northwest Clean Air agency

Serving Island, San Juan, Skagit and Whatcom Counties

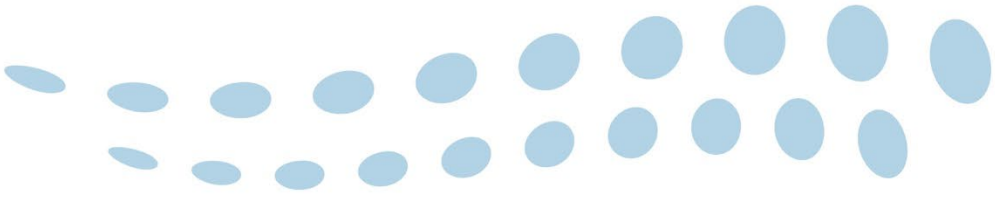
Statement of Basis - FINAL

Air Operating Permit 007R4

Northwest Pipeline LLC
Sumas Compressor Station

Sumas, Washington

December 31, 2025



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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Air Operating Permit Number:	**Issuance Date:**
007R4	December 31, 2025
Permit Modifications:	**Modification Date:**
Supersedes Permit Number:	**Expiration Date:**
007R3	December 31, 2030
Application Received Date:	**Renewal Application Due:**
May 22, 2023	December 31, 2029

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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), and nitrogen oxides (NO_x) (see table 1-1 below).

The facility has re-classified as an area source of Hazardous Air Pollutants (HAPs) as outlined in 40 CFR §63.1(c)(6). In the last few months, NWP-SCS removed six compressors powered by large diesel-fired reciprocating engines which were the reason why the facility-wide PTE for HAPs was above the major HAP thresholds.

The facility also has the potential to emit more than 100,000 tons of CO_{2e} 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

Pollutant	Facility PTE (TPY)[1]	Title V Threshold (TPY)	Title V (Yes/No) (based on threshold)
NO_X	152	100	Yes
CO	196	100	Yes
VOC	13	100	No
SO_2	19	100	No
PM_{10} & $PM_{2.5}$	14	100	No
Formaldehyde (HAP)	3	10	No
Total HAPs	4	25	No

[1] Facility-wide annual PTE provided in AOP renewal application submitted by NWP-SCS adjusted for removed and added equipment.

The purpose of this Statement of Basis is to set forth the legal and factual evidence for the conditions in the NWP-SCS AOP #007R4 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.

AOP 007R3 expired on June 19, 2023. NWP-SCS submitted a renewal application on May 22, 2023, which was deemed complete June 16, 2023.

1.2 Permit Changes in AOP #007R4

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

The NWCAA template for AOPs no longer includes the EPA ICIS and NAICS identification numbers that previous AOPs did.

The responsible official was updated, and the corporate inspection contact is now a position, versus an individual as there is regular turnover of that position.

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.

In addition to the previously applicable federal regulation, 40 CFR Part 60 Subpart GG – Standards for Performance for Stationary Gas Turbines, 40 CFR Part 60 Subpart KKKK – Standards for Performance for Stationary Combustion Turbines was added as a new applicable regulation due to the addition of a new turbine unit.

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 removed as the three Sellers water heaters/boilers (formerly units 10-12) at the facility were removed.

Terms related to 40 CFR Part 63 Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines were removed because the two emergency generator RICE, the A-Aux Cummins GTA 855 250 kW (335 hp 4SRB) generator installed in 1993 (formerly unit 13), and the D-Plant Caterpillar-3418 270 kW (362 hp 4SRB) generator installed in 2003 (formerly unit 14), to which this regulation applied were removed.

1.2.4 Section 4 Generally Applicable Requirements

Changes made to the Generally Applicable Requirements sections in AOP #007R4 are summarized in the following list:

- Dates and changes to parts of WAC 173-400 that are referenced in Section 4 of the AOP.
- Added OAC 1402a (11/25/2024) citations in the applicable terms.

