heater

270 kW Caterpillar standby emergency power generator

Unit 7 - Solar Mars 90 gas-fired turbine

Unit 8 - Solar Mars 90 gas-fired turbine

Unit 9 - Solar Mars 90 gas-fired turbine

OAC 793 superseded a previously issued Order (OAC 319), and imposed additional conditions beyond those contained in PSD 01-08 on the facility. These include limits for NO<sub>x</sub> emissions (in ppm, lbs/day and tons/year), reporting requirements, and requirements for initial source tests and subsequent ongoing testing for the turbines according the schedule below. In addition, OAC 793 included a requirement that NWP-SCS perform boroscope analysis on the two turbines on a regularly scheduled basis and also visually inspect the fuel injectors at prescribed intervals. A revised OAC 793a was issued on August 9, 2004 as a result of the change in the monitoring program from the PEMS methodology to a portable emissions analyzer using EPA Conditional Test Method 34. OAC 793b was issued on July 22, 2005 and included a revised and streamlined compliance test schedule based on previous test results at the facility. OAC 793c was issued on May 2, 2006 and included an option for reduced testing

frequency with the portable analyzers and administrative changes to ease incorporation into the AOP.

*2.6.2.5 NWCAA Order of Approval to Construct No. 793d*

OAC 793d was issued on November 21, 2011, superseding all previous issues of OAC 793. Changes over OAC 793c include:

- Updated OAC format.
- Removed Condition 2 and placed superseded OACs in the preamble of the permit.
- Removed Condition 3 and placed applicable federal regulations in the preamble of the permit.
- Added 40 CFR 63 Subpart ZZZZ in the applicable federal regulations in the preamble of the permit.
- Modification of Condition 10(f)(iii) to allow sooner shutdown of turbines in case of high emissions.
- Modification of Condition 10(g)(ii) to allow record keeping for the portable analyzer accuracy verification off site.
- Modification of Condition 10(h) to remove one time initial test requirements and clarify test frequencies.
- Removal of Condition 11(e)(iv), made necessary by modification of Condition 10(f)(iii).
- Modification of Condition 13 to allow submission of tests plans at least 30 days before testing.
- Removal of Condition 15 as redundant.
- Removal of Conditions 16 and 17 as one-time completed requirements.

## **SECTION 3 BASIS OF REGULATION APPLICABILITY**

### **3.1 New Source Performance Standards (NSPS)**

The three Solar Mars 90 gas turbines, Units 7, 8, and 9, were started up on March 11, March 24 and June 12, 2003, respectively. They are subject to New Source Performance Standard Subpart GG - Standards of Performance for Stationary Gas Turbines, codified in Title 40 Code of Federal Regulations (CFR). Subpart GG provides standards for nitrogen oxides in section 60.332 and for sulfur dioxide in section 60.333. Requirements for monitoring are in section 60.334 and test methods and procedures are in section 60.335. Compliance assurance with the continuously applicable parts of each of these subparts is described in Section 5 of the permit.

NWP-SCS operates nine RICE engines. None of these engines are affected units for 40 CFR Part 60 Subpart IIII or Subpart JJJJ. Subpart IIII applies only to compression ignition units. None of the RICE engines are compression ignition. Subpart JJJJ does not apply because all engines were constructed prior June 12, 2006, and have not been modified or reconstructed, thus excluding them from these requirements.

### **3.2 National Emission Standards for Hazardous Air Pollutants**

#### **3.2.1 40 CFR Part 63 Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, And Institutional Boilers And Process Heaters**

Subpart DDDDD applies to boilers and process heaters located at major sources of HAP. NWP-SCS is a major source of HAPs and operates three affected boilers/process heaters:

- D-Plant, Unit 10 – Sellers C60 2.5 MMBtu/hr Natural Gas Heater/Boiler installed in 2003
- A-Aux, Unit 11 – Sellers C100 4.2 MMBtu/hr Natural Gas Heater/Boiler installed in 1990
- C-Plant, Unit 12 – Sellers C60 2.5 MMBtu/hr Natural Gas Heater/Boiler installed in 1993

Specifically, these units are subject to the following tune-up, maintenance, reporting, and record keeping requirements: 40 CFR §63.7500 (a) & (e), 40 CFR §63.7505 (a), 40 CFR §63.7515 (d), 40 CFR §63.7540 (a)(10) & (a)(12), 40 CFR §63.7550 (a) & (b) & (c)(1) & (c)(5) & (h)(3) & Table 9, and 40 CFR §63.7555 (a).

