



TECHNICAL SUPPORT DOCUMENT

**Nonroad Engine Permit NEP 23-3574
NEP Application L-733**

Issued: April 5, 2023

Puget Sound Energy – Jackson Prairie

SWCAA ID - 1877

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Abbreviations

acfm	actual cubic feet per minute
AP-42	<u>Compilation of Emission Factors, AP-42, Fifth Edition, Volume 1, Stationary Point and Area Sources – published by the US Environmental Protection Agency</u>
Btu	British thermal unit
Btu/gal	Heat content expressed in British thermal units per gallon
CAS #	Chemical Abstracts Service registry number
cfm	Cubic feet per minute
CFR	Code of Federal Regulations
CO	Carbon monoxide
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent as defined in 40 CFR 98
dscfm	Dry standard cubic feet per minute
EPA	U.S. Environmental Protection Agency
g/hp-hr	Grams per horsepower hour
gr/dscf	Grains per dry standard cubic foot (68 °F, 1 atmosphere)
HAP	Hazardous air pollutant listed pursuant to Section 112 of the Federal Clean Air Act
lb/10 ³ gal	Pounds per thousand gallons
lb/10 ⁶ scf	Pounds per million standard cubic feet
lb/hp-hr	Pounds per horsepower hour
lb/hr	Pounds per hour
lb/MMBtu	Pounds per million British thermal units
lb/ton	Pounds per ton
lb/yr	Pounds per year
MMBtu/hr	Millions of British thermal units per hour
NEP	Air Discharge Permit
NO _x	Nitrogen oxides
NOV	Notice of Violation
oz/yd ²	Once per square yard
PM	Total particulate matter (includes both filterable and condensable particulate matter as measured by EPA Methods 5 and 202)
PM ₁₀	Particulate matter with an aerodynamic diameter less than or equal to 10 micrometers (includes both filterable and condensable particulate matter as measured by EPA Methods 5 and 202)
PM _{2.5}	Particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers (includes both filterable and condensable particulate matter as measured by EPA Methods 5 and 202)
ppm	Parts per million
ppmv	Parts per million by volume
ppmvd	Parts per million by volume, dry
PSD	Prevention of Significant Deterioration
psig	Pounds per square inch, gauge
RCW	Revised Code of Washington
SDS	Safety data sheet
SQER	Small Quantity Emission Rate listed in WAC 173-460
SO ₂	Sulfur dioxide
SWCAA	Southwest Clean Air Agency
TAP	Toxic air pollutant pursuant to Chapter 173-460 WAC
T-BACT	Best Available Control Technology for toxic air pollutants
tpy	Tons per year
VOC	Volatile organic compound
WAC	Washington Administrative Code

1. FACILITY IDENTIFICATION

Applicant Name: Puget Sound Energy
Applicant Address: 239 Zandecki Road, Chehalis, Washington 98532

Facility Name: Puget Sound Energy
Facility Address: 239 Zandecki Road, Chehalis, Washington 98532

SWCAA Identification: 1877

Contact Person: Mark Anders, Reservoir Manager

Primary Process: Natural gas transfer and storage
SIC/NAICS Code: 4923: Gas Transmission and Distribution
22121: Natural Gas Distribution

Facility Classification: Title V Opt-out (Criteria)

2. FACILITY DESCRIPTION

Puget Sound Energy (PSE) operates a natural gas transfer and storage facility on Zandecki Road in Chehalis known as the Jackson Prairie Storage Operation. The facility receives natural gas from Northwest Pipeline during periods of low demand and stores the gas in subterranean sand formations. Gas is transferred back to the pipeline during periods of high demand. Gas transfer is accomplished with compressors driven by natural gas fired turbines and internal combustion engines.

3. CURRENT PERMITTING ACTION

This permitting action is in response to Nonroad Engine Permit application number L-733 (NEP Application L-733) dated March 9, 2023. PSE submitted NEP Application L-733 requesting approval for operation of multiple nonroad engines in support of a gas well workover project. The workover project involves inspection and minor modification of existing gas well completions.