1.2.5 Section 5 Specifically Applicable Requirements

The following changes in Section 5 of the Northwest Pipeline LLC AOP #007R4 were made:

- Citations were updated and made consistent across all terms. Language updated and edited where needed.
- Reordered terms to put similar pollutants and requirements together.
- Terms that cited revised permits, PSD-01-08 Amendment 4 and OAC 793d, were updated to the with permit revisions and new citations from the updated permits, PSD-01-08 Amendment 5 (5/6/2020) and OAC 793e (10/18/2024).
- Units, including the Sellers water heater/boiler and 270 kW generator permitted under PSD-01-08, have been removed.
- Removed conditions relating to the six RICE compressors, three process heaters (including that mentioned in the previous bullet), and two emergency generator RICE (including that mentioned in the previous bullet) that were removed from the facility.
- Added OAC 1402a (11/25/2024) terms to the table, which was in large part the addition of the newly installed Mars 100 gas compression combustion turbine.
- Added conditions and citations from NSPS Subpart KKKK that apply to the new Mars 100 turbine.

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 and are considered separate stationary sources.

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.

In late 2023, OAC 1402 was issued authorizing the installation of a new Solar Mars 100, 129.5 MMBtu/hr (12.6 MW), turbine compressor. This project included the removal of the six RICE compressor units at the facility, as well as the replacement of three RICE emergency generator engines which are to be replaced with a single RICE emergency generator. In the original application only one of the three process heaters was scheduled for removal, but all three are now removed and dropped from the AOP. Currently the facility is operating four natural gas turbines and the only remaining RICE emergency generator.

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

Figure 2-2 shows an aerial photograph of the facility which shows some of the ongoing on-site construction. The aerial photograph was updated with a photo from July 31, 2024.

Figure 2-3 shows the plot plan of the facility, modified to reflect removal of the RICE compressors and addition of the Mars 100 turbine.