#### **3.2.2 40 CFR Part 63 Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines**

Subpart ZZZZ applies to stationary reciprocating internal combustion engines (RICE) at major or area sources of HAP emissions. The NWP-SCS is a major source of HAP and operates the following RICE:

- A-Plant, Unit 1 - 1,500 hp 4SLB Ingersoll Rand 412 KVS installed in 1956
- A-Plant, Unit 2 - 1,500 hp 4SLB Ingersoll Rand 412 KVS installed in 1956
- A-Plant, Unit 3 - 1,500 hp 4SLB Ingersoll Rand 412 KVS installed in 1956
- A-Plant, Unit 4 - 1,500 hp 4SLB Ingersoll Rand 412 KVS installed in 1956
- B-Plant, Unit 5 - 4,000 hp 2SLB Clark TCV-12 installed in 1966
- B-Plant, Unit 6 - 4,000 hp 2SLB Clark TCV-12 installed in 1966

- A-Aux, Unit 13 - 335 hp 4SRB Cummins emergency backup installed in 1993
- C-Plant, Unit 15 - 522 hp 4SRB Caterpillar emergency backup installed in 1993
- D-Plant, Unit 14 - 362 hp 4SRB Caterpillar emergency backup installed in 2003

Applicability:

- B-Plant, Units 5 & 6 are each 4,000 HP 2SLB Clark TCV-12 and are considered to be existing stationary RICE because each engine has a site rating greater than 500 hp, is at a major source of HAPs and commenced construction prior to December 19, 2002, as per §63.6590 (a)(1)(i). Per §63.6600(c), Units 5 & 6 do not have to comply with the emission or operating limitations of 40 CFR 63 Subpart ZZZZ and of Subpart A, nor are subject to initial notification requirements as per §63.6590 (b)(3)(i).
- A-Plant, Units 1, 2, 3, & 4 are each 1,500 hp 4SLB Ingersoll Rand 412 KVS and are considered to be existing stationary RICE because each engine has a site rating greater than 500 hp, is at a major source of HAP and commenced construction prior to December 19, 2002, as per §63.6590 (a)(1)(i). Per §63.6600(c), Engine Units 1, 2, 3, & 4 do not have to comply with the emission or operating limitations of 40 CFR 63 Subpart ZZZZ and of Subpart A, nor are subject to initial notification requirements as per §63.6590 (b)(3)(ii).
- The C-Plant - 522 hp 4SRB Caterpillar emergency backup RICE with 390 kW electrical generator is considered to be existing stationary RICE because the engine has a site rating greater than 500 hp, is at a major source of HAPs and commenced construction prior to December 19, 2002, as per §63.6590 (a)(1)(i). Per §63.6600(c), the C-Plant 4SRB Caterpillar emergency backup RICE does not have to comply with the emission or operating limitations of 40 CFR 63 Subpart ZZZZ and of Subpart A, nor is subject to initial notification requirements as per §63.6590 (b)(3)(iii).
- The A-Aux - 335 HP 4SRB, SI, natural gas fired Cummins emergency backup RICE with 250 kW electrical generator is considered to be existing stationary RICE because the engine has a site rating less than 500 hp, is at a major source of HAP and commenced construction prior to June 12, 2006, as per §63.6590 (a)(1)(ii).
- The D-Plant - 362 HP 4SRB, SI, natural gas fired Caterpillar emergency backup RICE with 270 kW electrical generator is considered to be existing stationary RICE because the engine has a site rating less than 500 HP, is at a major source of HAPs and commenced construction prior to June 12, 2006, as per §63.6590 (a)(1)(ii).

As a result, only the A-Aux and D-plant emergency backup RICE are subject to requirements of 40 CFR 63 Subpart ZZZZ. More specifically, they are subject to emission limitations (40 CFR §63.6602 and Table 2c), to monitoring, operation and maintenance requirements (40 CFR §63.6625 (e), (f), (h), and (i)), continuous compliance requirements (40 CFR §63.6605 and §63.6640), and recordkeeping requirements (40 CFR §63.6655, except (c)).

### **3.3 Compliance Assurance Monitoring (CAM)**

The requirements of Compliance Assurance Monitoring are contained in 40 CFR 64. They apply to a pollutant-specific emissions unit at a major source that is required to obtain a part 70 or 71 permit provided the unit satisfies all criteria as delineated in 40 CFR §64.2(a)(1)-(3). The requirements are:

- The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or surrogate), other than those specifically exempted in §64.2(b)(1).
- The unit uses a control device, as defined in §64.1, to achieve compliance with an emission limitation or standard.