The current permitting action provides approval for nonroad engine operation as proposed in NEP Application L-733.

4. PROCESS DESCRIPTION

4.a Gas Well Workover Project. PSE is conducting a workover program to inspect and modify selected gas well completions at the Jackson Prairie facility. The program is required to meet requests from Federal regulatory authorities to document the integrity of facility gas wells by performing surveys of the well casing, examination of well pipe to formation cement strength and pressure testing well casing. Workover activities are performed with hydraulic equipment that allows wells to be inspected and/or modified safely while under pressure. The proposed nonroad engines operate in support of the hydraulic equipment. Workover projects generally take two to three months to complete.

5. EQUIPMENT/ACTIVITY IDENTIFICATION

5.a Nonroad Diesel Engine - #1.

Engine Make / Model: Pacar (s/n AM106816)
Engine Power Rating: 400 hp
Engine Fuel Consumption: 20.3 gal/hr
Engine Mfg Date: 2009
Engine Certification: EPA Tier 3
NSPS/MACT Applicable: No
Stack Description: 5" diameter discharge at 11'6" above grade

5.b Nonroad Diesel Engine - #2.

Engine Make / Model: Detroit Diesel / Series 60 (s/n 06R1002355)
Engine Power Rating: 475 hp
Engine Fuel Consumption: 25.5 gal/hr
Engine Mfg Date: 2008
Engine Certification: EPA Tier 3
NSPS/MACT Applicable: No
Stack Description: 5" diameter discharge at 7'4" above grade

5.c Nonroad Diesel Engine - #3.

Engine Make / Model: Cummins / QSB5-G7 (s/n 73490682)
Engine Power Rating: 110 hp
Engine Fuel Consumption: 5.58 gal/hr
Engine Mfg Date: 2012
Engine Certification: EPA Interim Tier 4
NSPS/MACT Applicable: No
Stack Description: 3" diameter discharge at 8'1" above grade

5.d Nonroad Diesel Engine - #4.

Engine Make / Model: Volvo Penta / TAD650VE (s/n 531055753)
Engine Power Rating: 197 hp
Engine Fuel Consumption: 9.3 gal/hr
Engine Mfg Date: 2010
Engine Certification: EPA Tier 3
NSPS/MACT Applicable: No
Stack Description: 4" diameter discharge at 9'11" above grade

5.e Nonroad Diesel Engine - #5.

Engine Make / Model: Volvo Penta / TAD925VE (s/n 7009158686)
Engine Power Rating: 330 hp
Engine Fuel Consumption: 15.98 gal/hr
Engine Mfg Date: 2010
Engine Certification: EPA Tier 3
NSPS/MACT Applicable: No
Stack Description: 4.5" diameter discharge at 9'7" above grade

5.f Nonroad Diesel Engine - #6.

Engine Make / Model: Volvo Penta / TAD650VE (s/n 5310497028)
 Engine Power Rating: 197 hp
 Engine Fuel Consumption: 9.3 gal/hr
 Engine Mfg Date: 2013
 Engine Certification: EPA Tier 3
 NSPS/MACT Applicable: No
 Stack Description: 3" diameter discharge at 10'4" above grade

5.g Equipment/Activity Summary.