Figure 2-1: Location Map

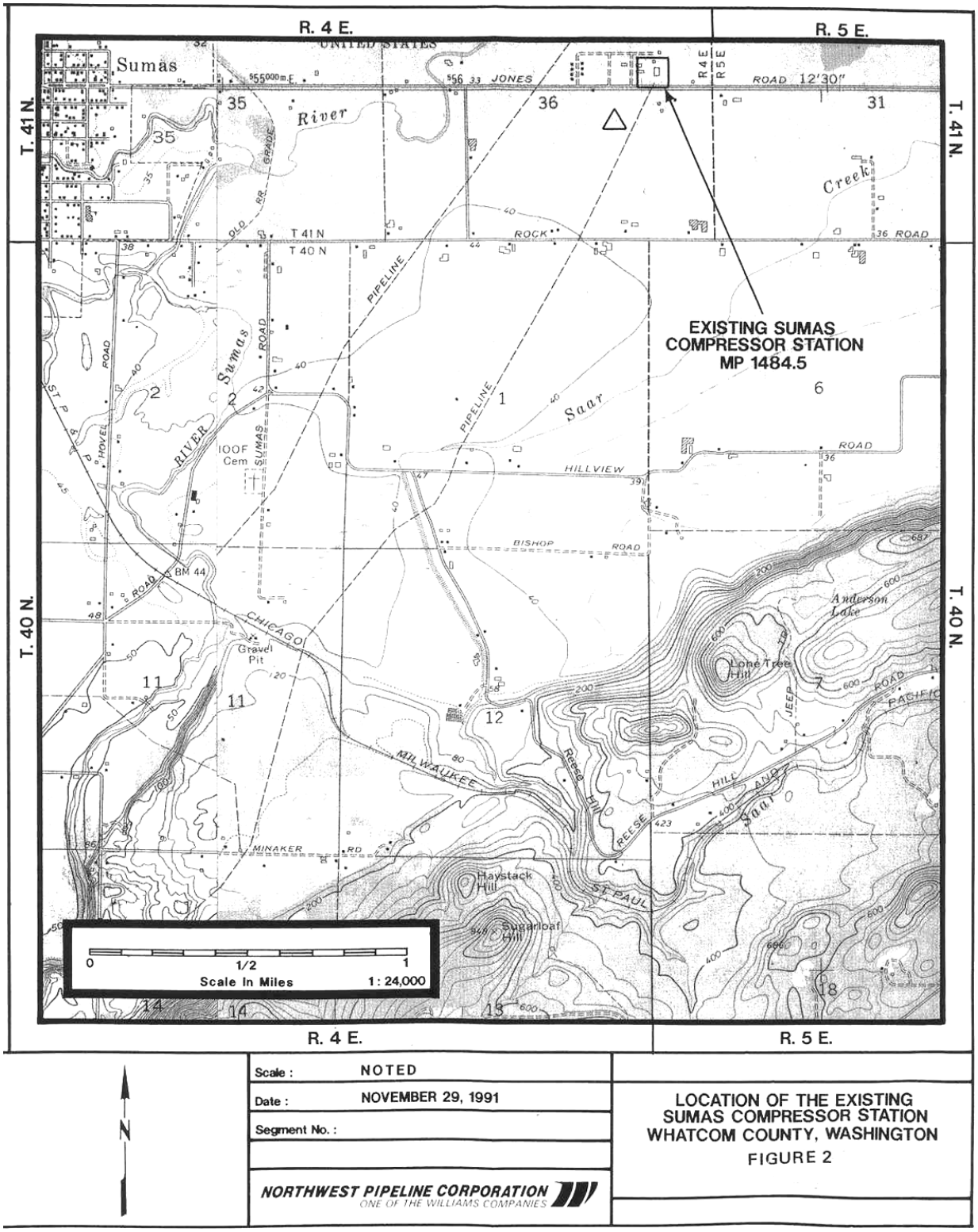
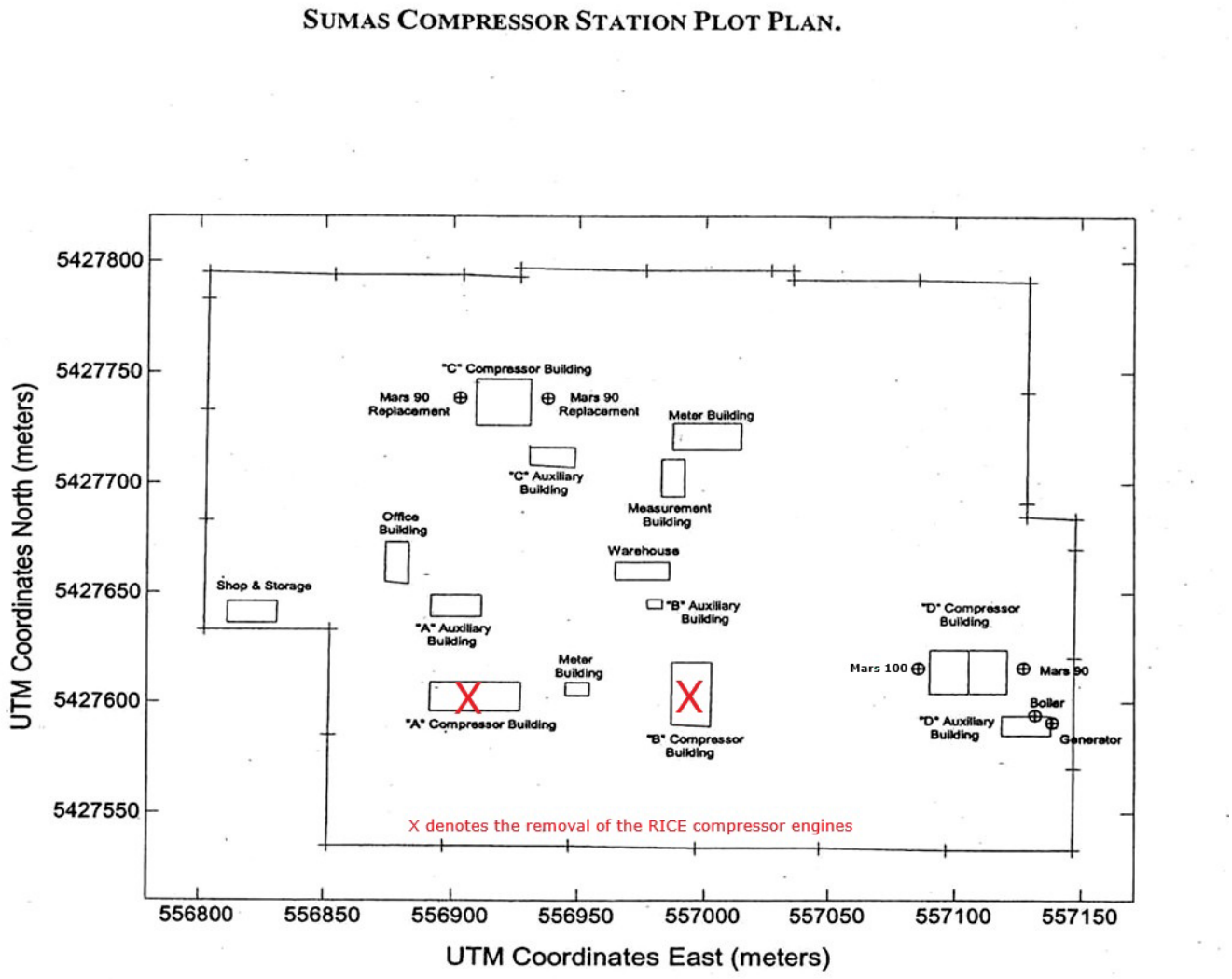