- The unit has a pre-control PTE equal to or greater than 100 percent of the TPY required for the source to be classified as a major source.

Table 2-1 (page 11 of this SOB) lists two types of control devices on a total of four separate units. The SoLoNO<sub>x</sub> controls used on the gas compressor turbines (Units 7, 8, and 9) are considered passive control measures, built into the unit, that act to prevent pollutant formation. These types of emission controls are specifically excluded from the definition of “Control device”. Therefore, units 7, 8, and 9 are not subject to the CAM rule.

The three-way catalytic converter used to control emissions on the Caterpillar-3408, 362 hp, 270 kW emergency electrical generator (Unit 14), is considered a control device that would otherwise make the unit subject to the CAM rule. However, this unit is not subject to the CAM rule for the following reasons:

- The three-way catalytic converter controls CO, NO<sub>x</sub>, and VOC emissions, but there are no specific emission limits for these pollutants. EPA regulation 40 CFR 63 Subpart ZZZZ (NESHAP for Stationary RICE) applies to this unit, but does not require the unit to have a control device. In addition, the applicable limits set within the rule pertain to operation and maintenance of the unit. The catalytic converter is required by a Washington State PSD permit and was chosen as control to achieve BACT for CO. Again, no specific limit, other than hours of total operation, were implemented.
- There are Washington State and NWCAA regulations that limit SO<sub>2</sub> and PM, however the catalytic converter is not a device that controls these pollutants.
- Finally, 40 CFR §64.2(b)(1) exempts this unit from the CAM rule because there are no emission limitations or standards proposed by the Administrator prior to November 16, 1990 pursuant to section 111 or 112 of the FCAA. Subpart ZZZZ was implemented in 2004, PSD-01-08 was first signed in 2002, and OAC 793 took effect in 2002.

All other units (1-6, 10-13, and 15), do not have a control device and are not subject to the CAM rule.

Therefore, there are no units subject to the CAM rule at NWP-SCS.

### **3.4 Chemical Accident Prevention Provisions**

The goal of 40 CFR 68 and the risk management program it requires is to prevent accidental releases of substances that can cause serious harm to the public and the environment from short-term exposures and to mitigate the severity of releases that do occur. If a tank, drum, container, pipe, or other process at a facility contains any of the extremely hazardous toxic and flammable substances listed in Table 1 to 40 CFR 68.130 in an amount above the “threshold quantity” specified for that substance, the facility operator is required to develop and implement a risk management program.

According to NWP-SCS’s renewal application, the facility does not have any of the substances in the threshold quantities listed in Table 1 to 40 CFR 68.130 and therefore it is not subject to the requirements of 40 CFR 98.

### **3.5 New Source Review (NSR)**

#### **3.5.1 Basic Information**

New Source Review requires stationary sources of air pollution to acquire permits before they begin construction. NSR is also referred to as construction permitting or preconstruction permitting.

There are three types of NSR permits. A source may have to acquire one or more of these permits:

- Prevention of Significant Deterioration (PSD) permits, which are required for new major sources or a major source making a major modification in an attainment<sup>1</sup> area;
- Nonattainment NSR permits, which are required for new major sources or major sources making a major modification in a nonattainment area; and
- Minor source permits, which are required for sources that emit pollutants below the major source threshold but above the minor source threshold. It is generally the case that a major new or modified source will also require minor NSR permitting that covers a different subset of pollutants.

### **3.5.2 What are Permits?**

Permits are legal documents that the source must follow. Permits specify what emission limits must not be exceeded and how the source is to demonstrate compliance with the set limits. Permits may contain conditions to ensure that the source is built according to the permit application upon which the permitting agency relies for air impact analysis. For example, the permit may specify a stack height that was used by the permitting agency to determine compliance with air pollutant limits. Some limits in the permit may be specified at the request of the source to keep them from being subject to other requirements. For example, the source may take limits in a minor NSR permit to keep the source out of PSD. To assure that sources follow permit requirements, permits also contain monitoring, recordkeeping, and reporting (MR&R) requirements.

### **3.5.3 Who Issues the Permits?**

In Washington State most NSR permits are issued by the Washington State Department of Ecology ("Ecology") or local air pollution control agencies. The EPA issues the permit in some cases. Ecology and local air pollution control agencies have their own permit programs that are approved by EPA in the State Implementation Plan (SIP). In general, in the NWCAA jurisdiction, which encompasses Island, Skagit, and Whatcom Counties, Ecology issues major NSR permits (PSD permits) and NWCAA issues minor NSR permits (Orders of Approval to Construct, or OACs).