ID No.	Equipment/Activity	Control Equipment/Measure
1	Nonroad Diesel Engine #1 (Pacar – 400 bhp)	EPA Tier 3, Ultra-low sulfur diesel ($\leq 0.0015\%$ by wt)
2	Nonroad Diesel Engine #2 (Detroit Diesel – 475 bhp)	EPA Tier 3, Ultra-low sulfur diesel ($\leq 0.0015\%$ by wt)
3	Nonroad Diesel Engine #3 (Cummins – 110 bhp)	EPA Interim Tier 4, Ultra-low sulfur diesel ($\leq 0.0015\%$ by wt)
4	Nonroad Diesel Engine #4 (Volvo – 197 bhp)	EPA Tier 3, Ultra-low sulfur diesel ($\leq 0.0015\%$ by wt)
5	Nonroad Diesel Engine #5 (Volvo – 330 bhp)	EPA Tier 3, Ultra-low sulfur diesel ($\leq 0.0015\%$ by wt)
6	Nonroad Diesel Engine #6 (Volvo – 197 bhp)	EPA Tier 3, Ultra-low sulfur diesel ($\leq 0.0015\%$ by wt)

6. EMISSIONS DETERMINATION

Emissions to the ambient atmosphere from the nonroad engines proposed in NEP Application L-733 consist of nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic compounds (VOC), particulate matter (PM) sulfur dioxide (SO₂), toxic air pollutants (TAPs), and hazardous air pollutants (HAPs).

Unless otherwise specified by SWCAA, actual emissions must be determined using the specified input parameter listed for each emission unit and the following hierarchy of methodologies:

- (a) Continuous emissions monitoring system (CEMS) data;
- (b) Source emissions test data (EPA reference method). When source emissions test data conflicts with CEMS data for the time period of a source test, source test data must be used;
- (c) Source emissions test data (other test method); and
- (d) Emission factors or methodology provided in this TSD.

6.a Nonroad Engine #1 – Pacar. Potential emissions from engine operation are calculated based on 1,152 hours of operation, use of ultra-low sulfur diesel (<0.0015% sulfur by weight), maximum engine rating, and applicable emission factors. Annual emissions will be calculated from actual hours of operation using identified emission factors.

Hours of Operation =	1,152	hours				
Power Output =	400	horsepower				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	20.30	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (40 CFR 98)				
	EF	Emissions				
<u>Pollutant</u>	<u>lb/hr</u>	<u>tpy</u>	<u>EF Source</u>			
NO _x	0.93	0.54	EPA Certification Data			
CO	0.16	0.092	EPA Certification Data			
VOC	0.012	0.0069	AP-42, Table 3.4-1			
SO _x as SO ₂	0.0044	0.0025	Mass Balance			
PM/PM ₁₀	0.0053	0.0031	EPA Certification Data			
PM _{2.5}	0.0053	0.0031	EPA Certification Data			
			CO ₂ e	CO ₂ e		
<u>Greenhouse Gases</u>	<u>kg/MMBtu</u>	<u>GWP</u>	<u>lb/MMBtu</u>	<u>lb/gallon</u>	<u>tpy, CO₂e</u>	
CO ₂	73.96	1	163.05	22.501	263	40 CFR 98
CH ₄	0.003	25	0.165	0.023	0.3	40 CFR 98
N ₂ O	0.0006	298	0.394	0.054	0.6	40 CFR 98
Total GHG - CO ₂ e	73.9636		163.61	22.58	264	

6.b Nonroad Engine #2 – Detroit Diesel. Potential emissions from engine operation are calculated based on 1,152 hours of operation, use of ultra-low sulfur diesel (<0.0015% sulfur by weight), maximum engine rating, and applicable emission factors. Annual emissions will be calculated from actual hours of operation using identified emission factors.

Hours of Operation =	1,152	hours				
Power Output =	475	horsepower				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	25.50	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (40 CFR 98)				
	EF	Emissions				
<u>Pollutant</u>	<u>lb/hr</u>	<u>tpy</u>	<u>EF Source</u>			
NO _x	3.05	1.76	EPA Certification Data			
CO	0.91	0.52	EPA Certification Data			
VOC	0.050	0.029	EPA Certification Data			
SO _x as SO ₂	0.006	0.0032	Mass Balance			
PM/PM ₁₀	0.14	0.081	EPA Certification Data			
PM _{2.5}	0.14	0.081	EPA Certification Data			
			CO ₂ e	CO ₂ e		
<u>Greenhouse Gases</u>	<u>kg/MMBtu</u>	<u>GWP</u>	<u>lb/MMBtu</u>	<u>lb/gallon</u>	<u>tpy, CO₂e</u>	
CO ₂	73.96	1	163.05	22.501	331	40 CFR 98
CH ₄	0.003	25	0.165	0.023	0.3	40 CFR 98
N ₂ O	0.0006	298	0.394	0.054	0.8	40 CFR 98
Total GHG - CO ₂ e	73.9636		163.61	22.58	332	