Figure 2-2: An aerial photograph of the NWP-SCS, taken from Google Earth (updated 31 July 2024 to show new construction).

Figure 2-3: Site Plot Plan



2.2 Emission Units and Control

Primary emission sources at the facility include three Solar Mars 90 turbines and one Solar Mars 100 turbine. The facility also operates an emergency RICE generator. In addition, fugitive emissions originate from the gas pipeline and the fuel system servicing the turbines. All combustion sources at the facility are fueled with pipeline grade natural gas.

The four gas turbines' NO_X emissions are minimized by incorporation of SoLoNO$_X$ technology into the units. SoLoNO$_X$ - 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_X. 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
7/ C-Plant	Solar Mars 90S Gas Turbine	Dry low-NO_X (SoLoNO$_X$)	Natural Gas	100.03 @ 59 °F	2003
8/ C-Plant	Solar Mars 90S Gas Turbine	Dry low-NO_X (SoLoNO$_X$)	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_X (SoLoNO$_X$)	Natural Gas	100.03 @ 59 °F	2003
10/ D-Plant	Solar Mars 100-16000S Gas Turbine	Dry low-NO_X (SoLoNO$_X$)	Natural Gas	129.5 @ 0 °F	2024
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_X). As noted in Section 1 Introduction above, the facility was a major source of HAPs, however, with the removal of the six RICE compressors, the formaldehyde and total HAP PTE are now below the threshold for "major" designation, and the facility has re-classified as an area source as outlined in 40 CFR §63.1(c)(6).

Table 2-2 shows the facility-wide emissions actual 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 the facility-wide 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_X	CO	VOC	PM_{10}	SO_2
2017	242	32	10	6	11
2018	217	22	9	4	10
2019	182	19	8	4	9
2020	173	35	14	5	10
2021	138	32	13	6	11
2022	210	28	12	5	11
2023	192	21	10	6	13