### **3.5.4 Prevention of Significant Deterioration**

Before a major source can be constructed or modified in an area that meets all the health-based ambient air requirements (i.e. in an attainment area), the owner or operator must demonstrate that the project will not cause or contribute to violations of any ambient air quality standard or air quality increment. Also, the owner or operator must demonstrate that the project will not cause significant deterioration in nearby Class I Areas (parks and wilderness areas).

NWP-SCS is subject to the PSD program, and WDOE has issued two PSD for the facility. These PSD permits are described in Section 2.6.1.

### **3.5.5 Minor NSR**

New or modified sources of air pollution are required to obtain a permit from the NWCAA before beginning construction. Permits are referred to as Orders of Approval to Construct

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<sup>1</sup> An attainment area means a geographic area designated by EPA at 40 CFR 81 as having attained the National Ambient Air Quality Standard for a given criteria pollutant (Reference: WAC 173-400-030 (9)).

(OACs) and contain a wide range of local, state, and federal requirements to minimize air pollution impacts on the environment. The type of activity, the size of the operation, and the kinds of pollutants emitted determine permit conditions.

### **3.6 Greenhouse Gases (GHG) Regulations**

#### **3.6.1 40 CFR 98, Federal Mandatory Greenhouse Gas Emission Inventory Regulation**

The requirements for the mandatory greenhouse gas reporting are contained in 40 CFR 98. This regulation is implemented in its entirety by the EPA. This regulation is excluded from appearing in a Title V air operating permit because it does not contain applicable requirements under the Title V program (WAC 173-401-200(4)).

The following discussion is included here for completeness. In order for a facility to be subject to 40 CFR 98, it must meet the requirements of 1, 2, or 3 below:

1. A facility that contains any source category that is listed in Table A–3 of 40 CFR 98 Subpart A.
2. A facility that contains any source category that is listed in Table A–4 of 40 CFR 98 Subpart A that emits 25,000 metric tons CO<sub>2</sub>e or more per year in combined emissions from stationary fuel combustion units.
3. A facility that has stationary fuel combustion units with an aggregate maximum rated heat input of 30 MMBtu/hr or greater, and the facility emits 25,000 metric tons CO<sub>2</sub>e or more per year in combined emissions from all stationary fuel combustion sources.

Subpart C of 40 CFR 98 establishes reporting requirements for stationary fuel combustion sources and specifically excludes portable equipment, emergency generators and emergency equipment. The rule requires monitoring, recordkeeping, and reporting for facilities where the aggregate maximum rated heat input capacity of the stationary fuel combustion units at the facility is 30 MMBtu/hr or greater, and the facility emits 25,000 metric tons of CO<sub>2</sub>e or more per year in combined emissions from all stationary fuel combustion sources.

On November 8, 2010, EPA signed a rule that finalized greenhouse gas (GHG) reporting requirements for the petroleum and natural gas industry under 40 CFR Part 98 Subpart W. Facilities must report GHG emissions if they meet the definition of one of the identified industry segments and emit 25,000 metric tons of CO<sub>2</sub>e or more per year in combined GHG emissions. Onshore Natural Gas Transmission Compression is a Subpart W industry segment defined as any stationary combination of compressors that move natural gas at elevated pressure from production fields or natural gas processing facilities in transmission pipelines to natural gas distribution pipelines or into storage.

A GHG air emission inventory was performed by the facility, and was included as part of the AOP renewal application submitted to the NWCAA. Stationary fuel combustion units were estimated to have an aggregate maximum rated heat input capacity of 431 MMBtu/hr and were estimated to potentially emit 263,012 metric tons of CO<sub>2</sub>e. This estimate was based on operating 8,760 hours per year for each piece of equipment.

The facility meets the definition of the transmission compression industry segment and is subject to Subpart W if actual emissions from Subpart C sources and Subpart W sources exceed 25,000 metric tons of CO<sub>2</sub>e. For this reason, actual fuel combustion estimates and associated emissions need to be performed.

### **3.6.2 WAC 173-441, Washington State Reporting of Emissions of Greenhouse Gases**

Chapter 173-441 WAC, “Reporting of Emissions of Greenhouse Gases”, is a mandatory greenhouse gas (GHG) reporting rule for:

- Suppliers that supply applicable fuels sold in Washington State of which the complete combustion or oxidation would result in at least 10,000 metric tons of carbon dioxide annually; or
- Any listed facility that emits at least 10,000 metric tons of CO<sub>2</sub>-equivalents (CO<sub>2</sub>e) of greenhouse gases annually in the state.