6.c Nonroad Engine #3 - Cummins. Potential emissions from engine operation are calculated based on 1,152 hours of operation, use of ultra-low sulfur diesel (<0.0015% sulfur by weight), maximum engine rating, and applicable emission factors. Annual emissions will be calculated from actual hours of operation using identified emission factors.

Hours of Operation =	1,152	hours				
Power Output =	110	horsepower				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	5.58	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (40 CFR 98)				
	EF	Emissions				
<u>Pollutant</u>	<u>lb/hr</u>	<u>tpy</u>	<u>EF Source</u>			
NO _x	0.40	0.23	EPA Certification Data			
CO	0.00	0.0010	EPA Certification Data			
VOC	0.00	0.0010	EPA Certification Data			
SO _x as SO ₂	0.001	0.00069	Mass Balance			
PM/PM ₁₀	0.002	0.0010	EPA Certification Data			
PM _{2.5}	0.002	0.0010	EPA Certification Data			
			CO ₂ e	CO ₂ e		
<u>Greenhouse Gases</u>	<u>kg/MMBtu</u>	<u>GWP</u>	<u>lb/MMBtu</u>	<u>lb/gallon</u>	<u>tpy, CO₂e</u>	
CO ₂	73.96	1	163.05	22.501	72	40 CFR 98
CH ₄	0.003	25	0.165	0.023	0.1	40 CFR 98
N ₂ O	0.0006	298	0.394	0.054	0.2	40 CFR 98
Total GHG - CO ₂ e	73.9636		163.61	22.58	73	

6.d Nonroad Engine #4 - Volvo. Potential emissions from engine operation are calculated based on 1,152 hours of operation, use of ultra-low sulfur diesel (<0.0015% sulfur by weight), maximum engine rating, and applicable emission factors. Annual emissions will be calculated from actual hours of operation using identified emission factors.

Hours of Operation =	1,152	hours				
Power Output =	197	horsepower				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	9.32	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (40 CFR 98)				
	EF	Emissions				
<u>Pollutant</u>	<u>lb/hr</u>	<u>tpy</u>	<u>EF Source</u>			
NO _x	1.13	0.65	EPA Certification Data			
CO	0.19	0.11	EPA Certification Data			
VOC	0.06	0.032	EPA Certification Data			
SO _x as SO ₂	0.0020	0.0012	Mass Balance			
PM/PM ₁₀	0.0320	0.018	EPA Certification Data			
PM _{2.5}	0.0320	0.018	EPA Certification Data			
			CO ₂ e	CO ₂ e		
<u>Greenhouse Gases</u>	<u>kg/MMBtu</u>	<u>GWP</u>	<u>lb/MMBtu</u>	<u>lb/gallon</u>	<u>tpy, CO₂e</u>	
CO ₂	73.96	1	163.05	22.501	121	40 CFR 98
CH ₄	0.003	25	0.165	0.023	0.1	40 CFR 98
N ₂ O	0.0006	298	0.394	0.054	0.3	40 CFR 98
Total GHG - CO ₂ e	73.9636		163.61	22.58	121	

6.e Nonroad Engine #5 - Volvo. Potential emissions from engine operation are calculated based on 1,152 hours of operation, use of ultra-low sulfur diesel (<0.0015% sulfur by weight), maximum engine rating, and applicable emission factors. Annual emissions will be calculated from actual hours of operation using identified emission factors.