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

Toxic Air Pollutant	2017	2018	2019	2020	2021	2022	2023
ACETALDEHYDE	1,011	919	828	1,518	1,230	6,936	1,962
ACROLEIN	933	727	698	1,251	1,073	943	703
BENZENE	231	148	164	258	245	218	179
FORMALDEHYDE	8,145	7,167	6,247	11,238	9,541	8,538	6,673
TOLUENE	315	265	244	319	329	317	324
XYLENE	105	104	105	105	111	111	123

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, NWCAA, and WDOE was not acceptable to 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_X 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 contains 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_X 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_{10}, SO_2, and VOC be eliminated and that the reference method NO_x tests be reduced to an annual basis. The justification for the elimination of the PM_{10}, SO_2, 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_X 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 NO_X periodic monitoring described above. In addition, annual CO compliance tests are required.

In 2020 NWP-SCS received a 5th amendment to PSD-01-08 to reduce periodic CO monitoring to 4,380 hours (instead of every 336 or 672 hours) after demonstrating long term compliance. OAC 793d was similarly revised to bring NO_X periodic monitoring to align with the 4,380 hours found in the PSD. OAC 793e also removed equipment that was shut down and removed.

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

POLLUTANT	TEST METHOD	FREQUENCY
Opacity of emissions	EPA Method 9	Annual
Nitrogen oxides (NO_X)	EPA Method 20	Annual
Carbon Monoxide (CO)	EPA Method 10	Annual

Note: All testing will be done at peak load except for NO_X, 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 NOx limit of 25 ppmvd (3-hour average at 15% O_2) 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 8th, 1992, and was signed by the EPA on August 13th, 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 5th, 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 NOx averaging period from a rolling 4-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 are cited.

PSD Permit 01-08 was approved on October 18th, 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 @ 59ºF)
- 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 @ 59ºF)
- 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 15th, 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.

PSD-01-08 Amendment 5 was issued on May 6, 2020. Several changes were made to the PSD:

- CO periodic monitoring was revised so that NWP-SCS would measure CO emissions using the portable analyzer and CTM-034 at least every 4,380 hours of operation and removes the requirement to verify accuracy of the portable analyzer every year in conjunction with the stack tests.

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 (equipment permanently removed; OAC no longer in effect)

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 (superseded by OAC 793)

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 (applies)

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 (superseded by OAC 793a)

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 NOx emissions (in ppm, lbs/day and tons/year), reporting requirements, and requirements for initial source tests and subsequent ongoing testing for the turbines according to 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 (superseded by OAC 793e)

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.

2.6.2.6 NWCAA Order of Approval to Construct No. 793e (applies)

OAC 793e was issued on October 18, 2024, superseding all previous issues of OAC 793. Changes over OAC 793d include:

- Aligned periodic monitoring requirement timeline for NO_X with the CO monitoring timeline in PSD-01-08 Amendment 5.
- Removed conditions related to the D-plant 270 kW Caterpillar generator and 2.5 MMBtu/hr Sellers C-60 boiler that were permanently removed, as well as all references to these pieces of equipment.
- Updated conditions for clarity, brevity, and to align with current NWCAA practices.

2.6.2.7 NWCAA Order of Approval to Construct No. 1402 (superseded by OAC 1402a)

OAC 1402 was issued on October 5, 2023, approving installation of a new 129.5 MMBtu/hr (12.6 MW) natural gas turbine compressor:

- Set limits for NO_X, CO and VE at 9.0 ppmvd @ 15% oxygen, 25.0 ppmvd @ 15% oxygen and 0%, respectively.
- Requires similar source testing and periodic monitoring that align with that done in OAC 793e and PSD-01-08 Amendment 5.
- Requires similar maintenance and operation requirements as found in OAC 793e and PSD-01-08 Amendment 5 for the other turbine compressors.
- Required the six RICE compressors be permanently shutdown 30 days after commissioning on the new Mars 100 was complete.

2.6.2.8 NWCAA Order of Approval to Construct No. 1402a

OAC 1402a was issued on November 25, 2024, superseding OAC 1402. Changes over OAC 1402 include:

- NWP-SCS sought an extension to the deadline to permanently shut down the six RICE compressors due to a longer than expected outage of the Unit 9 turbine compressor.