WAC 173-441 was adopted by Ecology on December 1, 2010 and became effective on January 1, 2011. This regulation applies to the facility because the facility emits at least 10,000 metric tons of CO<sub>2</sub>e of greenhouse gases per year. In the 2010 annual emission inventory submitted to the NWCAA and received on March 21, 2011, the facility reported that 67,775 tons of CO<sub>2</sub>e were emitted. Similar to the federal reporting rule (40 CFR 98, see discussion in Section 3.6.1), WAC 173-441 requires annual GHG inventories with reports due no later than March 31 of the following year for facilities that are also subject to 40 CFR 98. Under WAC 173-441, annual emissions shall be reported to Ecology beginning in calendar year 2012. This regulation is implemented in its entirety by Ecology and is considered an applicable requirement under the Title V program; as such, it is included in Section 2 of the AOP for the facility.

### **3.6.3 WAC 173-442, Washington State Clean Air Rule (CAR)**

This rule establishes GHG emissions standards starting in 2017 for certain stationary sources, petroleum product producers and importers, and natural gas distributors. The rule applies if the three year average for GHG beginning in 2012 is more than 100,000 metric tons CO<sub>2</sub>e per year. This regulation is implemented in its entirety by Ecology and is considered an applicable requirement under the Title V program. As such it is included in Term 2.9.1 of NWP-SCS’s AOP.

However, in March 2018, Thurston County Superior Court ruled that parts of the Clean Air Rule are invalid. The Superior Court’s ruling prevents Ecology from implementing the CAR regulations. Currently compliance with the rule is suspended while the ruling is appealed. Although suspended, applicable facilities must still report GHG emissions under Washington state law.

Updates to the status of the CAR are found here: <https://ecology.wa.gov/Air-Climate/Climate-change/Carbon-reduction-targets/Clean-Air-Rule>



## **SECTION 4 GENERAL PERMIT ASSUMPTIONS**

### **4.1 Permit Content**

The permit contains (1) standard terms; (2) generally applicable conditions for the type of facility permitted; and (3) specifically applicable conditions originating from PSD permits, approvals to construct and any orders referencing the facility. Applicable requirements that were satisfied by a single past action on the part of the source are not included in the permit but are discussed in the Statement of Basis. An example would include performance testing to demonstrate compliance with applicable emission limitations as a requirement of initial startup. Regulations that require action by a regulatory agency, but not of the regulated source, are not included as permit conditions.

### **4.2 One Time Requirements**

Applicable requirements that were satisfied by past actions on the part of the source are not included in the AOP, but are discussed in the Statement of Basis. One time requirements related to the original turbines (two Solar Mars T-12000) are not included because they were removed and replaced with new turbines in 2003.

- NWCAA OAC 403 Condition 7 required notification upon startup of the affected 2.5 MMBtu/hr heater/Boiler and 390 kw standby generator. No such notice was located in NWCAA files, but it is likely that the notice was provided via telephone.
- Pursuant to 40 CFR 60.7(a)(1) and PSD Permit 01-8 Second Amendment Conditions 8 and 13, construction commenced on November 20, 2002. Letter submitted to NWCAA and WDOE on November 26, 2002.
- Pursuant to 40 CFR 60.7(a)(3), PSD Permit 01-8 Second Amendment Conditions 8 and 13, and NWCAA OAC 793c Condition 17, initial startup of unit 7 was March 11, 2003. Startup of unit 8 was March 24, 2003. Letter submitted to NWCAA and WDOE on April 29, 2003.
- Pursuant to 40 CFR 60.7(a)(3), PSD Permit 01-8 Second Amendment Conditions 8 and 13, and NWCAA OAC 793c Condition 17, initial startup of unit 9 was June 12, 2003. Letter submitted to NWCAA and WDOE on June 19, 2003.
- Pursuant to 40 CFR 60.8, initial performance test of unit 7 was May 5-9, 2003. The initial performance test of unit 8 was May 12-15, 2003. The initial performance test of unit 9 was August 11-14, 2003.
- Pursuant to 40 CFR 60.8, initial performance test of the replacement for unit 8 was June 29, 2004.
- Pursuant to NWCAA OAC 793c Condition 16, NWP-SCS submitted the required air dispersion modeling analysis on April 15, 2003.
- Pursuant to 40 CFR Part 63 Subpart DDDDD (Boiler MACT), §63.7545(b) and §63.9(b)(2) an initial notification of applicability was submitted on May 29, 2013. Notification was due May 31, 2013.