Hours of Operation =	1,152	hours				
Power Output =	330	horsepower				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	15.98	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (40 CFR 98)				
	EF	Emissions				
<u>Pollutant</u>	<u>lb/hr</u>	<u>tpy</u>	<u>EF Source</u>			
NO _x	2.04	1.18	EPA Certification Data			
CO	0.65	0.37	EPA Certification Data			
VOC	0.098	0.056	EPA Certification Data			
SO _x as SO ₂	0.0035	0.0020	Mass Balance			
PM/PM ₁₀	0.081	0.047	EPA Certification Data			
PM _{2.5}	0.081	0.047	EPA Certification Data			
			CO ₂ e	CO ₂ e		
<u>Greenhouse Gases</u>	<u>kg/MMBtu</u>	<u>GWP</u>	<u>lb/MMBtu</u>	<u>lb/gallon</u>	<u>tpy, CO₂e</u>	
CO ₂	73.96	1	163.05	22.501	207	40 CFR 98
CH ₄	0.003	25	0.165	0.023	0.2	40 CFR 98
N ₂ O	0.0006	298	0.394	0.054	0.5	40 CFR 98
Total GHG - CO ₂ e	73.9636		163.61	22.58	208	

6.f Nonroad Engine #6 - Volvo. Potential emissions from engine operation are calculated based on 1,152 hours of operation, use of ultra-low sulfur diesel (<0.0015% sulfur by weight), maximum engine rating, and applicable emission factors. Annual emissions will be calculated from actual hours of operation using identified emission factors.

Hours of Operation =	1,152	hours				
Power Output =	197	horsepower				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	9.32	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (40 CFR 98)				
	EF	Emissions				
<u>Pollutant</u>	<u>lb/hr</u>	<u>tpy</u>	<u>EF Source</u>			
NO _x	1.13	0.65	EPA Certification Data			
CO	0.19	0.11	EPA Certification Data			
VOC	0.06	0.032	EPA Certification Data			
SO _x as SO ₂	0.0020	0.0012	Mass Balance			
PM/PM ₁₀	0.0320	0.018	EPA Certification Data			
PM _{2.5}	0.0320	0.018	EPA Certification Data			
			CO ₂ e	CO ₂ e		
<u>Greenhouse Gases</u>	<u>kg/MMBtu</u>	<u>GWP</u>	<u>lb/MMBtu</u>	<u>lb/gallon</u>	<u>tpy, CO₂e</u>	
CO ₂	73.96	1	163.05	22.501	121	40 CFR 98
CH ₄	0.003	25	0.165	0.023	0.1	40 CFR 98
N ₂ O	0.0006	298	0.394	0.054	0.3	40 CFR 98
Total GHG - CO ₂ e	73.9636		163.61	22.58	121	

6.g Emissions Summary/Facility-wide Potential to Emit. Facility-wide potential to emit as calculated in the sections above is summarized below.

<u>Pollutant</u>	<u>Potential Emissions (tpy)</u>	<u>Project Increase (tpy)</u>
NO _x	5.00	5.00
CO	1.21	1.21
VOC	0.16	0.16
SO ₂	0.011	0.011
Lead	0.00	0.00
PM	0.17	0.17
PM ₁₀	0.17	0.17
PM _{2.5}	0.17	0.17
TAP	0.00	0.00
HAP	0.00	0.00
CO ₂ e	1,118	1,118

7. REGULATIONS AND EMISSION STANDARDS

Regulations that have been used to evaluate the acceptability of the proposed facility and establish emission limits and control requirements include, but are not limited to, the regulations, codes, or requirements listed below.