This revision extended the shutdown of the RICE compressors until December 31, 2024.

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 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.

The Solar Mars 100 started on October 29, 2024. It is subject to New Source Performance Standard Subpart KKKK - Standards of Performance for Stationary Gas Turbines, codified in Title 40 Code of Federal Regulations (CFR). 40 CFR 60.4305(b) exempts turbines subject to Subpart KKKK from all of the requirements of 40 CFR 60 Subpart GG. Subpart KKKK provides standards for nitrogen oxides in section 60.4320 and table 1 of the subpart. Requirements for monitoring are in sections 60.4375 and 60.4400. The subpart also provides standards for sulfur in section 60.4330 with requirements for monitoring in section 63.4415.

NWP-SCS operates one emergency RICE generator. Neither of the NSPS RICE regulations (IIII and JJJJ) apply to this unit due to its age and emergency use status.

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. Since it reclassified, NWP-SCS is no longer a major source of HAPs, so Subpart DDDDD doesn't apply.

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 an area source of HAP and operates the following RICE:

- C-Plant, Unit 15 - 522 hp 4SRB Caterpillar emergency backup installed in 1993

Applicability:

- The C-Plant - 522 hp, natural gas, spark ignition, 4SRB Caterpillar emergency backup RICE with 390 kW electrical generator is considered to be existing stationary RICE because it is located at an area source of HAP emissions and was constructed before June 12, 2006, as per §63.6590 (a)(1)(iii). The engine is subject to 40 CFR 63 Subpart ZZZZ and must comply with the operating requirements of Table 2b and requirements of Table 2d (§63.6603(a)). Table 2b doesn't list any requirements for emergency engines. Table 2d (5) lists the inspection and maintenance requirements for emergency SI RICE and are identified in the AOP.

There are no other RICE at the facility.

3.2.3 40 CFR Part 63 Subpart YYYY - National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines

Subpart YYYY applies to stationary combustion turbines constructed after January 14, 2003, at major sources of HAP. As previously discussed, NWP-SCS current PTE is below the major HAP thresholds. Therefore, Subpart YYYY does not apply to any of the turbines at NWP-SCS.

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 12 of this SOB) lists one type of control device on a total of four separate units. The SoLoNOx controls used on the gas compressor turbines (Units 7, 8, 9, and 10) 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, 9, and 10 are not subject to the CAM rule.

Note that based on the facility-wide PTE (Table 1-1), the facility is only Title V major for NOx and CO. Facility-wide emissions of all other pollutants are less than Title V major source levels from the aggregate of all stationary emission units in the facility. It is therefore clear that CAM applicability can't be triggered based on any pollutants other than NOx or CO. Hence, table 3-1 below focuses its analysis on NOx and CO and does not include other pollutants (e.g., PM).

In summary, and as discussed further in Table 3-1, there are no units subject to the CAM rule at NWP-SCS.

Table 3-1: CAM Applicability

Emissions unit/ location	Emission Unit Description	Pollutant emission limit?*	APC Used to Control Pollutant?	Pre-Controlled PTE > 100 tpy?)	CAM Applies?
7/ C-Plant	Solar Mars 90S Gas Turbine	CO limits: 46.5 tons in any 12-month period; 50 ppmvd at 15% O2, one-hour average; 14.0 lb/hr NOx limit: 25 ppmvd at 15% O2, three-hour average	None**	No	No per 40 CFR 64.2(a)(2)
8/ C-Plant	Solar Mars 90S Gas Turbine	CO limits: 46.5 tons in any 12-month period;	None**	No	No per 40 CFR 64.2(a)