### **4.3 Federal Enforceability**

Federally enforceable requirements are terms and conditions required under the Federal Clean Air Act or under any of its applicable requirements such as NESHAP. Local and state regulations may become federally enforceable by formal approval and incorporation into the State Implementation Plan (SIP) or through other delegation mechanisms. Federally

enforceable requirements are enforceable by the EPA and citizens of the United States. All applicable requirements in the permit including Standard Terms and Conditions, Generally Applicable Requirements, and Specifically Applicable Requirements are federally enforceable unless identified in the permit as enforceable only by the state and labeled as “state only”.

Chapter 173-401 WAC is not federally enforceable although the requirements of this regulation are based on federal requirements for the air operating permit program. Upon issuance of the permit, the terms based on Chapter 173-401 WAC will become federally enforceable for the source.

Most rules and requirements are followed by a date in parentheses. Two different versions (identified by the date) of the same regulatory citation may apply to the source if federal approval/delegation lags behind changes made to the Washington Administrative Code (WAC) or the NWCAA Regulation. The date associated with a WAC regulation denotes the “State Effective Date” of the regulation. For SIP-approved WAC regulations (identified by the absence of the “state only” designation), the date represents the “State Effective Date” of the regulation version that was SIP-approved. For NWCAA regulations, the date represents the most recent Board of Directors adoption date, which is identified as the “Passed” or “Amended” date in the NWCAA Regulation. For SIP-approved NWCAA regulations (also identified by the absence of the “state only” designation), the parenthetical date represents the “Passed” or “Amended” date of the regulation version that was SIP-approved. The date associated with an OAC or PSD permit represents the latest revision date of that order. For a federal rule, the date is the rule’s most recent promulgation date.

#### **4.4 Gap-Filling**

Certain air pollution regulations and permit conditions do not specifically call out sufficient MR&R methods to adequately demonstrate compliance with the applicable requirement. In these cases, the permitting agency is obligated to develop site-specific MR&R requirements that the source must follow pursuant to WAC 173-401-615(1)(b) & (c) (10/17/02). The inclusion of the customized MR&R requirements is called “gap-filling”. For instance, nuisance rules and opacity requirements have site-specific gap-filled obligations for the source. If gap-filling has been incorporated for a requirement of the AOP, the MR&R for that term will state “directly enforceable” above the gap-filled text.

On August 19, 2008, the U.S. Court of Appeals vacated EPA’s 2006 interpretive rule that prohibited states from enhancing monitoring in Title V permits. As a result, permitting authorities again must ensure that monitoring in each permit is sufficient to assure compliance with the terms and conditions of the permit.

As an example of gap-filling, consider permit term 4.1 that references WAC 173-401-615(3) (10/17/02). The WAC rule states that submittal of reports must be at least once every six months. In order to make the requirement less ambiguous, permit term 4.1 was gap-filled to require reports to cover regular intervals and be submitted over specified date windows.

#### **4.5 Future Requirements**

Applicable requirements promulgated with future effective compliance dates may be included as applicable requirements in the permit. Some requirements that are not applicable until triggered by an action, such as the requirement to file an application prior to constructing a new source, are addressed within the standard terms and conditions section of the permit.

There are presently no pending applications to construct or modify NWP-SCS in such a way as to trigger New Source Review. NWP-SCS has certified in the permit renewal application that the facility will meet any future applicable requirements on a timely basis.

#### **4.6 Compliance Options**

NWP-SCS did not request emissions trading provisions or specify more than one operating scenario in the air operating permit application; therefore, the permit does not address these options as allowed under WAC 173-401-650. This permit does not condense overlapping applicable requirements (streamlining) nor does it provide any alternative emission limitations.

## **SECTION 5 PERMIT ELEMENTS AND BASIS FOR TERMS AND CONDITIONS**

### **5.1 Permit Organization**

The NWP-SCS Air Operating Permit (AOP) is divided into the following sections:

Permit Information

Attest

Table of Contents

Section 1 Emission Unit Identification

Section 2 Standard Terms and Conditions

Section 3 Standard Terms and Conditions for NSPS and NESHAP

Section 4 Generally Applicable Requirements

Section 5 Specifically Applicable Requirements

Section 6 Inapplicable Requirements

### **5.2 Permit Information and Attest**

#### **5.2.1 Permit Information**

The Permit Information page identifies the source and provides general information relevant to the permit such as the facility address, the responsible corporate official, the permit issuance date and the permit expiration date, and the agency personnel responsible for permit preparation, review, and issuance.