- 7.a Title 40 Code of Federal Regulations Part 60 (40 CFR 60) Subpart IIII (60.4200 et seq.) "Standards of Performance for Stationary Compression Ignition Internal Combustion Engines" requires that new diesel engines meet specific emission standards at the point of manufacture and during operation. In addition, maximum fuel sulfur contents are specified, and minimum maintenance standards are established. The engines proposed in this action are not stationary engines, so this regulation does not apply.
- 7.b 40 CFR 63 Subpart ZZZZ (§63.6580 et seq.) "National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines" establishes national emission limitations and operating limitations for HAP emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. The engines proposed in this action are not stationary engines, so this regulation does not apply.
- 7.c 40 CFR 1039 "Control of Emissions from New and In-use Nonroad Compression Ignition Engines" establishes standards for new non-road engines beginning with the 2008 model year for certain categories. The applicable year varies by engine category. In accordance with the relevant subpart, nonroad engines must meet the appropriate EPA Tier certification standards based on engine size and year of manufacture. Emission standards formerly codified in 40 CFR 89 have been moved to 40 CFR 1039 Appendix I. This subpart is applicable to the nonroad engines at this facility.

The definition of "nonroad engine" for this subpart is found in 40 CFR 1068.30 and includes any internal combustion engine that (1)(iii) "That, by itself or in or on a piece of equipment, is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another..." "An internal combustion engine is not a nonroad engine if:... (iii) the engine otherwise included in Paragraph 1(iii) of this definition remains or will remain at a location for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source...A location is any single site at a building, structure, facility or installation."

States are precluded from requiring retrofitting of nonroad engines except that states are permitted to adopt and enforce any such retrofitting requirements identical to California requirements which have been authorized by EPA under section 209 of the Clean Air Act. States may enforce limitations on hours of usage, daily mass emission limits, and sulfur limits on fuel as necessary.

- 7.d Revised Code of Washington (RCW) 70A.15.2040 empowers any activated air pollution control authority to prepare and develop a comprehensive plan or plans for the prevention, abatement and control of air pollution within its jurisdiction. An air pollution control authority may issue such orders as may be necessary to effectuate the purposes of the Washington Clean Air Act and enforce the same by all appropriate administrative and judicial proceedings subject to the rights of appeal as provided in Chapter 62, Laws of 1970 ex. sess.
- 7.e RCW 70A.15.2210 provides for the inclusion of conditions of operation as are reasonably necessary to assure the maintenance of compliance with the applicable ordinances, resolutions, rules and regulations when issuing an Air Discharge Permit for installation and establishment of an air contaminant source.
- 7.f WAC 173-476 "Ambient Air Quality Standards" establishes ambient air quality standards for PM₁₀, PM_{2.5}, lead, sulfur dioxide, nitrogen dioxide, ozone, and carbon monoxide in the ambient air, which shall not be exceeded.
- 7.g SWCAA 400-045 "Permit Applications for Nonroad Engines" requires, with a few exceptions, submittal of a permit application for installation of nonroad engines. This regulation is applicable to the nonroad engines proposed for use by the permittee.

- 7.h SWCAA 400-046 "Application Review Process for Nonroad Engines" requires that a nonroad engine permit be issued by the agency prior to the installation, replacement or alteration of any nonroad engine subject to the requirements of SWCAA 400-045. Each application must demonstrate that the installation will not cause an exceedance of any national or state ambient air quality standard.

8. RACT/BACT/BART/LAER/PSD/CAM DETERMINATIONS

The proposed equipment and control systems incorporate Best Available Control Technology (BACT) for the types and amounts of air contaminants emitted by the processes as described below:

- 8.a BACT Determination. The equipment affected by this permitting action are classified as nonroad engines and are not subject to BACT requirements.

Other Determinations

- 8.b Prevention of Significant Deterioration (PSD) Applicability Determination: The potential to emit of this facility is less than applicable PSD applicability thresholds. Likewise, this permitting action will not result in a potential increase in emissions equal to or greater than the PSD thresholds. Therefore, PSD review is not applicable to this action.
- 8.c Compliance Assurance Monitoring (CAM) Applicability Determination. CAM is not applicable to any emission unit at this facility because it is not a major source and is not required to obtain a Part 70 permit.