		50 ppmvd at 15% O2, one-hour average; 14.0 lb/hr NOx limit: 25 ppmvd at 15% O2, three-hour average			(2)
9/ D-Plant	Solar Mars 90S Gas Turbine	CO limits: 46.5 tons in any 12-month period; 50 ppmvd at 15% O2, one-hour average; 14.0 lb/hr NOx limit: 25 ppmvd at 15% O2, three-hour average	None	No	No per 40 CFR 64.2(a) (2)
10/ D-Plant	Solar Mars 100-16000S Gas Turbine	CO limits: 25 ppmvd at 15% O2 NOx limit: 9 ppmvd at 15% O2	None	No	No per 40 CFR 64.2(a) (2)
15/ C-Plant	Caterpillar-3412, 522 hp, 390 kW emergency electrical generator	None	None	No	No per 40 CFR 64.2(a) (1 & 2)

* The most stringent emission limit is listed for each applicable pollutant.

** The SoLoNOx controls used on the gas compressor turbines (Units 3, 4, and 5) 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 "air pollution control device" for CAM.

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[1] 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 ensure 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

[1] 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. These OAC permits are described in Section 2.6.2.

3.6 Greenhouse Gases (GHG) Regulations

Greenhouse gases are chemicals that contribute to climate change by trapping heat in the atmosphere. The greenhouse gases recognized by EPA and Ecology are carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), and sulfur hexafluoride (SF6). "Hydrofluorocarbons" or "HFC" means a class of greenhouse gases primarily used as refrigerants, consisting of hydrogen, fluorine, and carbon.

NWP-SCS is required to meet the following federal and state greenhouse gas emission requirements, as applicable.

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

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_2e 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_2e or more per year in combined emissions from all stationary fuel combustion sources.

Per review of the AOP renewal application submitted to the NWCAA, stationary fuel combustion units subject to the rule have an aggregate maximum rated heat input capacity greater than 30 MMBtu/hr with an estimated PTE of over 193,000 metric tons of CO2e (note this estimate was based on 8,760 hours of operation per year for each piece of equipment, except the emergency generator).

This regulation applies to NWP-SCS due to its GHG emission levels and type of facility (Onshore Natural Gas Transmission Compression). The rule requires annual GHG inventories and reporting beginning in calendar year 2010, with reports due to EPA by no later than March 31 of the following year.

The requirements for the mandatory greenhouse gas reporting are contained in 40 CFR 98. EPA implements this regulation in its entirety. Per review of WAC 173-401-200(4), this regulation is not considered an applicable requirement with respect to the Title V Air Operating Permit program, and as such, is excluded from inclusion in a Title V air operating permit.

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 CO2-equivalents (CO2e) 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_2e 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_2e 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.

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 for unit 8 was May 12-15, 2003. The initial performance test for 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.
- Pursuant to NWCAA OAC 1402a condition (13), notification of completion of the commissioning of the Mars 100 was submitted on October 29, 2024. Notification that the six RICE compressor engines were made permanently inoperable and the date the work was completed was submitted on December 23, 2024.

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

Title V of the Federal Clean Air Act is the basis for the EPA's 40 CFR 70, which is the basis for the State of Washington air operating permit regulation, Chapter 173-401 WAC. Title V requires that all air pollution regulations applicable to the source be called out in the AOP for that source. Title V also requires that each applicable regulation be accompanied by a federally enforceable means of "reasonably assuring continuous compliance." Title V, 40 CFR 70, and WAC 173-401-615 all contain a "gap-filling" provision that enables NWCAA to add monitoring where no monitoring is present[2]. 40 CFR Part 70.6(c)(1) and WAC 173-401-

[2] WAC 173-401-615(1) Monitoring. Each permit shall contain the following requirements with respect to monitoring:
(a) All emissions monitoring and analysis procedures or test methods required under the applicable requirements, including any procedures and methods promulgated pursuant to sections 504(b) or 114 (a)(3) of the FCAA;
(b) Where the applicable requirement does not require periodic testing or instrumental or noninstrumental monitoring (which may consist of recordkeeping designed to serve as monitoring), periodic monitoring sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit, as reported pursuant to subsection (3) of this section. Such monitoring requirements shall assure use of terms, test methods, units, averaging periods, and other statistical conventions consistent with the applicable requirement. Recordkeeping provisions may be sufficient to meet the requirements of this paragraph; and

630(1) contain authority to address situations where monitoring exists but is deemed to be insufficient. NWCAA relied upon these authorities to add monitoring where needed to the AOP.