#### **5.2.2 Attest**

The Attest page provides authorization for the source to operate under the terms and conditions contained in the permit.

### **5.3 Section 1 Emission Unit Identification**

The Emission Unit Identification section lists emission units, rated capacities, installation date, and air pollution control methods at the NWP-SCS facility.

### **5.4 Section 2 Standard Terms and Conditions**

The Standard Terms and Conditions section of the AOP (Section 2) specifies administrative requirements or prohibitions with no ongoing compliance monitoring requirements. The legal authority for the Standard Terms and Conditions is provided in the citations in Section 2 of the AOP. The description of the regulation in each of these conditions (with the exception of those labeled “Directly enforceable under WAC 173-401-615(1)(b) & (c), 10/17/02”) is sometimes a paraphrase of the actual regulatory requirement. Where there is a difference between the actual requirement and the paraphrased description, the cited regulatory requirement takes precedence. In an effort to make the section more readable, the terms and conditions have been grouped by function. In some cases, similar requirements at the state and local authority level have been grouped together.

Several permit conditions in Section 2 of the AOP are labeled “Directly enforceable under WAC 173-401-615(1)(b) & (c), 10/17/02”. These conditions are a clarification of the regulatory requirements, as the NWCAA interprets those requirements. “Directly enforceable” conditions

are legal requirements with which the permittee must comply and are directly enforceable through the permit per NWCAA's gap-filling authority.

A number of requirements that would not be applicable until triggered have also been included in Section 2 of the AOP. An example of one such requirement is the requirement for a source to submit an application for new source review.

## **5.5 Section 3 Standard Terms and Conditions for NSPS and NESHAP**

Section 3 of the AOP includes the standard terms and conditions that are contained in Subpart A of 40 CFR 60 and Subpart A of 40 CFR 63. Such standard terms and conditions are administrative, notification, and/or other requirements that typically have no ongoing compliance monitoring requirements.

The NESHAP portion of Section 3 in the AOP is designed to summarize Subpart A to 40 CFR 63 (General Provisions). Table 8 of Subpart ZZZZ specifies which parts of the General Provisions apply to NWP-SCS. Table 10 of Subpart DDDDD specifies which parts of the General Provisions apply to NWP-SCS.

In the event of a conflict between Section 3 of the AOP and 40 CFR 63 Subpart A, the latter rules.

## **5.6 Sections 4 and 5: Generally and Specifically Applicable Requirements**

Requirements that limit emissions and broadly apply to all sources within the jurisdiction of the NWCAA are identified in Section 4 - Generally Applicable Requirements. Requirements that limit emissions and apply specifically to emission units at NWP-SCS are identified in Section 5 - Specifically Applicable Requirements. The tables in these sections are organized by pollutant type. The first column contains the term number followed by the pollutant type. The second column identifies the regulatory citation. The third column provides a brief description of the applicable requirements for informational purposes and is not itself enforceable. The fourth column identifies monitoring, recordkeeping and reporting requirements in accordance with WAC 173-401-605(1), -615(1) & (2). Test methods associated with an applicable requirement or in accordance with WAC 173-401-615(1)(a) are included in this column.

Many generally applicable requirements do not specify test and/or monitoring methods within the text of the regulation or statute. Since WAC 173-401-615 requires that the permit require monitoring and recordkeeping adequate to demonstrate compliance with requirements, legally enforceable site-specific monitoring methods were established ("gap-filled") based on the characteristics of the facility, the nature of the underlying requirement, the requirements of WAC 173-401-615, and EPA guidance on monitoring.

## **5.7 Section 6 Inapplicable Requirements**

Washington Administrative Code 173-401-640(2) allows a determination regarding the applicability of requirements with which the source must comply. Section 6 of the permit lists requirements deemed inapplicable based on the applicability of the cited regulation. It is stated in the AOP that the permit shield applies to the specific, listed inapplicable requirements.

## SECTION 6 INSIGNIFICANT EMISSIONS UNITS AND INAPPLICABLE REQUIREMENTS

### 6.1 Insignificant Emission Units

Washington Administrative Code 173-401-640 allows a determination regarding the applicability of requirements with which the source must comply. Section 6 of the permit lists requirements deemed inapplicable based on the applicability of the cited regulation.

Categorically exempt insignificant emissions units listed in WAC 173-401-532 are present at the Northwest Pipeline LLC, Sumas Compressor Station. These categorically exempt emissions units normally have extremely low emissions and are considered insignificant by regulation and not of sufficient importance to list in the permit. Other emission units or activities generate only fugitive emissions for which there are no specifically applicable requirements. These activities are categorized as insignificant by Chapter 173-401-530(1)(d) WAC. Categorically insignificant and fugitive emission units and activities are listed in the following table.