9. AMBIENT IMPACT ANALYSIS

Conclusions

- 9.a Operation of the engines proposed in NEP Application L-733, will not cause the ambient air quality requirements of Title 40 Code of Federal Regulations (CFR) Part 50 "National Primary and Secondary Ambient Air Quality Standards" to be violated.
- 9.b Operation of the engines proposed in NEP Application L-733, will not cause the requirements of WAC 173-476 "Ambient Air Quality Standards" to be violated.

10. DISCUSSION OF APPROVAL CONDITIONS

SWCAA has made a determination to issue NEP 23-3574 in response to NEP Application L-733. NEP 23-3574 contains approval requirements deemed necessary to assure compliance with applicable regulations and emission standards as discussed below.

- 10.a General Basis. Permit requirements for equipment affected by this permitting action incorporate the operating schemes proposed by the applicant in NEP Application L-733.
- 10.b Monitoring and Recordkeeping Requirements. NEP 23-3574 establishes monitoring and recordkeeping requirements sufficient to document compliance with applicable emission limits, ensure proper operation of approved equipment and provide for compliance with generally applicable requirements. Specific requirements are established for fuel specifications and hours of engine operation.

- 10.c Reporting Requirements. NEP 23-3574 establishes general reporting requirements for air emissions, upset conditions and excess emissions. Specific reporting requirements are established for hours of engine operation. A report must be submitted upon project completion.
- 10.d Nonroad Diesel Engines. Visible emissions from the nonroad diesel engines are limited to 10% opacity. Visible emissions should not exceed this level if the engines are operating properly. For the nonroad engines, SWCAA uses this as a surrogate indicator that the engines are in good repair. This restriction is appropriate because if the engine is not maintained in good repair, emissions are likely to greatly exceed the expected emission level and could cause an exceedance of a state or federal ambient air quality standard. All approved engines are required to use ultra-low sulfur diesel ($\leq 0.0015\%$ S by weight).

11. START-UP AND SHUTDOWN/ALTERNATIVE OPERATING SCENARIOS/POLLUTION PREVENTION

- 11.a Start-up and Shutdown Provisions. Pursuant to SWCAA 400-081 "Start-up and Shutdown", technology based emission standards and control technology determinations shall take into consideration the physical and operational ability of a source to comply with the applicable standards during start-up or shutdown. Where it is determined that a source is not capable of achieving continuous compliance with an emission standard during start-up or shutdown, SWCAA shall include appropriate emission limitations, operating parameters, or other criteria to regulate performance of the source during start-up or shutdown.

Diesel Engines. Diesel engines may exhibit higher than normal opacity during startup. Accordingly, the visual emissions limit for the diesel engine power unit is not applicable during the startup period defined in the permit. General opacity standards continue to apply.

- 11.b Alternate Operating Scenarios. SWCAA conducted a review of alternate operating scenarios applicable to equipment affected by this permitting action. The permittee did not propose or identify any applicable alternate operating scenarios. Therefore, none were included in the permit requirements.
- 11.c Pollution Prevention Measures. SWCAA conducted a review of possible pollution prevention measures for the facility. No pollution prevention measures were identified by either the permittee or SWCAA separately or in addition to those measures required under BACT considerations. Therefore, none were included in the permit requirements.

12. EMISSION MONITORING AND TESTING

There are no formal emission monitoring or testing requirements for this facility.

13. FACILITY HISTORY

- 13.a Previous Permitting Actions. SWCAA has previously issued the following Permits for this facility:

<u>Date</u>	<u>Application Number</u>	<u>Permit Number</u>	<u>Purpose</u>
4/20/2022	22-3508	L-725	Nonroad engine permit application for maintenance work on underground injection wells (5 engines). Engines removed from site in August 2022. Permit no longer active.
4/21/2021	21-3464	L-718	Nonroad engine permit application for maintenance work on underground injection wells (4 engines). Engines removed from site in August 2021. Permit no longer active.