Most cases where monitoring needed to be added were older regulations and permits that contain no monitoring. For example, NWCAA used its gap-filling authority to add monitoring for the 20% visible emission standard, NWCAA 451.1. In any term where gap-filling has taken place, the regulatory citation for that term will contain the words "directly enforceable" and the introductory paragraphs for the AOP table include the reference to the citation of the gap-filling requirement.

For some AOPs, there are also some limited cases where monitoring does exist but is found to be insufficient. In those cases, NWCAA uses its sufficiency monitoring authority (WAC 173-401-630(1)) to add monitoring in those cases. "Directly Enforceable" is included in the AOP term when NWCAA used its authority to supplement insufficient monitoring. There are no such cases in the NWP-SCS AOP.

The type and frequency of monitoring added under the authority in WAC 173-401-615 were set based on the following factors:

1) Historical Compliance: NWCAA reviewed the facility's past compliance with the underlying requirement. This information helped inform the decision about monitoring frequency and stringency.
2) Margin of Compliance: The margin of compliance is a measure of whether the facility can easily achieve compliance with a requirement, or whether they operate close to the limit. NWCAA considered the facility's margin of compliance for each underlying requirement in setting monitoring for that requirement.
3) Variability of Process and Emissions: Processes that vary their production rates and/or emissions over time require different monitoring from steady-state processes. NWCAA considered process and emission variability in setting monitoring.
4) Environmental Impact of a Problem – Exceedances of some permit requirements have greater environmental consequences than others. For example, a problem that causes an exceedance of the ammonia emission limit in the SCR for a turbine could have a greater environmental impact than failing to use ultra-low sulfur diesel at an emergency generator. NWCAA considered the environmental impact of a problem in setting monitoring.
5) Clarity and Complexity – The requirements that apply to AOP facilities are numerous, varied, and can be complex. The greater the number, variety, and complexity of requirements, the harder it is for a facility to understand and comply. NWCAA's goal is to write clear, concise permits the facilities can understand. To help achieve this goal, when possible, NWCAA aligned additional monitoring with monitoring that the facility is already performing. This approach required careful thought. NWCAA reviewed the monitoring the facility is already performing to see if it was adequate to stand-in as monitoring for the permit term and only used it if deemed adequate.

Table 4-1 lists where NWCAA used its gap-filling monitoring authority. NWP-SCS's AOP doesn't contain any sufficiency provisions.

(c) As necessary, requirements concerning the use, maintenance, and, where appropriate, installation of monitoring equipment or methods.

Table 4-1: AOP terms with Directly Enforceable gapfill provisions

AOP Term	Description	Monitoring
4.1	Required monitoring reports	Reporting periods identified
4.2	Operation and maintenance	Monitor, keep records and report
4.3	Operation and maintenance manuals	Monitor, keep records and report
4.4-4.8	Nuisance and odor	Procedure followed when complaints are received
4.9-4.13	Fugitive PM	Procedure followed when complaints are received
4.14-4.19,	Visible emissions	Visible emissions monitoring
4.20-4.24	Sulfur dioxide	Keep records of type, quantity, and sulfur content of fuel combusted
5.27	Operations and maintenance plan	Develop plan and make available to NWCAA
5.29	Visible emissions	Visible emissions monitoring, corrective action and reporting

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.

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 dates, 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).

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 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, Forklifts, 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

7.1 Public Comment Period and EPA Review

A 30-day public comment period ran from October 25, 2025, to November 24, 2025. 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 December 16, 2025.

SECTION 8 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_X	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_{10}	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_2	sulfur dioxide
WAC	Washington Administrative Code