**Table 6-1: Insignificant Activities/Emission Units**

Unit/Activity	WAC Citation Category
Lubricating Oil Storage & Handling	WAC 173-401-532(3)(4)(69)
Glycol Storage and Handling	WAC 173-401-532(4)
Trucks, Fork Lifts, Autos	WAC 173-401-532(10)
Plant Upkeep/Painting	WAC 173-401-532(33)
Landscaping Activities	WAC 173-401-532(43)
Comfort Air Conditioning	WAC 173-401-532(46)
Natural Draft Hoods/Safety Valves	WAC 173-401-532(47)
Vents/Bathroom Facilities	WAC 173-401-532(48)
Office Activities	WAC 173-401-532(49)
Personal Care Activities	WAC 173-401-532(50)
Battery Banks	WAC 173-401-532(77)
Air Compressors	WAC 173-401-532(88)
Waste Oil Storage and Handling	WAC 173-401-532(4)
Roadway Emissions	WAC 173-401-530(1)(d)
Repair and Maintenance Activities	WAC 173-401-532(74)

### 6.2 Inapplicable Requirements

Chapter 173-401-640 WAC requires the permitting authority to issue a determination regarding the applicability of requirements with which the source must comply. Table 6 in the permit lists requirements deemed inapplicable to the emission units identified in Table 1 in the permit and provides the basis for each determination.

## **SECTION 7      PUBLIC DOCKET**

Copies of this permit as well as the permit application and any technical support documents are available online at <http://www.nwcleanairwa.gov> and at the following location:

Northwest Clean Air Agency  
1600 South Second Street  
Mount Vernon, WA 98273-5202

## **SECTION 8 PUBLIC COMMENT PERIOD AND EPA REVIEW**

A 30-day public comment period ran from May 10, 2019 to June 10, 2019. Notice was posted in the Washington Department of Ecology's Permit Register, as well as the NWCAA website. Copies of the draft permit and statement of basis were available on NWCAA's website and at NWCAA's office during the comment period. NWCAA received no comments on the AOP draft.

Following the public comment period, NWCAA submitted a proposed version of the AOP and SOB to EPA, Region 10, and requested expedited review of the proposed permit. NWCAA received permission to issue the AOP and SOB as proposed on June 17, 2019.



## SECTION 9 DEFINITIONS AND ACRONYMS

Definitions are assumed to be those found in the underlying regulation. A short list of definitions has been included to cover those not previously defined.

An "applicable requirement" is a provision, standard, or requirement in any of the listed regulations or statutes as it applies to an emission unit at a stationary source.

An "emission unit" is any part or activity of a stationary source that emits or has the potential to emit pollutants.

A "permit" means for the purposes of the air operating permit program an air operating permit issued pursuant to Title 5 of the 1990 Federal Clean Air Act.

"Technology-Based Emission Standard" means a standard, the stringency of which is based on determinations of what is technologically feasible considering relevant factors.

"State" means for the purposes of the air operating permit program the NWCAA or the Washington State Department of Ecology.

The following is a list of Acronyms used in the Air Operating Permit and/or Statement of Basis:

4SLB	four-stroke lean burn
4SRB	four-stroke rich burn
2SRB	two-stroke rich burn
AFS	Air Facility System
AOP	Air Operating Permit
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
CFR	Code of Federal Regulations
CO	carbon monoxide
dscf	dry standard cubic foot
EPA	The United States Environmental Protection Agency
FCAA	Federal Clean Air Act
ICIS	Integrated Compliance Information System
ISO	International Standards Organization
MR&R	monitoring, recordkeeping and reporting
NOC	Notice of Construction
NO <sub>x</sub>	nitrogen oxides
NSPS	New Source Performance Standards
NSR	New Source Review
NWCAA	Northwest Clean Air Agency
NWP-SCS	Northwest Pipeline LLC Sumas Compressor Station
OAC	Order of Approval to Construct
PEMS	Parametric Emissions Monitoring System

PM	particulate matter
PM <sub>10</sub>	particulate matter less than 10 microns in diameter
ppmvd	parts per million by volume (dry basis)
RCW	Revised Code of Washington
RICE	Reciprocating internal combustion engines
SIP	State Implementation Plan
SI	Spark Ignition
STP	Standard temperature and pressure
SO <sub>2</sub>	sulfur dioxide
WAC	Washington Administrative Code