<u>Date</u>	<u>Application Number</u>	<u>Permit Number</u>	<u>Purpose</u>
5/14/2020	20-3411	L-711	Nonroad engine permit application for maintenance work on underground injection wells (3 engines). Engines removed from site in May 2020. Permit no longer active.
5/7/2019	19-3338	L-698	Nonroad engine permit application for maintenance work on underground injection wells (3 engines). Engines removed from site in September 2019. Permit no longer active.
1/16/2019	18-3312	L-695	Modification of thermal oxidizer minimum operating temperature from 1500 deg F to "at or above 1000 deg F" based on manufacturer recommendations. Consolidation of emission monitoring and testing dates for various emission units.
4/24/2018	18-3280	L-693	Nonroad engine permit application for maintenance work on underground injection wells (3 engines). Engines removed from site in May 2018. Permit no longer active.
10/23/2017	17-3246	L-687	Revision of emission testing and monitoring schedules for engines IR1, IR2, and C1. Approval for new thermal oxidizer and line heater. Incorporation of SUN 092 (Emergency Generator 2) and SUN 093 (Emergency Generator 3) into the facility's air discharge permit. Superseded by ADP 18-3312.
6/4/2015	SUN093	--	Installation of Emergency Generator 3. Superseded by ADP 17-3246.
6/4/2015	SUN092	--	Installation of Emergency Generator 2. Superseded by ADP 17-3246.
4/30/2010	00-2302R3	L-640	Remove pumps P1 and P2 from permit. Modify permit conditions for temperature rise across catalyst in engines IR-1, IR-2 and C1. Superseded by ADP 17-3246.
10/31/2008	00-2302R2	L-619	Installation of Turbine C9 and Dehydrator Regen-2. Modification of Turbines C2, C3 and C4. Superseded by ADP 00-2302R3.
2/17/2005	00-2302R1	L-540	Removal of operating requirement prohibiting thermal oxidizer from combusting more than 60 billion Btu of process gas during any rolling 12-month period. Replacement of engine on Turbine C4. Increase in short term NO _x emission limit for Turbines C2, C3 and C4. Superseded by ADP 00-2302R2.
10/16/2000	00-2302	L-468	Replacement of (2) IC engines and installation of (2) new IC engines. Superseded by ADP 00-2302R1.
3/22/1999	99-2182	L-423	Expansion of natural gas storage facility. Modification of voluntary facility-wide emission limits. Superseded by ADP 00-2302.
10/12/1995	95-1803	L-343, L-345	Installation of a low NO _x catalytic system on Engine C1. Modification of Turbines C6 and C7 to increase horsepower to 4417 hp and install SoLoNO _x . Superseded by ADP 99-2182.
7/6/1995	95-1761	L-323	Establishment of voluntary facility-wide emission limits for Title V opt-out. Superseded by ADP 99-2182.
10/20/1994	94-1673	L-324	Modification of Turbine C5 to increase the horsepower from 1,000 hp to 1,300 hp. Superseded by ADP 99-2182.

13.b Compliance History. A search of source records on file at SWCAA did not identify any outstanding compliance issues at this facility.

14. PUBLIC INVOLVEMENT OPPORTUNITY

- 14.a Public Notice for NEP Application L-733. Public notice for NEP Application L-733 was published on the SWCAA internet website for a minimum of (15) days beginning on March 15, 2023.
- 14.b Public/Applicant Comment for NEP Application L-733. SWCAA did not receive specific comments, a comment period request or any other inquiry from the public regarding this NEP application. Therefore no public comment period was provided for this permitting action.
- 14.c State Environmental Policy Act. This project is exempt from SEPA requirements pursuant to WAC 197-11-800(3) since it only involves repair and/or maintenance of existing structures, equipment or facilities, and will not involve material expansions or changes in use. SWCAA issued a SEPA Exempt Determination 23-016 concurrent with issuance of NEP 23-3574.